THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

convenes the

NINTH MEETING

PEASE COMMUNITY ASSISTANCE

PANEL (CAP) MEETING

June 4, 2019

The verbatim transcript of the Meeting of the Pease Community Assistance Panel held at the New Hampshire Department of Environmental Services, Pease Tradeport, Portsmouth, New Hampshire, on June 4, 2019.

C O N T E N T S

June 4, 2019

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

(Alphabetically)

AMICO, ANDREA, CAP MEMBER

BOVE, FRANK, ATSDR

CARMICHAEL, LINDSEY, CAP MEMBER

CLAPP, DICK, CAP TECHNICAL ADVISOR (PHONE)

DAVIS, ALAYNA, CAP MEMBER

DURANT, JOHN, CAP TECHNICAL ADVISOR

FULLER CLARK, MARTHA, CAP MEMBER

HARBESON, ROBERT, CAP MEMBER (PHONE)

HOLIFIELD, FREEMAN, USAF

LAZENBY, CLIFF, CAP MEMBER

MCNAMARA, KIM, CAP MEMBER

MUTTER, JAMIE, ATSDR

PAVUK, MARIAN, ATSDR

REH, CHRIS, ATSDR

SCHAIDER, LAUREL, CAP TECHNICAL ADVISOR

SOMERS, TARAH, ATSDR

SULLIVAN, MARK, CAP MEMBER

VETTER, SHELLEY, CAP MEMBER

WOODS, CHARLES, AAP (GUEST)

P R O C E E D I N G S

(6:00 p.m.)

WELCOME AND INTRODUCTIONS

DR. REH: Welcome everybody to the Pease CAP meeting. My name is Chris Reh. You've seen me before. I'm sitting in for Pat. Pat gives his regrets. He had some travel that he had to do this week, and so he could not be here. But we still carry on. Before we get started, I want to introduce Dr. Charles Woods. He is here to help us. As you know, the CAP has been very interested in medical monitoring and guidelines and in the process around establishing medical monitoring guidelines. We as ATSDR feel the role that we can play is to facilitate getting the right people in front of the CAP to help with this problem. Our first start is with Doctor Woods. He represents the American Academy of Pediatrics. He is a pediatrician from the University of Tennessee, College of Medicine, and later on he will be talking to us about medical monitoring and give a presentation about how we establish guidelines for clinical practice. With that, I want to go around the room, and with introductions, if we can start with Tarah please.

CAPT SOMERS: Sure. I'm Tarah Somers. I'm the Regional Director of ATSDR Region one.

CDR MUTTER: Hi, I'm Jamie Mutter. I'm the CAP Coordinator.

SEN FULLER CLARK: I'm State Senator Martha Fuller Clark. I represent district 21 in the Portsmouth area. Thank you.

MR. SULLIVAN: I'm Mark Sullivan. I'm on the CAP, and I own a business here on Pease.

MS. AMICO: Andrea Amico, cofounder of Testing for Pease, and also a CAP member.

MS. DAVIS: Alayna Davis, cofounder of Testing for Pease, CAP member.

Lt Col Holifield: Freeman Holifield, Air Force Secretariat.

DR. DURANT: John Durant, I'm on the CAP as a technical advisor.

MR. LAZENBY: Cliff Lazenby, Assistant Mayor, City of Portsmouth and CAP member.

MS. VETTER: Shelley Vetter, I'm a CAP member, and I own Discovery Child Enrichment Center that's located on the base.

DR. WOODS: Charles Woods here. [Inaudible] American Academy of Pediatrics.

MS. MCNAMARA: Kim McNamara, City of Portsmouth Health Department.

DR. Pavuk: Marian Pavuk, ATSDR.

DR. BOVE: Frank Bove, ATSDR.

DR. REH: We also have some people joining us on the phone. Can you please introduce yourselves? We also have some people joining on the phone. Can you please introduce yourselves? I'm sorry. I had it on mute.

MR. HARBESON: Robert Harbeson, CAP member.

DR. REH: Anyone else? [Inaudible]

DR. CLAPP: Dick Clapp

DR. REH: Anyone else? Okay. Very good. Thank you very much. Jamie, do you want to get started with the action items?

ACTION ITEMS FROM FEBRUARY 2019 CAP MEETING

CDR MUTTER: Yeah. Before I do that, I just want -- a few announcements before we start. Just to remind everybody in the room to turn off your phone or put it on silent, so we don't interrupt the meeting. Emergency exits, there's one in the back right on the back wall, and also how you came in. Just follow the exit signs. The bathrooms are out this back door, down the hall to the right. Reminder for those at the table that when you are speaking to say your name and speak into the microphone for our transcriptionist. And to ask a question or comment, just put your name tent on end, so we know who needs to speak and when. And those on the phone, if you wouldn't mind muting your phone until you have a question, that way we don't get any feedback. All right, with that, we'll just go ahead and do our action items.

All right, so the first action items -- or the first few are for ATSDR and NIOSH. So, the CAP asked NIOSH for a copy of the cancer publication that were mentioned during Dr. Schnorr's summary. And that was sent to the CAP on February 12th of this year. They asked NIOSH if they plan to statistically measure PFAS levels in firefighter gear, and whether they can look at how that could be absorbed. And so, I got an email from them on that, that says, "We will not specifically investigate dermal exposure and absorption per say, but the study will include biological monitoring. Which should give us a general idea of absorption and contribution from turnout gear." So, that was their response for that. The next one was, Dr. Schnorr was asked to share her contact information. And that was also in the email sent to the CAP on February 12th, and the CAP asked for a contact to send a letter of support for the funding of NIOSH

studies related to PFAS. And that was also in the February 12th email sent to the CAP.

And on the NIOSH studies, just an update on the funding, I did contact NIOSH yesterday to get an update on the funding. And they haven't heard yet, but it should be any day. And so, when I do find out any information on that, I will relay that to the CAP as soon as I get word. But she said they were expecting end of May, early June, so I'm expecting any day we should find something out.

And the rest of the action items are for ATSDR specifically. The CAP asked to be notified when information on the Multi-Site Study would be released to the public, and that email was sent to the CAP on April 1st of this year. ATSDR will send the Multi-Site Study forecasting notice to the CAP, and that was sent on February 12th to the CAP. The next one, ATSDR will reach out to groups that can address medical monitoring and invite to a CAP meeting. We have accomplished that one. We have Dr. Woods here, in person. So, thank you, sir. ATSDR will provide more information on the AMAS test for cancer. And I'll let Dr. Pavuk kind of speak to that cancer test. It was kind of raised during the end during comments from the community, and we took that down as an action item to report back. Dr. Pavuk? Thank you.

DR. PAVUK: So, just shortly, the statement that is prepared here for review is from the Association for Clinical Chemistry, that is a global, scientific, and medical professional organization that reviews and recommends different clinical or arbitrary signs and implications for healthcare. This kind of descriptions that they have related to this test. The test is -- basically refers to anti-malignin antibody in serum, AMAS, is the test that is uses for -- by the company that makes it, as an

early diagnosis for those with high risk of cancer and monitoring cancer progression. There's little published evidence from independent sources who support that claim. The test was devised about 20 years ago. Test has not earned the confidence of most in the medical community, giving the lack of data regarding its clinical utility. In one study that we were able to review on breast cancer, the test has only about 60 percent specificity and 64 percent sensitivity for breast cancer. But the test is not specific to any one particular type of cancer, and so it's difficult to judge the test impact on patient health outcomes. It is unclear how the test results can be used to advance diagnosis or develop a treatment plan for a patient. The test, if used, should not be used alone to diagnose cancer nor to screen asymptomatic people for cancer. The available evidence indicates the negative test, AMAS test, should not be interpreted as all clear message if there's any reason to suspect the possibility of cancer. So, that's the statement from the Association of Clinical Chemistry on that review to this specific test.

SEN FULLER CLARK: Can we just make sure on the [inaudible] comment--

CDR MUTTER: You can take your -- yeah, perfect.

SEN FULLER CLARK: Okay, that those -- if we could just make sure that those comments are included in the minutes, it would be very helpful. Thank you.

DR. REH: Absolutely.

What's that? [Inaudible] That's the end of the action items. Okay, so as we said earlier, the CAP has had -- has expressed concern over medical monitoring and the appropriate procedures

for looking at medical monitoring for people exposed to PFAS, both in adults and children. And we've had a lot of back and forth discussion as to what ATSDR can do and what we cannot do. And in our last meeting, we discussed bringing in some of the experts who develop these guidelines as part of their practice. And so, as a first effort in this, we have reached out to the American Academy of Pediatrics, which is the leading medical professional academy for pediatricians, and discussed this with them. And they offered Dr. Woods to be with us today to talk about medical monitoring for chemicals and with a look at PFAS in children. And so, he's been generous enough to travel up to see us today, and he has a slide presentation that he's going to take us through. And then we will open it up to questions after that. So, with that, Dr. Woods?

GUEST PRESENTATION

DR. WOODS: Thank you, and it's a pleasure to be here. Can you hear me okay? And I may stand up a little bit and just--

UNKNOWN: We need you on the--

DR. WOODS: I'll stay here and we -- so what I'm going to give you a little bit of overview is how the American Academy of Pediatrics works in terms of guideline development and processes like that. I'll start with the next slide. Just a little bit about who in the world am I, and why am I here for you. I have been in Chattanooga with the University of Tennessee now for the past almost a year. My background is in pediatrics from Baylor Texas Children's in Houston. I have a clinical specialty of pediatric infectious disease, but also an epidemiology master's from years at Wake Forest when I was on faculty there. I've had

some work with local public health departments there, primarily in state public health.

And ultimately, my role within the American Academy is I chair a section on -- what we call a section on epidemiology, public health, and evidence. And we are multidisciplinary group of pediatricians that -- and also home for public health professionals in the academy. And we help the academy with methodology. We also do some content work. The academy has content specialists in all sorts of clinical areas. There's actually a council on environmental health and safety. So, there's a group of pediatricians who have that as a primary interest. And I think one of the next steps is to get them engaged with this. I'm not sure -- I think they're aware of it. I don't think they've put anything out on it to date, but when I get back from this discussion, talking to other leaders in the academy. I think that's a group to get engaged and potentially have one of them come at some point and speak with you as well. But what I'm going to try to show you is what we do from the method standpoint.

Next. So, just a reminder, that there are three levels of prevention. So, there's primary prevention, where you do something to stop an exposure. A vaccine, filtering water, those are primary preventions. Secondary prevention, there's already been an exposure, and there's potential disease development underway, and can we detect it soon enough and be able to do something about it to prevent damage from occurring? And then tertiary, there's already been injury or illness, but then we're trying to either heal, cure, or at least rehab as much as we can. So, those are the kind of levels that we -- that a group of physicians would look at to say, "What can we do?" And by the way, those different levels of the academy also engages in

advocacy. There's also a council in community pediatrics, which engaged in advocacy efforts in different communities, pediatricians in that around resources, but also engaging with health departments to actually prevent toxic exposures. And you're all familiar with the lead issues in Flint, Michigan. A lot of the academy membership and others' groups were involved in that type of work.

Okay. So, if you mapped out just how disease occurs, there's exposure, be it a germ, a mutation, or a toxin, toxic substance. And then there's a period of time, maybe something's going on in the body, before you know you're sick. You don't feel ill. Anyone looking at you would not recognize something was going on. You can think of cancer before it's detected. It can be there for years, quietly, in that phase. And then there's the clinical horizon where you start to see signs and symptoms that anyone would say, "Now we better do something. We have to understand this. Can we do something?" So, that preclinical phase is sort of where you're getting to in some of the medical monitoring. Is there something we can do before someone is actually ill to be able to make a difference? Go ahead.

And then when you look at all of these things, there's several levels of evidence, and this is -- these are just sort of standard views of -- from epidemiology but also clinical medicine. So, how do we know something causes something else? One is, you have single studies or multiple studies, and what's the magnitude of association? Is your risk 100 times, 10 times? What is -- if you have a certain exposure, of developing a disease? Dose response, are you more likely to have severe disease or any disease the higher your exposure to the toxin or drug or things like that? Consistency, are there a lot of studies that seem to all show the same thing? And maybe you've

got a couple of studies that don't show much signal, but you got 15 that show a lot of signal. And so, you look at that preponderance of evidence across lots of studies in different populations and different methodologies. And so, you can see this accumulating evidence around PFAS and these other chemicals where there is some signal across that. And then obviously, temporal association means does the exposure occur before the illness? And that would be the case here. And then lastly, we have a lot of I guess biologic plausibility. Are there animal models? Are there tissue models of exposure that suggest injury pathways? Does the biology make sense with what we think we're seeing in human beings to say that that all goes into causation? So, those are the main things that a guideline committee would look at to say, "We think there's something here around that." And I think I've kind of explained this. Keep going. I won't belabor this point, just gives us more time. Next one. Yeah.

So, now you get to, how does a guideline occur? First off, there's an agreement within the academy or any professional group. This is an important topic. There are enough of it in this case, for us, would be there are affected children, or there's enough variation in how the pediatric community is practicing, that we need to provide some reasonable guidance as to what the options may be. And ultimately, we may make strong recommendations or medium recommendations or weak recommendations depending on the level of evidence. But to start that process, you do a systematic review of all the literature of different types. What do we know clinically? What do we know about relationships of serum levels, urine concentrations with disease? What do we know about the time periods between exposure and onset of disease? Are there age related factors? Is a young infant at greater risk from a lesser exposure than a teenager?

You know, all sorts of things like that, or maybe there's an exposure in infancy, but we're not going to see it till adolescence. But we need to know to look for it. So, looking for all those types of information or signals to put something together for recommendations. So, you retrieve the literature, then it's appraised by epidemiologists and others who understand methods well, and sort of say, "These are the strengths and weaknesses of these studies, and here's how they all line up together." And then you get the committee of content and methodologic experts together to sort of rate the evidence and begin to make -- so there's enough here to say, "We always should look for this in children with these types of exposures and levels." Other children, we might say, "Be aware that this could happen, but there's nothing we can do ahead of time. But as soon as there's any early warning, look for this. Don't hesitate. At the first possible sign that there might be something wrong with the thyroid should be no hesitancy to look." So, those are the types of recommendations that would be made.

