MEETING
STATE OF CALIFORNIA
ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT
ENVIRONMENTAL CONTAMINANT BIOMONITORING PROGRAM
SCIENTIFIC GUIDANCE PANEL

CALIFORNIA DEPARTMENT OF PUBLIC HEALTH
AUDITORIUM
850 MARINA BAY PARKWAY
RICHMOND, CALIFORNIA

THURSDAY, NOVEMBER 9, 2017
10:05 A.M.

JAMES F. PETERS, CSR
CERTIFIED SHORTHAND REPORTER
LICENSE NUMBER 10063

J&K COURT REPORTING, LLC  916.476.3171
A P P E A R A N C E S

PANEL MEMBERS:
Megan R. Schwarzman, M.D., M.P.H., Chairperson
Scott M. Bartell, M.S., Ph.D.
Carl Cranor, Ph.D., M.S.L.
Marion Kavanaugh-Lynch, M.D., M.P.H.
Ulrike Luderer, M.D., Ph.D.
Penelope (Jenny) Quintana, Ph.D., M.P.H.
José R. Suárez, M.D., Ph.D., M.P.H.

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY:
Yana Garcia, J.D., Assistant Secretary for Environmental Justice and Tribal Affairs

OFFICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT:
Lauren Zeise, Ph.D., Director
Amy Dunn, M.P.H., Safer Alternatives Assessment and Biomonitoring Section, Reproductive and Cancer Hazard Assessment Branch
Sarah Hoover, M.S., Chief, Safer Alternatives Assessment and Biomonitoring Section, Reproductive and Cancer Hazard Assessment Branch
Duyen Kauffman, Safer Alternatives Assessment and Biomonitoring Section, Reproductive and Cancer Hazard Assessment Branch
DEPARTMENT OF PUBLIC HEALTH:
Russell Bartlett, M.P.H. Environmental Health Investigations Branch
Nerissa Wu, Ph.D., Chief, Exposure Assessment Section, Environmental Health Investigations Branch

GUEST SPEAKERS:
Colin Bailey, The Environmental Justice Coalition for Water (EJCW)
Esther Bejarano, Comite Civico Del Valle

GUEST SPEAKERS:
Laura Gracia-Santiago, Communities for a Better Environment
Jean Kayano, Center for Community Action and Environmental Justice (CCAEJ)
Deanna Rossi, M.P.H., Impact Assessment

ALSO PRESENT:
Asa Bradman, Ph.D., University of California, Berkeley
Nancy Buermeyer, Breast Cancer Prevention Partners
Samara Geller, Environmental Working Group
Alex Nguyen, APA Family Support Services
Sharyle Patton, Commonweal
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welcome and Panel Business</td>
<td>1</td>
</tr>
<tr>
<td>Lauren Zeise, Ph.D., Director, Office of Environmental Health Hazard Assessment (OEHHA)</td>
<td></td>
</tr>
<tr>
<td>Overview of the Meeting</td>
<td>6</td>
</tr>
<tr>
<td>Meg Schwarzman, M.D., Chair, Scientific Guidance Panel (SGP)</td>
<td></td>
</tr>
<tr>
<td>Program Update and Overview of Environmental Justice Activities</td>
<td>10</td>
</tr>
<tr>
<td>Presentation: Nerissa Wu, Ph.D., California Department of Public Health (CDPH)</td>
<td></td>
</tr>
<tr>
<td>Panel and Audience Questions</td>
<td>24</td>
</tr>
<tr>
<td>East Bay Diesel Exposure Project</td>
<td>38</td>
</tr>
<tr>
<td>Presentation: Duyen Kauffman, OEHHA</td>
<td></td>
</tr>
<tr>
<td>Panel and Audience Questions</td>
<td>51</td>
</tr>
<tr>
<td>Report Back on Listening Sessions with Environmental Justice Organizations in California</td>
<td>67</td>
</tr>
<tr>
<td>Presentation: Deanna Rossi, M.P.H., Impact Assessment</td>
<td></td>
</tr>
<tr>
<td>Panel and Audience Questions</td>
<td>91</td>
</tr>
<tr>
<td>Morning Session Discussion and Public Comment</td>
<td>95</td>
</tr>
<tr>
<td>Afternoon Session</td>
<td>120</td>
</tr>
<tr>
<td>Introduction to Afternoon Session</td>
<td></td>
</tr>
<tr>
<td>Roundtable Discussion: Perspectives from Community Organizations on Biomonitoring California’s Activities</td>
<td>124</td>
</tr>
<tr>
<td>Remarks by Guest Discussants:</td>
<td></td>
</tr>
<tr>
<td>Colin Bailey, Executive Director, Environmental Justice Coalition for Water</td>
<td></td>
</tr>
<tr>
<td>Esther Bejarano, Community Advocate, Comite Civico Del Valle</td>
<td></td>
</tr>
<tr>
<td>Jean Kayano, Associate Director, Center for Community Action and Environmental Justice</td>
<td></td>
</tr>
</tbody>
</table>
MS. KAUFFMAN: Hi. Good morning, everyone. If everyone could please take their seats. I'm Duyen Kauffman. And we are going to begin the meeting shortly. But first just a few housekeeping items. Today's meeting is available via webinar. Please speak directly into the microphone and introduce yourself before speaking. This is for the benefit of the people participating via the webinar and for the transcriber.

The materials for the meeting were provided to SGP members and posted on the Biomonitoring California website. A small number of copies of the meeting materials are available at the table near the entrance to the auditorium.

We will break at 12:30 for lunch, and take another short break at about 3:40 p.m. The restrooms are located at the opposite end of the hall from where we are now on either side. And in case of an emergency, we also have exits here at the front on either side, and as you exit the auditorium immediately to right and left.

And now I'd like to introduce Lauren Zeise, Director of the Office of Environmental Health Hazard Assessment.

DIRECTOR ZEISE: Hello. I'd like to welcome the Panel and the audience to this meeting of the Scientific
Guidance Panel for the California Environmental Biomonitoring Program, also known as Biomonitoring California. Thank you all for participating and sharing your expertise. I'm really excited about today's meeting that's focusing on environmental justice and biomonitoring.

But first, just a brief recap of our meeting on July 20th. At that meeting, the Panel received an update about program activities and provided input on aspects of the California Regional Exposure, or CARE, study, and discussed creative funding options for the Program. The Panel also heard from Jon Sobus of U.S. EPA's NERL labs about non-targeted analysis and research, and had a rich discussion about scientific progress in this field.

Also, Roy Gerona and Axel Adams of UCSF presented on glyphosate biomonitoring, and discussed with the Panel a number of complex analytical challenges involved in this work.

The Panel also voted unanimously to recommend that the class of organophosphorus pesticides be added Biomonitoring's list of designated chemicals.

We also honored Dr. Asa Bradman who served on the SGP for 10 years, and is here today. Hello, Asa.

So also at the July meeting, I announced the appointment by Governor Brown of José Suárez — Dr. José
Suárez. And today I'm pleased to welcome him, and introduce him to you all, and welcome him to this first meeting.

I'll be giving a brief introduction about his background and research interests and then we'll formerly swear him in.

So José is an assistant professor in the Department of Family Medicine in Public Health at UC San Diego. His research focuses on understanding the role of environmental contaminants on brain development and metabolic alterations in children and adults. His examining associations between low level pesticide exposures and effects on children's development. He's involved in community-based participatory efforts in rural populations to collect health surveys and conduct environmental screenings. He also studies exposures to persistent organic pollutants, such as PCBs and PBDE flame retardants.

In one project he's investigating the potential relationships to markers of these chemicals with oxidative stress, alterations in glucose and lipid metabolism and subclinical heart disease.

José earned his M.D. from the Universidad San Francisco de Quito in Ecuador and his Ph.D. and M.P.H. from the University of Minnesota.
We welcome you to the SGP.

PANEL MEMBER SUÁREZ: Thank you.

(Applause.)

DIRECTOR ZEISE: So now, we'll do the official swearing in of Jose.

MS. HOOVER: Make sure you speak into the mic.

DIRECTOR ZEISE: And now we'll do the official swearing in of José Suárez.

Why don't we stand up. And maybe if you take your mic.

PANEL MEMBER SUÁREZ: Hello. Is this on?

DIRECTOR ZEISE: Okay. You have to almost swallow while speaking into them.

Okay. So I, José Ricardo Suárez, do solemnly swear or affirm --

PANEL MEMBER SUÁREZ: I, José Ricardo Suárez, do solemnly swear or affirm --

DIRECTOR ZEISE: -- that I will support and defend --

(Thereupon the fire alarm went off.)

(Laughter.)

MS. HOOVER: All clear. Go for it.

DIRECTOR ZEISE: Okay.

PANEL MEMBER SUÁREZ: I do solemnly swear I will defend --
DIRECTOR ZEI$E: -- that I will support and defend --

PANEL MEMBER SUÁREZ: -- that I will support and defend --

DIRECTOR ZEI$E: -- the Constitution of the United States --

PANEL MEMBER SUÁREZ: -- the Constitution of the United States --

DIRECTOR ZEI$E: -- And the Constitution of the State of California --

PANEL MEMBER SUÁREZ: -- and the --

(Thereupon the fire alarm went off.)

DIRECTOR ZEI$E: Okay -- and the Constitution of the State of California --

PANEL MEMBER SUÁREZ: -- and the Constitution of the State of California --

PANEL MEMBER SUÁREZ: -- against all enemies foreign and domestic --

PANEL MEMBER SUÁREZ: -- against all enemies foreign and domestic --

DIRECTOR ZEI$E: -- that I will bear true faith and allegiance to the Constitution of the United States and the Constitution of California --

PANEL MEMBER SUÁREZ: -- that I will bear truth faith and allegiance to the Constitution of the United States and the Constitution of California --
States and the Constitution of the State of California --

DIRECTOR ZEISE:  -- that I take this obligation freely --

PANEL MEMBER SUÁREZ:  -- that I take this obligation freely --

DIRECTOR ZEISE:  -- without any mental reservation or purpose of evasion --

PANEL MEMBER SUÁREZ:  -- without any mental reservation for purpose of evasion --

DIRECTOR ZEISE:  -- and that I will well and faithfully discharge the duties upon which I am about to enter --

PANEL MEMBER SUÁREZ:  -- and that I will well and faithfully discharge the duties upon which I'm about to enter.

DIRECTOR ZEISE:  Okay. Welcome, to the SGP.

PANEL MEMBER SUÁREZ:  Thank you.

(Applause.)

DIRECTOR ZEISE:  Okay. So now, I'll turn facilitation of the meeting over to the SGP Chair, Meg Schwarzman who will provide an overview today's meeting.

CHAIRPERSON SCHWARZMAN:  Thank you. Thank you. No, it's not on. I have a green light, but it's not on.

Okay. Let's try that. There we go. Thank you, Lauren and welcome José. I'm really glad to have you
As Lauren said -- let me see if I can do this without having to hold it.

I'm going to start just by talking about the goals for today's meeting. As usual, we'll start by receiving general program updates and providing any input on those that we have. And then we're going to hear a series of presentations reporting back on Biomonitoring California's recent environmental justice activities. And those include three things, the expansion of the ACE Project, the Asian/Pacific Islander Community Exposures Project to a Vietnamese population in San Jose.

We'll hear a report back on the design and launch of the new East Bay Diesel Exposure Project. And we'll hear a report back about the listening sessions that were conduct across the State with community advocacy and tribal groups to learn about local and environmental exposure concerns and biomonitoring priorities. So those are the first two goals.

The third is a little bit unusual for our Biomonitoring Panel meetings in the past. We're going to have a roundtable discussion of Biomonitoring California's EJ activities. And we'll start these off by remarks from some guest discussants who will be here today. They're here from community and advocacy organizations across the
State.

And with the guest discussants and the audience. We'll be identifying key next steps that are needed to build on the program's EJ work so far. We'll summarize the community priorities for future biomonitoring studies, and we'll highlight strategies for engaging with impacted communities.

And the final goal for today is to hear possible topics for the 2008 SGP meetings and provide input, time permitting.

So that's what we'll be doing today. Those are the goals. For today's meeting, as I mentioned, this is a little bit of a different format than past meetings. So both the morning and afternoon sessions will involve interactive discussion with audience. And you're not required to fill out comments cards to participate in those discussions. We really want this to be -- it's called a roundtable discussion for a reason.

But do feel free to submit a comment card, if you want to ensure that you're called on. Those can be obtained from the table near the entrance to the auditorium, and you'll turn the cards into Duyen Kauffman who opened the meeting.

There she is.

If you're joining the meeting today by webinar,
you can provide comments by email at biomonitoring@oehha.ca.gov or you can also - this is new for this meeting - provide comments via the chat option in WebEx. Those comments submitted by email or by chat that are relevant to the topic under discussion will be read allowed during the meeting and paraphrased when necessary due to time constraints. And too -- so along those lines, to ensure that everybody gets to comment who wants to be heard, please just keep in mind to keep your comments brief, and focused on the items that have not already been raised by someone else during the interactive discussions. And, if necessary, we'll put time limits on commenters, but we'll just see how that goes.

Oh, correction. There is no chat function available today, as we thought there would be. So just send comments. If you're watching by webinar and you want to join the discussion, please just send comments by email, and we'll incorporate them into the discussion.

So to start with our first agenda item of Program Updates, I want to introduce Nerissa Wu. I'm very pleased to announce that Nerissa has been appointed as Chief of the Exposure Assessment Section at the California Department of Public Health, and is also now officially lead for Biomonitoring California.

Congratulations to Nerissa.
(Applause.)

(Thereupon an overhead presentation was
Presented as follows.)

CHAIRPERSON SCHWARZMAN: So she will provide an
update on general program activities, as well as an
overview of recent environmental justice work.

DR. WU: There we go. Hello. That's working.

Thanks, Suzanne.

Good morning, everybody. Welcome to you all,
especially to our newest SGP member, and our not so new
SGP members, and our special guests who have come for our
roundtable discussion. I'm really looking forward to
hearing about that.

Today, I am going to give our customary
programmatic update, and include some information on the
CARE Study which is about to go live. And then I'll
transition us into this focus on environmental justice,
specifically the work we have accomplished under our last
fiscal year supplement to our budget.

Then I'm going to turn things over to a number of
speakers who will -- who will be talking in more detail
about the work that we have done this last year.

--o0o--

DR. WU: Sorry about that.

So this is our budget story. We don't have to
dwell on this too much. It's the same story you've heard at various meetings. And as we've talked about before, we are in a period of budget decline as a Program. We do have limited term positions which were created when our initial CDC cooperative agreement came to an end 2014. Some of those expired this past June, and the remainder of which are going to come to an end in June 2018.

We do not currently have an internal mechanism for augmenting our budget. So as you see, fiscal year 2018-19 our budget is going to decline as shown. And then in 2019 our CDC cooperative agreement comes to an end. There's a lot of uncertainty at the federal level what funding might look like in the future.

--o0o--

DR. WU: This is a similar decline showing staff positions and the impact on them. This is across the board, but it is particularly felt in our labs where we're losing, as we lose staff -- lab personnel we are losing analytical panels, because they take with them these very specific capabilities. Lab staff also process samples, they do QA work, and they get the results out to us in a timely manner. So the decline in staff really impacts our ability to do those things.

In EHIB, our -- we have less staff, and less staff hours to plan studies, and to be in the field
collecting samples, and to analyze the data that comes in. We never want to compromise on the work we do, for example, our participant experience and how we work with participants to return results. Those are very resource intensive things, but it's a real core part to what they do as a program. And we are also legislatively mandated to do this results return work.

So what happens is we have to take on less projects. We can't take on all the projects we want to do. And we have had to cut back on study design. We've seen this in our CARE Study protocol, where we have fewer samples, fewer analytes, and there have been other study design decisions that have had to be made based on the available budget.

Another thing that happens is that we end up asking our remaining staff to do a lot with fewer resources, and they really have been working like crazy, they're all great, but this can only work for so long. It's not really a sustainable way to run a program, and it's really difficult for us to meet the potential of the program, and also the original vision of the program working under these conditions.

--o0o--

DR. WU: But let's move on from that gloomy story. I want to give a brief project update on CARE,
because this is actually very exciting. We are launching next month. So this is the last update before we go live in the field. Statewide sampling has been a priority for the Program since its inception. It's a key part of our founding legislation, which states that the statewide Biomonitoring Program will assist in the evaluation of the presence of toxic chemicals in a representative sample of Californians, establish trends and levels of these chemicals in Californian's bodies over time, and assess effectiveness of public health efforts to decrease exposure of Californians to specific chemical contaminants.

