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SEVENTEENTH MEETING

PEASE COMMUNITY ASSISTANCE PANEL (CAP) MEETING

February 16, 2022

The verbatim transcript of the Meeting of the Pease Community Assistance Panel held virtually on February 16, 2022.

C O N T E N T S

February 16, 2022

P A R T I C I P A N T S

(Alphabetically)

AMICO, ANDREA, CAP MEMBER

BARRETT, TYRA, ATSDR

BOVE, FRANK, ATSDR

DURANT, JOHN, CAP TECHNICAL ADVISOR

EGAN, KATIE, ATSDR

HOLIFIELD, FREEMAN, USAF

HUNT, DANIELLE, ABT ASSOCIATES

JEDDY, ZUHA, ABT ASSOCIATES

MCLELLAN, TONI, CAP MEMBER

MCQUILLEN, BILL, CAP MEMBER

MUTTER, JAMIE, ATSDR

PAVUK, MARIAN, ATADR

REH, CHRISTOPHER, ATSDR

RYAN, JOE, CAP MEMBER

SCHAIDER, LAUREL, CAP TECHNICAL ADVISOR

SOMERS, TARAH, ATSDR

VETTER, SHELLEY, CAP MEMBER

WYTON, PAM, NCEH/ATSDR

P R O C E E D I N G S

(6:00 p.m.)

WELCOME AND INTRODUCTIONS

CDR MUTTER: Good evening, everybody. Welcome to the Pease CAP meeting. Thank you for joining us today. We have an agenda up on the screen and we're going to go ahead and get started with introductions. So we'll start with the CAP members. When I call your name, just let me know if you're on the call. So we'll start with Andrea Amico.

MS. AMICO: Hi, yes, I'm here.

CDR MUTTER: Thank you. Karen Anderson let us know she won't be on the call today. So, Michelle Dalton. Alayna Davis. Rich DiPentima. Senator Martha Fuller Clark. Toni McLellan.

MS. MCLELLAN: Yes, good evening. I'm here.

CDR MUTTER: Thank you. Bill McQuillen.

MR. MCQUILLEN: Good evening, I'm here.

CDR MUTTER: Thank you. Joe Ryan.

MR. RYAN: Good evening, here.

CDR MUTTER: Thank you. Jared Sheehan. Okay. Mark Sullivan.

UNIDENTIFIED SPEAKER: Here.

CDR MUTTER: Awesome. And Shelley Vetter.

MS. VETTER: Yes, I'm here.

CDR MUTTER: Thank you. we'll move on to our technical advisors. Dr. Carignan. Dr. Durant.

DR. DURANT: I'm here.

CDR MUTTER: Thank you. And Dr. Schaider. Okay, we'll move on to our ATSDR staff on the phone today. When I call your name if you'll just quickly let us know your role, your title, your position and your role. So, Dr. Chris Reh.

DR. REH: I'm here. Associate Director, ATSDR.

CDR MUTTER: Thank you. Capt. Somers.

CAPT SOMERS: Hi, Tarah Somers ATSDR Region One regional director. And also on the line this evening is Chris Mugford. He's our new ATSDR Region One staff. So you may see his name on

emails or coming up in the future. So just if you see that name, you'll know who he is.

CDR MUTTER: Thank you and welcome to Christopher. I know that you're excited he's there to help you out in region one. Dr. Marian Pavuk.

DR. PAVUK: Good evening, this is Marian Co-PI Pease Study.

CDR MUTTER: Thank you. Dr. Frank Bove.

DR. BOVE: Good evening I'm Co-PI on the Pease study.

CDR MUTTER: Thank you. And I want to introduce you to a couple new members of our Pease study team at ATSDR, first we have Tyra Barrett. She will be taking on the responsibilities as the Pease CAP coordinator. So, Tyra, I'll let you introduce yourself.

MS. BARRETT: Hi, everyone. My name is Tyra Barrett. I'm with ATSDR. And I'm the special assistant to Dr. Reh. I'm glad to be working with you all.

CDR MUTTER: Thank you, ma'am. And our other new team member for Pease study is Dr. Katie Egan. She will be the Pease study program manager of the Pease study, I said that. So, welcome Katie and if you'd like to give a quick introduction as well.

DR. EGAN: Sure. Good evening, everyone. I'm Katie Egan, I am coming on as a program manager for the Pease study, new to ATSDR.

CDR MUTTER: Thank you both of you for taking my place. I'm going to miss everybody. But you all are in good hands. So thank you guys. Pam Wyton, would you just introduce yourself as well please.

MS. WYTON: Yes. Hi, everyone, this is Pan Wyton. I'm in the NCEH/ATSDR office of communication, thank you.

CDR MUTTER: And she is our Zoom guru. So I want to thank her, publicly as well for helping on all these meetings. And I want to back up for our technical advisor, Dr. Schaider, I see you're on.

DR. SCHAIDER: Hi, good evening, everyone.

CDR MUTTER: Good evening. All right. We'll move on to our contractor help with ABT, Danielle.

DR. HUNT: Danielle Hunt. Project Director.

CDR MUTTER: Thank you. And Zuha Jeddy.

MS. JEDDY: Yes, this is Zuha I'm the project manager for [inaudible].

CDR MUTTER: Thank you. And I didn't see Kate on, is she on?

DR. HUNT: No, she wasn't joining.

CDR MUTTER: Okay. Great. And last but not least I have on my list is Colonel Holifield.

COL HOLIFIELD: Good evening. Colonel Freeman Holifield, Air Force Secretariat.

CDR MUTTER: Okay, I think we have captured everybody that is a panelist on our call. So let's go ahead and get started. I did want to say welcome to any community members we may have on the call. And you'll notice on the agenda there is a place for questions from the audience. After the Pease study update. And we can also circle back around near the end of the meeting to make sure we didn't miss anybody as well.

PEASE STUDY UPDATE

CDR MUTTER: So with that let's go ahead and get started with the Pease study update. I'll provide a quick update and then I'll ask for a few other people to give some updates as well that maybe I missed. So for the Pease study we ended our recruitment on 12/31/2021. And our office closed in Pease on January 31 of this year. Currently we have our samples at the labs getting processed. And so those are the main updates, but I want to see if our Co PIs, Frank or Marian have anything to add to that.