And then this is just to give you a sense of the types of evidence. The best evidence comes from clinical trials. Randomized trials, we have very few of those in pediatrics that are big enough to matter. So, we're usually looking at cohort studies, and hopefully prospective but often retrospective cohorts. We're looking at animal models. We're looking at those levels of evidence to say. And there's another system a lot of professional societies use called GRADE. We've not adopted that in pediatrics, because it only has two levels of recommendation. And it often doesn't look at or allow quite as much room for a group of experts to say, "There's not a lot of evidence, but there's certainly a signal of harm that we need to take

seriously and have some action before we get more evidence." So, there's an option to do that here. So, level B would be the level of evidence that probably exists for a lot of the measures, and this if for most things in pediatrics. So, it wouldn't be just related to this topic, but there can still be a strong recommendation based on considerations of the magnitude of the harm and what we can do about it. So, sometimes there might be slightly less harm, or there's more uncertainty about what we can do about it. And you might make either a moderate recommendation or even a weak recommendation. So, those are the types of, I guess, the process that a professional group would go through to sort of make a statement to its members. If we say, a strong recommendation, that means that if you encounter a child in this situation, you should follow this guideline unless you have a really darn good reason not. If it's a moderate recommendation, you probably should follow it, but there's a lot of room, you know, for nuance and family-patient preference. And if it's a weak recommendation, there's a ton of room for patient preference and even waiting and watching at times, almost an option at that level but at least there's an awareness. So, this is -- these are the steps that you kind of go through to get to a recommendation.

DR. REH: Can you give us an example of a guideline with a strong recommendation, one with a moderate, and one with a weak?

DR. WOODS: Yeah. So--

DR. REH: Just to put it in perspective, because a lot of -- most of the people here are CAP members, ATSDR, have been looking at the data and information and science on PFAS for quite some time and the issues associated with it. So, help us put it into perspective.

DR. WOODS: If there were a -- I'll try to come up with one from an infectious disease, and then we'll go back into one related to toxins. So, if you clinically suspect a child has pneumonia, they've got fever, cough, and you hear crackles when you listen to their chest, a strong recommendation would be that child needs an antibiotic and very close follow up to see how they do over the next few days. If they don't have crackles, and it's flu season, you might not give them an antibiotic, but you're going to follow them closely. And that might be a moderate recommendation, something along those lines. If you take it to the PFAS literature, certainly I think of the cholesterol data and what we know about that. That might come in, I would think right now, as a moderate recommendation. Because the risk is seen slightly higher at least in adults and teenagers than the general population, and there's a risk signal there. So, it may be something that if families want that checked, okay, that's a reasonable thing to check. If they feel okay waiting and watching or checking every two or three years as opposed to every year, there would be some ability to take family preference into that sort of decision making. But to not do it might not violate the standard of care so to speak, especially if it's a joint decision to do that. Does that make sense? And weak might be-- Yeah, I guess the risk of kidney cancer in young children is really small, even if there's exposure, because of the duration of time. So, weak might be you can do a urinalysis every two years looking for blood, but if families would rather do that every five, you know, that might be something along that line. So, there's just wiggle room based on the degree of risk at a certain age and what you might be able to do about it. However, something like that could end up being a strong recommendation in that a urinalysis is an easy test to do and a very cheap test to do. And there's very little harm in -- it's

not painful to get that out of most children, just with a voided specimen or a bag specimen. So, things like that can go in and maybe raise something from a weak to moderate or even strong based on the ease of doing it and the potential risk-benefit ratios. Go to the next.

So, I looked through the C8 protocol this weekend, and just thought of -- you know this well, so we can kind of just skip through there. But I kind of put this together, so I would understand it. Go to the next one. And of course, I thought they did a nice job of age stratification of when they might test based on risk. Although this might not be perfect. You might argue to look for certain other things younger, and certainly if you look at ulcerative colitis, I don't know -- that's a disease that occurs in children without PFAS exposure. And typically, we get -- we think about it when there are ongoing abdominal pain, other gastrointestinal complaints. And now there's an actually much easier test for this where you can just measure a protein in the stool actually and not have to do an endoscopy as a first screen of this. So, that's something that makes testing for that easier. What we don't know, just so you know, is whether -- how long ahead of symptoms would that test be positive? In other words, before you're sick. And is there any value yet to screening and would we know to do something beforehand that would make a difference versus waiting to when the symptoms first started? So, that's a question. It's not -- certainly there's no final answer to that, but that's something that might make screening for this easier going forward than certainly have a colonoscopy, certainly in a child. Go to the next.

So, looking at these, just to review. The cholesterol issue is certainly greater in adults and older teens than children based on what we know today. There's usually no clinical signs early

on of high cholesterol, and so there's certain risk factors already where children might have a screening for this. And so, if they already have a significant known exposure to PFAS or if there's a -- if they were looking at blood levels as a means of saying, "Okay, there's risk." That's not a very difficult test to do. It does require a phlebotomy, and so a needle stick to get the blood sample and fasting to do that. But compared to many things, that test is pretty straightforward and routine. Thyroid disease can happen in children. We have pediatric endocrinologists who follow those children and manage them just like adult patients with hypothyroid disease or sometimes hyper. And certainly, we use the same medicines in children that we use in adults, with good affect. There's not necessarily a routine preclinical testing of children in general for that. And I think in most cases the -- your thyroid level doesn't fall very quickly for -- as it -- if there's thyroid damage, as your thyroid stops making as much thyroid hormone as normal, it doesn't take very long for those symptoms to show up. So, there's a fairly short period in there. And so, screening at one point in time may not tell you, "There's no risk," but you could repeat screening. But I'm not sure there's a lot of advantages in my personal thinking on this of routine screening of thyroid before you have symptoms. But I wouldn't tell you that's a final answer on that either, and we can come back and talk more about that, as to what you get out of each test. And then ulcerative colitis, this calprotectin protein, is a test that, again, is a lot easier to do that anything we've had. And it's routinely used diagnostically in children and adults now for both Crohn's disease and ulcerative colitis. Go to the next.

Testicular cancer, there's really no screening, except for a physical exam, and then if there are actually symptoms both a

mass found or pain. If there's a mass, you go to ultrasound. And by the way, I would say looking through the C8 protocol, I felt like it was well considered and would function a lot like a guideline that the academy might put out in terms of this is how you walkthrough decision making around these types of things. Kidney cancer, again, much less common in children. There's some questionnaires, and urinalysis is probably the main test other than exam and doing other testing based on symptoms. And then of course, pregnancy induced hypertension, it's not something most pediatricians deal with but sometimes in adolescents. But typically, the obstetricians are going to be the ones managing that, and that's pretty well standardized approach. Because again, this occurs in -- for lots of other reasons as well.

And I think -- so yes, so this gets back to our, what can we do? Now what do we need to know? And I think some of the studies that are being planned will help give even further information, but also know that as a parent waiting on studies to happen that might take four or five years, what do you do now? And that's a very frustrating place to be, and the academy often is also slow in developing guidelines. Because you have to get groups of people together to ponder and pontificate and argue and then reach a point of both internal and external review. So, it can take two or three years from the start of a guideline committee work before it's finished. So, we were discussing on the phone that one of the things to do, and this would involve getting the council environmental health and safety pediatricians engaged in this, to say, "Are they willing and able or wanting to begin sort of the review process, the questions, to look at this issue?" And it might dovetail with a number of other toxin chemical exposures as well. So, you know, there's I guess some value to trying to start something so that as more data

accumulates, it doesn't take forever to produce some guidance. The other thing that the academy's good at is getting pediatricians engaged in the community and advocacy and working with legislatures and trying to find preventive measures. And I think you've already done a lot of that that can be done in terms of cleaning up water supply to the degree it can be and then looking at other risk exposures. But these are types of questions that we would be interested in. I'll tell you though, we are used to practicing in an environment of uncertainty. A lot of what we do doesn't have nearly as much certainty as we wish it did. And so, we make risk-based assessments all the time, and so there is certainly room for that. And we also are influenced by parent groups who say, "You know, why aren't you guys thinking about this?" And every area, you know, we have ever childhood disease, we have parents who -- groups, nationally and regionally, that are involved and help drive both research agendas and sometimes guideline production agendas. So, I think, you know, part of what I've learned from this in the last week or so as we've had these discussions is, well maybe there are people in the academy that can be more engaged. Or they're thinking about it, but they've not had the nudge compared to other things they might have been focusing on to begin a process like this. So, I'll stop there, and I don't know if you want to do questions now. I think there's a Q and A coming.

DR. REH: Yeah, let's do questions now while it's still fresh in people's mind. Any questions? Sure.

MS. MCNAMARA: You touched on having animal models, cell culture or clinical studies, to really backup what we think we know. And C8 is largely and epidemiological study. So, is there any gap

there when it comes to building guidelines where you have the Epi studies, but you don't have the actual animal models?

DR. WOODS: I think probably there's enough, at least based on the review articles I was looking at, enough plausibility already in terms of various oxidating pathways and internal cellular structural interactions that if you're seeing an Epi signal, that's enough I think, so.

SEN FULLER CLARK: So, [inaudible] here has been in many instances the inability for families to get their children tested. And I'm wondering if you could comment on that? And at what time should that testing be triggered? And how do pediatricians be brought into the discussion so that maybe there's greater opportunity for young children and adolescents to be monitored and tested on a more regular basis?

DR. WOODS: So, you've touched on what I guess the variation in how individual physicians will look at data or what we actually know about a subject and then what can be done. Let me come back to that one thought, that there is one thing the academy does that's short of guideline production. There are -- there's a class of statements we call clinical statements. And they're essentially topic reviews that can explain an issue and note what the association of disease are and essentially, what options are. It may fall short of saying that the pediatrician should always test for these conditions in these circumstances, but at least it provides information. And then the way I think many of us try to practice and this always -- and sometimes there are insurance questions that get involved, is what is the -- your parent, your family, your guardian concerned about with their child and what do we know about it and what can be done? And it's almost a discussion, which I know probably most of you

have had, with one or more physicians about what the options are and what the concerns are. What do we know? And sometimes there is probably a degree of -- in some cases, there might be a pushback to testing. Because, well, the question that I might have in some cases is, and not necessarily this issue, but, well, what is the harm of testing? And it's testing -- is there a harm to testing when we might think there's a risk? And does knowing a risk alter the way you live your life in a way that is -- negatively impacts what you're going to do over time? When, if you hadn't known that risk, you would have done something different. And risk doesn't equal occurrence, you know? So, we all have risks for things that are actually never going to happen to us. Sometimes we have a very high risk of things that don't happen to us and very low risk for things that do. But a lot of this comes down to personal preference and risk tolerance as individuals and risk tolerance as physicians in trying to work out together where that right decision point is. And I don't know that there's a one size fits all answer. I think there's a big role for personal preference the less certainty we have. So, that's just an area that I guess I'll just -- I'll give you that to say what we don't is for certain. But there needs to be a discussion about what is the risk, and can we do something about it before onset of any evidence clinically? Then--

SEN FULLER CLARK: Do you see the academy coming forward with at least some preliminary information for pediatricians with regard to the PFAS issue?

DR. WOODS: I don't know for sure. And I think the academy, until this, has not been directly engaged, although I can't -- well, let me step back and say, I suspect that members of the academy who are very involved in the Council of Environmental

Health and Safety, I suspect many of them are well aware of this issue. Because this is not a -- this has been on the -- I think, I can see on the radar, in the literate, and discussion for a while. So, there's a group of physicians within the American Academy of Pediatrics, who I think see this as an important issue. And I guess to date it hasn't risen up though to a policy statement. And so, I'm not sure why that is. Actually, I'm curious about it now myself. And so, what I can tell you is I will ask about this internally, but I can't tell you what the timeframe might be. If they choose to do a clinical statement, that could be within a couple of years or less. A guideline though is going to take longer.

SEN FULLER CLARK: It does seem to me that the first step of a clinical statement could and would be very worthwhile. So, the question is how to pursue that on behalf of families.

DR. WOODS: So, what I can tell you -- what I can do, and I will go back and, through the academy internally, engage leadership of that council, update them on this discussion, and say, "Look, this -- you've got advocates here for this if you're interested in it and willing. I think now might be a good time to get going on it." And then talk to other academy leadership about putting that through.

SEN FULLER CLARK: Thank you.

DR. WOODS: Okay.

DR. REH: I think this is something that we should take as an action item for ATSDR to work with you to ask these questions to the Environmental Health and Safety committee within AAP.

[Inaudible]

DR. REH: Andrea?

MS. AMICO: She raised her card first. Being polite.

MS. DAVIS: Actually, thank you, Senator Clark, because you asked a couple of the questions that I had. A couple of follow up questions were, what can we do specifically, besides you going back to the academy and making the request? What can we do specifically? Is there someone specific that we can reach out to, to put this on the review board for the Council of Environmental Health and Safety?

DR. WOODS: So, there's a New Hampshire chapter of the American Academy of Pediatrics I'm sure. And -- or at least there's a regional, APS, state, local chapters all over the country. And I don't know right now who heads that up, but I'm sure they are active on many fronts. And next door in Vermont, the chair of pediatrics in Burlington is actually editor of, "Pediatrics", the journal for the AAP. So, that's a different branch, but I can have a chat with him about people as well. But I think getting engaged with your local pediatric community through that state chapter, they will feed into the whole regional district as well as their connected end. So, it's just another way of -- the academy's this big multibranched organization, but it is ultimately a grassroots organization of pediatricians. And so, things arise from local levels, and so pushing your local pediatricians to bring this to the state level to say, "This is an important thing to speak into the academy." And all that just adds ammunition to push something forward.

MS. DAVIS: Okay, great. Also, I was wondering, I think she already asked this, but to your knowledge, other than coming to this meeting and doing this presentation for us, you're not aware of any other review boards or anything looking at PFAS in children?