That is a very lofty, very worthy goal. There are also a lot of challenges to getting a study of this magnitude up and running, particularly in this unpredictable budget scenario. And there are many logistic challenges, because California is such a large state. So our move to a regional approach has really made it possible to get this on the ground.

--o0o--

DR. WU: And just a reminder of what CARE is. It is the California Regional Exposure, or CARE, study. We have divided California into these different regions, eight regions. And we'll be starting up this winter in Los Angeles as Region 1, then we'll move on to Region 2,
which is Inland Valley an 2019. And in each region, we will be biomonitoring for metals, and for the per- and polyfluoroalkyl substances, the PFASs. Of course it's so important. There are many, many chemical panels of importance, of concern, that we would like to be measuring across the State, and we will look to add to those chemical panels as resources allow. We'll already have the samples stockpiled, and frozen, and as we -- as we can, we will be adding other panels.

---o0o---

DR. WU: So there's the proposed timeline that you've seen before. And we're halfway through this. We have gone to the IRB and our protocol has been approved. Since that approval in September, we've continued to solicit feedback from focus groups and other reviewers. We've been working with our website vendor to create our online presence. And as we've learned more about what ability our software has, we've had to tweak our study tools a little bit. So there's a little bit of protocol tweaking going on now.

We are in the last month or so of getting details worked out. And with every design decision, we're prioritizing the participant experience. Does this make it easier or harder for a participant to stay in the study. Is it still as accessible as we want it to be.
Can they read it on their phone? Is it in the right language? And, of course, we need to always consider the impacts of changes to our protocol on our budget.

So we're in that final stage. Everyone who designs and implements studies knows what this phase is like. We're in the weeds getting things like our participant tracking system tested. We're making sure documents are translated correctly. We're connecting outreach to groups to make sure there's awareness of our study, reserving space so we can collect the samples. Down in the weeds like making sure we can get dry ice to keep our samples frozen in the field and shipped back to the lab intact.

So there's a lot of that work going on now in preparation for our soft launch in December.

--o0o--

DR. WU: It's just a month away. So this will be an opportunity for us to do a final test of how everything works. Our website will be up and running with our pre-screening survey available in the 10 most commonly lang -- common languages spoken in L.A. County. So, of course, Spanish and English, but also Chinese, Vietnamese, Japanese, Korean, Farsi, Russian, Armenian, and Tagalog.

And let me just say our multi-lingual staff has been great reviewing translations and making sure that
we've kept the tone of our various study tools correct. And people who are interested in the study can then sign up, fill out the prescreening survey with demographic information, and that will be used both for eligibility screening but also for our sample selection.

We're also deep in our communications plan conducting outreach of all sorts, working with different community partners, conducting webinars, going to meetings, and also providing content for social media.

--o0o--

DR. WU: And then, in January, our postcard will go out. We have selected mail codes in the different service provider areas of Los Angeles. The postcard will go to every household in those selected mail codes. We will also be giving out this postcard to health fairs, to community events. Different community groups will be handing it out. And this will direct interested participants to go to our website, where they can learn more about the study, and they could also fill out the prescreening survey to indicate their interest. And then we select our participants.

So next time we report back to you in March, we'll have a better idea of how this is all working. A little bit like throwing a party, and you're not sure if no one is going to show up, or you're going to have a rave
on your hands --

(Laughter.)

DR. WU: -- so we're in that place right now.

--o0o--

DR. WU: So I'm going to shift now to our environmental justice work. In spring 2016, a number of our stakeholders, led by Breast Cancer Fund, now know as Breast Cancer Prevention Partners successfully advocated for a million dollar augmentation to our budget to allow the Program to focus on overburdened communities. We had many supporters, many of whom are listed here, signing this very compelling letter advocating for this funding change, and very appreciated. It really -- it meant a lot to us that we had so many supporters come out and speak in support of this augmentation.

--o0o--

DR. WU: So what did we do with this -- with this funding? Let me just say that limited term funding in the State, it's great to get, but there are also many -- a number of mechanisms we need to go through in the state to get the funding, and then to find mechanisms for the money to flow out of the state. Also, getting studies on the ground, you need to be ready to mobilize really quickly with limited term funding. And there is -- it takes time to build collaborations to develop product -- project
protocols.

So when this funding became available, we just -- we just had to jump in and go and -- and I'm impressed by everyone's work on our staff for getting all this work done.

So the Asian/Pacific Islander Community Exposure Study, which I will describe a little more fully. We had a project that was already in the works, and we were able to expand it quickly.

The East Bay Diesel Exposure Project which you'll hear about more from Duyen in a minute was organized in record time. And then the community outreach and engagement, we were really lucky to have Impact Assessment with whom we've partnered on many different projects. And their staff were available to start this community outreach and listening session work very quickly.

This was a very important feature of our work with EJ prioritization. But also in conjunction with our statewide work, we really wanted to hear from organizations across the state how we should be prioritizing different analytical panels and issues, and how biomonitoring can help move other issues forward.

And in addition to the surveys and meetings, we also initiated this community newsletter, which we hope will continue into the future as a vehicle for getting
information out to a broader audience.

We're able to publish one of those this year, and we actually have the proofs of our second issue coming out. Very exciting.

So a little more detail on ACE. This is the Asian/Pacific Islander Community Exposures Project. This grew out of years, decades really, working with the APA Family Services, which is a San Francisco organization working on the issue of mercury in fish and how to make safer fish choices.

A few years ago, APA approached us about conducting a biomonitoring project to look at mercury levels in their constituents. And we ended up collaborating on an NIH proposal to look at metals and PFAS levels in four different Asian subpopulations. There was already indication in the literature from NHANES and from some of our previous studies, that these analytes might be present at higher levels in Asians.

And there's also very little data available about Asian subpopulations. Asians tend to be clumped together in studies.

The grant was actually not eventually funded, but it was the seed of an idea, and we were able to take that protocol and turn it into the ACE Project starting with one ethnic group focusing on the Chinese population in San
Francisco. We started small with 60 participants, which later expanded to 100. And we looked at metals, arsenic, mercury, lead, and cadmium, and the PFASs. And we worked very closely with APA on running some focus groups and working with the organization on study design and tools to make sure that we were asking questions and designing recruitment appropriately for the community.

We have just finished returning results to the ACE I population, and we have held a community meeting to more broadly talk about the results.

--o0o--

DR. WU: The EJ funding allowed us to expand the study to cover an addition subpopulation, the Vietnamese population in San Jose.

--o0o--

DR. WU: And this timeline just shows how the two parts of ACE have interacted. As I said, we have pretty much completed the ACE I results return. We are about to get the results back on ACE II. And so we'll be -- actually, in the next week, we're going to start doing our notification calls reaching out to people with elevated metals levels, and we should be returning results in the next month or two.

--o0o--

DR. WU: As I noted in our last meeting, there
were a number of participants from ACE I with elevated metals level. Overall the ACE I study population had higher blood mercury, cadmium, and lead levels compared with adults of all races from NHANES.

And ACE participants also had mercury levels almost two times higher than the non-Hispanic Asian population from NHANES. We are continuing to work with this data, but preliminary analysis shows that there is an association between frequency of fish consumption and consumption of fish cake, and paste, and other fish products, and mercury levels, which is not a surprise. But also participants who reported use of herbal remedies and products had higher mercury and lead levels than those who did not.

We are, like I said, continuing to work with this data, and we'll have more to report on this in coming meetings. We have also identified participants with level of concern. And this is one of the reasons why it's so important to work in a community like this. We had one person with an elevated blood mercury level to the level of concern. And 26 percent of the participants had inorganic arsenic levels at the level of concern, compared with 13 percent of our Project BEST population. So quite high.

We expect that we'll see a similar profile for
ACE II participants. And we are just getting those
results back, so that we can do our notification calls,
and get some more information about where that exposure is
coming from.

--o0o--

DR. WU: So the ACE Project was a good
illustration of the value of community biomonitoring. It
really brings the focus of biomonitoring to a
disproportionately impacted community. And it provides
information not only to the participants, but to a wider
community, the friends, the family, the community who
might have a similar exposure profile.

Working with the community for input on things
like survey tools and how to reach out to the population
helped us create an effective recruitment strategy, and
ask the right questions, and it really is an easily
replicated and scalable model. We were able to get out
into the field with ACE II very quickly.

There are a number of communities in California
with a similar exposure profile, and, of course, many
communities who have different concerns. And this is a
model that we would hope to take out into the field to
work with other communities in a similar way.

Given the reduced budget that I described
earlier, we don't currently have a way to support
additional community studies. But environmental justice
and a focus on health equity, and healthy communities is a
program priority. So finding a way to continue this work
through collaborations or through supplemental funding is
an important part of who we are.

--o0o--

DR. WU: So in closing I just want to acknowledge
our staff who have been making all this happen, who worked
so hard on all the different aspects of our projects.

--o0o--

DR. WU: And I also want to acknowledge people
within and beyond the program who make the program what it
is.

And I just want to take a minute to highlight Dr.
Myrto Petreas. I first met Myrto when I was a doctoral
candidate designing my first biomonitoring study, and she
was already a rock star in the environmental chemistry and
exposure world, and I was in such awe of her. So it's
been a real privilege to have an opportunity to work with
her.

She was -- has been -- she's played a key role in
the creation and implementation of Biomonitoring
California. And next month she is making good on her
threat to retire --

(Laughter.)
DR. WU: -- from State service. So I just wanted
to close my talk by acknowledging the huge contributions
that Myrto has made, and -- to both the Program, but also
to the science of biomonitoring overall.

So thank you, Myrto.

(Applause.)

CHAIRPERSON SCHWARZMAN: Thank you, Nerissa.

Yeah, if wouldn't mind staying up for a sec. We have
about 10 minutes for questions from the Panel and from the
audience.

Go ahead. Yes, Jenny.

PANEL MEMBER QUINTANA: Hi. Is this on?

I had some questions about the BEST Study, and
that has to do with representativeness of the sample.
Because as you know, one of the huge values of the CDC
environmental health biomonitoring report has been its
ability to provide reference values for the U.S. And
so -- and forgive me if you've already covered this in
previous times. But do you have a targeted recruitment,
for example, ethnic makeup that mirrors L.A. County that
you are going to kind of check-off and fill. I didn't see
that in there.

And I think the epidemiologist here, José Suárez,
might well comment on this. But how -- and also on that
same vein, is the recruitment and sign-up, is that mobile
friendly? Because that will be very important for certain communities, you know, just to make sure you're not missing people. And are the questionnaires administered -- self-administered, or are they administered to the person, which has a potential ability to miss the participants, if they're self-administered, So I just have a few questions about the representative.

DR. WU: So it was representation -- and we have gone back and forth about random versus representative, and how we can best capture the population of L.A. With Project BEST, I think there was an attempt to be -- to have a randomized sample. And, of course, when you do a randomized recruitment, you end with sort of a skewed -- skewed participation pool.

So we are starting -- that's partly why we've incorporated the random mail code recruitment. But recognizing that we are not going to get -- we're not -- it probably won't be very successful in pulling people in, because people don't tend to respond to postcards and things.

Our recruitment by giving out postcards through community partners, of course, will be biased, which is why there's a two stage recruitment process, where people will fill out their interest -- they'll indicate their interest in the study by filling out that prescreening
survey. And then we'll go in and we are actually in the process of developing the algorithm for selecting our participants.

We will do our best to match the racial makeup of L.A. County, as well as the geography broken down by service provider areas. There are a lot of other parameters which we would like to hit, for example, age, sex, occupation. There are a number of demographic parameters that we would like to be able to cover. With a sample size of 500, and also because we are subject to who fills out the prescreening survey, we are not going to be able to cover all those strata. But certainly race and geography are our two priorities to meet representation across the county.

Do you want to respond to that or do you want me to go onto your other question?

PANEL MEMBER QUINTANA: I guess -- I guess just want to really thoughtfully think about who you're selecting among, that your first attempt to get as many people as possible in that pool from which you select is very important, because it -- you don't want to favor people that are already concerned about chemicals or who are more educated or whatever thing. You want to have a nice pool of possible -- and I know that there's huge funding limitations. But I just want to make a plug for
the importance of that to make the data the most useful that it could possibly be.

    DR. WU: We have been talking about how we get those postcards out. So reaching beyond environmental groups, or the community groups that are already working on exposure issues, of course, is important. So we are going to different venues, where you might have large gathering, but that are not necessarily environmentally focused to try to -- both as an educational tool, because I think raising awareness is always good, but yes, also to broaden out our appeal and broaden that prescreening pool is very key.

    It's connected with your other point about mobile accessibility. We are really subject to what Salesforce can do. So there are some components of our -- of our online presence that are very mobile adaptable. So, for example, our surveys, our prescreening survey and our exposure survey are both powered by SurveyMonkey. And those will adapt to a screen of whatever size. There are other parts which it's unclear how they'll look on a phone screen. But we are working hard to make sure that people of -- people can use screens of all different sizes.

    We have also a paper presence, so if people want to participate in the study on paper, that's available to them as well.
Oh, and your last question about self-administration of the surveys, that's one of the things we kind of had to give up. Administering surveys, you get better data, but it's very labor intensive, and it can be harder to get people to sit down with you, so the surveys are available online, and people will take those themselves. They're very quick.

Of course, we had to go through the giant list of questions we wanted to ask and hone down to something that could be answered in 10 to 15 minutes. We do have an ability to reach out to people who don't fill out the survey completely, or who don't want to do it online and we will -- we will take their information on the phone.

We also have a survey, which will look at temporally proximal exposures, for -- particularly for quickly metabolizing chemicals. When they show up for their phlebotomy and urine sample collection, there's a very short questionnaire that we'll be asking them and they'll be -- they'll be doing it themselves on a pad, but there will be a person there if they have clarifying questions they want to ask.

CHAIRPERSON SCHWARZMAN: Is that it Jenny?

Carl, you had a Question.

PANEL MEMBER CRANOR: Let me ask a question. It's beyond -- it's beyond your purview, but something
jumped out at me. And there's a public health issue here beyond contamination. And you've indicated that some of these people are carrying certainly higher concentrations of mercury in their bodies. Philippe Grandjean and a team – he’s from Denmark and Harvard – has identified susceptibility genes for mercury.

And he says I think it's something like about either eight percent or 1/8th of people have this gene. So if you could hook up your concentrations, and then somebody find the -- do the blood work for the gene, you may have a subpopulation of these people that are at higher risk, which would be an important point to intervene. I know it's beyond biomonitoring, but this is important -- and important first step.

DR. WU: I agree that it's very important. And I also agree that it's beyond the purview of our Program.

(Laughter.)

DR. WU: That would be great to do. We do, actually in our informed concept, specify that we will not be doing genetic work, because one of the -- one of the concerns when people sign up for studies and give blood, you know, the biological media, they are concerned with what the government will do with their -- with their samples

PANEL MEMBER CRANOR: Of course.
DR. WU: So we very specifically eliminate

PANEL MEMBER CRANOR: Right, but you haven't done

that. But you could go back -- I mean, I don't know to

what extent biomonitoring.

DR. WU: Not with these samples.

PANEL MEMBER CRANOR: Go back and identify the

people and say how about this further step. But it's

beyond your purview, I realize that. But it really jumps

out that we know both susceptibility genes, and we now

have higher concentrations.

DR. WU: Well, I think this kind of work and the
data that comes out of this, it's a great basis for

illustration of why it's so important, and that there's

this overlap of susceptibility that we should be thinking

about. But having this data just illustrating that there

are so many people with high levels of mercury is

definitely a piece of that.

And so I would -- I would expect that other

researchers will take this and -- especially with

something like the Asian population, where we have so many

people with high levels of mercury --

PANEL MEMBER CRANOR: Right.

DR. WU: -- maybe do work in that community as

well.
CHAIRPERSON SCHWARZMAN: And we do still have a little time. Yeah, any additional questions? Did you have any?

PANEL MEMBER LUDERER: (Nods head.)

CHAIRPERSON SCHWARZMAN: Yes, please, go ahead.

PANEL MEMBER LUDERER: Is it on?

It's on? Okay. You can hear me?

You can hear me.

(Laughter.)

PANEL MEMBER LUDERER: Thank you. I'm really excited about the CARE Study starting and also looking forward to all the presentations today.

And one thing as I was thinking about this, you know, getting ready to come here that I think is going to be maybe a recurring theme today, but that's, you know, I'm wondering about the sort of the tension between doing this representative study, and then, you know, really wanting to have different community groups, environmental justice groups, environmental groups, other, you know, community groups participating who may be very interested in biomonitoring, but with a -- you know with a study where you're measuring -- biomonitoring 500 people in all of L.A. County. Obviously, you're not going to have community-specific level information.