DR. BOVE: This is Frank. There is a physician education that we're planning sometime in April. So that's one update. We're also in the process of doing data management. I guess Marian can jump in if he wants. We're doing some data cleaning. We're waiting for, as Jamie mentioned, we're waiting for the PFAS samples to be analyzed. There's some 500 I think, samples that still have to be analyzed. And we're also waiting for clinical results from one lab as well.

CDR MUTTER: Marian, anything to add to that?

DR. PAVUK: Yeah, I can provide a little bit more detail on that. So with the ABT contractor we've been discussing the analysis of clinical samples at Sunny Upstate Medical Center Lab. And trying to get some estimates when their data, or their results may be reported. And it looks like they may be able to finish some time in March. So we hope that that goes as planned. They have received all the samples in good condition. So they're working on that and we hope that they will be reporting, as they

indicated in March. So that's one part of data. We do have most of the Lab Corps data. As Frank said we have partial datasets at this point. So what we're focused on the data management part is trying to get all the data in. We got some preliminary data we'll fill in September, then in November so it includes data on participants as they were coming to the study through that period of time. So, what we're working on is twofold, is to try to get all the data in for everybody that came in through the end of December. And also do other things. Continue verifying the important part of the study is to verify their reported health conditions. So that is still ongoing. But as I said, the idea is to get the data, or the data that we have, work on working on that study dataset, data on all participants that are in. And all that is in progress. And we will continue doing that over the coming months. To making sure that all pieces of information are complete. And which they're not at this time, but we're making progress. The other part that Frank mentioned and I have mentioned on previous calls is that DOS National Center Environmental Health, Division of Sciences where the Pease files analysis are done. We've been operating on quarter capacity throughout the pandemic. So there's clearly some delays there and they are still waiting for all the staff being back. Full lab cannot work without being at work. So, CDC did give out some dates for getting back. So sometime early mid-April, they'll have you know better understanding, people should be in the lab by that time. The samples are with them, most of them. Some from December, January are still in the CDC bio-repository and need to be transferred to the lab. So we're still working on that, because they didn't take the usual route. So, from the latest discussions with the lab, we hear that summer, something like July seems to be something that they even a bit uncertainty that there existed, they would like to report the results to us in that timeframe. If anything happens sooner, or we get a better estimate, we'll be informing you about it. Thanks, Jamie.

CDR MUTTER: Thanks, Marian. Katie, I know you're relatively new, but I wanted to give you a chance if you had anything to add.

DR. EGAN: I do not. No.

CDR MUTTER: Okay, great. Tarah, do you have anything from Region One to add to that update?

CAPT SOMERS: For the study? No, I don't think so.

CDR MUTTER: Okay, and ABT, do you have anything to add to the Pease study update? Danielle or Zuha?

DR. HUNT: Yeah, this is Danielle. I'll just add a couple things. One is that while the in-person data collection has ended and the office is closed, we are still doing some medical record abstraction and follow up with schools to get information for anybody that indicated a follow-up was needed. So we are still working through that process. And we are also preparing to send out a letter this week to all of the participants letting them know that the study has ended, in-person data collection. The office is closed and we are providing an alternate contact should anybody need to you know show information. They have the CDC.gov Pease study email address that they can use sense other forms of communication will have been shut down with the office closure.

CDR MUTTER: Yeah, thank you for that update. Was there more, Danielle, did I cut you off. I'm sorry.

DR. HUNT: No, I was just saying that's all.

CDR MUTTER: Okay. Good. All right with that update of the Pease study, are there any questions from the CAP members? Andrea, go ahead.

MS. AMICO: Hi and thank you very much for that update. So I know that there's delays in the lab and I think that's understandable. But I was just curious if there's something more tangible like in terms of a time line that we can give people. Because I have had a few people reach out and ask when they can expect to get their results. So like do we have something that we can tell them other than lab delays, and they're coming. Is there any more detailed information we can share with the community?

DR. PAVUK: As I said, we're still, you know to really clinical data before you know all of this is complete. So as Frank mentioned, the call is in the process of being scheduled in April. And we expect that we'll get the SUNY results in March. So we believe that sometime in the April window they should be able to you know get the clinical reports out. So that's the update on that.

MS. AMICO: Okay, so I'm sorry. I guess I didn't understand that. So in April you expect that you'll have the clinical results. That means the non PFAS results. You think all study members will have their clinical results by April?

DR. PAVUK: As I said, planning on receiving the results in March from SUNY and on successfully scheduling the clinician, you know, framing and presentation, if we have it available, we

would like to start sometime in April ending the clinical results, yes.

MS. AMICO: Okay and then what about the PFAS results?

DR. PAVUK: As I said for PFAS results we have sent those that we have received which is almost half of all the results of people who already have those results, 395. We can only send those of out when we receive them from BLS. As I said, the estimate that we have right now is for July of this year.

MS. AMICO: July. Okay. Okay.

DR. PAVUK: So it's more than delay, I think we've been very specific.

MS. AMICO: Okay. I apologize I didn't pick up on that when you were reporting that earlier. It might be helpful if you could put your camera on Marian too, if we can see you, it might be easier to follow a little bit easier.

DR. PAVUK: I didn't realize we were on.

CDR MUTTER: Did you have another question, Andrea?

MS. AMICO: I have some other comments. I don't know if it's the appropriate time to bring it up or if others have questions and they can go first.

CDR MUTTER: Is it related to the Pease study or?

MS. AMICO: Yes.

CDR MUTTER: Go ahead.

MS. AMICO: Okay. I just wanted to check in and get an update on longitudinal study. I know the Pease community has always advocated for a longitudinal study. And we were told initially that this would be cross-sectional and you start with that and kind of depending on what you find, may justify more longitudinal efforts. But I do think that is something we've been clear about what we want to understand the effects PFAS over time versus just kind of getting a snapshot. So, just curious if there's an update or if ATSDR is considering this. Because I guess for two reasons. I mean number one, there's obviously going to need to be funding that needs to happen for that to be done. And that's something that you know we would want to you know as a community talk to our congressionals about. As that's been an effective mechanism for obtaining funding in the past for Pease study as well as the multi-site study. And then also I think one of the things that we really

learned from this process is that the longer that time passes, where we have people's you know, captive attention like the less chances we have of bringing them back for the study. You know so when we think about how many people participated in the blood testing program. You know it was almost like 2000 people at the end. And then it was like trying to pull people back several years later for the study. You know it was a lot harder to get people to come back. And where we kind of have this captive audience of all of these people who have participated in the Pease study. Thankfully we have their contact information, which was certainly a barrier you know from the blood testing data. But I don't want to let too much time pass. And I just want to make sure that we're being as proactive as possible if we're going to start thinking about any longitudinal components that we can start working on funding. We can start working on engaging with the people that we already have their captive attention so we can consider any longitudinal efforts to study the effects of PFAS.