DR. WOODS: I am not, but that doesn't mean there isn't. I guess there could be other groups -- you know, other professional groups that, there are people working review articles that these have been published. So, there may be chemical -- chemist professional groups, other disciplines other than medical that might be looking at this. Probably though, within medical professions, AAP would be the place this would come out of most likely for children.

MS. DAVIS: Okay. And how often does the American Academy of Pediatrics look at recent studies being done? Because they're coming out weekly at this point.

DR. WOODS: Yeah, so different -- good question. There are the different sections in councils, lots of different projects going on of all types. So, for this, again, I can't tell you exactly what that Council of Environmental Health is doing around this. I suspect members of that group are well read on all this is my guess. And what I don't know is where they are in their thinking on putting something out about it.

MS. DAVIS: And is there some type of annual meeting or can we schedule a meeting so that we as parents and other community members can come and plead our case?

DR. WOODS: There -- the academy every year in the fall has a national convention. And it's geared towards general pediatrics and education of pediatricians, and some sub-specialty groups are folded into that as well. And increasingly, the academy is, I think in the last four or five years has recognized the need and benefit of having parent members of all the councils and committees so that there are family perspectives brought into this and even in guideline production so that there's a parent perspective in addition to the health professional perspective.

So, I would think that the Council of Environmental Health and Safety would -- may already have some but could use more. So, after this is done let me get your contact info, and I'll try to get you connected to the right people.

MS. DAVIS: All right. Great, thank you, and thank you for explaining everything in layman's terms. That was very helpful.

DR. WOODS: Thank you.

DR. REH: Can I make one comment before you ask? So, at ATSDR we have these organizations called Pediatric Environmental Health Specialty Units, PEHSUs. And each region has a PEHSUs, so I was actually with the regional directors yesterday in Washington. And they are getting very much engaged in the PFAS issue, and the PEHSUs for this region is in Boston I believe. And Tarah has a close contact with them and a good relationship with them. And so, getting at your point is, how do we get our state and local and other resources engaged in this? Those members of the PEHSUs are all pediatricians who are a member of the AAP. That's another path we can take by engaging them to get the -- to really get people moving on the medical monitoring side.

CAPT SOMERS: And right now, the way the PEHSUs are funded in the US is that the funding for the eastern PEHSUs goes through the American Academy of Pediatrics. They oversee the ones on the eastern side of the country, and the western is by ACMT still I believe, American College of Medical Toxicologists. So, they're already looped into the AAP. AAP -- like so the funding stream goes like, EPA, ATSDR, American Academy of Pediatrics, down to the PEHSUs.

DR. WOODS: And I'll tell you, I'm realizing that there are dots within AAP that have not been connected, which is not unusual

for an organization like this. But meetings like this, I'll see if I can get some more of them connected.

MS. DAVIS: So, I will say that we are familiar with the PEHSUs, because Dr. Alan Woolf has come and presented a couple of times. We would like to try to involve more people in the Academy of Pediatrics just based on our experience. I don't need to get into details, but yeah.

DR. WOODS: Okay, yeah.

DR. REH: But I think the point about connecting the dots, if we can come at this from different angles and avenues of approach, we can increase our chances of success. Andrea.

MS. AMICO: Yeah. Thank you very much. That was really helpful. I really appreciate your time in coming here today. I just wanted to clarify, you talked about the clinical statement versus the guidelines, and I think you said guidelines could take years. Statements could take two, is that about right, about two years for a clinical statement?

DR. WOODS: I think that -- I'm going to say that on average. Sometimes it could go faster. Sometimes it might be a little bit longer depending on the pace of the writing and what they're trying to do. And if -- we're actually trying it within the academy a bit to tighten up-- Where certain types of -- the academy sometimes has statements that make recommendations that don't have sufficient data behind them. And so, we're trying to make sure that we tighten up on that without overtightening so that statements like this that provide good information -- here's what we -- it's state of the art. Here's what we know today. The knowledge is not perfect, but based on what we know today, here are things that you can consider. Here's what we

think the adverse consequences are, here are the ways to mitigate them. And that is pretty powerful guidance, you know, itself, and then lends itself to those case by case discussions with families about what approach do we agree upon taking here?

MS. AMICO: So, I think that's the biggest struggle we're having, where the feedback that we're receiving is that, you know, we have had a blood testing program here. So, we have a large amount of people that did get their blood tested, and they do have high levels of PFAS. We know they've had this significant exposure. They take those results to their doctor, and, you know -- and to be clear it wasn't just children exposed here, adults as well.

DR. WOODS: Correct. Correct.

MS. AMICO: But I'm speaking from the parent side of things, and you get a very mixed response from pediatricians. So, most of them look at the blood test and have no idea what it is, what it means, what are these chemicals? I have no idea what they are. So, that's a struggle, and then the next step is when you have a parent who says, "Okay, well I've done some reading, and I've looked at some C8 health study, and, you know, I'd like to do some additional bloodwork on my child. Can we check cholesterol, thyroid," whatever that parent may ask for? And, we're getting a mixed response from pediatricians. We're getting some that say, "Okay. You know, let me do some more research. That sounds reasonable. We can do that." We're getting some folks that say, "You know what? You don't need to worry about anything. Nothing to worry about. You don't have to do anything different." And then we're also getting some providers who are actually pushing back and saying, "I know that you want me to draw addition bloodwork on your child, but I'm not going to do it." And so, I

think the frustrating part is that in one community you can get parents getting mixed responses from providers, and you get some children that are getting additional testing at the parents request and some that aren't. And so, how can we as a local -- you know, in the absence of clear medical monitoring right now, in the absence of a clinical statement or a guideline, what can we do today, as parents, with children that have been exposed, what can we do to work better with our providers to -- if, you know, and some parents aren't going to want extra blood testing, some are. So, how do we work through this, and how do we help our community work with their own providers to get better answers?

DR. WOODS: The first thing I'm going to tell you is I'm not entirely sure.

MS. AMICO: Okay.

DR. WOODS: Because it's difficult to say until there's some statement. But having said that, I absolutely understand, and that I think it is a struggle many of us encounter is, how do we make these things happen? And, you know, as physicians, you know, we mostly know what we're doing. And I think there's always that struggle to keep up and learn new things that we might not have known before. So, having some -- I think this might be where having someone coming in who is more of a pediatric toxicology expert who's been focused on this for a while may be one of the -- either from one of the PEHSUs or -- as like a local CME to say, "Here's what we know, and here's what we think you can do about it." Or, "Here's how to walk through this." And again, we really want to be a medical home in pediatrics and share decision making. And the place -- there might be times as a parent I would say to you -- like I'm

probably going to tell you as an ID doc, "You need to get your child's vaccines, and here's why." But if you really push back hard against me on that, I'm going to work with you as much as I can and help understand why -- where are fears and where are concerns. So, it's always going to be, for me, a dialogue, but the more uncertainty there is or the -- and I guess I don't want to use that word. Uncertainty can mean we don't know anything, and therefore you don't do anything. There is still some degree of magnitude of risk and then knowing is what we're doing actually going to make a difference? That kind of uncertainty, that may be there. But to the degree that screening or the testing is very low risk, there's room for more, I think, to share decision making and thought in that type of area where I think this is, if that helps. So, it's just staying in the discussions and keep doing what you're doing.

MS. AMICO: Okay. And thank you, and the C8 medical monitoring protocol, you listed that in your slides. You feel that would be helpful for parents to bring to their pediatricians and say, "We have this model coming out of a large health study. This might be a good starting point for all of us"?

DR. WOODS: I -- you know, having read through it and looked at it and understanding the process that they went through, it was pretty rigorous. Do we know everything in there as cleanly as we would like? No, but I think that's the answer to just about everything. So, I personally, speaking for myself and not for the academy on this, feel pretty good about that protocol and the evidence behind it is about as -- is pretty -- is well vetted. And again, I think the testing is fairly low risk testing. I don't always know. I'll be honest with you, I don't know that I -- well, I don't know always what I would do in every circumstance. You bring me data about an exposure and the

age of the child, I might give one answer for a three-year-old than -- and I might think differently for a 12-year-old. And then I might test a 12-year-old for certain things that we would never -- we wouldn't worry about yet, even from an exposure, because of the time lapse that has to occur. So, like cholesterol and maybe screen a three-week-old or a three-year-old, but maybe a 12 or certainly a 15, if that makes sense. So -- but I would have those discussions if that makes sense. And I think that protocol gives you some -- as good a basis as we can have for the time being if that -- that's the way I would see it.

MS. AMICO: That's very helpful to know, thank you. My last question would be, like I mentioned, this isn't just children at Pease. What would be the equivalent group for adults, and how at ATSDR can we engage with them as well so we can make sure we're covering both adults and children? Is there like an internal medicine academy or--

DR. WOODS: So, there is. The American College of Physicians is the adult equivalent of the AAP as a professional practice community. There are sub-specialties involved. So, every sub-specialty, there's an endocrine society dealing with maybe thyroid issues. Although, adult primary care, many of them will treat basic hypothyroid disease. So, primary care may be the best place for that. American Academy of Family Practice would be another group.

MS. AMICO: Do these groups also have an environmental council like similar to AAP?

DR. WOODS: I don't know, but I suspect they have something like that.

MS. AMICO: Okay. I think one of the things we've learned in this process is that a general physician does not get a whole lot of training on environmental exposures. That's not typically something that's very robustly gone over in medical school, unless you go on to specialize in something like that. So, I think that's the struggle we're feeling out here in the community when you go to a primary care provider. They can't know everything. You know, we understand that, so trying to figure out how to work through that has been a challenge. Thank you.

[Inaudible]

MR. LAZENBY: The question, [inaudible] realize you probably won't have a lot of scientific basis for the answer, so it's in that category you mentioned about, if you're not sure, that you've got studies, guidelines, or conclusions, what can we -- what can you come up with as a recommendation? And it's about not necessarily just the water supply here out of Pease, but in the rest of the city of Portsmouth. So, where we've got -- we know we have a number of residents drinking from our water supply who are part of the exposed population here, and in looking at your tables about disease prevention, primary, secondary, tertiary, one of the elements you consistently see would be reduce additional exposure like to a contaminate, right, or a toxin. So, at this point the City of Portsmouth is using sort of standard state and federal guideline for what is safe in terms of exposure. But is our population of people exposed here at Pease, does that make it incumbent on us to be more aggressive or have a lower tolerance for presence of those toxins in the water we have? Because those people are now a much more sensitive population.

DR. WOODS: That's a great question. And anything I say from this point is personal opinion and take it with a grain of salt. But the -- so the core medical piece of this is you had a high exposure for a period of time, and even though your exposure has gone down and your tissues levels are falling as the half-life goes down, but you're continuing to get this small level exposure that's consider normally safe and would be perhaps harm free if you'd never had that previous exposure.

MR. LAZENBY: Right.

DR. WOODS: Does it increase, I guess, your area under the curve exposure? I think, if it were me drinking the water in the city as a citizen, I would like for it to be as low as it could possibly be. And then we'd have to decide how much more tax dollars I'm willing to pay you to get there.

MR. LAZEZNBY: Right. Understood. Okay.

DR. WOODS: So--

MR. LAZENBY: Thank you.

DR. WOODS: And I might be willing to pay you more tax dollars to get there.

MR. LAZENBY: Right.

[Laughter]

DR. REH: Andrea asked my question, but I wanted to follow up. And that is are there situations -- I'm thinking of next steps and are there situations where -- that you know of where members of the pediatric community come together with members of the adult medicine community and talk about guidelines for something that's impacting both sectors of the community so that you have more of a holistic approach?

DR. WOODS: I'm trying -- I know that the academy engages with other professional groups on a regular basis and then a lot of the pediatric sub-specialty societies engage with their adult counterparts. In infectious disease, we do that with our adult counterparts on a regular basis. So, there might be something like that that would happen, and to the degree that I don't know the adult people in that particular field, but I suspect some of the pediatric people do. Because they're -- anytime there's -- if there's NIH funding involved, then they typically have some interaction, intersection, so there may be. But there would be -- this effort could be a catalyst for bringing those together.

DR. REH: Okay. We do have an environmental medicine branch within ATSDR that does maintain contacts. That's how we got involved with Dr. Woods with the other academies and associations. And they have begun a process of reaching out to those in the adult community so that we can look them in on this too.

SEN FULLER CLARK: I do have one question too. [Inaudible] yes, thank you. With regard to these annual meetings that are held by the various academies, there's usually a component where there's an opportunity for physicians to get additional educational credits to be presented with new topics of interest. And the question that I have, is it possible to put this on the agenda? We're looking at a situation that is occurring all over the country, you know? And just because we're trying to take a lead, it seems to me that there ought to be an opportunity for at least some discussion at those types of meetings about this serious situation. And even if we don't know yet, you know, what the guidelines should be or maybe a statement of concern, at least to raise this issue with professionals both in the adult medical world and in the pediatric environment so that it is not

just something that a few people are talking about. So, could you comment on that?

DR. WOODS: Yes, there--

SEN FULLER CLARK: Thank you.

DR. WOODS: Yes, that's a great question. And that does -- the national AAP meeting is full of offerings like that. And in my mind, there's no reason this can't be one of them. And I'm going to -- I'm not sure -- I don't recall seeing it the last couple of years there. But I might not have been looking, but there's no reason this can't be offered as a topic. So, yeah.

SEN FULLER CLARK: That would be very important, and I thank you for considering it. And again, I'd like to thank you for being here.