And so, you know, I assume we'll be hearing more
today, but I hope we will about how you'll -- the program
can use this CARE Study to, you know, strengthen and
expand ties with different communities, and environmental
justice groups, and other groups that may, down the road,
lead to opportunities, you know, to do more
community-specific biomonitoring studies like you have
done already, and hopefully we will do more of.

DR. WU: Sure. It's definitely a challenge. We
have a lot of community partners who are very excited
about everyone in their community getting biomonitored.
And so we've had to be very clear this is a regional
representation, that not everyone in your neighborhood
will be biomonitored.

But we would love to be able to offer both, and
both community-specific and this representative work.
They're both important pieces of it. But we hope this was
a backdrop to -- first of all, there's all this education
and awareness work that will be happening, but also this
will give us a comparison group, where when we do go back
and do community studies, now we have some information --
California-specific information to compare it to.

CHAIRPERSON SCHWARZMAN: Yeah, José, go ahead.

PANEL MEMBER SUÁREZ: Yeah. Just a couple of
quick questions. One is a little bit more about the --

MS. HOOVER: A little closer.
PANEL MEMBER SUÁREZ: -- slightly a little bit about the details about how many people you're going to be sending out the invitations for and how many would you roughly expect to get back? Kind of a basic question.

And the other one is regarding the online survey. So I think given the budget, I think that's -- it's a logical way to do it.

The only concern could be that you could potentially be weeding out certain groups of people that may not have access to online -- to computers even. We're talking about socioeconomic status or education level. So that could be a potential source of selection bias, if you may.

So it's something for you to think about. Maybe you have thought about it already. What are your thoughts?

DR. WU: Okay. So the postcard is going out to approximately 65,000 households. For Project BEST, I think we had six percent response rate, and that was coming from Kaiser, their medical provider. So I don't expect a higher than one percent response rate. Really, our expectations are modest, but I think it's important for us to try this method of recruitment.

It will also get to people who are not necessarily involved in any kind of community
organizations. And I think that is an important aspect of it.

As far as the online survey, we do have a paper option for participants. So if you fill out the survey, and I understand the online -- the prescreening is mostly online. If somebody gets their postcard there is a phone number on it. And so you could call us and say, you know, I really want to do this, but I don't have a computer, and we will do your prescreening survey on the phone.

Once you're in that prescreening -- and I'm sorry, we will also be at different events with a laptop and help people fill out the prescreening survey. Once you are selected, a letter comes out, and whether -- whether you selected Internet or paper on your pre-screening survey, you will get either a packet through email, which will link you to all of these online things, or you will actually get a paper packet, which has the survey, the informed consent, and your -- how to make an appointment all on paper. And then our interaction is on the phone.

For our purposes, the online is way easier. It involves much less staff time, but we have -- we're ready to handle people by phone and paper, if necessary. For people who want to -- you didn't ask this, but I'm going to answer it any.
(Laughter.)

DR. WU: For people who want to take the study in a different language, we do have that capability as well. So they will get a letter in the language of choice describing the study. And then when our phlebotomist goes to their home, we'll have somebody in language call and make an appointment, and they will end up doing the survey and the phlebotomy and urine collection with an interpreter present. And that will be explained to them in the letter in their language.

CHAIRPERSON SCHWARZMAN: So just as a reminder, at the end of all the morning talks, we'll have a 30-minute discussion and comment section. So I appreciate that these questions have all been questions. And we just have a couple minutes, so I'm going to take my Chair's prerogative and ask you a question that goes back to the budget issues that you raised.

This is -- I'm sure this is something you've already thought of, but I wanted to hear your thoughts about the potential for accessing funding available to underserved or that in someway benefit disproportionately impacted communities under AB 32. And I know that it's -- there's a little bit of a stretch to AB 32 money, but not if we think about things like diesel exposure. And I wondered how you've been thinking about that, as a
possible source of funding?

DR. WU: Honestly, I have not given it a whole lot of thought. We do look for different pots of money and how they might apply to biomonitoring. I can't address AB 32, but for example Prop 99 money, which is related to -- anything that's related to pulmonary function. It's tobacco money. And so we are using money to do some diesel work. And actually that is an add-on that we hope to include on CARE.

So we're are always kind of scanning the different pots of money that are available.

CHAIRPERSON SCHWARZMAN: That's some I would recommend, because there is a statutory requirement that I think as much as a third of the funds that come in under cap and trade are required to benefit disproportionately affected communities. It may be an opportunity.

DR. WU: Okay. Thanks.

CHAIRPERSON SCHWARZMAN: So with that, I want to move -- unless we have other specific questions, we'll have more chance discussion.

MS. KAUFFMAN: Do we have time for an audience question?

CHAIRPERSON SCHWARZMAN: Yes. Thanks.

So this comes from Nancy Buer -- yes, go ahead. And Nancy is from Breast Cancer Prevention
MS. BUERMEYER: Great. Thank you very much for the opportunity. I appreciate it. And thanks for the presentation. As always, great.

I'm fascinated to spend more time talking about the ACE Study, but I just had a couple of quick questions. You mentioned the community meeting, was that just for participants or did you invite the broader community in to that discussion, so that they could understand their potential risks? And was there any takeaway in terms of actions people could take and any indication of their interest in taking those actions to reduce those exposures?

DR. WU: So the meeting was open to the broader community. And we did advertise it through APA's general membership. And I actually don't know what percentage of attendees were participants or not. We didn't ask people whether they were.

As far as actions, we focused on individual actions how you, as an individual, could take this data and respond, and by reducing your exposures. And I think APA though, as an advocacy group, we had some conversations about things they might with the information, how they might, as a community respond.

MS. BUERMEYER: Thanks.
CHAIRPERSON SCHWARZMAN: Thank you.
Okay. I want to take this moment to introduce
Duyen Kauffman who's going to talk to us about the Diesel
Exposure Project -- East Bay Diesel Exposure Project.
Duyen Kauffman is the Health Program Specialist
in OEHHA's Safer Alternatives Assessment and Biomonitoring
Section. And she will be describing the East Bay Diesel
Exposure Project. Recruitment for this project is slated
to begin in Oakland, Richmond, and San Pablo in the next
few weeks, which is exciting.

(Thereupon an overhead presentation was
presented as follows.)

MS. KAUFFMAN: Thank you, Meg.
Am I on?
I'll just hold it. I will be one with the
microphone.

(Laughter.)

MS. KAUFFMAN: Hello, members of the Panel and
audience. Today, I'm going to talk about the East Bay
Diesel Exposure Project.

--o0o--

MS. KAUFFMAN: Okay. There we go. Thank you.
So the East Bay Diesel Exposure Project is a
collaboration between Biomonitoring California, the Center
for Environmental Research and Children's Health at UC
Berkeley, and the University of Washington.

Asa Bradman at CERCH is the principal investigator, and Chris Simpson's lab at the University of Washington will be doing the laboratory analyses of the samples we will be collecting.

--o0o--

MS. KAUFFMAN: So our project goals are to directly assess exposures to diesel exhaust in selected East Bay communities in the San Francisco Bay Area, compare levels of diesel biomarkers in child-parent pairs to increase understanding of exposure patterns within a household and across age groups, and collect samples in winter when air quality is generally worse and spring to look at seasonal differences in exposure to diesel exhaust.

--o0o--

MS. KAUFFMAN: Should I point it at that? Okay. There we go. All right. Okay. A little delay.

And continuing with project goals. We intend to further evaluate 1-nitropyrene as a marker for diesel exhaust exposure. So I'd just like to explain a little bit: 1-NP is just one chemical component of diesel exhaust, which contains a complex mixture of thousands of chemicals present in vapor and particle form.
So we are measuring exposure to 1-NP because it's one of the few components of diesel exhaust that we are actually able to measure in people.

Also, other studies, including some by Chris Simpson, have suggested that 1-NP metabolites in urine increase as exposure to diesel exhaust increases. So it appears to be a good indicator of overall exposure to diesel exhaust. And we hope to further validate that through this project.

We will examine the robustness of various measures of diesel exhaust exposure compared to biomonitoring results. One example of how we can do this is to compare our diesel biomonitoring results to CalEnviroScreen's diesel particulate matter indicator, which I'll discuss in more detail on the next slide.

And for those of you who are not familiar with CalEnviroScreen, it is a screening and mapping tool developed by OEHHA as part of CalEPA's Environmental Justice Program to evaluate the burden of pollution from multiple sources in communities.

And lastly, our goal is to generate data to help evaluate the effectiveness of California's diesel regulations

--000--

MS. KAUFFMAN: So before I get into study design
and protocols, I'd like to talk little bit about how we identified neighborhoods for the study.

--o0o--

MS. KAUFFMAN: We wanted to include people primarily from neighborhoods with high diesel exhaust exposure, but we also wanted to see how their levels compared to people with lower exposures to diesel exhaust.

So we looked at --

--o0o--

MS. KAUFFMAN: -- CalEnviroScreen's diesel particulate matter indicator. This indicator is based on data from the California Air Resources Board, or CARB, which collects estimates of diesel particulate matter emissions from sources

The diesel particulate matter indicator uses CARB's data on emissions from onroad sources like trucks and buses, and off-road sources, like ships and trains.

So the higher the score, the worst the diesel particulate matter is in the air. And you can see from this map at - want to point - that Oakland and particularly West Oakland there in orange and red has some of the highest scores in the East Bay, whereas Richmond up here has a lower range from blue and light green to orange and then San Pablo up here is even lower in the blue to light green range.

--o0o--
MS. KAUFFMAN: We also looked at diesel truck pattern traffic on nearby highways and major routes through neighborhoods in the East Bay.

And we looked at local air pollution mapping, for example, this recent study that some of you may have seen written up by Joshua Apte and others that used Google street-view cars to measure and map air pollution in a 30-square kilometer area of Oakland.

--o0o--

MS. KAUFFMAN: We also considered additional stressors as factors for selecting locations. We went back to CalEnviroScreen and pulled up maps like this one, but looking at the housing burden and poverty indicators so that we'll be able to recruit roughly the same demographics in each of the areas that will be involved in the project.

--o0o--

MS. KAUFFMAN: So now that we've identified some neighborhoods, we will work with these communities and introduce the project to local organizations, schools, and agencies and enlist their help with recruitment. So groups to engage include the West Oakland Environmental Indicators Project, a very well known and respected environmental justice organization that's worked a lot on air quality in Oakland, including the Google mapping
project I just mentioned. And we have already met with
Ms. Margaret Gordon and Brian Beveridge who are
codirectors of West Oakland EIP. And we're looking
forward to working with them and involving their community
in this project.

We'd also like to work with schools that are
currently involved in air monitoring studies. There's the
BEACO2N or Berkeley Atmospheric CO2 Observation Network
led by Ron Cohen, an atmospheric chemist at U.C. Berkeley,
and several other air monitoring studies networks that
have set up at schools in the East Bay. So we're planning
to connect with some of these schools to see if some of
their families would be interested in participating in our
projects.

We may also recruit through the Northern
California Breathmobile sites. This is a mobile asthma
management program, so essentially mobile asthma clinics
that visit pre-schools an K through 12 schools and
community centers mostly in Alameda County, and West
Contra Costa.

And then through our PI, Asa Bradman, and his
work at CERCH, we also have relationships with some YMCA
child care centers in Contra Costa County and we're hoping
to recruit participants through those sites as well.

--o0o--
MS. KAUFFMAN: Okay. Now, onto study design.

As our project name indicates, we will focus on diesel exposures in residents of the East Bay, specifically Oakland, Richmond, and San Pablo, which I mentioned have a range -- are predicted to have a range of diesel exhaust exposures according to CalEnviroScreen. We will recruit 50 child-parent pairs. So one parent and one child per family with the child already toilet trained and between the ages of three and six.

There will be two sampling events for each household, one in the winter, 2017 - it's coming up - 2018. And during that -- this sampling event, we will collect urine from the parent and the child, an indoor air sample, and a dust sample from the vacuum bag in the home. And a second sampling event in spring 2018 during which we'll collect urine samples from the parent and child and indoor air samples.

--o0o--

MS. KAUFFMAN: Okay. So this is what the data collection will look like. The sampling events will consist of a home visit -- first home visit on what we're calling day one, and that will usually be a Sunday, Monday, or a Tuesday. And we -- after obtaining written informed consent, we will administer an exposure questionnaire. So that will cover things like housing
characteristics, so what kind of stove do they have? Is there an attached garage? Do diesel cars park in there?

Daily activities, including occupation, use of diesel equipment or vehicles at work; house cleaning practices, like sweeping and vacuuming; and building systems, so what kind of heating system is there, do they use portable air filters, things like that.

And after that, we'll do a walk-through of the home and look at things, like their heating system, the type of furnace, if possible, the portable air filter if they use one. We'll look at the vacuum and record information about those items.

We will then give the parent two GPS data loggers, one for the child and one for the parent, and with instructions on how to use them for the following three days. And as you can see from the picture, it's fairly small, like it could be put in a coat pocket, or a purse, or a backpack, or something that will be with the person for most of the day or throughout the day. And the device will record their location every -- the GPS coordinates every few minutes, but it's not a tracking device. So it's not broadcasting location. We can't track people through them. We just, when we retrieve the device, we can download the information. It's a historical record of where they've been.
And then as a back-up, and a complement to the
GPS loggers, which can fail, we will give the parent two
24-hour activity diaries for -- one for the child and one
for the parent and we'll ask the parent to fill these out
for him or herself and the child over the next three days.

We also set up a black carbon sensor in the
participants' homes to collect a sample of their indoor
air for later analysis. Sensors will also collect data in
real-time on black carbon, which is a sooty material
released into the air from diesel engines and other
sources and can end up in homes.

And finally, we'll collect their vacuum bag or if
they have a bagless vacuum, the contents of their vacuum,
to get a convenience sample of their house dust.

--o0o--

MS. KAUFFMAN: Okay. And so that was day one.
Day four, we'll come back for home visit number
two, so three days later, and that will be a Wednesday,
Thursday, or Friday, depending on when the first visit
was. And we will administer a short follow-up
questionnaire that asks questions about the parent's and
child's specific activities over the last three days,
including things like whether or not they actually used
the heat during that time, or a fireplace, or if they
grilled foods.
At this visit, we will also collect the activity diaries. And so this is an excerpt from the child activity diary, and you can see the type of information we'll be collecting. So was the child -- if the child was at home, was she indoors or outdoors, in transit during that hour, walking, biking, BART, car or bus. If in a vehicle, was it a diesel or not, and then time away from home.

And the parent activity diary is very similar. It just has different questions for away from home, different options like being at work. And then both of the activity diaries have these additional questions, you know, asking any time during the previous 24 hours was you -- were you or was your child near any of the following: Like fireplace; trash; fire; gas, wood or charcoal cooking; or cigarettes or other tobacco products.

At this visit, we are also collecting the GPS data loggers, the black carbon sensor, and then lastly the urine samples from the child and the parent. And at that time, the family will receive a $20 gift card to a local store to thank them for their time and participation.

--00o--

MS. KAUFFMAN: And out of these 50 families, we'll also -- we're hoping to recruit a subset of up to 15 families to collect daily urine samples for four days, so
one sample every day on days one through four. So for these families we'll leave urine collection supplies and lend them a mini refrigerator, so they can store their samples until we can pick them up at the latest on day four, when we return to their home for the second visit.

And then this whole process, home visits on days one and four will be repeated with the same families about four months later in the spring.

--o0o--

MS. KAUFFMAN: So what are we going to do with all these samples?

In urine, Chris Simpson's lab will measure two metabolites of 1-nitropyrene, 1-NP, 6-hydroxy-1-nitropyrene. And 8-hydroxy-1-nitropyrene. And our own lab here, the environmental, the Environmental Health Laboratory at DPH will measure creatinine and specific gravity to adjust for how concentrated the different urine samples are.

In the dust from the participant's vacuums, or vacuum bags, Chris's lab will measure 1-nitropyrene itself. And in the air, he will also measure 1-nitropyrene using the filters from the black carbon sensors. And these are low-cost compact sensors that were developed by Tom Kirchstetter at LBL and were recently used in his 100 by 100 West Oakland Community Air Quality
Study, which built and operated a network of a hundred of these black carbon sensors for 100 days.

--o0o--

MS. KAUFFMAN: Okay. And once we have all these results, in the accordance with Biomonitoring California's mandate, we will return individual biomonitoring results to participants who request them.

These are informational packets. So they contain urine results for the parent and the child in comparison to the other parents and the children in the -- in the study. And then fact sheets on diesel exhaust and 1-nitropyrene. So these fact sheets will include information about what the potential health effects of 1-NP and the whole mixture of diesel exhaust are, and possible ways to reduce exposure to them.