CDR MUTTER: Thanks for the question. Chris, do you have any updates on longitudinal study?

DR. REH: Well, in my discussions with Pat we've talked about this. We want to see some of the data first before we make a decision. We'll definitely keep you informed Andrea as we make decisions on this. But it's still something we're considering.

MS. AMICO: Okay great, thanks. And then, I just had one more question. Frank, you mentioned physician education in April. And I'm just curious like what would that look like? Is that virtual? Is that a webinar? Are you sending letters to physicians. Like what type of education does that entail? And then also just in relation to the National Academy of Science is working on their committee of guidance around PFAS, and blood testing, and you know medical monitoring guidance and all that. And the last I had heard from that group was their report was probably expected in June. So I'm just curious like how, if there's any new recommendations that come out of the National Academy of Science how that may play into physician education within not only the Pease community, but the multi-site community as well.

CDR MUTTER: Frank, can I refer that to Tarah, to speak to the physician education?

DR. BOVE: Yeah, go ahead. Go ahead, yeah.

UNIDENTIFIED SPEAKER: Okay.

CAPT SOMERS: Okay, this is Tarah. So we have had discussions with the group within ATSDR that's developed the materials for clinician education. They also have some materials that are currently in clearance that would be an update to what we currently have. And I've been in discussion with our New Hampshire apple tree partners. You know the folks that sit at DES and DEP, because we recognize that Pease community, we like to do clinician education there. But also since other communities have PFAS impacts, you know, like the Merrimac area community. We'd like to make sure we're targeting certainly the Pease area for when the study results are about to be released, but the also sort of the other areas in New Hampshire where clinicians could use some additional outreach because of PFAS in the communities. And New Hampshire does have plans, they're going to do a presentation to it's like a nurse practitioner group. And so we're trying to see how we can coordinate so we're not duplicating effort but also getting out as much information as we can. I think we all recognize it's a challenging time with COVID. You know getting to clinicians is a little, getting on their radar is a little challenging. Form the Pease study, we do have from the work that was done there, the list of providers that the study participants cited as who they're going to for their healthcare. So for Pease, the study anyway, it might be a little bit easier to target them specifically with some outreach materials. At least for awareness to say like we did this study, and the results are about to come out. And here's the resources we have. I know unfortunately the timing isn't lining up exactly right with like the National Academy's work. Because it seems like our study results might come out a little bit before the National Academy's work. So I think what I might say is I don't see if we do outreach in the spring to the providers who we know were referred to for the Pease study participants. I think we could then do additional outreach again in the summer when the new materials come out. I don't think this will be our last time to try to reach clinicians. I don't see that happening. Because you know the material keeps updating.

MS. AMICO: Okay, yeah. That's good to know that you know even if you make an outreach in April, and something changes in June, you'd be willing to make another round of you know, outreach efforts. And then, so understanding the challenges of COVID right now. Particularly for the healthcare community. Are you planning to do Zooms with them? I wasn't clear on how you're doing the outreach.

CAPT SOMERS: Yeah, I think that's a good question too. You know I think this spring we probably start with trying to do like some targeted emails or mailings to them, because I don't think

we're going to have the materials ready to do like a grand rounds or anything to offer, you know any continued education to clinicians. You know that's what really gets clinicians to engage, is that academia education piece. So you know we could at least start by saying, a mailing or email. Here's the study what we did and here's some materials for you. And I know that doesn't really address it all. But it's something that we can do in the short term that isn't a very heavy lift. And hopefully get some of their attention. And then when we have more materials that we can share and potentially do something that we can work to maybe get them, you know, education credits for, that would probably be the time to really, you know, hit hard to get the word out and get them to engage. Because grand rounds, it can be a little hard. Even if you're partnered with like an organization like Dartmouth-Hitchcock, you know, which is one of your bigger, organizations. Sometimes to get on their grand round schedule takes time and we have to prove that we have materials that we could get the CEUs for. So we're working on it. I know that's probably not as satisfactory an answer as we have it ready to go, but it is in progress. It is something we want to do.

MS. AMICO: Okay, and I don't know if it can be considered as can you put some information in the results to the community about like resources for their physicians to go and find more information, you know. Is that possible? Not just like, here's your results. Follow up with your doctor, which people may want to do. Is there something to do?

DR. PAVUK: So that is, if I may, so that is exactly what those emails to the physicians would be doing. It will give them these resources which are already you know, approved and are publicly available on the ATSDR website. But most physicians are not aware that those are available there. So being able to target all those physicians that the participants reported on their health outcomes. That they reported and that we verified with them. We would be able to give them that information, that there is clinical guidance released by CDC. Recently mentioned, there's a short version of that so that the physicians can use that as a short fact sheet, three page, to have some idea. What we want to achieve here is that we don't have physicians that never heard about PFAS. And participants comes in and they've never seen any information about it. So as Tarah mentioned, we're going to email them, or mail them. And that does include the materials that are already available on the ATSDR website and links to those. And also as the time goes, if there's new materials there can be a, so for exposure, assessment. There's other material as Tarah said that are in clearance. I don't know

how much more helpful those could be. We do things that the resources that are on ATSDR websites are quite useful. They're longer, shorter versions of different documents. They may not be necessarily completely up to date. But we do believe that having that information that was already developed for the physicians, you know is helpful to them. And having different version is also helpful, even if it's information from 2021.

CAPT SOMERS: Sorry, go ahead Andrea.