DR. PAVUK: If I may comment just quickly, thank you for coming, Dr. Woods. And we had that question last time about the American Academy of Pediatrics and the big organization. And I was looking for some sort of, you know, policy statements or some other things, and thank you for pointing out that, you know, if you don't know that it's basically Council of Environmental Health and Safety. You know, it's very difficult to find like what they may be doing. So, I was looking into that, and they actually -- Council of Environmental Health did release a statement last year in August on food additives and child health, which includes PFAS and polyflourite and stuff. It includes many other chemicals as you may expect, so my original question earlier was, if they picked up the topic, or if there's something [inaudible]? There is already some start, so clearly this was on their radar and that kind of -- this is a review report, which was published in Journal of Pediatrics as a policy

statement can be used as a starting point. So, they clearly reviewed that. There's no clinical recommendations in it, but it's already I think they are beyond the point of kind of just trying to address it as a topic. It clearly was a topic and it has been published. So, I think it will be easier to go from that point forward since this was already published, and I can share with you what they had to say.

MS. AMICO: Thank you. I just had one final question actually for ATSDR. So, I just want to go back to what it is that ATSDR does on this subject matter? I appreciate you bringing in Dr. Woods and engaging these other teams, but you mentioned you have this environment branch of physicians. Is it not within their scope to recommend clinical guidelines for medical monitoring? Or is it that they're not comfortable doing that on the subject of PFAS? Because my understanding is that medical monitoring guidelines does fall under the work of what ATSDR can do in some situations. But maybe I'm incorrect in that.

DR. REH: So, it does. It's not something that we routinely do. A lot of our environmental medicine work is in the education realm. And so, I think the approach we're taking here is something that -- where we can come together and work together to get to a good solution.

MS. AMICO: Okay, so you would -- you do medical monitoring sometimes?

DR. REH: On a limited basis.

MS. AMICO: Okay, just wanted to be clear on that.

DR. REH: Yeah. Okay? All right.

DR. WOODS: Thank you all, and just from a distance, I know there's a lot of hard work that's gone into this. And I think

you will make a difference over time, and I appreciate what you're doing.

MS. AMICO: Thank you.

CDR MUTTER: Thank you, sir.

DR. REH: Thank you.

SEN FULLER CLARK: Could we just say that we look forward to hearing back from you through ATSDR with regard to what you -- the next steps you're going to be taking and keeping us informed.

DR. WOODS: Yes, and they know how to find me now.

SEN FULLER CLARK: I'm sure they do. Thank you. [Laughter]

DR. REH: He's right up the road in Chattanooga. So, next on the agenda, we have an update on the Pease Proof of Concept.

DR. BOVE: Okay.

DR. REH: Frank?

PEASE STUDY

DR. BOVE: Right now, we are responding to OMB comments. We're still working on that. We got -- [inaudible] yeah. Now I have too many mics. Yeah, so we got comments from OMB about three weeks ago, like May 17th. And there were quite a number of them, and so we were -- we painstakingly went through each one. We still have a few more to deal with. Hopefully we'll have our responses when we start to go through our review process in the agency in the next couple of days. We're hoping that we can do that. So, we don't know if we'll get a second round of comments

from OMB. That's very possible. We're hoping -- I'm hoping that -- I'm hoping anyway, that they accept our responses and allow us to move forward. If they don't, there will probably be delays in starting the study. So, we'll have to see what kind of response we get from OMB, and I think Chris is going to talk about OMB issues with the EA [inaudible]. I don't know if you want to do that now or later.

DR. REH: We'll do the update on the EA's later.

DR. BOVE: Okay, so among other things going on, we have an expert panel on historical reconstruction happening on June 17th and 18th. We have so far ten experts, including John, and others who were in the field of hydrogeology. There's one epidemiologist, Scott Bartell who worked on the C8 studies. There is -- there are a few people -- or at least -- yeah, there are a few people who worked on the Camp Lejeune -- either on a Camp Lejeune expert panel on water modeling or actually did the water modeling for our studies. So, there's a vast amount of talent here. So, it's going to be a good expert panel meeting, and we have a charge for the panel that's been sent out, I think it was sent out in the last day or two, which covers I think most of the issues that we need to grapple with. In the health consult, we assumed that the -- what we saw, what was measured in April and May of 2014 since we had no other data, was similar to what was occurring before that. And we used a simple model, a very, simple model. How much water was pumped by each well, and we factored that in to come up with some estimate of what the water at the tap was in terms of PFAS levels. So, that's a simple, very simple thing to do. The question for the panelists, is that all we can do? Can we do a lot better? Can we do somewhat better? Can we not do any better? And that goes through, first of all, the uncertainties around how much AFFF

was used at the base, how much was released into the soil, how much went through storm drains and got moved that way? So, this is some of the questions on the source of the contamination. And then once it gets into the groundwater, what's the path to each of the supply wells? It's another key question. Let's me see my -- yeah, so those are some of the key question that they're going to be asked. There's -- we've assembled quite a bit of data from both the Air Force and from the state environmental agency. And we've had a couple of conversations now with the City of Portsmouth water system. We're going to ask if someone from that staff also will be on the expert panel. We decided that recently, so they're checking to see if they can do it as well. Initially we felt we would just get information from them, and we have gotten some. But after our discussion with them recently, we've felt that they probably should -- at least someone from that, the City of Portsmouth Water Department, should be on the panel as well. So, that's happening. So, that's a key aspect of this study, and so that's happening. Now we have the three staff from Abt Associates Danielle, Zuha, and Kate, in the audience. So, you want to go into what's going on there. Yeah.

MS. HUNT: Hello everyone. I'm Danielle Hunt from Abt Associates, and I've been here before, and I've met quite a number of you. While we await OMB approval, there has been a lot of work going on behind the scenes in Pease in preparation for the health study. So, among those are -- we will be signing a lease tomorrow for our local office space, which is a big milestone for us. And we'll begin setting up the office in preparation for enrollment. We have hired some local staff members, including a study coordinator as well as some data collectors. I know we talked, I think it was last month, about

the hiring process, and we still are looking for a couple of data collectors. So, if you know anyone, continue to send them to us. We've been collaborating with ATSDR on developing communications materials that will be used in the community as part of community engagement. And while my team and I are here on this trip, we'll be meeting with a number of organizations, a few representatives on the CAP as well as we have a meeting with one of the high schools tomorrow to begin discussing community engagement and outreach for recruitment activities. So, we're doing a lot of planning in anticipation of OMB approval.

UNKNOWN: Great.

UNKNOWN: Good.

MS. AMICO: Can we ask questions?

DR. REH: Sure. Yeah.

MS. AMICO: Okay. Okay, so I'll start with Dr. Bove. So, going back to this expert panel, where will this be taking place? In Atlanta?

DR. BOVE: Yeah.

MS. AMICO: Okay, so everyone will be going there, and is this something that would be videotaped for people to see if we're not -- I mean, is it open to the public if people want to come or no, it's just kind of a private meeting?

DR. BOVE: Yeah, it's not open to the public. It -- and there will be a transcript or notes taken, let's put it that way. So, that -- but the purpose of this meeting is to get opinions from each of the experts. So, what will happen is they're asked a certain questions as charged, and before they actually even come, we're asking for their feedback. We've sent the materials

to look at, so we'll get their initial responses from those. And then they'll be meeting on the 17th and 18th and flesh out further in discussion. So, there'll be note takers taking down -- you know, all the -- everything that, you know? So, in a sense it'll be somewhat of a transcript. Whether we'll make that public or not, I'm not sure what the -- but in the past when we had expert panels for Camp Lejeune, we did put out a report with the -- you know, at least the summary of the discussions and where -- you know, what the recommendations were. It's not a advisory committee, so we're not asking for consensus. We're asking for each individual to provide their assessment of what they -- given what the data we have, what do they think we can do with that information?

MS. AMICO: Okay, and how far back -- first of all, I think a summary would be very helpful if the folks -- if it's not an open meeting, it's not videotaped, a summary of what is agreed upon or whenever you -- however you want to characterize it.

DR. BOVE: So, we did that for Camp Lejeune…,so.

MS. AMICO: And then so how far back -- you said you're reviewing data from the Air Force, the city, the state. So, how far back are you looking to -- time wise, how many years back? Are we looking to try to characterize how people are -- how much people may have been exposed to drinking water? Are we going back to when this was an active military base?

DR. BOVE: I think that--

MS. AMICO: When people were here living and--

DR. BOVE: I think first thing we're trying to do is how far back when the trade port was operating can we reliably make estimates of the contamination in the drink water? So, how far

back can we go with some reliability? We'd like to go back to '93 when the trade port opens. Can we go back that far? So, that's the first question, or can we only go a certain distance into the past with any certainty?

MS. AMICO: And what would be the limitations to not being able to even get to '93? Data, records?

DR. BOVE: I think just the complexity of the situation, I think that -- I think we can, by the way. But I'm not going to speak for the experts in the panel. I think there's enough uncertainty in the data, that's just a lot of -- there are only a few -- some -- there's only data points in 2014, for example, actual measurements of PFAS at the supply well. So, you have those kinds of limitations. I think there are several different approaches that could be taken. In fact, I've mentioned them in previous meetings. So, I think we can get back to '93, but I'm going to wait and see what the expert panel says.

MS. AMICO: And what about prior to '93? Because we know we have a large group of people that -- I don't want to forget about those folks.

DR. BOVE: Yeah, I don’t know if we can go further back, you know? If we can get back to '93, I think that would be excellent. Further back, I'm not sure. So, I -- you know? We have collected as much data as we can get our hands on, all going as far back as we can. Including when the base was operating. We have information that came out of work that was done when the TCE contamination occurred. So, we have some data from that that will help us also understand the hydrogeology of the site.

MS. AMICO: Which was in the 1980s, right?

DR. BOVE: Well, the actual contamination, I think, was first detected in the late 70s, when they actually -- when TCE was started to be tested in drinking water in the first place was in the late '70s. And I think that first indication occurred then, because they were already doing some work to shut down the -- well they shut down the Haven Well I think in the late '70s, in '79 or so. And then they brought it back up with -- and they also changed the water system by mid-80s so that all the water went to a treatment facility if I recollect. So, there is some information going that far back on because of the TCE episode that can inform a discussion. I think also, you know, we don't know how AFFF was used going all the way back. I mean, we have some sense. We know some of the locations, but there's uncertainty there too. I was hoping to get a lot better information on the amount used. We do have some. So, these are going to be reasons why it's going to be difficult to go below '93. It also may be reasons why we can't even get to '93. So, again, I think this is a good group to discuss this. As I said, some of them have had experience working with Lejeune where we also had sparse data when the -- you know, in the '80s when we first detected the contamination. We didn't have any information in the '70s, in the '60s, yet we were able to, I think, reliably estimate the concentrations of TCE, PCE, and the degradation products going all the way back to the '40s. So, it's possible, okay?

MS. AMICO: Okay, thank you. My next two questions are for Danielle. Where are you signing a lease? Are you able to share that information?

MS. HUNT: I will gladly share it when the ink's dry.

MS. AMICO: Okay.

MS. HUNT: Not until tomorrow, but--

MS. AMICO: Is it on Pease though?

MS. HUNT: It's nearby.

MS. AMICO: Nearby? Okay. And then you mentioned going to a high school. What -- can you elaborate on what you would do at that? Like what do you--

MS. HUNT: So, we're reaching out to local schools both private, public, elementary to high school, just thinking through ways that they communicate with parents in terms of potential recruitment efforts. So, it's more of just a better understanding of how they operate and how they get materials out to parents if we were needing to, you know, reach to them in the future during recruitment.

MS. AMICO: I see. Okay. Thank you very much.

MS. DAVIS: This question's for--

[Static]

DR. BOVE: …have good information from them. So, we feel that -- I mean, I'm not sure what the issue was there, because we were thinking of asking one of their staff people to be on the expert panel. But I wasn't involved in that part of the effort. We gave recommendations to Abt Associates, who's organizing this. And so, we have gotten as much information as we could possibly get from them. So, we feel good about that, and so -- but no, I don't think anyone -- of the ten people, I'm pretty sure none of them are from DES.

MS. DAVIS: So, would that be something that you might consider if questions come up that they might be able to help with?

Because, I feel like they would be a very good resource, considering the history of their work here.

DR. BOVE: Yeah, they have been. And much of the data we have that the experts are going to look at came from them, and the history of AFFF use, a lot of that information came from them. And episodes that occurred at the base, again, from them. So, we have spent a lot of time sitting down with the two staff people in particular who come to CAP meetings a lot of the time, going over what they know. So, it's almost as if they were on the panel, because we -- a lot of the information we're going to present to the panel came from them. Okay, and I think also they listen to our -- we did -- I think -- I don't know if they were on that or not, we did a practice webinar. I'm not sure who was on it, but the -- in the process of coming up with that webinar, which we're going to be using to present to the expert panel, the Abt Associates people went over those details with the state. So, I think not so much EPA, but the state, we've really got as much information as we possibly can from them. So, I don't think that it's necessary for them to be on the panel. I think that what we wanted to get were those people with the particular expertise in areas that would require -- we would need to have modeling expertise on. So, their expertise was in knowing the site, like you said, and I think we got all the information we can possibly get from them.

MS. DAVIS: So, I guess my thinking is that when you have all these experts together for the first time, that you're going to have a lot of heads working together that might think differently. And so, questions might come up that you guys haven't asked yet. So, it might be useful for DES to be able to be present to be able to immediately answer or say, "I can find

that information for you, or I can't find that information for you."

DR. BOVE: Well, if that comes up, we'll go to DES. We weren't initially going to ask the City of Portsmouth either. We had a lengthy conversation with them recently, and based on that conversation, which was a little rocky at times, we thought that, all right, we'll invite one of them to come too. I think that, you know, they -- maybe I shouldn't speak for them. So, I won't say anything more about that, but we didn't think that -- necessarily think that that -- we should invite someone from the city or from the state just because they know about the site. We were trying to get a range of experts, as I said, who have experience doing this particular kind of modeling. And the city and state do not necessarily have that expertise, okay? So, that's -- so the point was to get as much of that information from the city and state as we possibly can. And in fact, we have additional questions for the city to see if they can help us with. For example, they have a booster pump that was working -- that supplemented water on occasion to the trade port. And we wanted to know how often that occurred, we want to know how much water was used? They also used a booster pump to dilute nitrates in the water during a particular period. We would like to have information on that. We don't have information on that from them, yet. We asked -- we also -- I would like to know the total demand in the water system over time. Because then we can sort of figure out based on that what -- how much supplemental water might have been sent over from Portsmouth. We don't have that data either. And what we'd like to get is all the data possible from the city and state so that the modelers can then look at that and see what's possible. And I think that that's how we set this thing up, so having expertise on the site is important. And

we -- as I said, we've spent a lot of time with the state getting this information from them. And they were extremely helpful. We wouldn't be able to have this panel I think without their effort to both point us in the right direction and supply us with the documents we didn't have.