If people are very concerned about the results or have questions that aren't answered by the packets, we will also provide contact information so they can receive that kind of support from a health educator and a physician on our staff.

We can also offer our staff physician as a resource to their personal physician or their pediatrician, if needed.

An then we'll return a separate packet of the home's environmental sampling results that includes
analysis of the dust from the vacuum bag, and the filters
from the black carbon sensor that was placed in their
home.

--o0o--

MS. KAUFFMAN: Okay. And then in terms of other
follow up, we intend to conduct community meetings to
present overall study results so that we can share the
project's findings with the -- more widely in the
community. We will share our findings on our website
through our online results database, and on the East Bay
Diesel Project page.

We'll also prepare scientific publications to
share our study design and findings with others
researchers. And we are -- we intend to identify ways to
support exposure reduction to diesel exhaust. And this is
not only limited to personal action, because that can only
go so far when it comes to diesel exhaust. So it will
include other ways, with, you know, potentially larger
impacts.

So maybe informing best practices at schools
where kids spend a lot of time, or informing design or
location of walking paths or parks, and also supporting
policy changes that can reduce diesel exhaust exposure for
everyone.

We'll also maintain relationships with community
organizations involved in the project, and make sure we're responsive to the impact of our findings on the community and provide support as needed.

--o0o--

MS. KAUFFMAN: Woops.

So the next steps are to obtain official approval from both IRBs. We actually just got approval on Tuesday from the UC Berkeley IRB. So we're -- we're hoping to get official written approval from the State Committee for Protection of Human Subjects very soon.

And then once we are officially approved, we can then launch outreach and recruitment activities directly with potential participants, and - it's very ambitious, but we're -- we are hoping to begin home visits in late November, early December, so ideally the week after Thanksgiving.

(Laughter.)

MS. KAUFFMAN: And with that, I'm happy to take your questions.

CHAIRPERSON SCHWARZMAN: Thank you so much, Duyen. Questions for Duyen now. We have chance for discussion later, but questions now.

Jenny, go ahead.

PANEL MEMBER QUINTANA: Hi. I have a couple of just minor points and then a question about how to
communicate to the families that they can mitigate their risk, if you do find high levels. So my minor points are just -- in a way, it's a shame. I know it's always the budget, but it's kind of a shame that you have only measures of indoor pollution when your other metrics are all ambient or outside or local level outside pollution. So I don't know if in a subset of homes, you could maybe do the out -- the black carbon outside as well as inside, because it might link those two data sets a little bit better possibly.

MS. KAUFFMAN: Yes. We may look into that. These sensors have been deployed outside. There's an issue with pumps overheating, and, you know, placement outside. So it's possible we can look into doing that as well.

PANEL MEMBER QUINTANA: And then the other one was with a different population, with the National Children's Study in San Diego about half of our participants did not have a vacuum, which would -- because we had also planned to do vacuum bag dust -- or vacuum dust.

MS. KAUFFMAN: Okay.

PANEL MEMBER QUINTANA: And so that was -- sometimes they'd have one vacuum they would share among a lot of families.
MS. KAUFFMAN: Oh, okay.

PANEL MEMBER QUINTANA: And so you would actually -- but that you would end up looking at dust that wasn't just the home. And so it's just some more piece of advice to have a back-up method that you can collect your dust as a possibility and --

MS. KAUFFMAN: Okay. That was one of our eligibility criteria, but we may need to consider that if so many people don't have their own vacuums.

PANEL MEMBER QUINTANA: Well, it's just a thought.

MS. KAUFFMAN: Yeah. Thanks.

PANEL MEMBER QUINTANA: And then I agree that you could talk about policy changes, and better route to walk to school or something. But have you thought about something more immediate like I know Lawrence-Berkeley Indoor Air Group has been looking at, in the past, the particulate filtration units, HEPA filters for the home or something --

MS. KAUFFMAN: Yes.

PANEL MEMBER QUINTANA: -- you could directly give them, because 1-nitropyrene, unlike some other things we measure, is very directly -- it's toxic. It's, you know, a mutagen and it's something where I can see the participants might get upset, unless there's something
they could immediately do.

MS. KAUFFMAN: Right.

PANEL MEMBER QUINTANA: And it would be nice if there were funding to -- even from partners, you know.

MS. KAUFFMAN: Yes, we are looking into that. And we were looking about -- you know, getting someone to donate.

PANEL MEMBER QUINTANA: Yeah, to provide those, Home Depot or whatever or something.

(Laughter.)

MS. KAUFFMAN: Right. Yeah, right. We thought Home Depot can, you know, donate indoor plants and, you know, maybe outdoor plants.

PANEL MEMBER QUINTANA: Or something, yeah.

MS. KAUFFMAN: Right, it's like -- PANEL MEMBER QUINTANA: Or the filtration units, HEPA filtration units.

MS. KAUFFMAN: Right or air -- in-home air purifiers that they can use, yeah. So yeah, thanks for those.

CHAIRPERSON SCHWARZMAN: Yeah, Carl, go ahead.

PANEL MEMBER CRANOR: Just a really quick question. Nitropyrene, is that a unique identifier for diesel dust -- diesel exposure?

MS. KAUFFMAN: It's better than other things that
have been looked at in the past. It is -- it is -- if there is a source of diesel exhaust exposure, and 1-NP there is usually a source of diesel.

PANEL MEMBER CRANOR: The way I would think about it is if you have diesel exposure, this shows up.

MS. KAUFFMAN: Yes.

PANEL MEMBER CRANOR: Are there other things that will make that show up in the blood?

MS. KAUFFMAN: Oh, so we're collecting urine samples.

PANEL MEMBER CRANOR: Oh, sorry, yeah.

MS. KAUFFMAN: And it's possible that it's formed in the environment from smoking and other sources of combustion.

PANEL MEMBER CRANOR: Okay. Thank you.

PANEL MEMBER SUÁREZ: So how specific, so it's --

MS. HOOVER: Microphone

PANEL MEMBER SUÁREZ: So not too -- not that specific, is that what I'm understanding?

MS. KAUFFMAN: It's pretty specific.

(Laughter.)

PANEL MEMBER SUÁREZ: Okay. Just making sure.

PANEL MEMBER QUINTANA: Yeah. Asa, might comment, but it is fairly specific. In cigarette smoke very low levels, you know, so and --
MS. KAUFFMAN: Right. Chris Simpson gave a presentation at the SGP that I missed unfortunately, but many of you may have been there. But, yes, it posted on our website.

PANEL MEMBER SUÁREZ: If I may, I have a couple of questions. I didn't see in your presentation, what's your target sample size?

MS. KAUFFMAN: 100, so 50 child-parent pairs.


MS. KAUFFMAN: So one parent and one child.

PANEL MEMBER SUÁREZ: So just a couple basic methodologic questions. Why do you want to include the GPS tracking, for one? The other one is why the spring versus fall?

MS. KAUFFMAN: Oh, okay. So we -- the GPS is to -- you know, people -- we have their GPS coordinates at their homes, so people don't necessarily spend all of their time at homes -- in their they're homes, so we wanted to get an idea. I mean, we have the time activity diaries, but, you know, we have this -- a way to -- we'll ask the address of preschool, but we just want to see, you know, what time is actually being spent away from the home and how that plays into their exposure.

PANEL MEMBER SUÁREZ: Okay. So are you going to use it to track -- have you considered even outdoor time,
meaning exercise time --

MS. KAUFFMAN: Yes, right.

PANEL MEMBER SUÁREZ: -- which you can get from GPS tracking.

MS. KAUFFMAN: We do have -- so that's a -- we have that -- questions about that specifically in the follow-up questionnaire on day four, and then the time activity also asks for, you know, indoor or outdoor.

PANEL MEMBER SUÁREZ: Yeah, because ironically, you know, we know that exercise is fantastic for us.

MS. KAUFFMAN: Right.

PANEL MEMBER SUÁREZ: But if you are exercising outdoors, where there's a lot of smog there --

MS. KAUFFMAN: Right.

PANEL MEMBER SUÁREZ: -- they're going to be having a lot of more exposure to diesel.

MS. KAUFFMAN: Yes, and we intend to, you know, include those concept messages in our educational materials. You know, if you -- if you have the luxury of choosing what time of day you go outside and exercise, you know, maybe you can change your choices a little better.

PANEL MEMBER SUÁREZ: Okay. But -- so you are looking at that specifically, the things --

MS. KAUFFMAN: Yes. Right. So, for example, when the parent is filling out the activity diary for the
child, but when they're at school, they don't necessarily, unless they're a helicopter parent, know exact --

(Laughter.)

MS. KAUFFMAN: -- every minute whether a child is inside or outside, so we just -- you know, we'll know they're at the school, and, you know, maybe we can see if the field is farther away from the school, we can see if they, you know, spend a certain amount of time at the field as opposed to indoors at the school.

PANEL MEMBER SUÁREZ: Do you have -- are you working with some people that are doing -- that are pretty good with GPS information, because, I mean, you're getting a ton of information of GPS.

MS. KAUFFMAN: Yes, we are.

PANEL MEMBER SUÁREZ: We're talking about every second for the whole duration of the visit those four days, right.

MS. KAUFFMAN: Yes.

PANEL MEMBER SUÁREZ: Just to make sure that you can actually filter out? You have the capabilities with regard to that?

MS. KAUFFMAN: Yes, right. We do have the technology. We have the capability, at UC Berkeley and also at OEHHA, yes. Thank you.

PANEL MEMBER SUÁREZ: Oh, yeah, and then the
spring versus fall.

MS. KAUFFMAN: Oh, yeah. So spring versus fall. So we looked at, you know, emissions inventories, and we -- you know, it really looked like winter was the worst, and then the spring, you know, March, April was significantly better. So we thought that would be a good season to compare. And we also just launched timing-wise, this is -- you know, we have -- we're just going to the field now. But yeah, spring is based on the inventory. It's really a cleaner time to look at.

CHAIRPERSON SCHWARZMAN: Did you have a question, Ulrike?

PANEL MEMBER LUDERER: Yes. I do have one -- I mean, related to the -- is it on? -- related to the GPS. Closer, is this better?

Okay. So obviously you're -- as we just said -- that we were just talking about, you're going to have this very rich data set of where people are. Are you thinking at all about possibly using those data to be able to take air monitoring data, and do, you know, exposure modeling and come up with individual level of exposure estimates and try to see how that relates to the --

MS. KAUFFMAN: Yes, yes.

(Laughter.)

PANEL MEMBER LUDERER: Okay.
PANEL MEMBER BARTELL: If I could follow that up quickly?

CHAIRPERSON SCHWARZMAN: Yes, please, Scott.

PANEL MEMBER BARTELL: In doing that, one thing you might consider, if you haven't already, is to -- when you compile the sort of, you know, CalEnviroScreen predicted concentrations or measured concentrations with the time activity to get a measure of sort of cumulative exposure, you might consider, you know, that the biomarker is going to reflect really a sort of weighted average of past exposures with the strongest weights coming from the most recent exposures.

And if you know something about the half-life of this compound and its excretion, you can sort of get a sense of what weights to use when you sort of do that averaging. And that what might be worth considering is just another way of looking at the data when you get to that stage of --

MS. KAUFFMAN: Okay. Thank you.

PANEL MEMBER BARTELL: -- combining those estimates.

MS. KAUFFMAN: Asa is still here. Great. So I hope he's also taking notes. Yes. Thank you for that.

(Laughter.)

CHAIRPERSON SCHWARZMAN: I had one question. At
risk of -- I really appreciate that -- it's such a cool study, and I'm really looking forward to it, and you've thought of so much. And at risk of complicating your lives, I wonder, maybe Asa -- I'm sure Asa is familiar with Kathy Hammond's group's work on PAH monitoring. And I just ask about it, because they have a similar study that -- not similar in that they're -- they're not looking at diesel exhaust, but PAHs.

But they're doing individual level monitors, GPS tracking of kids. And I don't know how young they go. But in any case, I wonder if there's -- if it's at least worth a conversation, but maybe you've already had it.

MS. KAUFFMAN: Yes, yes.

CHAIRPERSON SCHWARZMAN: Okay.

MS. KAUFFMAN: Asa has.

CHAIRPERSON SCHWARZMAN: Great. I don't know if there's any way that the two studies can inform each other, or share outreach, or recruitment, or anything like that?

MS. KAUFFMAN: Yes, I think there is.

CHAIRPERSON SCHWARZMAN: That's in the works?

MS. KAUFFMAN: Yeah.

DR. BRADMAN: Yeah, we've talked about that. So thanks.

CHAIRPERSON SCHWARZMAN: Great. Yeah, Mel.
PANEL MEMBER KAVANAUGH-LYNCH: So I had two questions. And I'm -- maybe perhaps missed it, but I didn't hear how you're recruiting your participants. And the other question was are you collecting any information about -- I'm particularly interested in child's asthma, sort of health indicators of the pairs?

MS. KAUFFMAN: No, we're not asking health status questions. It's, you know, exposure. We're just assessing their exposure. But the recruitment is through -- you know, possibly through the Breathmobile. So the clientele there are people who are getting care for asthma. You know, there are -- the air monitoring networks that are set up at schools and, you know, people's awareness is a little higher there, maybe because of that.

So we're hoping to -- you know, we'll have recruitment events hopefully with parents and we have letters we can send out, fliers. And then again West Oakland EIP, and the YMCA Child care centers, as well.

CHAIRPERSON SCHWARZMAN: Nancy, you had a question.

MS. BUERMEYER: Yes, really quickly. And if I missed it, I apologize. Are you doing any dust samples at any think of the schools, like a representative school from each of the information communities?
MS. KAUFFMAN: Oh, no. That's an interesting thought.

PANEL MEMBER SUÁREZ: Collect air samples for that matter.

MS. KAUFFMAN: Sorry.

PANEL MEMBER SUÁREZ: Or air samples for that matter.

MS. KAUFFMAN: Right. I mean, they -- we could -- right, we could -- right, get -- there are many -- sensors set up so we can look at that, yeah -- or yeah, get their vacuum bag?

(Laughter.)

MS. BUERMEYER: Or just take vacuum with you.

(Laughter.)

MS. KAUFFMAN: Offer free vacuuming of the school, right.

(Laughter.)

CHAIRPERSON SCHWARZMAN: Oh, Jenny has the last question. This is better be our last and then we'll move on.

PANEL MEMBER QUINTANA: Okay. A quick comment. I'm sure Asa Bradman is on top of this, but, you know, that if you add accelerometry with GPS, there's people that have linked that to internal dose with lung function. There's a paper by Charles Rhodes and other people. So
that you can maybe add that with a Fitbit or whatever. I'm sure you've thought of that.

But this is a general question. Maybe you'll bring it up later, maybe for Lauren Zeise, which is a general question that's come up recently is how AB 617, which is that new requirement for air monitoring communities, how this could really partner with California Biomonitoring.

And this is -- this particular study could be a banner of how to do -- link the two programs, because there is a requirement for air monitoring in communities and to look at communities with environmental justice lens. And it would be very nice to link that to California Biomonitoring and get the most out of that. And so that's not really a comment for you so much as for other people.

MS. KAUFFMAN: Okay. Thank you.

DIRECTOR ZEISE: Yes I think that's a very nice suggestion and something to follow-up with the Air Resources Board on. So appreciate that -- and the districts.

CHAIRPERSON SCHWARZMAN: Okay. We have one final question.

MS. GARCIA: Very quick. It was actually going to be the exact same comment that I think we should really
be thinking about this in coordination with AB 617. I
think it would be extremely useful. And then as a quick
follow up on the schools point. There are a number of
at-home day care centers that are in West Oakland as well
that would be really good to focus on. And I think West
Oakland Environmental Indicators Project is likely aware
of those, but just to explore that too.

MS. KAUFFMAN: Yes, they are. We've talked about
those.

CHAIRPERSON SCHWARZMAN: Could you just say your
name for the record?

MS. GARCIA: Yana Garcia, from CalEPA.

CHAIRPERSON SCHWARZMAN: Thank you.

MS. KAUFFMAN: Oh, thank you.

PANEL MEMBER SUÁREZ: I have a very, very quick
question or comment I would say. So if you are partnering
with Breathmobile, and they are -- I mean, they're
actually collecting a lot of respiratory measures, and
phenol, and peak respiratory flow probably at those ages
of the children that you're interested in. That's
probably all the information that we'll get.

But if you're recruiting a lot of participants
that automatically, assuming that they will be able --
willing to share the data, which I would guess that they
would be probably open to that, that you can add an
additional layer there of potential health impacts, so you can you look at exposures to diesel, and then also link those to lung function.