MS. AMICO: I just had two follow up questions to that. You know, I know that I don't have the email address to my doctor, right. So I did give my kid's like pediatrician's like phone number and I believe address. So if you don't have email addresses for doctors, how are you going to get them that information? So, one other point, I guess the second point would be, you have email addresses and contact information for all of the participants in the study. Can you give them the physician guidance too? So in case their physician didn't get it, they're armed with something that they can take to their doctor and say, hey, this is a resource you can look up. Can we hit it from both sides is what I'm trying to say. Because I worry that doctors are busy. Maybe they're not going to read an email, or they're not going to look at a mailing that comes into a practice. But you know if we give the patient something that they can take to the provider, that would just be another way of making sure we're providing the right people with the information needed.

CDR MUTTER: Chris, I see you nodding, did you want to speak to this? You're on mute, Chris.

DR. REH: Yes, we can do that, Andrea. There is always some sort of information that comes with the results. You don't just get a letter with a number. And so we can definitely look at how we can provide information. We can also in one of our upcoming meetings, Dr. Linda Hanson is a physician that leads our environmental medicine branch. She has been working on the medical outreach for the Pease community. We can have her come and talk at one of the next CAP meetings and share what they're doing. And the final thing is you asked about the NASEM. I just got an update on that today. And they're still shooting for the middle of June to be finished. They've written the document and it's now going to external peer review. And then after external peer review, they have a process for dealing with the comments. But they are still on track for middle of June.

CAPT SOMERS: Yeah, I was just going to add as well, one thing I neglected to say was that we also have a clinician who's within our office, you know, we had a little re-organization in ATSDR.

So, Linda Hanson's group is in the other office that's doing some of the creation materials we have. Michelle Zeager who's in our office. And she was part of the Merrimack call and has offered her services as well if a clinician or a community member has a question specifically about their results. She said she would be willing to talk to them. So we did try to build that into; because I know you know sometimes a clinician might want another person to talk to, right. Not just like a form, because it might not answer a specific question they have, right? It might not be so specific for that individual patient to have so.

MS. AMICO: So that persons' name and contact information will be provided to both the Pease study participants as well as clinicians during outreach? So if they have questions about their individual results they can talk to this person?

CAPT SOMERS: Yes, I think, Jamie, we were going to have it so that it goes to the study contact information and then we can get information, you know just to make it, so. That way we can track what's coming in too. It makes it a little bit easier to make sure the questions that are coming in gets tracked. And then we can make sure it's going to the right person, who's probably going to be Michelle. But I don't know if they have another question maybe something different in the study, I don't know. You know we can just make sure it's going to the right place.

MS. AMICO: Sure. And if I could just make one suggestion too. Linda Hanson, is that what you said her name is? The physician that's leading up your? Yeah. If she's going to be developing materials, or you know is in charge of physician outreach, could we suggest that maybe she set up a Zoom meeting with any of the CAP members who would like to meet with her and share some of our feedback, you know, personally in terms of how we've had experiencing, you know, talking to our physicians about PFAS and all of that. I think it would be really important as she develops tools, not only for the physician. But she understands the community perspective regarding this issue and I'd suggest that maybe the CAP could help. If ATSDR could coordinate you know a Zoom meeting with her so we could just talk and share more information, I think that would be really helpful.

CAPT SOMERS: Yeah. I don't want to speak for all of ATSDR. That's Dr. Reh's job. But we can probably on one of our calls. Do you think, you want like one of these calls? Or one of the meetings? Or?

MS. AMICO: A monthly call would probably be more appropriate.

CAPT SOMERS: Like, one of the monthly calls?

DR. REH: Yeah, we can definitely have her come one. Knowing her, she would really appreciate your feedback so good idea, Andrea.

CAPT SOMERS: And I think too you know we could have probably Dr. Zeager too as well just introduce herself so you can be familiar with her. She's been involved in a lot of the exposure assessment meetings, where we've had those results released to those communities. So she's pretty up to speed on you know, questions that tend to recur at different sites. You know like similar types of questions. But yeah, we could probably arrange that as well at the same time, I think. That should work, right Jamie?

CDR MUTTER: Should work.

CAPT SOMERS: You're not going to be there anymore.

CDR MUTTER: No, you'll have to work with Tyra.

CAPT SOMERS: Well, we'll make it work. So that we can, yeah.

CDR MUTTER: Awesome. And I do want to jump to John Durant. Because I see his hand has been up for a while. And Andrea we can come back if you have any further questions. Go ahead, John.

DR. DURRANT: Yes, thank you. So I had a question about the exposure piece of it. Could you give us an update on where that's at regarding the exposures to the various participants in the Pease study?

CDR MUTTER: I'm not sure I understand the question.

DR. BOVE: Well, there's two parts to it.

CDR MUTTER: Okay, go ahead.

DR. BOVE: One is PFAS serum levels right, which we'll waiting for about half of them to come out from the lab. And then there's the historical reconstruction, right. And that was completed a while back. I think we all got a condensed version at least of that report. And they have monthly estimates of the contamination levels based on assumptions they had to make, relatively simple or modeling that we did for example at Camp Lejeune. And a lot of it is based on that fire that occurred with KC-135 plane I think it was on the runway in 1990, where 90,000 gallons of AFFF were used and went into the drainage system there. And went right to the well. So we still have that information. And that will be part of combining that with the serum levels. We're also as part of the multi-site study, and

Marian can chime in, we have a PK group, of pharmacokinetic modeling group. And what comes out of that will probably guide us on how we'll combined the water modeling data and the PFAS serum data to estimate what the serum levels were in the past. That's what's also going to be done for the multi-site study. So Marian, do you have anything to add to that?

DR. PAVUK: No.

CDR MUTTER: John, did that answer your question?

UNIDENTIFIED SPEAKER: Yeah, that's the next question.

DR. DURANT: I think so, maybe I'll just ask one more if you don't mind. At some point in the past, I was led to believe that the historical restructuring would yield individualized exposures to contaminates in the water supply. Has that piece of work been completed?

DR. BOVE: Well, they used a simple mixing model for the distribution system model. So we're assuming roughly the same contamination throughout the system. So, in that sense it's individualized. Each person is getting roughly the same contamination at that particular month. Okay? We do ask questions about the water consumption in the questionnaire. So that will be used as part of the assessment as well. So that brings in more of the individual element too.