MS. DAVIS: Okay, well as long as you continue to use them as a resource when more questions come up instead of just saying we've got all the information that we have.

DR. BOVE: Right. They were -- as I said, they were key to this, and we -- Abt Associates, and I was on those calls as well. We've had several called with them. They had -- Abt went there for a site visit. I listened in to part of that, but I wasn't here for the site visits. So, they actually went -- gave the tour for the Abt people to see the whole site area and different areas where AFFF was used and so on. So, they got a thorough education from the two staff people from the state. And as I said, we've been in touch with Brian Goetz of Portsmouth City Water, and we're still asking for additional information if they have it. They may not have all the information we want, you know? So, we didn't have -- also we didn't have anyone from -- on the expert panels for Camp Lejeune. It was the same thing. We tried to get as much information from the Marine Corps and from the operators of the water system themselves, who were civilian employees. But none of those people were on the expert panel. We had people who were -- who knew something about hydrogeology and water modeling on the panel and water distribution system modeling. So, that's -- so it's a similar approach to what we did at Camp Lejeune.

SEN FULLER CLARK: So, I'm not clear as to what is the goal or the purpose of this panel. I think it would be helpful if that

could be explained a little bit more. They're all coming together. They're working to develop a model?

DR. BOVE: Okay, so the purpose -- what we're hoping to do is historically reconstruct what the contamination levels -- the PFAS contamination levels were in the drinking water system at the tap if you will given that the water was mixed entirely at the treatment plant, then sent out. It was pretty uniform throughout the system, the PFAS concentrations. So that's what we want to find out. So, we have to figure out, first of all, where the sources of the contamination were, and how much was released at those sources, those points. So, we have areas where training occurred, we have areas where there were fires put out, we have training -- and any other -- and where it was stored. And where it was stored there was leaks. So, we have several sources on base where the PFAS was used or released or whatever. Then -- okay, so then that we know that there's two possible ways, at least, the PFAS got into the ground water. One is through the soil, right there where the site is. But there were also storm drains, and so the PFAS could have flowed distances before it got into the soil and into the ground water. So, there are several pathways then that also adds to the uncertainty. So, we have to figure out what's going on there. Then once it gets into the ground water how it gets to this -- how quickly it gets to the supply wells and so on. So, there are all these different parts. And so, we assembled all this information we could possibly assemble that was available. And we've sent key parts of that -- those documents to these ten experts. And we want their feedback before the meeting as to what they think, based on what we sent them, what would they do? You know, would they just do what we did in the health consult? Would they say, "No, that we can do a lot better than that." And if so, what -- how

far we could go? And how far back in time can we go? And this is the same questions we asked with Camp Lejeune too. Given this information, what can we do? Okay? So, we want each one to give their opinion, because it's, as I said, we're not really -- I mean, it would be nice if there was consensus, but we're not trying necessarily to get consensus. We're really trying to see what they think. There are certain approaches we're already thinking about as well. So, it's not like we're coming in with a blank slate. There are certain approaches that have been used both at Camp Lejeune and elsewhere, okay? So, that's what we're asking for. And then once we get their feedback then they convene on the 17th and 18th to discuss both their feedback and that give and take, hopefully, further elaboration will occur. So, then we take that information back to Abt and to ourselves, and we discuss what's the best approach then to model this situation, okay? So, that's how -- yeah.

SEN FULLER CLARK: Thank you.

DR. REH: Alright. I'm sorry.

DR. SCHAIDER: Hi there, this is Laurel Schaider, I was curious, I know you said you might get more comments from OMB, but if you don't, if they're satisfied with your responses, what's your new timeline in terms of when you anticipate starting recruitment here?

DR. BOVE: Well. We did say August. I think that's still possible if we don't get another round from them.

MS. AMICO: One more question [inaudible] do we have the time? Okay. How many comments did you receive?

DR. BOVE: We may have double counted a few times, but I think close to a hundred. We got a lot of comments.

MS. AMICO: And they were from federal agencies or just--

DR. BOVE: No, this is OMB.

MS. AMICO: From OMB.

DR. BOVE: Well, well --

DR. PAVUK: The one from before [inaudible].

DR. BOVE: We already dealt with the interagency review. Whether OMB actually made all these comments, or whether they grab comments from other entities, we don't know, but we're -- some of the comments -- I'll just leave it at that, I won't say anymore.

MS. AMICO: So, around a hundred comments from OMB on the Pease study alone? Okay, thank you.

DR. REH: Okay. All right, it's time in the program for a break. Quick five minutes and we'll come back at--

UNKNOWN: Quarter of.

DR. REH: Yeah, quarter of, yeah 7:45.

[BREAK]

QUESTIONS FROM THE AUDIENCE

DR. REH: And the next part on the agenda is questions from the audience. And if the audience members with questions could please come up to the microphone next to the Colonel, that would be great. So we're opening up to questions from the audience.

[Inaudible Response]

DR. REH: That's fine.

AUDICENCE MEMBER: And where do I go?

DR. REH: Right here.

AUDIENCE MEMBER: First of all, the AMAS [inaudible] could --

UNKNOWN: Could she talk into the mic?

DR. REH: Can you talk into the mic, please?

AUDIENCE MEMBER: The AMAS test, blood test that came up at the beginning of the meeting, I disagree with the findings. And I believe that cancer, when you have cancer, time is of the essence. I mean, you can't waste time. You can't do a lot of studies. If these children do have cancer, it's growing every day. And this needs to be solved quickly. And this test has been proven to work, this AMAS test. It detects cancer. The lady that I talked to, it actually made it so she did not have to lose her breasts, both of them. There was no cancer. Nobody will sign for it. And I've asked the people in Boston, Oncolab, why no one will sign for this. And they said it's one word. It's money. Because this is not an expensive chest. And it could be part of everybody's blood work. But they say a lot of times, cancer shows up in a lot of people who will never really have a problem from it. Now my husband died of it. And the AMAS test would have been -- it would have saved his life. He had a reading of 37, which was normal, and then it became elevated to 39. And by the time they used the test that they use right now -- I'm not a good speaker, so try to follow me -- the CA125 went from 39 -- normal was 37. And the next time they checked it, it was 4200. And he had weeks to live. So what I'm trying to say is the AMAS test is very important. It's very accurate. It's very cheap. It picks up on cancer anywhere in your body. That's the only

complaint. It's too accurate. It picks up things that maybe will never be a problem for you. But I believe it's really important. They've tried to get it in with everybody's blood work, like I said, Oncolab in Boston. The test is free. You can order it. You can get it, but you can't get any doctor to sign for it. And I said at the last meeting the doctor that wanted to sign for it was told that she would be fired at Portsmouth Hospital if she signed for this test. And she said, "If you fire me, I will go to the newspapers. And everybody will know why I was fired." So she signed for the test. And the woman who was told she had to have both of her breasts removed because she was going to die from cancer was cancer free. She did not have cancer anywhere in her body, and she's still alive today, thanks to the plastic surgeon in Portsmouth Hospital. I don't know her name. If I did, I would give it to you. It's a very important test anyway. That's all I'm going to say.

And these kids, they don't have the time. They don't have the time for studies and this and that, and two years, three years, four years. If they do have cancer in their body, it's growing every day. And believe me, there's -- you get to a point where it's not going to matter what you find out, because they're going to die. And if they don't have it, thank God, but you need to find out. And I don't see why you would eliminate a blood test, I mean, that doesn't even cost anything. Why? Why don't they put it in your blood work? Why can't you get that in your blood work as an everyday test? And I guess like he said, it's money. It eliminates money.

I'd like to say a couple of things, first of all, about the medical profession. And no, I'm not anti-doctor, and I respect doctors. But I did go to the hospital. And they were going to give me a test. And it was radioactive. They couldn't find out

why I couldn't keep food down. And -- but I had to sign a paper releasing them from responsibility. And I would not sign it. And they said, "Well, we can't give you the test." And I said, "Well, that's too bad, because I'm not going to -- you say it's so safe. I don't need to sign it. It's safe. Give me the test." No, we can't. You have to sign the paper. I said, "Well, I'm not going to. I'm not going to sign it." And I went to a doctor, an old man, who's not a genius. He's not -- hasn't been around with all the fancy stuff. He took -- a 15-minute appointment told me I had a hernia, put me in the hospital, and it was fixed within the hour. And those people were going to shoot me full of radioactive stuff to find something that didn't exist. So I'm just saying, you know, give AMAS a chance, unless they can't. I don't know. Anyway, let me see. Is that all I need to -- I had so much to say.

My husband -- I told you my husband -- how he was 37. And he had 4200 in 90 days. That was his blood count for you -- for the AMAS. And he died. So please, in all of your studying, in all of the important things that you find out, and all the tests that you're doing, everything in the meantime, there's people that were drinking that water that may die from it. And they don't have years of meetings and all of this stuff. And get a basic test. Why can't they have an AMAS test and just see if there's cancer in their body? How can my husband's go from 37 to 4200? And there was no chance of survival after that. And that was within 90 days that it went from that to that, and he died. So I think blood testing is very important. And time is very important. Nobody talks about time. We're going to test this. We're going to do this. We're going to study this. These people, these kids that were drinking that water, don't have these years of fancy testing or accurate testing, or they need to live. They

need to get a test that's going to detect if they have cancer anywhere in their body right now. And I just -- I can't stand the thought of it going on and on. Anyway, this lady gave me that address, the Oncolab in Boston. They send you the test free, but you won't be able to get anyone to sign for it, because it's very cheap. And there is money to be made in the medical profession. I can tell you that, because I've lost three children and a husband. And almost all of it was mistakes that could have been righted if they had caught it in time. And I'm an angry person because of that. And when somebody gives me information, I try to find out. I'll look into it. I don't have a college diploma. But I will look into any piece of evidence I can find that could save a life. And I will read and read and look and look until I find all the answers. And then you still can't get people to listen, because I know. I believe -- now I'm cynical, and you can hate me. But I think it's all about money.

And my husband was a fireman. We know what happened at Pease. I mean, the stuff they dumped in there, he went in there every three weeks. The, you know, when I came out here to go on that bus trip, and they took me to a place that was not the burn site. And I said, "This is not the burn site." And he said, "Oh." I said, "Can you take them to Newington, please?" And he said, "That's our last stop on the bus." And guess what? We just didn't have time for that last stop. We didn't get to go there, because they ran out of time for the bus trip. That really made me angry, I'm telling you. Excuses, excuses. There's just -- just look at the facts. You know, they've been exposed to horrible, horrible water. I mean, there was a superfund. I don't even know if the superfund was followed, if it was cleaned up. It was supposed to be in 1984. And my husband died. And he's been dead 20 years. And he hated being a fireman for three years

at Pease. I'll tell you that. It was horrendous. And when he got done, we would ride by there. The grass -- it was all black. It never turned green again, all the grass around there. And he would shake his fist. And we'd look at the trees that were dying. And the pools of gasoline and everything out in Newington across the road over where that house was. And all the trees were dead. And he would get so angry at that. And it -- I went out there to try to get pictures of it after all of this started breaking. And there was a truck there. And they wouldn't let me take pictures. And they were cutting down the dead trees. So to me, the bus trip, the cutting of the trees, the -- it was all like a cover up, you know? Just a big cover up. And I'm not even talking about lawsuits or money or anything like that.

I'm talking about lives. Children. You know, there's some things are more important than all the BS that goes on. And I respect your education and your knowledge and everything, you know. But you don't know everything. Just like the doctors that gave me the hernia operation, a simple hernia. And I've been going to the hospital for tests for a long time. And I was about to sign for something so they could shoot me full of some sort of radioactive stuff. And it was a hernia. Please look at the simplicity and the facts and the lives, and do something about it, if you can. Maybe it's too late. You know, I mean, there was a lot of poison in that ground. And according to a chemist that I talked to, that poison will never be gone. I will never drink that water. Never. And I am an Air Force, brat. So I'm not anti-Air Force or anything else. My daughter is in the Air Force, but it's serious. It's serious. We don't have time. We don't have science on our side. It doesn't matter about the tests or anything that you do. It matters that these people have been exposed to something. And you need to find out if it's in your

body, if it's going to kill him if you leave it in there to keep growing. There comes a point where you can't turn back. And I -- believe me, I know that point very well. So I'm sorry that I'm not a good speaker. I never was. I was the kid that didn't want to get up in school in front of the class. But I just hold all this stuff in. And I think, "Oh my God, testing, testing, testing. What good is it going to do if it turns out yes? It's had a long time in their bodies to get ahold. And you might not be able to reverse it. So I would say speed it up, do something. It's not about the money. It's about people's lives. And you know, I don't know what else to say, I'm just -- I wish I was a college graduate, and I could sit here and give you all the facts and everything. But that's really not as important as getting busy and doing the real thing. So if you can get these kids tested as soon as possible, because, like I said, my husband went from 37 to 4200. Don't you think they should have checked in between the 37 and the 4200? He was diagnosed in let's see, May. In May, he started going to the doctor. He wasn't diagnosed until July, and he died in August. So that shows you what time can do. And, you know, I just been going to these meetings thinking Dear God. Let something happen. Let's do something, you know? Is that test going to hurt a child? Would it -- would a CA -- I have all the tests here. They were all the AMAS, which nobody wanted us to do. It was 92% accurate, much more accurate than any of the other blood work that was done. So I just don't see how we can say -- I've been going to these meetings. And I think all this time is going by, you know? If they do have cancer, a chance of getting cancer, you know, pretty soon there's no -- it won't matter that you find out what the answer is. It will be too late. So please do something, somebody, anybody. I'm going to keep looking. And I'm going to keep investigating and trying to find out more things. But I

still believe in the AMAS. There's one doctor in California that uses it.