So it may be something that you may want to consider perhaps prioritizing those a little bit more, assuming that -- I mean, then we start getting into a whole other thing about generalizability, you know --

MS. KAUFFMAN: Right.

PANEL MEMBER SUÁREZ: -- depending on where this Breathmobile sites are going to be deployed. But these would be another source of potential health outcomes that you might get for free, pretty much.

MS. KAUFFMAN: Right. Yeah, I'm concerned about PHI and HIPAA and, you know, whether or not people would -- you know, they'd have to each individually agree, I think, to share their own health information.

PANEL MEMBER SUÁREZ: Right, or -- I mean, right. So that's something to talk about with Breathmobile --

MS. KAUFFMAN: Right, right.

PANEL MEMBER SUÁREZ: -- as well, how -- if they would be interested in being partner like that.

MS. KAUFFMAN: Yeah. Okay.

PANEL MEMBER SUÁREZ: If you can get additional health outcome information.

MS. KAUFFMAN: Right. Thank you for that.
CHAIRPERSON SCHWARZMAN: All right. Is there something else happening?

Okay.

MS. KAUFFMAN: I'm going to thank you so much, yes. Thank you.

CHAIRPERSON SCHWARZMAN: Yeah. Thank you so much, Duyen. Appreciate it.

And I want to introduce Deanna Rossi now. So Deanna is a consultant with Impact Assessment. In addition to the work she's carried for Biomonitoring California, she's currently partnering with the San Leandro Unified School District to integrate air quality education into the district's curriculum.

She is also working with San Diego State University and other partners on a multi-pronged asthma research study in Imperial County. And in her former roles at CDPH, Deanna was Associate Director of the California Breathing Asthma Program, and led the Health Impact Assessment Work Group there.

She has an M.P.H. from New York University, and she'll describe today the results of surveys and interviews with community advocacy and tribal groups across the State. These were conducted on behalf of Biomonitoring California to seek input on community concerns about chemical exposures and biomonitoring
priorities. So thank you so much, Deanna for being here today.

She will also be helping us facilitate afternoon session, but we're glad to have you present this morning.

(Thereupon an overhead presentation was presented as follows.)

MS. ROSSI: Great. Thank you, Meg. And can you guys hear me okay, with this mic?

Okay. Wonderful.

Okay. Well, good morning. I'm so happy to here to tell you about the project that my company Impact Assessment completed earlier this year with the Biomonitoring Program. And before I get into it too much, I want to acknowledge my colleagues who worked on the project alongside me, Ian Walker, Lauren Wohl-Sanchez, and from the Biomonitoring Program Suzanne Wittwer, Nerissa Wu, and Robin Christensen who participated in a lot of the meetings and were able to represent the program.

And so we're really grateful to have had this strong collaboration. We had a short time period, and we were all hands on deck, and got to meet a lot of people.

--o0o--

MS. ROSSI: So -- okay. So the project had two main goals for engaging organizations. One, we wanted to list -- we wanted to list what the biomonitoring -- or
what the environmental concerns were in communities, environmental justice communities, so we went with -- we wanted -- so we met with environmental justice organizations, community organizations, and tribal organizations to get a sense of what was on their mind, what their key concerns were be, and priorities. And we also wanted to learn about how their organizations operate.

We also wanted to lay a foundation for possible future partnerships with these organizations. So we now have this nice network of community groups that are interested in a lot of the same topics that Biomonitoring California is interested in.

--o0o--

MS. ROSSI: Okay. So we used two main strategies for engaging communities. First, we sent out an online survey. We reached out. We cast a pretty wide net. We originally had a list of the 146 organizations that we sent our survey to. And we gathered names of organizations through partners that we've had on other projects, people that have applied for CalEPA EJ grants in recent years, people that are part of the biomonitoring listserve, and we asked other partners that have listserves and work in environmental health to share the survey with their groups as well.
And so we wanted to just get, you know, a quick

take of what are the environmental concerns and issues in
each of their communities, who they serve, what are the
demographics of the people that they work with, what is
their geographic span, are they serving a community, a
county, a region, are they statewide?

And we also wanted to get a sense of their
capacity to possibly work with biomonitoring in the future
on other projects. So that was a really great opportunity
to get a sense of who's out there.

Then we conducted interviews. Group meetings,
sometimes one on one, sometimes we had groups up to about
10 or 12 people altogether, where we had more in-depth
discussions about specific hazards within a community or a
region. And we talked to them -- these organizations
about how they might use biomonitoring findings, if they
ever have before, what was useful to them, and what they
would like to see biomonitoring do to help support the
efforts that they're pursuing in their communities.

--o0o--

MS. ROSSI: Okay. So I'll quickly go through a
summary of the surveys that we did, and just tell you who
we -- who we ended up capturing. So we got 48
respondents. It was a little bit lower than what we had
hoped, but we hopefully will still build that up and hear
back from more organizations as we continue outreach.

A third of the organizations were from the San Francisco Bay Area. And I think that's just because we have a lot of networks here. And so they knew us, and were quick to respond. We had some respondents from outside California. There are some EJ groups that work nationally. They do work in California, but their work is national and so they responded as well, and people forwarded our surveys, so we didn't have complete control of who was responding. We heard from a lot of EJ groups, community based organizations, academic institutions, tribal organizations, and some local governments.

--o0o--

MS. ROSSI: Okay. So what we learned. And I'm just going to give a quick summary. We are going to be producing a more comprehensive report. So today is just giving you a snapshot of what we heard and what we learned through these two processes.

So air quality and water quality were the most common environmental issues that these organizations are working towards. And we didn't -- we asked them to list all of the issues that they work on, and so they're not exclusive. So they can work on all of these issues, some just focus on air quality or water quality. We also heard pesticides and consumer products quite commonly. And then
I've listed some other environmental issues that these organizations work on.

--o0o--

MS. ROSSI: Okay. We asked about the types of services they provide. Almost all of them do environmental education. A good number also do health education, and host community meetings. A small number act as referral agencies and send community members to other social service agencies. And a small number of the groups we surveyed do cultural and religious gatherings. We also asked about other services that they provide. There's a lot of training, capacity building in community, research and data collection.

And so these organizations have very broad networks. Some of them serve over -- have memberships or listserves of over a thousand people. Some are a little bit smaller, but these organizations have a very broad reach in California, and so we're really glad to have them as part of this network now.

--o0o--

MS. ROSSI: Okay. And demographically, they serve people across all ethnicities. Collectively, they serve or use 18 languages, and they work with people of all ages. So some organizations serve children, some adults, elderly, workers. And so, you know, when the
Biomonitoring Program wants to do outreach, and say they're looking for -- looking to do a study with pregnant women, they could go to the database and query which organizations serve pregnant women, and they'll be able to come up with that list, and have a quick -- quick access to a network of organizations to possibly partner with it.

--o0o--

MS. ROSSI: So I'm going to move on to the interviews and group meetings that we had. All right. So the group meetings again were to get a little bit more in-depth. The survey is quick. It's dropdown boxes, check boxes. We didn't give people a lot of space to really elaborate on what was going on in their communities. So we use that as a jumping off point to identify groups, to interview, and to have meetings, so we could hear a little bit more about their relationship with biomonitoring, what they know about the studies that have been done so far, and how they think biomonitoring can support work going forward.

And so this was a great opportunity for my colleagues and I. We got to travel around California, and see, and in some cases smell, the environmental contaminants of concern to people. So I've been working in Imperial County for quite some time. And doing this project was the first time I got to visit Salton Sea and
get a good whiff of the issues there.

And so that was really -- really a good experience for me personally, but -- you know, so just some of the sites that we got to see -- you know, we got to talk about things like refinery, or oil extraction within communities, and then we got to see that with our own eyes.

So we talked to 64 people. They represented 48 organizations, and we talked to people in all eight regions. So Nerissa talked about the eight regions that are -- the State is broken up into for the CARE Study. We analyzed our data by those same regions. And so I will just quickly --

---o0o---

MS. ROSSI: -- just to reiterate. I'm not sure how familiar everyone is with what -- each of the -- which counties make up each of those regions, so I'll just list them here on the display.

So the North Coast is everything Marin north, north of Sacramento, Northern Sierra, San Francisco, the counties south of Marin.

Gold Country, Sacramento Eastern area, Central Valley. The counties you'd probably expect to be in the valley.

Central Coast, Monterey down to -- or Santa Cruz
cruise down to Ventura, or Santa Barbara.

And then Los Angeles County is its own region, San Diego and Orange County make up a region. And then lastly, the Inland Empire or Inland Valley, I'm sorry, which is Imperial, Inyo, Riverside, and San Bernardino County.

--o0o--

MS. ROSSI: So I'm going to just briefly give you a summary of what we heard throughout these regional, and then I'm going to walk through each of the regions and just tell you -- give you a quick snapshot of what we heard, what was unique to those regions. I'm not going to describe every chemical and site of concern in these regions. We'll do that at a later time in a more formal report. I just want to give you a flavor of the kinds of things that we were hearing out in the community.

So this first chart -- well, we asked people pretty open-ended questions. And so they had different ways of describing what was of concern to them in their communities. And so one of the ways people responded was by talking about exposure pathways. And so the colors on this table indicate each pathway of exposure. And then the rows indicate whether or not that came up in conversation in the regions. It might have come up a lot. It might have come up once. We're just indicating whether
or not we heard it at all.

The meetings and the regional interviews, we didn't have the same number in every region. And so I don't want to present the data to say that we heard this so many times in L.A., if we had more people in L.A. and it's going to come up a little bit more. So that's why I'm just sharing whether or not it came up at all.

And because we didn't have a representative sample of organizations, this in no way indicates all of the environmental concerns in these regions or in these communities. It's just what we heard based on the people that we spoke to.

So I want to make sure that caveat is out is there as well. So water, air, local industry, was something we heard in all eight regions. Food, agriculture, and traffic, truck exhaust, that came up in more than half of the regions. And then a little less common, we heard about fracking household -- fracking chemicals, household cleaning products, personal products, and exposures from hair and nail salons.

--o0o--

MS. ROSSI: People sometimes talked about specific chemicals of concern. I have a much longer list of chemicals that came up during our discussion.

(Laughter.)
MS. ROSSI: But these are the ones that came up most commonly. So pesticides came up in all eight regions. Lead was very common. Arsenic and mercury, PCBs, chromium, and diesel came up in half or more of the regions. And again, less commonly fracking chemicals, BPA and phthalates and nitrates came up in a handful of regions.

--o0o--

MS. ROSSI: And some people talked about their health concerns. Cancers. A variety of cancers came up in five of the eight regions as did asthma. Liver disease allergies and birth defects came up in two of the regions each.

Okay. So that's a quick big picture of what we heard, as we moved around California.

--o0o--

MS. ROSSI: Now, I'm going to just talk about each region. I'm going to give a quick summary, talk about some of the concerns, some of the sites, pollution sources that were raised. Again, it's not everything in these regions. It's just based on the people that we talked to.

And then we ask people, hey, what do you think biomonitoring can do to help you advance your work. And how do you see biomonitoring findings being helpful to
you. And so I'll share those ideas and recommendations as well.

And almost everyone we talked to said, hey, it would be really great if you could study this chemical. And so we've listed those as well. And, of course, you know, if funding was never ending, I'm sure the Program would love to do all of that. But, you know, we're sharing it just to hear what some of the priorities were. And we did explain to these organizations that we didn't have the ability to just add a list of chemicals to studies, but that we would be sharing this with the Program.

Okay. So in north coast, again this is north -- Marin and north, and then above Sacramento area, we mostly met with tribal organizations in the north coast. And so we heard a lot of the issues that were of concern to these groups. We met with tribal environmental health leaders, so they were very knowledgeable about environmental health and hazards in their communities.

We heard about occupational exposure -- exposures. Wood mills. I believe this is the only community where we heard about wood mills, and their exposures. PG&E plants, radioactive materials, and blue green algae. I believe this is the only region where we heard about blue green algae as being a primary concern.
MS. ROSSI: And because we met with a lot of tribal organizations, they really emphasized how important it is to practice community based participatory research method, and to engage tribal leaders in any biomonitoring studies early. They want to be involved from day one in study design, and recruitment, and things like that. They also asked that we engage the California Rural Indian Health Board, or CRIHB, in reviewing protocols for studies. That is a trusted organization. And so they really want to see that group involved in these studies.

And then from other non-tribal groups, we heard similarly really work with trusted community representatives in starting a study. And then they list some chemicals that they would like to see studied if there was possibility to do so.

And overall, I would say this group was especially enthusiastic about biomonitoring and the possibilities that it could hold for helping them understand the burdens in their community. And they said biomonitor for everything you can. We'd love it, you know, so. So they're an enthusiastic group.

MS. ROSSI: Okay. Next, we're going to move down. We're going to take a tour of California. We're
going to move into the San Francisco Bay, where we are today. And some of the things we heard in San Francisco, we heard about the refineries, the Port of Oakland and its related diesel and truck traffic. There's excessive car traffic in the Bay Area as well.

And in San Francisco, we heard about the power plants and cement recycling plant in Bayview-Hunters Point. We heard about fish contamination from San Francisco Bay fish, and we heard about nail salons and their contaminants in this community.

--o0o--

MS. ROSSI: So one of the things that came up in a few places as we traveled is that we heard some issues from EJ communities or EJ organizations about lack of trust with State agencies. And so there have been -- some organizations have experienced challenges working with the State agencies historically around environmental issues. And so there's a real opportunity, I think, to rebuild the trust.

And for some of these groups, we had Nerissa and Robin to participate in the meetings. And so that was a really great opportunity to start building trust and explaining the Program, and what it can and can't do. And so I was really grateful to have them participate. But in San Francisco, we did hear like, hey, reach out to some of
the disenfranchised groups and reengage them. They want
to be involved still, so that was good to hear.

    And we also heard -- we met with -- we had a
meeting mostly one of our APA put it together. And so
there were a lot of partners who work with Asian
communities. And they said, well, it's great that you're
here helping us, but also consider the Latino and
African-American community areas. So we met with other
groups, but I appreciated that there was that concern to
really make sure we're reaching out to all the diverse
ethnic groups in a region.

    And then, of course, they had some ideas for
chemicals that could be studied if there's the opportunity
to do so.

    --o0o--

    MS. ROSSI: All right. Let's move east to the
Gold Country. So now we're talking about Sacramento, Lake
Tahoe, Sierras area. We heard about water and soil
contamination from large animal lots. We heard about
wildfire smoke when we talked to people in the Sierras.
Diesel and car exhaust also concerns there, and septic
contamination.

    --o0o--

    MS. ROSSI: And when we asked about working with
Biomonitoring in the future, we had the Environmental
Justice Coalition for Water say, hey, we convened scientific and community partners used to reaching out to us. And so when an organization puts themselves out there like that, they get invited to participate in our afternoon roundtable discussion.

(Laughter.)

MS. ROSSI: And so we will hear from their director this afternoon. But they also had some ideas about additional chemicals to study if an opportunity did arise.

--o0o--

MS. ROSSI: Okay. So moving inland again to the Central Valley or moving south, I will say in the Central Valley, we didn't got a chance to talk to as many people as we really had hoped for. One of our meetings, where we were going to have several groups together, fell through, and we just didn't have a lot of luck in this short time period in reaching as many groups as we thought. But we did hear about agriculture and pesticides, which is of no surprise. We also heard about some key hazardous sites -- hazardous waste sites in Kettleman City, Buttonwillow. We heard about an incinerator Crow's Landing.

And I believe this was the only place where we heard about the concern about the synergistic effects of multiple chemicals, and really how do you address that.
And so that's -- that's a big question. And so I'm glad it did come up there.

--o0o--

MS. ROSSI: And this is another community where they're have been some issues around trust and collaboration with State agencies. And so we just need to really work on building those relationships. And again, we've already started that process which is wonderful.

Another group put that themselves out there. Center on Race, Poverty and the Environment. They also are conveners, and they said we'll work with you, when you're doing studies here. And so the group said, well, you know, we do appreciate how much expertise biomonitoring has. And so I think there's a community that will be doing a local biomonitoring study. And they said maybe you guys can help us look at our protocols, and see what you think. And so that's another opportunity for collaboration, which is great.

--o0o--

MS. ROSSI: Okay. So moving on to the Central Coast. This is Santa Cruz down to Ventura.

Thank you.

We heard about agriculture, groundwater, and drinking water and schools. Those were the primary issues that came up.
MS. ROSSI: And in this community, the issue of children was predominant. They really were concerned about drinking water at schools and possible lead exposure. They were concerned about pesticide exposure to children. You know, there's been evidence of pesticide use around schools in this community being one of the highest in the State. And so there was real concern around childhood exposures, and they ask that we, you know, consider testing children in future studies.