DR. DURANT: And then, if I may, just one last question.

CDR MUTTER: Go ahead.

DR. DURANT: How are you adjusting for dietary intake of PFAS through food and packaging materials. Or are you not doing that?

DR. BOVE: We're not. We didn't ask those questions in the questionnaire.

DR. DURANT: All right, thank you.

CDR MUTTER: Thanks, John. I see Laurel’s hand up.

DR. SCHAIDER: Yeah, hi, everyone. I had a question related to the reporting back of the clinical results. I know you have the Lab Corps results but not the results yet from the SUNY lab. Is there a way to report back the results from the Lab Corps tests? Or are you going to wait until you have the SUNY results before you do that?

DR. BOVE: Marian? Well, I can answer it. We're waiting for the SUNY results and then we'll send them.

DR. SCHAIDER: Okay.

DR. PAVUK: Yeah, at this point, unless they are majorly delayed. They said March, so we're willing to see if it's March. Otherwise, we would have to mail two different mailings.

CDR MUTTER: Okay, let's see, Andrea you still have your hand up. Do you have another question?

MS. AMICO: Yeah, I just had a question around, you know obviously we didn't hit our recruitment numbers and I just wanted to kind of hear more about if that's going to impact the ability for ATSDR to draw any conclusions, or you know make any kind of meaningful you know conclusions or what not as a result of the study. And I think, you know, certainly we got a lot more adults than we got children. So I didn't know if ATSDR can speak to any of the challenges that we may have in terms of being able to give our communities some meaningful answers, given that we didn't hit our recruitment numbers.

DR. BOVE: Well, I mean, go ahead. Go ahead, Marian.

CDR MUTTER: Marian are you still on?

DR. BOVE: I thought he was about to answer, okay. We're going to have wide confidence intervals for the children, for many of the endpoints, there's no question about it. But that, I mean that just tells you that there's uncertainty. The estimate of the effect is still important. And we'll base our conclusions mostly on that estimate and as well as any information in the literature that supports that estimate. So that's how we interpret data in any study. And we won't do anything different here. We don't rely on, at least I don't rely on statistical significance tests to interpret results. So the way I look at it, confidence intervals will be wide for the children. Much less wide for the adults. But the question is, how strong is the effect? You know if we see a twofold increase in something, or one and a half increase, what is it? And we base our conclusions on that as well as, as I said the past information in scientific literature.

MS. AMICO: Okay.

DR. BOVE: You always want more people. And you know, it's very difficult to recruit children. A lot of the studies looked at PFAS at least at earlier studies, they had small number of children too, 100, 300. We're having trouble multi-site study as well. It's going to be a problem for all studies to get a large number of children to participate.

MS. AMICO: Frank, we are combining our data with multi-site study, correct?

DR. BOVE: Yeah. Yeah, yeah, but we will release results for Pease as well. So we're not going to just release one big clump of data from all the sites. Even if we're releasing the Pease study on its own as well. But the multi-site study is another aspect of the research. And pooling the data from all the sites will also be useful. We'll have more children.

MS. AMICO: Okay, yeah, I just wanted to make sure we weren't going to be at the end and say well we can't say anything because we didn't get enough people. It sounds like you can say something with the people that you studied, but again there will be some you know gaps, because we couldn't get enough. But okay I just wanted to be sure.

DR. BOVE: Unless all the effect estimates are close to one which means that there wasn't any increase in anything. Then we'll probably have to say there's nothing there, but no, we'll interpret it just the way I said.

MS. AMICO: Okay, thank you for clarifying.

CDR MUTTER: Thank you. Toni, question?

MS. MCLELLAN: Yes. Thanks. Two questions really. What will happen with the balance of the funding. And secondly, the participants, will they go on to be included in another study? Something in addition to the multi-site?

CDR MUTTER: So when you ask about the balance of the funding, can you be more specific about that?

MS. MCLELLAN: Will it be used? Will it be provided for other studies? Will it be used within the Pease community for things, education? Reporting?

CDR MUTTER: Chris, do you want to touch on that? See if Chris is on. Chris, are you still on?

DR. REH: Yes. So I don't think there's going to be any balance in the funding. I think the way this was planned is we're using every bit. Since it's federal funding, if there is a balance, then it typically goes back to the treasury. Just, I don't believe that there's going to be a balance.

MS. MCLELLAN: Okay, thank you.

CDR MUTTER: Toni, did you have a second part to that question? Did we answer both of them?

MS. MCLELLAN: No, the second part was regarding the participants in the study. The enrolled participants. What will happen with them going forward?

CDR MUTTER: I think we touched on that a little bit when we talked about the longitudinal possibility.

DR. REH: That's the longitudinal part that Andrea asked for. And that's more of the longer term. Depending on what we see, there's a possibility with this and some of our other cohorts that we would follow them in the future. And we call that a longitudinal study. So we haven't made that determination yet, but it's something we're looking at.

MS. MCLELLAN: Right. Okay, thank you.

DR. REH: You're welcome.

CDR MUTTER: All right any other questions from our panelists before we go to the audience. Looking for any raised hands and I'm going to ask.

MS. BARRETT: Toni has her hand raised, sorry.

CDR MUTTER: Oh, Toni did you have another question.

MS. MCLELLAN: No, sorry. I'll lower my hand. Thanks for pointing that out.

QUESTIONS FROM THE AUDIENCE

CDR MUTTER: So, we'll go to the audience questions. Pam, would you mind giving an update on how the audience can request to ask a question?

MS. WYTON: Sure, Jamie. The audience can press the raise hand button on their screen or use the alt plus the y keys on the keyboard. Or if you joined only by phone, you can press star 9 and you can raise your hand that way.

CDR MUTTER: Thank you, ma'am I appreciate that. So I will pause to see if we have any attendee questions. Okay, and like I said we can circle back around near the end of the agenda as well. Oh, I see a hand raised. Pam, are you able to unmute Brian?

MS. WYTON: Yes, Brian you should be able to unmute yourself now.

CDR MUTTER: Brian are you able to unmute?

MR. GOETZ: Yeah, this is Brian, can you give me five minutes?

CDR MUTTER: Sure, so we'll circle back around near the end of the agenda.