And it would have saved my husband's life. Definitely would have saved his life. And he didn't deserve it. He was, you know, he was full of everything. He was a fireman for three years, and did that for three years with all the chemicals, fire foam, everything. And he was the one that put them out. All his friends, people that I've talked to, said, "We didn't even go near it." They said, "Your husband would just say, 'Let's get this damn thing out.' And he'd run in there and do it." And he didn't know fire foam was not harmless, but the chemicals definitely knew. But he got out after three years. But he's dead. Just remember that. Life is so important, more important than any studies, knowledge, degrees, anything you can get is nothing compared to life. And these kids, you know, they've been drinking that water. So please think about it. Do something. Check that AMAS. It's not a bad test. It really isn't. It's just that it doesn't make a lot of money. You know? It's like they said, they -- he said that's the only reason they don't put in your blood work, because maybe you would have a little cancer that wasn't going to kill you. And they don't want people to run around saying, "Oh my God, I have cancer." But I would rather know if I had anything. I'd at least go get it checked out.

So I don't know. I don't know necessarily. I just want to argh. I've been following this for so long. And I've been pulling my hair out because it's taken so long. And I know what cancer can do in just a short amount of time. So please, please take this seriously, like these kids were your own. And don't worry so much about the studies and this and that and the numbers and all that other stuff. It's people. It's people and poison, and that well was poisoned, believe me. So I don't know what -- I took up

everybody's time, and I'm sorry. But I'm so frustrated that it's taken so long, and I worry. I'm a worrier. So I apologize. I didn't mean to slight anybody or say you don't know what you're talking about. But talking isn't going to do it. Neither is studying. We've got to do something quick. And I mean quick. So my husband, they told him he had cancer. And he was dead in three months. So don't let that happen. Okay. I'm sorry. I really am interested in this.

DR. REH: Thank you. Thank you. We appreciate it.

AUDIENCE MEMBER: I'm not here to make anybody feel bad. Just hurry.

DR. REH: Thank you. Any other audience questions? Comments? Okay, Marian, update on the multi-site? Are you speaking into the mic?

MULTI-SITE STUDY

DR. PAVUK: So the multi-site study protocol is ending a 60-day federal registry notice period for public comments that will end on June 22. It was open April 23rd, I believe. So far, I think we have just a few comments we are aware of. We haven't seen the comments yet. We're waiting for the system to process the comments and forward to us so that we can address any of those before preparing the OMB package for important Multi-Site Study. So this process goes in parallel that the other mechanism that we have described in past meetings, which was called Notice of Funding Opportunity, which is a mechanism to fund multi-site study for cooperative agreements. That mechanism was run by CDC Center for Extramural Research Program Office and has closed recently. The table is open 60 days. The final day was May 30th.

Then was extended for a couple days to June 3rd. So that was just yesterday. We had a pre-application call with number of interested potential applicants on April 1st. There were -- was document that was prepared by ERPO that we have collaborated on extensively. There were over 63 comments. And we answered a number of other questions that were received by Extramural Research Program during that period. Me and Frank and others to help with the potential applicants to prepare their applications. Now that this -- the application process has been closed, the review process starts, CDC Extramural Program, of those review through independent panel. This process will play out during June, July. And their report and recommendations on awards will be released sometime in August so that the awards can be made by the end of September 2019. ATSDR is expecting up to six awards, depending of number of applications. General conditions of the awards were in the range of .5 to $3 million a year, depending on Congressional funding for 2019-20 and forthcoming years. So during that period of June through September, we hope that our OMB package will be delivered to Health and Human Services and OMB and start a review process during that time period. The applicants will have at least six months after the awards to do the number of things that need to happen before the -- any studies can start, award the cooperative agreement awards and preparations of the documents and other things during that window. We're estimating or we're assuming that we'll make progress on the on the OMB approval for Multi-Site Study. That also needs to be received before any data collection can start by the awardees and study investigators that will receive the multi-site awards. So that's, in general, the multi-site update.

DR. REH: Andrea?

MS. AMICO: Thank you. This is Andrea. So just to be clear, the multi-site is not yet through. You haven't even sent it to OMB yet?

DR. PAVUK: No.

MS. AMICO: Okay. Can you tell us how many applications you received?

DR. PAVUK: We don't know yet. It just closed yesterday, so we don't know yet.

MS. AMICO: Okay.

DR. PAVUK: But we are -- we know of at least, you know, three, four different groups that, you know, we're sending the different questions. So there's a number of, you know, applicants there.

MS. AMICO: So if there's three to four groups and you need six, do you think you got at least six? You don't know?

DR. PAVUK: I can't tell you. There were more --

MS. AMICO: You only know --

DR. PAVUK: There were more than, you know, we had -- there were number of questions. So the document had over 63 questions. So it was -- we're not supposed to know who's -- and who's asking the questions. So I can't tell you. So the preapproval processes, it has to be, you know, kind of disconnected from award process.

MS. AMICO: Okay.

DR. PAVUK: So we are not involved. We only help the applicants to explain what the conditions and eligibility and other criteria for applications are. Then the Extramural Research

Office actually does the reviews and the recommendation and sorting, not us.

MS. AMICO: Oh, okay. All right.

DR. PAVUK: This is -- this is --

MS. AMICO: I -- okay, I wasn't clear.

DR. PAVUK: This is CDC process, so that we're not directly -- we are not involved in selection.

MS. AMICO: Okay. Okay.

DR. BOVE: You know, and also, if they're -- we don't know how many people, how many entities applied. But they could also have more than one site or two. So the goal is to get at least 6000 adults and 2000 children. That's the minimum you're shooting for. And so, you know, depending on how many applicants there are, that would be how many sites we need to get to that goal at least. So it could be like two or three applicants that have six sites. Six is not a firm -- yeah, magic number.

DR. PAVUK: That's just an estimate. It --

DR. BOVE: 6000 adults and 2000 children is more of a firm goal.

MS. AMICO: But how about six -- up to six awards? You wouldn't be studying any more than six different communities?

DR. PAVUK: No, it has nothing to do with communities. We just need to provide estimated number of sites for contractual purposes.

DR. BOVE: Yeah, and it's not a magic number.

DR. PAVUK: So we have we have certain, you know, number of or amount of money that we can put in, as Frank pointed out. The

applications are awarded on merit. How they address the goals of the program to study different sites. So, you know, we do -- didn't have specific criteria. What's the minimum? What's the smallest site, or how the biggest sites can be. So we left it really open to applicants, to universities, to different communities and sites that may differ a lot around the country to be able to send the applications that can be judged on the merit, and so that there can be a wide range of sites involved.

MS. AMICO: Okay. And we would expect to know which sites are being selected by August? Sometime in August?

DR. PAVUK: Well, and sometimes in August, the recommendations from the Independent Review Board will come in. I would presume that they would not be awarded, or it will not be known until September.

MS. AMICO: Okay. And I think that's all my questions for right now. Thank you.

MS. DAVIS: So after the applications are reviewed, is it the IRB within ATSDR that makes the selections?

DR. PAVUK: No, IRB is a different process. The protocol is already CDC IRB approved. There will be amendments to the CDC IRB. You need to get the IRB approval to start. So that's the protections of human subjects. It's Extramural Research Program Office manages the awards. Ultimate selection will be done by ATSDR and ERPO in concert with the amount of money available for the research.

MS. DAVIS: Okay, but it does go through IRB before you guys decide?

DR. PAVUK: We have already obtained IRB approval.

MS. DAVIS: Right. Okay, sorry. I guess when Andrea was asking about August, which was also a question for me, on the report on who -- you said something about IRB.

DR. PAVUK: Yeah, this is OMB. We already -- so this is also many different processes. So yes, you need to get CDC IRB approval before -- for human subject protection before you start any study. Right? So then, the protocols will need to go through PRI clearance, which is Paperwork Reduction Act. It is administered by Office of Management and Budget, which is office that is administered through White House. So it's not necessarily, you know, government. It is government, but not the Congress or, you know, NIH, or CDC. So they provide the clearances for actual data collection of anything. If you wanted to give a questionnaire to more than nine people and ask about health outcomes, you need to have OMB approval unless you have an exemption.

DR. BOVE: So if we have to make changes to the protocol because of OMB comments, and that's true for Pease too, we make an amendment to the protocol and go to the IRB. That's not a major problem. OMB is the major problem.

DR. PAVUK: That's what I was referring to. So after the 60-day comments period, you know, if there are changes that need to be addressed, then there's also changes, like for example, we were getting comments on Pease protocol. And some of those comments will be accommodated also in the Multi-Site Study protocol because they are good comments, and they improve this study. So the process basically requires us, when the change is substantial, to notify CDC IRB through amendment. So it's a process that gives them, you know, the track changes and clear

version of documents where the changes were made so that they can have a record of changes of the approved protocol.

MS. DAVIS: So we're not going to find out who applied or who was selected till around September?

DR. REH: Your question, if I understand your question right, you're interested in when are you going to find out which sites and who the awardees are?

MS. DAVIS: Yes, and is ATSDR the ones that are selecting them.

DR. REH: So right. So the -- it will be in -- we have to have this wrapped up by the end of the fiscal year, which is September 30th. And we have some tight timelines in order to meet that. So we will be making decisions in August as to who the awardees will be. And we anticipate to be announcing those in September?

MS. DAVIS: Thank you.

DR. REH: And then there's an internal CDC extramural process that we're part of that will review the applicants and make the decisions. For example, the two of us will probably have to do a technical review, right, of the applications. And then a panel is set up, you know, to make the decision. So they look at what the applicant has done. They'll look at our technical review. But they also do a review as well. And then they make a judgment. So we -- we're involved, but a panel was set up to actually make the decision within CDC, not us.

MS. AMICO: Can you remind us again who's on that panel?

DR. BOVE: I have no idea. I mean, did they -- people from across the --

DR. PAVUK: We don't select the --

MS. AMICO: So you don't select. Who selects this extra --

DR. PAVUK: We provide recommendation.

DR. REH: Right.

DR. BOVE: Yeah, but it's done by the -- what was it?

DR. PAVUK: ERPO. ERPO Research Program.

DR. BOVE: Even I have trouble with these acronyms. Yeah.

DR. PAVUK: So yeah, we provided extensive list of about 20 names of people at different universities that, you know, are experts in PFAS health outcomes, IP, and other things that we think would be valuable as reviewers for CDC. But they can choose the reviewers on their own.

DR. BOVE: Yeah.

MS. AMICO: Thank you.

DR. BOVE: I think they want to keep us from making -- being too much involved. They want to have an outside review process.

DR. REH: Independent review process.

DR. BOVE: Thank you. Yeah.

DR. REH: Right. And so IRPO is independent review board.

DR. BOVE: Yeah. So we have inputs --

DR. REH: And this is --

DR. BOVE: We have inputs, but that's all.

DR. REH: This is the standard process that CDC uses whenever awarding external grants to do studies. And I believe the NIH has a similar process.

DR. BOVE: Yeah, I guess. [Inaudible].

DR. PAVUK: Well, let's beg to differ. Okay?

CDR MUTTER: Lindsey?

MS. CARMICHAEL: So Marian, you mentioned that you're in the middle of preparing the OMB package for the Multi-Site Study. Is there anticipation on behalf of ATSDR that there's going to be a number of questions coming back your way? Like you're dealing with for the proof-of-concept study? Or is it a different process?

DR. PAVUK: Well, it's a similar process. So as Frank alluded to earlier, the only group that the OMB have talked to at this point is Exposure Assessment Group, and they are not doing health study. They're doing, you know, exposure investigation that the agency proposed to address, you know, widespread problem, you know, around the country. So it has its own challenges that are different from what we are proposing to do and what we were tasked to do by Congress. So the issues that they were discussing, how to address that problem, and studying eight different sides, and the issues with the instruments and sample size and other issues that they have, do not necessarily apply to our study or our settings. So correspondingly, we did receive different questions from what they've been dealing with over the last couple of months. I believe that we're fairly close, you know, to engage with OMB and be able to, you know, talk to them, you know, once we -- once they are able to review the responses to their questions. So we hope that may happen, you know, fairly soon. And we'll be able to, you know, update you on our next call, like, how did that go? It's very difficult for us to judge on, you know, where we are when we were not able to yet to talk to them. There's, because of the really deep and

kind of, you know, importance and pressure that, you know, OMB has with, you know, reviewing, you know, PFAS research. You know, there have been -- they brought a number of new people that have not been involved in this before expanded. A lot of those people have more, you know, legal background instead of medical research. So there's all sorts of different, you know, issues involved on the -- on that front that we have not confronted before. So --

DR. BOVE: And what we're hoping though, is that we'll address a lot of the issues that they would raise for the multi-site protocol as well. I mean, that's what we're hoping, so, you know --

DR. REH: Through the Pease work.

DR. BOVE: So once we get through the Pease thing, that hopefully should ease the process for the multi-site protocol, but there's no guarantees.

DR. REH: So it -- when you think about where we are, we have the three studies. We have the exposure assessment, the Pease proof-of-concept, and the multi-site. And they build on each other. And they're all staggered at different stages in the process. So the exposure assessment is further along than the Pease is and as the multi-site is. We're all entering a stage of OMB approval. And the exposure assessment is further along in that process, but we're still in the middle of it. The Pease is just getting started and the multi-site. We're about to submit the package. The OMB approval process is rigorous. It is an in-depth review. It is a normal process that federal research agencies like CDC, ATSDR, and other agencies go through. And it is, you know, we at ATSDR are very committed to being as responsive. In fact, when we get comments, we work very hard to

turn them around as immediately. And by immediately, I mean within a day or two, so that we keep pushing the process down the road towards completion, so that we can get started as soon as possible. It's just part of how things operate within the federal government. This OMB has a role in reviewing and approving these packages. They have a rigorous review process. And we continue to work to be as responsive as we can. Yes?