MS. ROSSI: Okay. Inland Valley. I'm not going to spend a great amount of time talking about the Inland Valley, because we have two speakers this afternoon that represent Imperial County and San Bernardino and Riverside Counties, and so they'll talk a lot about issues in those communities much better than I can.

But we did hear about the tremendous impact of the goods movement in this region. The inland ports, rail yards, which are just expanding. There are also some key contaminant sites. Agricultural Park Riverside, Wildomar housing communities, and then in Imperial issues around the border, Salton Sea, and other agriculture contaminants came up as well. So to be continued. We'll hear much more about this region this afternoon.
MS. ROSSI: Again, this is an other region where we need to build this trust with State agencies, but, you know, I think everyone we talked to is really excited about the possibility that biomonitoring can help support the work that they're doing, and really provide new data in a way that might influence decision makers and create new policy.

One person had suggested that maybe we add biomonitoring to public health assessments done by the health department. And so those are the site assessment section as CDPH, Environmental Health Branch, they go and investigate community sites, where there's been contamination, and look at the health effects within a community, and report back to those communities. And somebody suggested maybe do some biological studies as well.

MS. ROSSI: Okay. Los Angeles. Almost at the bottom. Okay. We heard a lot about the Port of L.A. and a lot about fracking and oil extraction sites in this community. We also heard about some key contamination sites like Exide plant, air force base, agriculture in parts of the LA county is also really big. And I think this was the only place we really heard about old housing
stock.

But I'm -- I actually work with L.A. on a lead project. And so there is a lot of old housing stock in Los Angeles. And housing is difficult to find, low-income housing, so that is a key issue.

--o0o--

MS. ROSSI: Again, they -- hey, we know you're coming here for the CARE Study, could you add some chemicals to your study? Whatever.

You know, so we talked to them about, you know, not being able to do that right now. But they were really interested in seeing the differences within L.A. County looking at biomonitoring results, not just as a whole, but looking at the north county, downtown L.A., the eastern part of the county. They really want to see the data broken up by regions within the county. So that was something that they shared with us.

--o0o--

MS. ROSSI: All right. We're at the border. San Diego. So this region is made up of San Diego and Orange County. Things we heard in this community were a lot around the border, San Ysidro, communities of Otay Mesa, Barrio Logan, where there is a lot of mixed use. There's residential properties very close to things like auto body shops and other chemical processing facilities. And so
that came up.

We heard about contamination at Imperial Beach, drinking water in schools was also a concern in this community. And I believe this was the only place where we heard about secondhand smoke and multi-unit housing come up as a key exposure of concern.

--o0o--

MS. ROSSI: And so one of the things we heard here was to really include -- make sure we include workers, and different types of workers in the CARE Study. There weren't any other biomonitoring studies as well. And, of course, they had some ideas for more chemicals to study.

All right. So that was our quick tour of California.

--o0o--

MS. ROSSI: And now I'm just going to share some general recommendations, things that were commonly heard throughout the State. And then just some things that my Colleagues and I, as we sat and processed, you know, all of our meetings, and had, you know, hundreds of pages of transcript, and, you know, all of the things that we heard over and over.

And so some of them relate to research methods. Community-based participatory methods very important. I
know that is important to the program already. So we're just reiterating it. That was what we really heard. People want to be involved in the study. People want to add more chemicals to the CARE Study. We know that.

We were -- it was suggested that biomonitoring studies focus on chemicals and outcomes that can lead to policy change versus individual behavior recommendations. So we know that's a priority of the program already.

And then we were advised to just be aware of litigation that's happening in communities around environmental exposures, and just be aware of how biomonitoring results could influence, for better or worse, any of these legal proceedings so that is something we'll add there.

--o0o--

MS. ROSSI: And then we'll talk about community engagement recommendations. So each EJ organizations have established tremendous trust within their communities, and so they are really key groups to work with when doing environmental research. And so we really want to reiterate that. We now have this database. We've shared our newsletter to educate people more about what biomonitoring does. And so we really hope that this relationship can stay with these environmental justice organizations.
When working with organizations on say recruitment of participants for a study, they really -- some of the groups that had participated in studies historically said, you know, we really need to be well educated about what the findings mean, what you're studying. Because after the study is done, participants still might come back to those organizations and say what was I supposed to do about my mercury level? And -- you know, and should I be worried? And they want to be able to have some context for how to help participants after a study is complete.

And then people that we met said, oh, we know you're going around the state talking to all these people, Wouldn't it be great if you had a meeting and could share your findings with us. And so that's why we've invited everybody to participate today, either in person or by webinar. So I'm hoping that some of them are going to hear what we found as we traveled through the state.

--o0o--

MS. ROSSI: Okay. And then lastly just a few other recommendations. For people that didn't know a lot about biomonitoring, they were very excited to hear about the studies that the Program has done over the last 10 years. And they were like, wow, I never knew that. And so we were able to direct them to the website. We
directed them to the community newsletter that outlines some key findings from studies. And they thought they were really helpful.

So even if a study isn't happening within their community, they do think that findings will be helpful to them, and they want to hear more about things that are happening by the Program. And they wanted to hear how has this advanced policy in the past, what are some examples of that? And so we shared that with the Program as well.

And then we got really good feedback on the materials that the Program has produced so far, the website, the newsletters, the recruitment materials, the brochures. And so we just want to say keep on with really producing strong effective visual materials and multi-lingual, multi-cultural. That seems to be well received.

All right. Well, that is what we learned on our environmental justice listening sessions.

--o0o--

MS. ROSSI: We've invited some of the Organizations that participated in these sessions to be part of our afternoon roundtable. So we'll hear directly from them about issues in their communities, and their partnership with the Program. But if there are any questions that I can answer now, I'm happy to do so.
CHAIRPERSON SCHWARZMAN: Thank you so much, Deanna. So we have 10 minutes now for questions specifically to Deanna. And then we'll open up into -- we have a half hour slated for discussion of the three presentations this morning sessions. So let's just with Panel or audience questions for Deanna.

Yes, well, let's start with Carl.

PANEL MEMBER CRANOR: Perhaps more of a comment. You've surveyed counties. And some of those are huge, or areas rather, and I know some people are thinking about this. They worked on the harbor area, L.A./Long Beach Harbor for diesel exhaust there. But I can tell you in Riverside, there's a huge diesel exhaust problem growing, both by the railroad yards near Ontario. And some people are trying to put in warehouses that are bigger than we can imagine. You can put a whole city in them.

And there are going to be diesel trucks going and coming on those freeways. So just developing the project you've done for future reference may be useful to narrow in on some things that look like they're going to be real problems spots.

MS. ROSSI: Well, perfect segue to our afternoon. We have Jean Kayano who will be talking about many of those issues in San Bernardino and Riverside, the warehouses and the expansion. So how we can hopefully
impact that.

PANEL MEMBER CRANOR: Good.

CHAIRPERSON SCHWARZMAN: Yes, Jenny.

PANEL MEMBER QUINTANA: Hi. This question is for you and also maybe if the community representatives that are here for this afternoon, I hope they're going to comment on this also.

What I didn't see in the report that I was expecting to see is what is different about collecting biospecimens, blood and urine, what are barriers to collecting those specimens from community groups perspectives, and are there specific groups in the community, whether different ethnicities, or what have you, or genders, that would be less likely to participate or have more barriers in following onto that. How could we overcome those barriers. You brought one up earlier like using a sample for genetic testing. How do we ensure that we're not doing that if -- you know, that kind of thing. So I guess my question partly for you, and hopefully we'll hear more about it in the afternoon too.

MS. ROSSI: Yeah, we did -- we did -- I can't say that we identified specific groups that would be harder to reach than others. But we did hear some people say I think my community would be really reluctant to give you blood and urine. You know, one group said, you know, we
try to do water sampling, and they don't even want to, you know, have their water sampled. And so I'm not sure how likely they're going to be to give blood and urine.

But we didn't -- we didn't -- so we know that that is going to be a challenge. And they thought that working with the trusted community groups would be the best approach to overcoming those challenges, you know, certainly. But I think also seeing that the outcomes are used in a way that can help their community I think was another key selling point.

Like, they just don't want to provide more data and be part of another research study, but they want to see a study that can result in some change in their community. And so to the degree that the Program can partner with other organizations that have regulatory oversight, I think is important.

CHAIRPERSON SCHWARZMAN: Other questions for Deanna?

PANEL MEMBER SUÁREZ: I just wanted to say I think this is fantastic.

MS. ROSSI: Oh, thank you.

PANEL MEMBER SUÁREZ: I really like what you've done, and congratulations with that. You can see a lot of effort.

Would you mind sending us just a list of the
different organizations you met with? That would be fantastic.

MS. ROSSI: Sure.

CHAIRPERSON SCHWARZMAN: Other questions from for Deanna from the panel?

PANEL MEMBER BARTELL: No, I did have one.

CHAIRPERSON SCHWARZMAN: Yeah, go ahead, Scott.

PANEL MEMBER BARTELL: Let me find my notes here. Oh, yeah, so I was just thinking a little bit about this, you know, inherent tension between adding more chemicals and being able to, you know, compare across regions or within one of the regions, you know, looking at subregions. Okay.

Oh, sorry, is that not -- is it on?

Okay, how is this?

So, yeah, I was just wondering about this, ten -- you know, given the fixed amount of money available to do this, I'm sure we'd all love to, you know, measure these things in more people, and measure more of them -- more of the chemicals. But given that, you know, we have finite resources, did you get a sense, you know, in these discussions -- it sounded like a number of community partners wanted to increase the number of chemicals. Did you got a sense whether that was more of a priority compared to say being able to compare across regions
within California or within regions?

Because, you know, essentially, if the -- Biomonitoring California would be moving in that direction. If they would try to do that, they would -- you know, it would be at a cost of giving up some of those other things on the wish list.

MS. ROSSI: Um-hmm.

PANEL MEMBER BARTELL: And did, you know, the sort of discussion of weighing those priorities ever come up with these groups?

MS. ROSSI: Well, we were careful not to say, hey, we're adding more chemicals, tell us what you want. You know, we were like -- the people just offered that.

And so we didn't solicit that kind of input, per se. But I think my impression is that people would rather see more chemicals in their region than see the comparison across multiple regions.

PANEL MEMBER BARTELL: Okay. Thanks.

CHAIRPERSON SCHWARZMAN: Okay. That's the end of our questions for Deanna. Thank you very much.

MS. ROSSI: You're welcome.

CHAIRPERSON SCHWARZMAN: And we'll get to talk more in the afternoon.

And I want to open up the session now for we have until 12:30 for discussion of the three presentations that
we heard this morning, including public comment. This is not just a time for Panel discussion. Also for people who are listening on the web, please feel free to email in comments to biomonitoring@ -- did I get that right? -- @CA.gov -- biomonitoring@oehha.ca.gov.

(Laughter.)

CHAIRPERSON SCHWARZMAN: Sorry about that.

And if you want to make sure that you get called on, please just flag down Duyen for a blue card, and we'll make sure that you get called on from the audience.

One thing that I want to mention is this afternoon we'll be specifically addressing the discussion questions that were circulated in advance of the meeting. And our guest discussants will be bringing up ideas around that before we have the discussion. So keep those questions in mind, because we'd like to, as much as possible, sort of focus the afternoon's discussion on those. And we might defer some of those topics, if they come up this morning, until this afternoon.

So to quickly summarize those three questions that were provided for this of this noon, the first is to give the Program your impressions of EJ work so far and ideas for future priorities. More specifically, number two, is highest priority exposures to investigate and particular communities or subpopulations and vulnerable
groups that should be priorities for investigating as budgets permit.

Oh, sorry. There's four questions.
The third is to comment on existing community efforts that would be potential partners for Biomonitoring California. And the fourth is how might Biomonitoring California findings be useful for basically policy impact, which is something that's come up before for evaluating the public health and regulatory efforts to reduce chemical exposure.

So at the risk of stimulating conversation about those four questions by raising them, I also just want to say that's going to be the focus of our afternoon discussion. So other comments may be we could prioritize those for now, and just see how the discussion goes.

Any Panel members who want to start off the conversation/discussion of this morning's three presentations?

Ulrike looks like she has something to say.

(Laughter.)

CHAIRPERSON SCHWARZMAN: No.

Jenny usually gets us started.

PANEL MEMBER QUINTANA: I was waiting.

I just had a more specific comment about the Asian Pacific Islander Study. And forgive me if I can't
remember the study design, but I'm curious if these were
selected to be non-smokers, or if there are smokers among
this group? Because lead and cadmium -- sorry lead and
arsenic are both found in cigarette smoke, tobacco smoke,
both if you're smoking and also if you're exposed to
secondhand smoke.

And so I was curious about that and whether
cotinine could be measured in the samples to maybe explain
some of those high values potentially.

DR. WU: Hi. This is Nerissa. We did have
smokers and non-smokers in the sample -- in the
population, and we did collect information on their
smoking. I believe the information I presented today, the
preliminary data analyses was controlled for smoking, but
we have not -- we haven't actually done confirmation of
smoke exposure through cotinine analyses.

CHAIRPERSON SCHWARZMAN: Did you get that -- I
mean, your question answered?

(Laughter.)

CHAIRPERSON SCHWARZMAN: Other comments or
discussion points from the Panel?

We have Jean Kayano wanted raise a point.

MS. KAYANO: Yes. Yeah, I wanted to talk about
the diesel exhaust study in Oakland. And I was very
curious to know if the researchers have reached out to
like the AQMDs, the air quality management boards, because a lot of times they do have things like they've studied the air filtration system. The air filtration systems from Home Depot are just not adequate, but they have -- at least South Coast AQMD have tested out some air filtration units, stand-alone units, as well as ones that you can install.

And we've used them in Riverside and San Bernardino. And it makes -- it makes a difference, but it also collects the dust. And so we've noticed that when we use the air filtration system in a place that's maybe not as bad, you don't have to change out the filters like within maybe six to a year. But near a rail yard or near the diesel trucks, it's like within three months the soot collected is so black.

So I'm just wondering, you know, if you reach out to them, because sometimes they'll even fund, you know, with you to do that, if you're going to use the air filtration system to do more studies. And they will do that, but I don't know if you have reached out to them.

And that would be a benefit to the participants, because you're right, the one toxin is very, very bad. And so in exchange for their giving you data, you give them something in return. And that's something I haven't seen a lot. And so it's just a suggestion.
CHAIRPERSON SCHWARZMAN: I want to just make one comment on that while you're waiting to reply, which I really appreciate that comment. I think it's really useful. And it reminds me of something that has come up on this Panel in the past, which is our real interest in doing intervention studies. And one of those came up with the foam about where we're -- we're asking participants to participate in the study. And in return, they get a new couch. You know, and it's an intervention study, so it's simultaneously collecting data and testing something while we're doing something that will potentially improve the exposure.

And I -- so I appreciate that as an idea for another -- sort of another angle on an intervention study. And it's -- maybe there isn't the room to do a before and after test with introduction of air filtration devices at home, but it's a nice component.

Sara

MS. HOOVER: Hi, this is Sara. Thank you, Jean. That's great to hear. And, yes, we actually have talked to the local AQMD. Duyen was at a conference recently, and they attended, and we got to talk with them and discuss our study. They're very interested. And I've also been -- we gave a briefing to the CalEPA EJ liaisons. And through that, we connected with ARB.
So we're kind of poised -- you know, we've been waiting for formal approval, and we're poised to go for it and start connecting with all of our partners.

CHAIRPERSON SCHWARZMAN: I think Asa had a comment.

DR. BRADMAN: Yeah. This is separate from diesel. And we was just traded a couple of emails on it. But I was struck at how it seemed high the arsenic levels were in the urine samples, I think, in the ACE Study. And I just wondered if there's any more comment and discussion on that.

DR. WU: Sure. Yes, it was about twice as high as in the Project BEST cohort. And so -- and not unexpected necessarily, but we did follow up with a lot of -- actually, this is the team that did a lot of the follow-up calls -- Lauren Boehner -- to try to figure out where those exposures were coming from. And a lot of it is diet, but there were some other factors that maybe you guys can comment on.

MS. KAUFFMAN: All right. So there was -- so rice, right? Rice and fish. So, diet. And, gosh, ACE I there's seaweed. Seaweed in diet, not seaweed supplements, right?

Yeah. Tea -- potentially tea -- but, yeah, I mean, large quantity -- liters of a certain kind of a tea
drunk in a day, but unclear if that's, yeah, was the source.

DR. BRADMAN: I just wondered, too, if there was an opportunity there for intervention, and, one, trying to understand more, and then get -- it was pretty striking the numbers that were presented.