MR. GOETZ: Oh, I'm actually a false fire alarm here at my house, I'm shutting it off. I'm actually—

CDR MUTTER: All right, Brian we'll get back to you.

MR. GOETZ: It's related to what you're talking about right now.

CDR MUTTER: Okay, do you want to go ahead and ask the question?

MR. GOETZ: Yeah, so I'm a participant in the study. Most people probably know me from the water system side of the house. So, when I got my results, I asked whether I'm willing to be a you know, to get another test. Because you know I drank the water and had high levels. The follow-up samples when I finally got the results, I think it was October, they were 35% less. Which is good news. They were still high. But I was willing to do another follow-up test because it's two years since and feel that well that's probably a good thing informationally for the study. And apparently, there are no follow-up tests. So it was recommended, you know see about getting blood tests from your doctor. So I talked to my doctor. I got an order for blood test. And then I contacted DHHS had, contact VISTA or NMS. I did both of them. Neither one said they do the PFAS blood testing, my doctor didn't know where to blood test. So I'm sitting here with a potential to do a follow-up but yet I don't have anywhere to go. So I'm just wondering, you know, can it happen through the study? And you know I think it would be legitimate information for sure. Because this is what it's all about. See what the half-life is and the time for exposure, and your reduction when you're not drinking the water anymore.

CDR MUTTER: So, I'll let Frank or Marian ask if another blood test can be conducted through the study.

DR. BOVE: No. But if you participated in the New Hampshire Health Department's biomonitoring Pease, we'll have that measurement, plus the measurement that we took in the study. So we'll have two measurements on you and many other participants in the study also had participated in the biomonitoring. So we'll have two measurements on them too. And that will help give us a sense of half-life. And how much the PFAS has diminished after the wells were shutdown, the exposure diminished.

CDR MUTTER: So we can't do another PFAS test. One, because it's not in the protocol, is that?

DR. BOVE: Right, right.

CDR MUTTER: So, it's not part of the study.

DR. BOVE: The study office is closed, recruitment is over. We're in the process now of getting all the data and moving forward to the analysis stage. So there's no more blood testing by us for this time.

MR. GOETZ: Well, apparently, so where do I get a follow-up blood test?

DR. BOVE: I'm not sure I can answer that question. I wonder if the State Health Department could answer that question for you.

MR. GOETZ: Why wouldn't that information be put out to participants?

DR. PAVUK: Well, you already had two blood tests. Why do you think that this would change or give you additional information? When was your last test?

MR. GOETZ: Two years ago.

DR. PAVUK: So you want to see like if it changed again in two years.

MR. GOETZ: Yeah, oh sure, yeah.

DR. PAVUK: So you already had two. So you saw it went down. You want to see again how it change after an additional?

DR. REH: So, this is Chris Reh. So the best place for you to go is to your doctor or to the State Health Department. We as the federal government—

MR. GOETZ: I went to my doctor.

DR. REH: But we as a federal government research agency cannot recommend where to go to get tests. And so if you're not getting satisfaction from your doctor, then I would recommend giving the State Health Department a call.

MR. GOETZ: Well, I just listened to the first part of this whole presentation. It's all about getting people information. Why is there not information on where you go to get a blood test. I have an order from my doctor. I contacted VISTA, I contacted NMS, I contacted ATSDR.

DR. REH: Right, and we just do not keep a repository of laboratories that are doing PFAS testing. That's just not within our mandate or our purview. So I would recommend contacting your local health department or your state health department.

MR. GOETZ: And follow-up testing is not valuable to the study?

DR. REH: Well, the testing portion of this study has been concluded. So we are no longer collecting samples at this point. We've finished with the testing parts. And now we're analyzing samples and we're going to start analyzing the data once we get all the samples.

MR. GOETZ: And for those exposed and getting results they are to do what in the future?

DR. REH: Well, that's what we're trying to learn. Unfortunately, we have more questions about PFAS exposures and what they mean than we have answers. And so that's why we're doing studies like this and our larger national health study. And some of the other work that some of the other federal agencies and university are doing is better understand what do these exposures mean. And from a health standpoint, and what can people do if they have been exposed. And so one of the things we talked about earlier was the National Academy of Sciences' work. Which is some work that Andrea was part of where the National Academy brought together some scientists to look at what type of physician guidelines, and criteria, and testing would they recommend for PFAS exposed people. And that work, we're hoping the National Academy is a third party. And right now they're saying we'll have their report in the middle of July.

CDR MUTTER: Thank you, Dr. Reh. Any other follow-up questions on the Pease study from our audience? I'm just going to pause, make sure I don't see any more hands. Okay, I do see a hand from Andrea, do you have a question, Andrea?

MS. AMICO: Yeah, I guess I want to better understand why ATSDR if you're going to be doing physician outreach and you're going to be giving people their blood test results, like why would it not be within your scope to give people resources if they want additional follow up blood testing? Like, at least a list of labs that you know can do it. I feel like that is within the scope of what you're doing here in the study. Like, you're giving people guidance on what to do after the study, talk to your doctor. You just heard from someone who has a doctor willing to write an order, but he can't find a lab. You know? So, I don't know I just feel like that is in the scope of what ATSDR should be doing. And in your physician outreach and in your results report back to communities, that is something you should share with people. Because even if they can't get their blood retested again through the study, they should absolutely, you know, if they want to pursue getting their blood tested elsewhere. It's clearly not a very straight path to do that. It's a challenge, you know and so why do you feel it's not within the scope of what you do to help community members

navigate that? Or at least give them some resources on how they could do that?

DR. REH: Yeah, so we as a federal government agency, we just cannot recommend a lab, or one over the other. That would be seen as endorsement by the federal government and so we just do not do that. And so it's unfortunate. I get all the points being made. But being a federal government agency and part of the CDC we just can't recommend one over the other.

MS. AMICO: Okay, I just think it's unfortunate. Because I don't think Brian is alone in his request, and his concerns, and his questions. And he even said that he used the labs on the state health department's website and he wasn't successful in that. So just referring him back to an avenue that he's already explored and didn't work out, you know, just doesn't feel like you're really meeting his need or his question, answering his question. And again, I don't think Brian is unique in this question or this concern. And I think we need to come up with a better way of helping people be able to obtain that information. I do hear what you're saying about recommending a lab, but I don't know why we can't, there's not a lot of labs that offer PFAS blood testing if there's a few that we know, I don't know why CDC can't list the labs. Not say; we're not endorsing them; we're not recommending them. Here's some that you can explore. You know? That would be helpful.