MS. CARMICHAEL: So just one more question. I know all of us here are pretty aware of the fact that the timeline is extraordinarily tight. And I would love some more information about what the implications are if the deadline is missed.

DR. REH: Okay, we would have to get back with you with that and look at our timelines and calculate that out. Right now, for the Pease, I think considering where we are, we feel like we're still within the timeframe that we've been talking about.

DR. BOVE: By saying August, we added a buffer.

DR. REH: Right.

DR. BOVE: But the buffer is getting narrower and narrower. No question about it. So if the -- if we don't get a resolution with OMB soon, then it's not going to happen in August. The study won't start in August.

MS. CARMICHAEL: Is there a chance of funding being -- if it's not spent by the end of the fiscal year, is there a chance of funding --

DR. REH: No, we don't think --

DR. BOVE: No, not for Pease, no.

MS. CARMICHAEL: Not going -- okay.

DR. REH: Nor the exposure assessment.

MS. CARMAICHAEL: Okay. Thank you.

DR. PAVUK: I mean, for OMB process, these are just our estimates. We cannot propose the deadlines for them. Or we are not meeting the deadlines. We can only work with them as best as we can in the process, and they can decide. They decide when the process is completed. So we cannot impose that on them. The funding, the contract has been awarded. So the money has been obligated to conduct those activities. So we are trying to, you know, work hard to accomplish what we have spent money for.

MS. AMICO: So a couple follow-up questions. So the funding for the exposure assessments and the Pease study are not in jeopardy, but is the multi-site study in jeopardy? The funding part of it.

DR. REH: The funding is not in jeopardy, as long as we meet the -- get the money out the door by the end of the fiscal year. And we can also -- there are some extension processes if we need that, but we don't anticipate having to use those.

MS. AMICO: And I'm sorry if I didn't hear if you said it, but when do you expect you would submit the OMB package for the multi-site study?

DR. PAVUK: We estimate sometimes July.

MS. AMICO: In July? Okay. Thank you.

EXPOSURE ASSESSMENTS

DR. REH: Okay, I think I covered the exposure assessment update. Like I said, we're working through our -- the OMB

approval process. We're still pushing that our first site will be the Hampden County, Massachusetts, Barnes Air National Guard Base. The second site will be the West Virginia site, and I never can remember it.

CAPT SOMERS: Martinsburg.

DR. REH: Martinsburg. And we're also looking at what will be the subsequent sites, number three, four, and in further out. We're working closely with our consultants to get everything in place so that we're -- as soon as we get the approval, we're ready to go. We've been pretty aggressive with that. So that's basically where we are with the exposure assessment.

MS. AMICO: Okay. Are you using the same consultants? Are you using Abt Associates --

DR. REH: Right.

MS. AMICO: -- for exposure assessments as well? Okay.

DR. REH: and ERG, yeah. So with the exposure assessment, we have the two parts. We have the actual data collection for the exposure assessment. And then we have the community engagement part where we're looking at new and unique ways to engage communities. To successfully get the right number of participants and type of participants that we need in our statistical sampling. So for the exposure assessment, Abt has the community engagement piece. And ERG is our contractor for the data collection part.

MS. AMICO: Okay. And are the exposure assessments going to be a random, selected sample of people --

DR. REH: That's right.

MS. AMICO: -- who will volunteer for that?

DR. REH: It's not a convenient sample, so that's correct.

MS. AMICO: Okay. Okay. I'm just trying to make sure.

DR. REH: And similar to the Pease and the multi-site, we're targeting a number -- I think it's 200 children and 400 adults?

CAPT SOMERS: I think so.

DR. REH: For each community that -- of the eight communities we're studying.

MS. AMICO: So about 600 people per site?

DR. REH: Per site.

MS. AMICO: And it would be a random sample.

DR. REH: That's correct.

MS. AMCIO: Okay. And... ...there would be no chance that that funding is going to be jeopardized because we're running on a tight budget, on a tight timeline?

DR. REH: No. The timelines for the exposure assessment are stretched further than, for instance, the multi-site where we -- our timeline has -- completing the district -- the awarding of the grants by the end of this fiscal year.

MS. AMICO: Okay. And when do you anticipate -- you said the first site would be in Westfield, Massachusetts. So when do you anticipate -- that's still in OMB.

DR. REH: Right.

MS. AMICO: So are you are you -- you don't want to comment on when you think that could start?

DR. REH: It -- well, as soon as we get our approval, we'll - we're ready to go, so.

MS. AMICO: Okay, all right. Thanks.

DR. REH: Okay.

PEASE HEALTH CONSULTATIONS

CAPT SOMERS: Yep, so on the health consults. Okay, so we have a couple things going on in April. We released the health consultation for the public drinking water system here at the Pease Tradeport. I believe public comment period just closed. I think yesterday was the date. So hopefully, you all sent your comments in. I know then Gary and Greg, who are the authors who came to do the meetings here in April, they met with the Newington Select Board and the Portsmouth City Council. And we also did public availability sessions here on the Tradeport over the course of a day. I don't know if folks were able to come to those. But Gary and Greg seemed to think it went pretty successfully. They had many interactions with people. So hopefully, that worked well. We got a lot of comments back. So the process then is ATSDR will take all those comments and consolidate them and address them. Often it's not like individually, like every single comment, because they kind of often are like a theme, you know? Like a lot of comments will be around one specific thing. So we'll address those comments. And those will be incorporated into the final version of the health consultation. So that's where that is now. Often, it doesn't really change the health consultation at all, you know. Like I think the conclusions you've seen or the conclusions that are going to stay there. More, it just goes into, you know,

answering concerns or questions that come up from the health consultation. So that's probably what the final will look like. It might change a little bit. I think it'll probably stay relatively the same with the inclusion of the comments.

Also, we have the private well health consultation, which is for Pease. And I think most people are familiar. But just in case people in the audience don't know, we have two health consultations that are being written for the Pease Tradeport. One is on the private drinking water system that was impacted, and the other is on the private wells that were impacted by the contamination. So the private well health consultation is in the process of internal review at ATSDR. We hope it's moving through a little bit faster than the public drinking water one, because now that there is sort of an established policy, if you will, for how these contaminants will be addressed in drinking water systems, are hoping it moves the process a little bit faster. So when that is released, which we may be able to do by early fall, if all the approval goes correctly within ATSDR. And then also, we have to get it cleared through CDC. And then they might have to go higher than CDC, depending on sort of what's happening at the time. And for the public drinking water one, we did have the communication materials had to get cleared higher than CDC, but not the document itself. So the private well, if all goes well, we may be able to get out the door again in early fall, which would be nice. And what we would do for that is, again, we would probably present to the select boards. And we would try to, for the public meetings, we would probably do public availability sessions. And we will target the people who are drinking from the private wells, or the homeowners, or if they're in the home, renting a home, we would send correspondence to them in the mail and say, "We are going to have these public availability

sessions at these dates," and give them a chance to come talk to us. Again, because it's a private drinking water issue with their wells, we thought that would be a better way for folks to interact with us and maybe not feel like we're putting all their information out there in the public to see. In the health consultation, we don't identify the wells with addresses, so it's de-identified. But if people want to come talk to us, we can talk to them individually. So that is probably how will handle that. And we hope again to do that in early fall.

Third, I think people know but again, just to be clear for everybody, in case you haven't heard, we're doing two health consultations for Merrimack. It started as one, and now there's two. And it started as Merrimack with Saint-Gobain as the presumed contamination. And now that's expanded based on a request from the State of New Hampshire. So we are looking at, it's now called the Southern New Hampshire PFAS exposure. So it's expanded a little bit beyond just the initial request, which is to look at the area around Saint-Gobain. It's expanded a little bit. To look at the concern from Saint-Gobain and also the TCI facility in Amherst, New Hampshire. So it expands the boundary of where the contamination was in the public drinking water systems. And so now, it's not just one system. It's systems is my understanding. And there's also some private well concerns. So there will be a health consultation written on the public drinking water systems and then a health consultation again for the private well systems. So it's expanded. And that is underway there. As you can imagine, when you expand the scope of what you're looking at, and you expand now into maybe more than one system -- a drinking water system, this gets a lot more complicated with all the data that you have to then amass and go over and look at. So that's going to be a little more

complicated. But we're working on that right now in-house. And then --

CDR MUTTER: Tarah, can you explain there's two?

CAPT SOMERS: Sorry. Oh, for Southern New Hampshire?

CDR MUTTER: Yeah.

CAPT SOMERS: Again, we kind of separated out public versus private water, like wells versus public water systems, like we did for Pease. So okay. We're -- sorry. Oh, okay.

And the fourth, we attended the PFAS Health Fair that happened in the spring that was in the Merrimack area. Some other people here may have attended that. So that was well-received, again to talk about PFAS in the Southern New Hampshire area around Merrimack.

And I think the only thing -- we also met with a New Hampshire Air National Guard to talk about the Pease Health Consultation, the public drinking water health consultation, and to update them on all the activities we've done around Pease and the drinking water systems. Sorry, that was a lot. I shouldn't -- I need a slide and stuff written down for y'all. Sorry. Are there any questions on all those documents? Sure.

MS. AMICO: Thank you for the update. Are you doing health consultations? I know you're Region One. Are you doing them anywhere else, like in Massachusetts and --

CAPT SOMERS: So we do not have any others in Region One. There are some happening in Region -- I know Region -- well, Two has --

DR. REH: We have about 30 community health investigations and consultation-type activities going on across the country right now related to PFAS.

CAPT SOMERS: Yeah, just so this -- the Pease public drinking water run was the first one sort of out the door. So I would imagine the others will follow a similar methodology.

DR. REH: Right.

CAPT SOMERS: Probably look at the contaminants.

MS. AMICO: But why would you not be doing one at all the sites? Like for example, if you're not doing any in Massachusetts, but you're doing exposure assessments --

CAPT SOMERS: Sure.

MS. AMICO: -- Do you have to be invited to do that, or asked to do it?

CAPT SOMERS: Yeah. So generally how the health consultation process happens is if it's a superfund site, like the big, you know, the big NPL National Priority List, EPA Superfund sites, then we have to write a public health assessment for those sites. Like that's in our mandate from Congress. So those automatically get done. For other sites, which are not superfund related sites, or like what happened at Pease, you know, we did a health consultation on Pease originally, when it was a superfund site. And then, you know, later, sometimes something else happens that wasn't part of that initial scope. Then often how we get involved in a site is the states will often request our assistance. So the State Health Department can request ATSDR to look at a site and write a health consultation. Sometimes, the Environmental Protection Agency will ask us to write a

health consultation. Or any citizen can petition ATSDR to do a health consultation. And we will look at that petition.

MS. AMICO: So --

CAPT SOMERS: So in Massachusetts -- is that -- well, I guess, why not Massachusetts?

MS AMICO: Right.

CAPT SOMERS: We -- it -- the requests we've had come in just didn't -- I don't think -- the State never requested. And I think they're the -- I'm not -- I can't remember now if a petition ever came in, but for us to accept a petition, there has to be data for us to assess. So sometimes, that's the challenge. If there isn't data, even if a community or community members want an assessment, but we don't have the data to do an assessment, then sometimes we can't.

MS. AMICO: So if there's communities out there that are not part of the 30, and they want a public health consultation done by ATSDR, they should either contact their State Health Department to engage with you? Or they can engage with you directly. Not meaning you, Tarah Somers, but ATSDR.

CAPT SOMERS: No, I get -- people send them to me. That's okay.

DR. REH: Yeah, they send them to me too.

CAPT SOMERS: Yeah, they do send them anyway.

MS. AMICO: Okay.

DR. REH: We have a whole process in place --

CAPT SOMERS: We have a process.

DR. REH: -- for evaluating. And so a good first start is their health department or their ATSDR Regional Office. But even if they request from me, I can also get that into the process.

MS. AMICO: And do you have a list? Are you keeping a list somewhere publicly of where you're doing these health consultations? So how would folks know?

DR. REH: I don't know if we keep it --

CAPT SOMERS: Well, we have the map.

DR. REH: But we have a --

CAPT SOMERS: We have the PFAS map --

DR. REH: -- that's right. We have a map.

CAPT SOMERS: -- that is talking about the communities are in, which I believe is fairly up-to-date. We're not writing that many health consultations on this. I think this is rolled out a little bit differently with the way the exposure assessments and the studies have come. So I don't think we've gotten as many maybe requests as might have otherwise happened, you know. Like it -- it's just -- this has gone in a different sort of path than maybe other sites.

MS. AMICO: What's the map that you're talking about? Is it online?

CAPT SOMERS: Yeah, it's on ATS -- the main PFAS page. It's one -- it's on like one of the -- it's -- or maybe it's a subpage of that. Yeah.

CDR MUTTER: I will send the link.

DR. REH: And we can take away as an action item -- just to make sure, we can -- if you're interested in seeing the other communities where we're doing t PFAS-related work.

CAPT SOMERS: Also just again, just for super clarity, that because we fund 25 states, APPLETREE States is our nickname for them. And we fund states to do some of the work traditionally ATSDR would do. So we fund 25 states. And if there's a site that's in that state, that state gets the sort of, I guess, the first right to do the health consultation, you know, the first right of refusal for that site. So there -- there's work being done at ATSDR headquarters. And then there's work being done at -- sometimes at the state level. So sometimes, the State Health Departments are the ones writing the health consultation.

MS. AMICO: Would that be part of your 30? Or no, that would not be --

CAPT SOMERS: Yeah, that's part of -- included in it.

DR. REH: That would be included in the 30, yeah.

MS. AMICO: Okay.

DR. REH: And in those situations, we're still monitoring the work and the effort.

CAPT SOMERS: Yeah, we work with them, but they're --

DR. REH: We work closely with them.

CAPT SOMERS: -- doing the bulk of the work on the site. And that's been going on for, I don't know, as long as they -- a long time.

MS. AMICO: Now, what about the military community? Would you necessarily write one? Would you do that by site? Like I'm thinking here, the Air National Guard?