MS. KAUFFMAN: So we didn't do a follow up testing, but we did give our -- you know, the arsenic fact sheet and, you know, ways to reduce exposure and give that advice to people.

DR. WU: I mean, this did come up a lot in the community discussion. It's a difficult -- it's a difficult exposure to try to work around. I mean, there aren't good alternatives. I mean, for people with a very rice-based diet. It's -- to say, well, just don't eat so much rice is difficult. And also because it's unpredictable, there aren't real patterns to -- I mean, most people don't know where their rice was grown.

It's hard to track back, you know, which kinds of rice are going to be higher than others. There's some recommendations on how to prepare rice. So it's a good question, and I think a difficult one for us to really for recommendations around.

I don't know. We do have a representative from APA here, and I don't know, Alex, if you have anything --
if APA has talked about some follow-up to the arsenic findings? Is there anything you want to add?

MR. NGUYEN: We have followed up -- sorry, my name is Alex with APA Family Support Services. And I was part of the ACE Project and did a lot of the field work. And we have followed up with some of the people -- the participants that were in the study, and just made them aware of their -- of the level of arsenic and how it is a concern. But we're still figuring out as a non-profit organization steps and procedures, and maybe some forms of education and information distribution that we could do on our end. So, yeah.

MS. KAUFFMAN: And one of our pieces of advice is just to -- is to vary your diet. So, I mean, with rice if you buy, like my family does, a 50-pound bag of rice, the new crop from Thailand, and go through that. I mean, that's like one big hit, if it happens to be high in arsenic. So maybe like buying smaller bags of rice, varying the brands or where it comes from. That's an important part of the message that we give people.

MS. HOOVER: And, hi. This is Sara Hoover. I'm just going to be really brief, but I'll -- I just want to also give -- step back and say in our protocol, Shoba Iyer in my section and I and others, we developed a very extensive questionnaire, where we ask about basically
every possible arsenic exposure that we can think of.

And then Shoba did a really interesting analysis
of that for BEST, which we have in a poster. Hopefully, a
paper we'll be working up. And then we are going to be
doing additional follow-up. So we have -- what we do is
we do the follow up, we ask all these questions, and then
we take it back and we look at it all, and we actually try
to figure out what we think likely sources are.

And if we have likely sources or advice we want
to offer to a participant that they haven't already
received on the fact sheet, we can circle back with that
person and give them additional advice. And we're now in
the process of meeting -- we just had a meeting Tuesday to
start to look at ACE II, which is a lot of potential for
follow up and -- you know, it's going to be complicated.
So we're looking at individual participant results and
starting to prepare follow-up information.

CHAIRPERSON SCHWARZMAN: Ulrike, you had a
comment.

PANEL MEMBER LUDERER: Yeah. This is sort of
following up on the arsenic, and maybe also tying in with
some of the things that I think we heard earlier this
morning about that it's important -- you know, to give
people things that they can do as individual to try to
reduce their exposures, but then -- you know, and it's not
always reasonable in -- as a way to actually reduce the
exposures, if there are larger systemic reasons for the
exposures.

And so one of the things with arsenic that, you
know, we -- that I recall is that the plants do take up
arsenic. But one of the issues seems to be growing rice
in areas where pesticides containing arsenic was
previously used. And, you know, so this is maybe one of
those policy areas that this kind of biomonitoring data
could increase awareness of that, and maybe there need to
be changes made as, you know, at least -- I mean,
obviously, if rice, as you mentioned, it could be coming
from outside the U.S., but certainly places where it's
grown in the U.S., maybe it shouldn't be grown where
arsenical pesticides were used previously.

CHAIRPERSON SCHWARZMAN: Jenny, you had a
comment?

PANEL MEMBER QUINTANA: I just wanted to follow
up on our Chair's comment about intervention studies and
Asa Bradman's comment that, my understanding is also that
California rice is lower in arsenic. That's just -- I
have no actual knowledge. It's just my hearsay. But as
opposed to rice from parts of the southern -- southeast
U.S.

But, I mean, could you provide people with 50
pound bags of California grown rice, or what have you, and actually see if this does make a difference? I know it requires resources, but it's just something where again getting back to what can you do as a -- personally? And advocating for testing rise for arsenic, and being tough, you know, as the USDA on that.

PANEL MEMBER KAVANAUGH-LYNCH: I wanted to basically reiterate what has just been said in the, you know, last two comments is it is so easy to take these results and say, here's what an individual should do with them when we actually just heard from the wrap-up of the listening sessions that what people want is not recommendations about what they can do personally, but how do we fix them on a systemic issue? And so what are the policy issues that we can start advocating or that these organizations can start advocating for.

And it is -- it's just -- I think, it's human nature to say, oh, what can I do about it, when it is not an "I" problem. And just want to encourage you, when you're developing materials, to go back to people that, yes, people want to know what they can do individually, but really, really more important is what can we do on a systemic level.

CHAIRPERSON SCHWARZMAN: Did you have a response. If not, I have another card.
MS. HOOVER: Yeah.
Is this working?
Okay. I just wanted to say one thing regarding the intervention, study Craig Steinmaus actually designed and proposed an intervention study with rice. As far as I know, that was not funded as yet, but he's -- he's working a lot. He's -- he actually -- I should have mentioned his name. He was a key part of designing our arsenic follow-up survey our follow-up protocol. So he's doing a lot of that kind of work.

I'll just add on to what Mel just said, that this is a big topic for us like regulatory effectiveness, trying to look at how we can take our biomonitoring work start to feed into policy more. So that's actually going to be a proposed SGP topic for next year. But I did want to let this person, who's been trying to have a comment. So I'll start there.

MS. GELLER: Samara Geller here.
My question and comment is related to the diesel exhaust study.
So I'm familiar with the great work of EIP. I actually did some volunteering when I was at school at UC Berkeley. And I'm just in awe of the work their community members do to do these advanced ground-truthing exercises, where they're mapping communities in West Oakland in
depth, looking at locations of auto body shops, other areas where pollution -- point pollution is high.

So I just wanted to bring that up in case you're looking at these additional stressors to sort of key in on participants.

Also, truck idling is something they've looked at in depth, and perhaps looking at regulations around idling and enforcement of those existing regulations. And I'm sure those community members would be very adamant about pointing that out, but I wanted to raise that again.

And also, in terms of study design, I know you're looking at doing vacuum bags or sampling from those vacuum bags. But I do know those members are concerned about the collection of soot around the window sills and on the blinds, and where it's entering through the windows. And so that would be also a great place you could sample. And I would suggest that as well.

Thank you.

MS. KAUFFMAN: Thank you.

MS. GELLER: Wait I'm from EWG. Nancy has prompted me to say.

(Laughter.)

MS. KAUFFMAN: Thank you.

CHAIRPERSON SCHWARZMAN: I think we have a comment from Esther Bejarano.
MS. BEJARANO: Esther Bejarano, and I'm from Imperial County, two hours east of San Diego, and currently working on asthma studies and home visitation programs, but I can discuss some of that on -- later on the panel session.

I wanted to just go back to the bay diesel study, and really share that -- I saw that you're going to do some walk-throughs. And I think that that's very delicate type of intervention.

I was curious, you said that -- I don't know if it was community health workers or who's going to be going into the -- you know, into a home basically looking at every single private aspect of the home.

Generally for these studies, as a resident that lives in very asthma high prevalence episodes. But they're obviously being part of the study, because they want to improve their lifestyle, right.

So I would recommend may be partnering with the community initiatives maybe linked to asthma, or cancer, or -- and really having some kind of resource for them when you are going into the homes, not just taking people away, right, but also giving back. I think that's important.

MS. KAUFFMAN: Right. Yes, and we do understand it's really delicate for people to allow us into their
homes. It's a fairly involved informed consent process, but we -- we have built into the scripting that we ask permission to go into each room. And we want to be really respectful, and people can decline that portion, if it's just not comfortable for them. So, yes, we -- we have a lot experience doing these kinds of things, and it's a great suggestion to, you know, maybe bring work -- you know, staff also to accompany us from our partners if, yeah, they're available, and that would help to make a more trusting environment for participants.

MS. BEJARANO: And then reaching out to local community groups --

MS. KAUFFMAN: Yes.

MS. BEJARANO: -- that are already taking some type --

MS. KAUFFMAN: Right.

MS. BEJARANO: -- of initiative in their community --

MS. KAUFFMAN: Right.

MS. BEJARANO: -- and may bringing them in right and --

MS. KAUFFMAN: Yes.

MS. BEJARANO: -- maybe reassure -- some of those resources or some of those things that communities don't have due to funding.
MS. KAUFFMAN: Right. Thank you.

MS. HOOVER: Hi, this is Sara Hoover again. I just wanted to comment about the soot. So our real-time black carbon sensor should hopefully reflect some of that. So that's one way we'll be capturing the soot.

CHAIRPERSON SCHWARZMAN: I have a comment here from Laura Gracia-Santiago.

MS. GRACIA-SANTIAGO: Hello. I had three questions about the Bay — the Bay Diesel Project. I live here in Richmond, and I've been organizing here for about a year — over a year now. The one thing I wanted to flag when we were talking about, oh, maybe we can use some of the air monitors that are existing, so Chevron actually runs a lot of those air monitors. And they give the information to our air districts, so I would want to flag that, and being careful about the results, as well as understanding that those monitors aren't on all the time. They're on for a couple of hours out of a couple of days out of the week. So that's one flag.

Two, a lot of the places where, for example, the Breathmobile, and YMCA Centers, we have one YMCA, maybe two in Richmond/San Pablo area. So I don't know if those are necessarily the best places to do outreach. There are a lot of community centers, there are a lot of organizations working in Richmond and San Pablo. And so I
feel like there needs to -- definitely like this outreach portion needs to be expanded into really ground-truthing and seeing what's available in the community and where are folks meeting up.

And that's obviously done by, you know, working with organizations that have been working and organizing in the communities.

And I'm also curious I understand that you use CalEnviroScreen to determine where there were high levels of diesel particulate matter. And I'm also interested in like why North Richmond didn't show up as one of those spaces. So North Richmond is a very light industrial unincorporated county. There's like Blue Apron, they're trying to put in a new Amazon-like center. There's like three food packaging places, and they all have diesel trucks coming in and out.

So I feel like North Richmond is definitely a spaces where diesel is a huge issue. And for San Pablo, it's not necessarily just because it is -- the streets are a lot smaller, but there is a lot of small mechanics. And a lot of them are small family-oriented businesses.

So I'd also be cautious about that

MS. KAUFFMAN: Yes. Thank you. Yeah. No, that's a great list. I'd like to talk to you off-line.

(Laughter.)
MS. KAUFFMAN: This wasn't meant -- oh, this is Duyen Kauffman, and it wasn't meant to be a comprehensive list. I actually live in San Pablo. I know the Richmond Bursa Atlas. And I know the whole foods distribution and UPS, and all that. So we -- I -- you know, we have other -- I have contacts in the community and we are going to be casting a wide net. And I would love to talk to you more about that. So thank you for bringing that up and I hope to discuss it more.

And I guess about the Chevron air monitors. I mean, it's my understanding that Chevron is not the source of 1-NP specifically. There are lots of other things at the refinery, but 1-NP is not produced by the combustion that's there.

(Response from audience.)

MS. KAUFFMAN: Well, I think the air monitors at Chevron -- like why North Richmond didn't show up. Right.

MS. DUNN: This is Amy Dunn. I think that what you were raising was that the monitors themselves are located near the refinery, and those are not always on. So if we were using those as a source of information, it was not that reliable.

MS. GRACIA-SANTIAGO: No, I was saying, someone -- I can't remember exactly where it came up, but there was like a comment saying, well, what if we tap into
the current existing air monitors to loop into the study for diesel? So there are various air monitors that were put in like between the refinery and the air district. So I'm not sure if they're necessarily, you know, only studying that, the 1-PM[SIC] --

MS. KAUFFMAN: Right.

MS. GRACIA-SANTIAGO: -- but what -- I'm just trying to flag that the results -- the data doesn't -- isn't live. It's not going directly out to the community. It's being presented by the refinery.

MS. KAUFFMAN: Right. Right. And the air monitoring networks that I was referring to, there are some studies where they've set up monitors in schools, and it's not Chevron monitors. It's independent studies that -- and we thought if there's already interest in air quality at schools, that that would be a place to sort of -- if people have already gotten with that. AQMD, ARB, EPA Region 9 has funded some studies for air monitors in schools. And so we would be starting there, since there is already a -- you know, possibly -- raise awareness of air quality.

CHAIRPERSON SCHWARZMAN: Scott, yeah, please.

PANEL MEMBER BARTELL: Yeah. The comment or question about CalEnviroScreen and Richmond versus other areas kind of reminded me of a question I had earlier on
this. I think it's slide 5 of the East Bay Diesel Exposure Project. There is a map that kind of shows, you know, areas in the East Bay with higher versus lower. But I didn't quite catch whether that was like just an example, and like a short-term -- you know, like a daily measure on one day, or does that map actually show longer term averages. And that might be very important for, you know, community members here to know if this is actually a sort of representation of long-term diesel PM concentrations in the East Bay or is this just an example of like one day?

MS. HOOVER: Okay. We're talking amongst ourselves to figure out the answer. Amy, did you want to say something?

MS. DUNN: Hi.

MS. HOOVER: Oh, Lauren can answer.

DIRECTOR ZEISE: Yeah, hi. That isn't just a one-day snapshot. That does represent long-term diesel exposure.

PANEL MEMBER BARTELL: Okay. So that is the best guess of the longer-term exposure in the East Bay?

DIRECTOR ZEISE: Yes, it's a -- it's a very good indicator of long-term exposure.

PANEL MEMBER BARTELL: Okay. Thank you.

MS. HOOVER: We actually had a slightly different
impression from what Walker explained to us that they're modeling a specific day in --

MS. DUNN: July.

MS. HOOVER: It's a predicted -- so I -- let me just try to step back and say just a general thing, which is we're using a bunch of pieces of information, including the kind of information that Laura was pointing, connections in the community, local information, and CalEnviroScreen, and air monitoring data to try to target specific areas knowing that that data is, you know, there's gaps, it's not adequate, and we might see something different.

And that's part of the point of our study is to actually look at a whole bunch of, hopefully, robust data sources at a local level, and see what's actually happening versus what's predicted to be happening. So that's part of -- so we're not expecting necessarily to find that we agree, you know, with these predictions. And that's part of what the value of the study is.

And, in fact, in talking with ARB, Alvaro Alvarado, he's very interested, because, you know, they've done a huge effort on diesel regulation. And he's very interested to see do we pick up, you know, hot spots that they should know about there. Are there things like truck idling that they can try to enforce more strongly. So
it's going to give them a guide for more regulatory intervention. That's one of the reasons we're excited about this study, because we're linking it up with policy.

PANEL MEMBER BARTELL: So if I can maybe summarize the upshot of that for interpreting page five. Yeah, so for interpreting that figure on page five, maybe the -- is it a fair statement to say you think that, you know, there may be better information coming out of this study regarding the exposures in this region what what's -- you know, what I'm kind of looking for is can the community members who are here today take this back to their communities and say these are the areas that we are pretty sure have highest Diesel PM exposures on your page five graph, or should they not be doing that quite yet, and kind of waiting to see how the additional information is taken in.?

DR. BRADMAN: Well, it's kind of like two different approaches. I mean, we're kind of going in with a ground-truthing approach. And we're trying to collect -- we're going to collect diesel exposure information from areas with expected high and low exposure. So we're expecting a range of exposures based on the CalEnviroScreen, which also derives from traffic density, maritime sources, rail. So it's likely, you know, pretty good, but it's also done like in a four
kilometer by kilometer grid. And then it's getting reduced down to census tract level.

So we're hoping to both kind of validate that prediction, and also, you know, provide some actual on-the-ground information of exposure based on personal biomonitoring, which has never really been done in this community. So it's -- it really helps build on, you know, the more general information and tries to help -- and tries to make it more specific.

PANEL MEMBER BARTELL: Thanks.

MS. HOOVER: This is Sara again. Let me just add one quick thing.

Sorry, Martha.

If you all are aware of the local air monitoring mapping that's going like with the Google cars, it's quite stunning, the variation at a local level. So remember that these predictions are very broad. You know, they're -- they can be region wide, census tract wide. Not really specific. So if you look at the data that's being put out, you know, you might have a corner that's got a really big spike. So that's -- we're trying to start to get it -- you know, get at that more local level looking at what's actually going on on the ground.

DR. SANDY: You got it.

CHAIRPERSON SCHWARZMAN: I think we need to break
for lunch. This is -- it's great to hear this discussion, and we'll get the chance to continue more of this in the afternoon.