CDR MUTTER: I see Laurel's hand up.

DR. SCHAIDER: Yeah, I just wanted to echo want Andrea just said in terms of you know Brian probably won't be lone in asking this type of question. And I think providing a list of labs that provide this type of service would be helpful. If you can do it in a way where you're not endorsing one over the other. I did want to mention also that the PFAS-REACH study is putting together a resource with information for people seeking blood testing. And it's actually interesting to hear your experience, Brian, that's helpful for us to know that that didn't work for you. So I don't know if it's possible for the ATSDR website, or your resources to refer to our resource that we put together. We're working on it now and it should be ready in a month or two. And I can certainly share that link if you'd be able to point people in that direction. But, yeah, just echoing previous comments that this is a question you'll likely hear. People will want to retest on their own. And understand they can't do it for their study. Just for their own curiosity, exposure reduction, if they're changing habits in their daily lives to see how that's affecting their levels. Some people will want to do that and have the means to do that on their own.

DR. PAVUK: So, which lab do you recommend Laurel?

DR. REH: So, I get the point and we do hear it. And it's unfortunate that we can't provide a list, but that's just—

CDR MUTTER: Chris?

DR. REH: Yes.

CDR MUTTER: I was just going to make a suggestion, maybe we could talk with the state health department and see if they can update their list on their website? Or they have any way that you know that way we can still refer to the state, but maybe they have more updated information on their website. That's something that we could do.

DR. REH: Well, that's what I was about to say, but anyhow.

CDR MUTTER: I took the words out of your mouth and interrupted you.

DR. REH: There's just so much we can do. And it's a great idea. I wish we could. But it's not going to get past our CDC legal department. You know the federal government just doesn't recommend laboratories. But if there's other avenues like the REACH study, there's certainly other avenues where it can be done, so.

MULTI-SITE STUDY UPDATE

CDR MUTTER: Thank you for that. Any other question on the Pease study before we move onto our agenda to the multi-site study? Okay, I don't see any hands. So I'm going to go ahead and move onto the multi-site study update. Marian, would you mind giving an update?

DR. PAVUK: Yes. So we have all the sites including California have started field collection of samples. All seven sites are in. Michigan is furthest along, along with Pennsylvania, some other sites. So we crossed somewhere around 500, 600 total participants enrolled at this point. And so we are in that stage. And making arrangements with again with the different labs on the schedule and continuity of the analysis for multi-site study.

CDR MUTTER: Thank you for that update, Marian any questions on the multi-site study? Andrea, go ahead?

MS. AMICO: So, yeah, I was just curious if you have a timeline of when? Because I know the plan is to combine the data from all the site. Obviously, you'll do individual reports at each of the

sites and then the plan is to do a kind of comprehensive report on what's found at all the sites. Is there? You know, I know these other sites, we're just finishing our data collection, others are just starting and they're at different phases. But do you have a guesstimate as to when everything would be done?

DR. PAVUK: So there's a couple ways to look at it, you know, what was planned. What was in the funding opportunity documents, like how long the funding is going to last and then the reporting. Of course you have practical matters when people are in the field and how quickly they're burning the money that they have. How easy or difficult it is for them to enroll people in their study. So, the funding is for five years on this project, right. So we're in year three. September will be year four. The current plan for having people enrolled in the multi-site study is at this point, the end of May of 2023, or the end of enrollment. So you know it would, given as you said, some starting earlier than the others. And completing or not completing. So, we're talking about 2024 for the data maybe aggregated and put together and start being analyzed.

MS. AMICO: Okay. And how do you envision releasing the multi-site data once it's all finalized and you've made a report, or it's going to entail multiple communities and data from multiple communities. How do you envision reporting that information back?

DR. PAVUK: So there's a couple layers to that. Obviously, each site will report to their own community and their own dataset, their own part of data for their site. So that's one part of that. And then you know the aggregate reporting you know, will be done in, you know, in conjunction with the consortium and ATSDR leadership to decide you know the best way, the most appropriate way to get out. But since these are mostly you know university-based researchers, the idea is that the consortium would produce and prepare, you know peer-reviewed scientific publications that describe finding what we have for like example C8 studies or some other NIHS funded projects. So it will go more that way than a way of governmental reports that you can publish. So I think all the researchers in the study are doing the research and then reporting. So that will be the way of highlighting and spreading the informant on the results.

MS. AMICO: Okay, thank you.

PEASE HEALTH CONSULTATION UPDATE

CDR MUTTER: Thanks, Marian. Any other questions for multi-site before we move on? Okay. Let's go to Pease health consultation update with Capt. Somers.

CAPT SOMERS: Sure, so the Pease, the final version of the private drinking water well. It was said to be released the 10th I believe of February was the release data. And then they ran into some technical challenges getting it in a form that can be out on the website. So Greg's working on that and hopes to be out soon. Again, we're going to do outreach to the local communities. Nothing really changed in this document from when, not big changes anyway for the conclusions for when it was in the public comment version. So I don't think we're going to do the same type of like public availability session. But definitely through the town officials reaching out to them, making them all aware that this document is out there and trying to get the word out that it's there for people. So, Andrea, once we have that in the version that's you know available for everyone on the web to see, we'll make sure you get it so you can post it to the testing for Pease page. And we'll try to make sure it gets to like I said, all the homeowners so they can know about it. Do you have a question? Your hand is up.

MS. AMICO: Yeah, so will it be put online somewhere or is it going to be a PDF?

CAPT SOMERS: Yeah, we'll have it, we always put the documents on our website. But you know people aren't really checking on our website very often. So any way we can get it out there. So information that people can go to our website and check it, that would be great. And like I said, I don't think there's anything that you're going to see that looks significantly different than what it looked like when we had the first public comment version. And in that case, remember Darian and Greg were there and did a lot of time for people to come and talk to them in person with questions. So I think we did a pretty good job at that point answering a lot of questions. But if new questions come up, we'll certainly answer any questions.