CAPT SOMERS: Yeah. Right.

MS. AMICO: Or the former military folks that were stationed here? How would they --

CAPT SOMERS: How did that happen?

MS. AMICO: Yeah. Would they get a health consultation? And how would they be given one?

CAPT SOMERS: So again, we've done a lot of documents in the past on DoD facilities, especially if they've been an MPL site. What usually happens if it's a DoD facility is we coordinate with DoD then on that request.

MS. AMICO: Meaning the DoD has to ask you to do it?

CAPT SOMERS: No, I mean, people can ask us, but there's a coordination there with DoD to make sure we can get the data and everything can work out. We -- so if that request came in as a petition, we would probably loop in DoD.

DR. REH: Right. We have a memorandum of understanding with DoD that allows us to do work on DoD sites. And it sets forth how we interact with each other in doing the work.

DR. PAVUK: You have to use existing data for health consult.

CAPT SOMERS: Yeah, that's -- the big -- one of the biggest challenges --

DR. REH: That's the big --

DR. PAVUK: Of collecting new data. That's why you don't need IRB or OMB approval. You're only using existing data. It's like a first step in evaluating some sites. So you're not collecting new data.

CAPT SOMERS: That's one of the biggest challenges often when community members asked us to assist at a site, you know, to look at a site and right a health consult, in some of our health consultations again, just so -- some are what are like letter health consultations. They're very short documents, just a few pages. And sometimes those are written at the request of -- it's often like EPA or the State writes a request about a site. And they're asking one specific question. And we can write a letter health consultation. Other times, they're bigger documents, like the one you've seen for Pease, and the ones that will be coming for the Southern New Hampshire PFAS contamination. And then usually, again for the NPL Superfund sites, their public health assessments, which are sort of like the biggest documents, and those look at multiple contaminants and multiple exposure pathways. Where health consultations are focused on like one contaminant, so to keep them shorter. So that was a lot, sorry.

MS. DAVIS: So will the Merrimack consultation be based on the 200 randomized samples you guys took?

CAPT SOMERS: No, no. The Merrimack one is like the Pease Health Consultation. It's looking at the data that is from the public drinking water systems and that's been collected from private wells. And it will help determine if those people were exposed at a level which is of potential health concern.

MS. DAVIS: So you won't be using the New Hampshire randomized sample?

CAPT SOMERS: No, that's for the exposure assessments with the sampling. We're not doing any biomonitoring in -- and for the health consultations.

DR. REH: Okay. We're down to the last part of the -- hmm? Oh, I'm sorry.

CAPT SOMERS: It's all right. No problem.

MS. CARMICHAEL: This question is for Tarah.

CAPT SOMERS: Yeah.

MS. CARMICHAEL: The private drinking well health consultation is focused on wells that are within one mile of the Tradeport? Is that correct? Or I remember a one-mile radius when I was --

CAPT SOMERS: My understanding is that the data that was collected -- and I'm not the data expert. I can get back with Gary. I can -- we can make it an action item. And I'll get back to you on exactly how many wells we're -- my understanding was they went to -- it was like all the potentially impacted wells. I think it was more -- it might be more than a mile, or it was like that mile was where the wells were. There was some -- yeah, there was a qualifier to that mile. So I don't think it -- I'll go back and double check. I don't want to give you the wrong information.

MS. CARMICHAEL: Okay. I just -- I have a concern because of the fact that we know that the chemicals travel pretty far, you know.

CAPT SOMERS: Right.

MS. CARMICHAEL: You know, I mean, it's for wells close to three miles away. And it's pretty impacted. So my question is, with respect to notifying the public about when the health

consultation is available, is there a plan to notify the public through local media outlets that it's going to be available, and --

CAPT SOMERS: Yeah, we'll do hopefully, what we tried to do with the public drinking water health consult is you know, we reached out to the papers. We tried to advertise through Facebook. We tried to go through the CAP. And here on the Tradeport, we tried to use the -- what's the --

CDR MUTTER: The Tenants Association.

CAPT SOMERS: -- the Tenants Association. Thank you. For the private wells, it's a little different. There's no Tenant Association, right? I think they're private homeowners. We do have addresses we can get for where the samples were taken. And we'll send them a letter that says, "Hey, this document is available. Here's where you can find it. If you want to come talk to us, this is where we'll be on these days."

MS. CARMICHAEL: That's great. And it would be great if it could be put in, for example, our local newspaper, which is called the [inaudible].

CAPT SOMERS: Yeah, we'll try to do that as well. Yeah. And we've been working -- most of the wells are in Newington, as you probably know. And so we've been -- met with the Select Board several times. Like they're -- I think they'll be a good resource also to get the word out to their community members. And the meetings might -- will -- may happen at their town office, because it's a space we can use.

DR. REH: It's common for us to have a rollout plan that we put in place to communicate that the final report is coming out so

that the community knows that it's out there and that critical people have access to it.

CAPT SOMERS: Right. It is challenging. I'll tell you. Like, things have changed a lot, right, in the last 15 or 20 years in terms of how communities communicate. Right? So, you know, in the past, the distant past, we would rely on like the newspaper, local -- the small local papers or --

DR. REH: [Inaudible], yep.

CAPT SOMERS: You know, radio, you know, like local. And people have, I think, have moved more away from that news source. I mean, we still reach out to it and try to do that. But I'm also not sure how much we're actually, you know, like reaching people that way, when so many people on social media. And even if you put something on social media, you're not sure you're targeting the right -- it's complicated, as you guys know. So we do try. And, you know, the Tenant Association, we sent the information out. But then we don't, you know, what happens once it gets to that tenant? I don't know if the tenant then, you know, distributes it further within their organization that -- we've struggled, as I'm sure you all have, when you've had to do stuff like that. So -- and I'm sure the study that's happening and the exposure assessments are all facing the same question. Like, what is the best way to reach out to community members when, you know, not many people will pick up their small local paper anymore like they did when, you know, 20 years ago to get news. So it's a challenge that --

DR. REH: That's one of the reasons, as part of the exposure assessment, we have the work we're doing with Abt on community engagement, because we realize a need to determine a way to better get to different groups within communities and more

efficiently and more effectively. And so what we've challenged them is to look at what we've done in the past and then to try to paint a picture of what the future needs will be. And then how do we address that?

CAPT SOMERS: Right. And for the private wells, it's almost when you have like 50 private wells, it's almost easier to have -- to reach those folks, because you can mail something --

DR. REH: You can mail 50 documents.

CAPT SOMERS: -- hopefully to that residents, and say -- I mean, it might not get past residents, but at least hopefully current residents. So that's almost an easier, you know, way to hopefully make sure you're reaching the right audience. Otherwise, it's -- it gets hard.

DR. REH: Mark?

MR. SULLIVAN: Yeah, I -- speaking of Danielle and refer to the person who puts out the TAB [phonetic] newsletter. But I do think that sometimes, that's just happenstance. I think it just someone at the companies -- maybe the HR director --

CAPT SOMERS: Yeah.

MR. SULLIVAN: -- should be or maybe the Seacoast Human Resources Association, which meets here at Pease, might be a good --

CAPT SOMERS: It's Human Resources.

MR. SULLIVAN: -- place to reach out to, because I think HR has a vested interest in making sure that they got the word out to, you know, about something that could impact the health of their employees. And so that might be the key person, as opposed to whoever happens to get the newsletter.

CAPT SOMERS: Yeah, I mean, there's some sites in the past with EPA, we've gone like almost door-to-door to try to -- I mean, there's just -- it's hard sometimes to make sure you're getting to communities, and --

MR. SULLIVAN: So I think it's the HR person. But of course, maybe not. I don't know, because not -- companies don't have a medical [inaudible] necessarily.

CAPT SOMERS: No. Yeah. And we were just hoping they would publicize -- like this document is out. It's about the Pease Tradeport. We'll have people on the Tradeport these days. Come talk to us if you're interested, you know. And we reached out through the childcare center. So we tried to make sure that, you know. But again, you know, we can rely on all your help to help us --

MR. SULLIVAN: I'll -- well, I'll try to get the -- right. I'll try to get the contact information for SHRA.

CAPT SOMERS: Okay. Sure.

MR. SULLIVAN: And I think there's a similar SHRM that might actually touch on -- at Merrimack, just an FYI.

CAPT SOMERS: Yeah. That may be helpful when the study is happening, you know, to get more people aware.

DR. REH: Okay. CAP concerns, anything else?

CAP CONCERNS

MS. DAVIS: Hopefully, this is a quick question. The -- Dr. Woods' presentation, it -- will that be made available? When and how can we access it?

CDR MUTTER: I sent it to the CAP already --

MS. DAVIS: Okay.

CDR MUTTER: -- before the meeting. As far as beyond the CAP, you'll --

[Inaudible].

DR. WOODS: There's nothing -- that's basic stuff. [Inaudible].

MS. DAVIS: Okay.

DR. WOODS: You'll want to even just eliminate the background [inaudible] and the first -- the intro slide on this [inaudible].

MS. AMICO: Okay. And will you also post it on ATSDR website or?

DR. REH: Let me check into that. Let --

MS. DAVIS: With the minutes maybe for this meeting?

DR. REH: Let me check. I just have to make sure it's possible.

MS. DAVIS: Okay. Thank you. Thank you, Dr. Woods.

CAPT SOMERS: It's on the video.

MS. AMICO: So I would like to know a little bit more. We receive -- I'm -- we're part of a national coalition of PFAS community leaders that talk very frequently. And so we -- I'm under the understanding that Dr. Breysse had sent an email looking for community leaders across the country to nominate themselves to be on an executive steering committee for a community PFAS summit that ATSDR is looking to host potentially in February of next year. So I would like to know if you could share a little bit more information about that, because that was the first time we had heard about this community PFAS summit.

And I'd like to know who you plan to invite, and where it's going to be, and just any details that you can share would be greatly appreciated.

DR. REH: So we're still in the -- thank you for asking that. Actually, I meant to mention that. We're still in the formative stages for this. We envisioned a summit or a meeting where we could bring community leaders together and have a forum of communities and their leaders who are affected by PFAS. And to talk about opportunities, to share ideas, and to learn from each other on how to best engage around these issues. And then how do we build partnerships around it? And how do we improve our community engagement strategies? The work that we're doing with that will be definitely a foundation for this. And we view it as almost a next stage of the Abt work. You know, taking what we learned from them. And how do we go forward? And what do we learn from the communities that are dealing with this on a daily basis? And so we're -- we've put -- we're putting together, as you know, and I know you've talked to Pat. We're putting together an executive steering team to help us steer this effort. We don't see this as something that we're going to sit in Atlanta and do and just invite a bunch of people to Atlanta and come out and say, "Here it is." We want some of the key community leaders in both communities and states and in the tribal communities to help us to design the program and the plan. And so that was the email that Pat sent out. And it was to work with some of our partners like you guys and ECOS to develop the steering team. We, the steering team, we're not real certain on the numbers of it right yet. We're thinking maybe three to five people from communities and then some leadership from the tribal communities, because they have different issues that are also very important to capture. And possibly some national --

some representatives with a national feel on this issue. So that's -- there's still a lot to be developed on this. We're right now working on the vision and the goals and the objectives for this. We will have that to share fairly soon. So there's a lot more to come. And I'll just -- let me check my notes. I think I've covered everything off the top of my head.

MS. AMICO: Where would this take place?

DR. REH: We envision it to be in Atlanta. And we also -- we're looking into possibilities to be able to fund people's travel for that. Again, we're in the early stages and kind of in -- at the idea -- ideation point. But this is important enough for us that we want to see how we can help the people that we need information from to at least help them with the financial burden of traveling.

UNKNOWN: And that would be in January or February?

DR. REH: It would be February. We're targeting February 2020 for this. And it's certainly something that we should put in -- on the agenda for this meeting as an update, not only the face-to-faces, but also the monthly meetings.

MS. AMICO: And do you have an idea of how many people you envision? I know you're talking about the committee right now to help plan it. But are you envisioning a certain number of people attending? Have you gotten to that point yet?

DR. REH: So we have had some discussions around that. And I look at my colleagues from Abt. I think we're talking about maybe a couple of hundred or 100. It's not going to be as big as the event next week at Northeastern. But it's also not designed to be an event like that, which is, you know, the meeting at Northeastern is -- a lot of it's around sharing the science and

other issues. This is really to help us with how we engage community. So it will be a smaller group.

MS. AMICO: Okay, thank you.

DR. REH: Mm-hmm.

MS. DAVIS: Do you have an idea of what type of commitment the executive steering committee needs to make time-wise or frequency?

DR. REH: That, you know, that's a question we're grappling with -- we're dealing with right now. And so -- or you -- give me a couple of weeks, and I can come back with you on that. It's not going to be something where it's going to be a huge commitment. But it's an important commitment.

MS. AMICO: If I can just make one suggestion, February sounds like a scary time for people that live up here in terms of traveling, so if you haven't set any --

DR. REH: I'm --

CAPT SOMERS: Yeah. I --

MS. AMICO: You've had to cancel a CAP meeting before.

DR. REH: I lived in this area for ten years. I get it, yeah.

MS. AMICO: I'm just saying you could plan this huge event. And if there's massive snowstorms, it could prevent a large amount of people coming, so.

DR. REH: Okay.

MR. SULLIVAN: It's nice and warm in Atlanta, so --

UNKNOWN: If you can get out.

DR. REH: Any other questions, comments? All right, thank you very much.

CDR MUTTER: Oh, oh, oh! Can I -- sorry. I should have said it earlier. I was just enjoying the -- okay. So I just want to remind the CAP that tomorrow, if you haven't filled out the Doodle poll for the next CAP meeting to please do so. That's what I'm going to kind of make the final decision between the two dates that are up there right now. I also wanted to take this time to introduce Behetrin Mohammed, who's been helping me behind the scenes. If you see her name on email, she's just helping me with CAP stuff behind the scenes and making my life easier. So I just wanted to introduce her.

DR. REH: All right. I believe that's it. Thank you very much.