MS. AMICO: Yeah, I know the Pease RAB, the Restoration Advisory Board with the Air Force, they have quite a few Newington residents on the RAB. And so, it would be great. I can give you the RAB coordinator's name too. I mean I certainly can share it as well with the RAB members. But I think that's another good avenue to make sure once this document is final and available to make sure it's pushed through the RAB as well. Because I think there's a lot of key community members that have a lot of interest in this on that group that aren't on this group.

CAPT SOMERS: Yeah, sure we'll share it with the RAB. I know Mike Dailey he's?

MS. AMICO: Yes. He's on the RAB. Yes. He's on the RAB.

CAPT SOMERS: So we'll make sure he's aware too.

MS. AMICO: Okay, great thank you.

CAPT SOMERS: Sure.

EXPOSURE ASSESSMENT UPDATE

CDR MUTTER: All right any other questions on the Pease health consultation for Capt. Somers? Okay, we'll move on to the exposure assessment update. I have that and if I miss anything, Dr. Reh can jump in and let me know. All right, so the update is there was a community meeting held for the Massachusetts site in December of last year. A community meeting was held for the West Virginia site in February of this year. The Delaware report was released in February of this year as well. And a community meeting is scheduled for February 17, which would be tomorrow for Delaware. The five other site specific reports are currently in our approval process at ATSDR. Did I miss anything, Dr. Reh?

DR. REH: No, I think that's just about it. We think the next one out of the gate will be Spokane, Washington site. But I think you got it.

CDR MUTTER: All right, any questions for exposure assessment? Andrea, go ahead.

MS. AMICO: Thank you. So, Dr. Reh, do you anticipate similar to the multi-site study, you're going to aggregate all this information and also have like a final report. And if so, do you have a timeline on that?

DR. REH: Absolutely. They've already started working on this. And I believe the timeline I believe form the budget, from the way the contracts were written, it will be by the end of this year.

MS. AMICO: So by the end of this year, like the nation can have a report on all of this exposure assessment data, or you know?

DR. REH: Let me get back to you. But I think that's the timeframe.

MS. AMICO: Okay. Okay. And then as a result of this work that you've done in the exposure assessments, is there any additional follow-up work that's being done? I mean obviously the exposure assessments are different than the health studies. The health

studies are ongoing. But are any other biomonitoring, or studies, or you know any other work that's being done regarding looking at PFAs in blood or human health effects that ATSDR is currently working on? I know in the past you've talked about possibly partnering with CDC to look at the intersection between PFAS and COVID and lowering immune response and things like that. So just curious if there's any other work that we should be aware of?

DR. REH: And that work is still going on. We also have a joint project with the EPA looking at different sources of exposure. And we're using some of the sites from our exposure assessment to do that. So, going beyond just looking at water as a source. You know through our community health assessment process we always are interested in sites where there are sources other than firefighting [inaudible]. And related to the Air Force, or Air Force Bases or military sites. Because as we know, there's a lot of other uses of PFAS in a lot of manufacturing processes. And so we do have some sites that show promise. We're looking at other sources of the emission and its exposure that are outside of military.

MS. AMICO: Okay, and then I think just one follow-up question. Although I don't know if the exposure assessment related. But you know we do know that DoD is collecting the blood of military firefighters in their annual physical. But it's not really clear. I don't think they're doing much with that blood, with that data right now. And just wondering if there's opportunities for ATSDR to partner with DoD because ATSDR certainly has done a lot of work now on collecting blood samples for PFAS, writing exposure assessments and health studies and all of that. So is there an opportunity for DoD and ATSDR to partner with that data that DoD is currently collecting from their firefighters? So we can try to draw some meaningful conclusions from that, help raise awareness to PFAS exposure to firefighters in DoD, reduce their exposure, things like that.

DR. REH: There's a possibility. You know we work closely with DoD and the VA. And sometimes that work is done by the VA, sometimes it's done by the DoD. And there are some possibilities there that we had some discussions around. A lot of it is going to deal with privacy issues. But there's possibilities.

MS. AMICO: Okay. Thank you.

CAP CONCERNS

CDR MUTTER: Okay, any other questions for exposure assessment? Okay, we will move on to just general CAP concerns or questions. Anybody have any questions? Toni, go ahead.

MS. MCLELLAN: Hi, thanks Jamie. It's a request more than a concern. Can an update be sent to the Portsmouth City Manager, Karen Conner just on where things stand, enrollment has closed, final enrollment numbers, the status of things going forward, what are the plans?

CDR MUTTER: So, yeah, we can definitely do that. Would you mind just sending an email to Tyra with that request?

MS. MCLELLAN: Sure, absolutely.

CDR MUTTER: So we know exactly what you're asking for and we can do that.

MS. MCLELLAN: Yeah. Great, thank you. Appreciate it.

WRAP-UP/ADJOURN

CDR MUTTER: Absolutely. Anything else? Any other questions? Concerns? Okay, Toni, your hand is still up no more questions? Okay just wanted to make sure, wanted to make sure. All right. No problem I just wanted to make sure. All right. So I just wanted to say thank you to everybody. This is my last meeting. So I wanted to say thank you. And it's been a pleasure to get to know all of you guys and work with you all. And it's a sad day, but I'm sure I will peak back in and ask Chris how everything's going. And Frank, and Marian, and Tyra. So with that I wanted to say thank you for coming tonight. And we will wrap it up.

MR. RYAN: Take care. Take care of yourself.

UNIDENTIFIED SPEAKER: Thank you, guys.

UNIDENTIFIED SPEAKER: Okay, bye-bye.

UNIDENTIFIED SPEAKER: Thank you, Jamie.

UNIDENTIFIED SPEAKER: Yes, take care.

UNIDENTIFIED SPEAKER: Thank you.

UNIDENTIFIED SPEAKER: I appreciate it.

UNIDENTIFIED SPEAKER: Best of luck, Jamie. Thank you.

UNIDENTIFIED SPEAKER: Thank you. Thank you, everyone.

UNIDENTIFIED SPEAKER: Thank you, Jamie.

UNIDENTIFIED SPEAKER: You're welcome. All right, bye, everyone.

UNIDENTIFIED SPEAKER: Bye.

UNIDENTIFIED SPEAKER: Bye-bye.