So before we break, I need to give you a couple of reminders. One is that we have an hour 15 minutes for lunch. And so it's encouraged that you find a close sport for lunch, such as this cafeteria right here.

And we ask that you return no later than 1:45, so that we can begin the afternoon session on time.

And I just want to provide the following informal Bagley-Keene reminder before we adjourn for lunch. As a reminder for Panel members, please comply as usual with the Bagley-Keene requirements and refrain from discussing Panel business during lunch and the afternoon break.

And we'll see you all at 1:45.

(Off record: 12:31 p.m.)

(Thereupon a lunch break was taken.)
AFTERNOON SESSION

(On record: 1:48 p.m.)

MS. KAUFFMAN: Welcome back. Welcome back, everybody. We hope you enjoyed lunch. And if you can find a seat, we're going to get started here momentarily.

CHAIRPERSON SCHWARZMAN: Okay. Is this working?

Does that sound okay?

So I want to welcome everybody back from lunch. And I'm just going to start with a quick review of our goals for the afternoon session. We want to identify key next steps needed to build on the Program's EJ work so far. And in service of that, we're going to start with some summary of community priorities for future biomonitoring studies, including geographic regions, local neighborhoods, and other groups defined by a shared characteristic, such as pregnant women, and how to prioritize those for study; and look at chemicals of greatest concern to measure in particular regions for certain subgroups or statewide.

Also, we'll highlight strategies for engaging with impacted communities, and look for ways to use biomonitoring findings to help evaluate regulatory and public health policies, and support action to address chemical exposures of concern, which is a theme that's kind of been coming up throughout the morning.
I want to remind people that you can refer to the handout that includes the discussion questions, as our afternoon session proceeds. And those, if you don't have it already, are available at the entrance to the auditorium, and Panel members have them in their packets.  

So this afternoon, Deanna Rossi is going to be helping to facilitate questions and comments from the in-person and webinar audience. I'll continue to work with the Panel. But to kick-off this discussion session, we're going to hear from some guest discussants. Two first, and then we'll have some time for discussion, and then we'll hear from two more. 

Before I introduce them, I was asked just to remind people that for the purposes of the transcription, we need to be -- our transcriptionist needs to hear you better, and so speak closer to the microphone, speak up, and then every time you speak, it's important to say your name, even if you have spoken before. So we'll be reminding you of that as the afternoon proceeds, but hopefully you can keep that in mind.  

Okay. So I'm going to introduce all four of our guest discussants, and then they'll go in turn. So you have to memorize their bios. 

(Laughter.)

CHAIRPERSON SCHWARZMAN: So first of all Jean
Kayano is the Associate Director of the Center for Community Action and Environmental Justice, also known as CCAEJ. In that role, she's responsible for overseeing organizational programs, including the electoral and civic engagement program, and ensuring that they're implemented effectively.

Her duties involve building the systems, infrastructure, and resource strategies necessary to support CCAEJ in achieving its mission. Jean is also dedicated to leadership building with community residents who fight for the right to live in a healthy, toxic free, and sustainable environment. At CCAEJ, she has uncovered her true passion working to achieve social and environmental justice.

Esther Bejarano is -- has 15 years of experience working as a community advocate for Comite Civico Del Valle. Esther currently leads the organization's asthma management programs, but she has also partnered with academic and research institutions to expand environmental research in Imperial County with a focus on air quality and agricultural burning. Esther also works with schools and health care providers to develop health education materials and tools.

Laura Gracia-Santiago, is the Climate Adaptation and Resiliency Enhancement, or CARE, coordinator with
Communities for a Better Environment, which is program rooted in Richmond and Wilmington, California. The CARE program focuses on engaging vulnerable communities in local and statewide climate adaptation and resiliency efforts.

Previously, she worked alongside young people in expanding political education, as we heard before, civic engagement, and fighting environmental injustices as the Richmond youth organizer.

Before CBE, Laura worked with Physicians for Social Responsibility, national, in coordinating a social media campaign, and she tutored young migrants in Watsonville, California. She received her B.A. from University of California, Santa Cruz with a double major in Environmental Studies and Art.

Colin Bailey is Executive Director of the Environmental Justice Coalition for Water, EJCW, that we heard about earlier. He leads the effort to implement the human right to water in California, and supports EJCW's statewide policy agenda, programs, outreach, and education and grassroots member organizations.

He's also a co-founding member of the National Coalition on the Human Rights to Water and Sanitation, and the National Coalition for Legislation on Affordable Water.
He serves on the Policy Advisory Committee for the California Water Plan update 2018, and the California Air Resources Board AB 32 Environmental Justice Advisory Committee.

Colin has his Juris Doctorate from UCLA with a certification -- certificate from the Program in Public Interest Law and Policy, and a concentration in Critical Race Studies.

So with this esteemed selection of guest discussants, we are going to start with Laura Gracia-Santiago.

My apologies, I'm skipping forward on the agenda. We're going to start with Jean. And we'll have -- we'll hear from Jean and Esther, and then we'll have a chance for 30 minutes discussion, and then we'll move on to our next two discussants.

MS. KAYANO: Can you hear me?

PANEL MEMBER CRANOR: Pull it closer.

MS. KAYANO: Pull it closer.

Better?

MS. HOOVER: All the way.

MS. KAYANO: All the way.

I won't have any room.

Okay. Better?

MS. HOOVER: Yeah.
MS. KAYANO: Okay. I'd just like to thank you for this opportunity at least to be on this panel. I also wanted to give a shout-out to the listening tour. It was kind of like the first time that Riverside and San Bernardino often we're left out. So it was nice to meet Deanna and her team, and to be able to explain to her what's happening in our region.

Secondly, I want to say that I'm very excited about the Oakland diesel exhaust study, because this is a really major issue. You are very right about Riverside and San Bernardino being a major, major environmental -- I like to say it's in crisis right now, because of the diesel exhaust. And there are two communities I kind of wanted to share with you today. One is in San Bernardino, and the City of San Bernardino, the west side, and the other is in Mira Loma Village in Riverside.

Both of these communities have been studied. They've both had a couple of health studies done with the residents and families and children. One study actually identified in San Bernardino three cancer clusters, which is really hard to do, and then a 47 percent rate of asthma in one of the elementary schools.

This is a community that lives right near -- right across from a major rail yard, intermodal facility where there's trucks and rail going right next to
residential area, as well as an elementary school.

The other Mira Loma Village in Riverside is off 60 Freeway. This community is right off of a major, major diesel truck corridor, Etiwanda Avenue, it is a street. And they experience about 800 trucks an hour during the day. And right now, I think it's about 30,000 trucks that they experience going by, so -- and again, both of these communities have been studied enormously, and nothing has been done.

So with the biomonitoring, for me, I thought this is an opportunity if the Oakland Diesel and then L.A. study could hopefully end up where we could be included in future studies, because I think we're beyond any kind of air monitoring, because we have been with AQMD. They've put air monitors near the rail yards, near the schools in Mira Loma, near the residents. They know there is a problem. They have done nothing.

So again, we can have all these studies done, and we're looking actually to AB 617, because there is a little caveat in that bill that says that if communities been studied to death, and there is data to back up what they're experiencing, then they can go right into community action plan, and that's what we're hoping for.

When the biomonitoring issue came up, I thought, well, maybe that might be a good thing, you know, to have
the residents be part of a study like that. But again, my
concerns are that they've been studied to death, and
nothing has been done. So to go back and say can you --
you know, be involved with one more study, I'm not sure
that's a good thing to do.

But if it does lead to a systemic change, if it
does lead to mitigation measures for these two
communities, then I would encourage it, but not just to
gather additional data. Does that make sense?

So I think those are my concerns. And that was
one of the questions I did ask Deanna, what will happen,
you know, to the participants in these studies? Will they
have something at the end that says, okay, we're going to
help you?

That's it.

CHAIRPERSON SCHWARZMAN: Thank you.

MS. BEJARANO: It's a pleasure to be here today.

Thank you, Deanna.

Oh, okay.

Here. Well, thank you for inviting me. Thank
you, Deanna for extending that invitation. I know that
there was some struggles. There's a lot of things
happening in Imperial County. And we're also one of those
communities that is also sometimes left unforgotten. You
know, I've been a community health worker for about 15
years now. Now, I lead most of our environmental
projects.

    Oh, a little louder.

    Okay. And so, yes, our community sometimes is
compared to San Diego region, L.A. County region, but I
really want to emphasize that we are a border region, that
we are, you know, just a 12-foot fence separates us and
separates all of the contamination, emissions, New River
coming in through our communities are making it way out to
the states in the U.S.

    And so several things that are happening in
Imperial County. And I understand completely what you
mean that there's so many studies that are happening.
Sometimes communities don't have studies, but sometimes
there are studies happening locally. And those efforts
are happening. And I think residents are ready to have a
change, have a better quality of life.

    I do think it's important to share findings and
lessons learned across the State of California. If you're
having a biomonitoring study, and most of them I've heard
are in the Bay Area, reaching out to those other
communities that are not part of those studies, and thus a
part of those efforts, and maybe sharing some findings or
sending back some resources to those communities.

    But there's a lot of evidence and documentations
of things that have been done. And I think that that's where -- where you're coming from. And I think that that's a very good point. We're making sure that actions are taking place.

I was just sharing earlier that part of our efforts right now are our air monitoring program that's IVAN -- IVAN Air, Identifying Violations Affecting Neighborhoods. And that was basically guided by residents -- basically guided by residents that were just tired of not trusting government. There was the comment earlier that stated, well, there's diesel that's connected to some company -- I think it was Chevron or Exxon. And so the community was basically going on the website, looking on these monitor sites, wanting to reduce exposure to these pollution. And those were all always off-line. They were, you know, off-line on the days that we knew were the highest.

And so what happened is that communities got together and they just got tired of waiting and waiting for government. And so that's how actually our air monitoring project came about. And I now want to thank our local APCD officer that did not want to do anything with -- working with community, and not working with residents.

But now I think that he actually made us move
forward and really benefit from the drive that the
residents now have, and are ready to move forward. With
that said, we do have a lot of communities still impacted,
a lot of residents that are not uninformed, and we are
working effortlessly on that. We've got a lot of
pesticide spraying happening still to date right by school
grounds, a lot of contamination, field burning. Just
other, a few months ago, we had a teacher call me up --
actually, the principal called me up, she says, Esther,
they're burning right next to my -- our school fenceline
to the field? What do I do?

I said how -- well, to this day and age, how can
a principal be calling Comite Civico Del Valle, Esther,
which I love to speak to them, but they should be -- they
should know where to call, right? You call government.
You don't call Esther. You call your local government.

(Laughter.)

MS. BEJARANO: And so these were the efforts --
you know, efforts that we still continue to take -- you
know, take challenges that we face today.

A big challenge is our border region. You know,
we have a lot of diesel emissions coming through on a
daily basis, next to our preschools, next to our schools,
and making their way out to, you know, the rest of the
states.
Pesticide spraying, I mentioned, field burning. We've got a lot of also just lack of information. And I think that -- if you are going to take a role in this next phase of biomonitoring, I think it's just really making that connection with community, and making sure that, you know, when you do relay some of the information back, you make it with a connection to maybe some of the local organizations that do have that precedence there.

I've known -- I know of many, many meetings -- many community meetings where they're not held at community sites that are friendly to residents -- you know, to members, such as maybe one of these sites, right? You know who's going to come up to Richmond? And so making sure that we go -- we take it to where they're at and -- okay.

And so -- so I think that for now, I think that's --

MS. HOOVER: Five more minutes.

MS. BEJARANO: Oh, five more minutes.

(Laughter.)

MS. BEJARANO: Okay.

So those are some of the challenges we do have now, and I know that we -- but we do have some data, some evidence. I know that I was actually part of a study, a biomonitoring study that we had with collaboration with
CDPH, and Commonweal, and Lori Copan and Sharyle Patton. And I think it was the first that I ever heard about biomonitoring in my community. I didn't even know what perchlorate was, right?

But I think that the way that they just came into community first meeting with the group, meeting with Comite and meeting with some of the other groups that work closely with residents, and then going out and inviting residents that really trust who are -- who they're going to be working with as partners. And then really opening their doors, their homes. I know that we collect the urine sample for about 24 hours one day. And then we, you know -- we, you know, there was the collection of blood and the collection of -- even of all the food that was consumed.

And I think that was, you know, a really great example of how you come into community and really -- really go and find out who are those folks that are really on the ground, and really build that respect. I know that I've had -- I've had opportunities in the past to not have a very good relations with some of the efforts that they -- you know, somebody came in, they took blood of 300 farm workers, some urine, and we have yet to see the results.

And so sometimes when those individuals reach out
to community members, and organizations like myself, then we are left with the community residents not trusting Comite, because, right, Comite was out there inviting residents, and so hopefully making sure that that does not happen. And we -- I know we talked about that that we won't allow that to happen again in our community.

And so, yes, I think that we're ready for action. I know that we've taken action in Imperial County.

Residents are working on those -- those pieces of now, really asking for what's needed based on all the resources that we have now. I know that there's still a lot of work to be done. We still don't have a lot of education, especially for those that are -- I call them unforgotten, because kids that are running, you know, and their breathing three times more than we are, they're sometimes not remembered, especially when there's ag burning, and pesticide spraying, and there's feed lots, and there's -- I mean, you name it, we have it.

And so it is a -- it's a challenge to live in communities like these, but I think that now residents are really taking a lead and developing strategies to be citizen scientists now.

And thank you.

CHAIRPERSON SCHWARZMAN: Thank you to both of you. We now have about 30 minutes to have discussion. If
there's any questions at first, let's start with those clarifying, or otherwise, for our first two discussants, and then we can move on into discussion.

I don't see any requests for clarification. So we have time now for discussion. And I would particularly point people toward the discussion questions that were circulated and our group discussants, or our guest discussants were meant to partly sort of seed the conversation and start the conversation about priorities.

So you have a...

MS. ROSSI: Okay. I think, I'm on now. So we do have one question that has come up in the audience. Nancy Buermeyer, I'll hand to mic to you.

MS. BUERMEYER: Okay. Thanks. Nancy Buermeyer with the Breast Cancer Prevention Partners. So I'm not prepared the respond to the questions. But I just wanted to say thank you to all of you. I'm looking forward to hearing the other two presentations. And I want to commend the Program and Deanna for the work that they've done to identify communities out there to go talk to and figure out what -- what really works for them.

I guess one of the questions that I've had -- heard come up, specifically from the head of the California Public Health Department, Dr. Karen Smith, is sort of how do you deal with biomonitoring data that
doesn't say what the community thinks it should say, or
thinks it's going to say? You know, like what if you
think there's higher lead next to a particular facility,
but when you'd get the, data that's actually not the case.

So I had an answer, but I'd much rather hear your
answer to whether that's something that's come up in the
conversations, if that's something you guys think about.
So just generally that.

MS. ROSSI: Does somebody want to respond on the
Panel. You can go ahead, Colin.

MR. BAILEY: Yes. Am I on?

All right.

Hi, everybody. Colin Bailey with the
Environmental Justice Coalition for Water.

I'll speak to points momentarily. But in
response to the question, this is a conversation that
we've had infrequently, but it's an important one. It
comes up in a variety of contexts. And through our work,
which is statewide, you'll hear a little more about it
later, we've worked -- is it not working.

MS. ROSSI: I'm not sure if it's on. Let me give
you this one.

MR. BAILEY: I've got green light.

Am I louder in this one?

(Yeses.)
MR. BAILEY: All right. So hopefully that was audible to the folks online. I think everybody in the room heard me all right.

Jumping off where we left.

Our organization has worked quite a bit with academics, and that has been a tension point with some academics, largely because there is a possibility that in the community-based participatory action research framework, which posits communities largely in control of not only the questions asked, but the research design, the conditions under which data are collected, and ultimately to your question, the circumstances under which those data -- or rather the results of the analysis are released can be intentioned with academic freedom, with the ambitions of the person who's publishing them, and those things have to be worked out in advance.

And it gets even more complicated when you have, you know, universities who technically own the results themselves. And their can be tension even within the institution.

We tend to try to put -- put that question up front, and, in fact, have drafted memorandums of understanding -- memoranda of understanding to try to deal with that issue. It's actually not come up as an acute problem.
Another answer to your question is just by way of anecdote. I was just telling my colleagues over lunch that when I was in law school, I worked with Communities for a Better Environment in Huntington Park. And there was a circumstance wherein the -- through a lawsuit, the CBE was able to get the State to come in and do some sampling. In that instance, I think -- I can't remember if it was Exide. But it was one of the large -- one of the large polluters right adjacent to a school.

And among the demands on behalf of the community were we, as the community members, need to choose the sites -- the places where you actually take samples.

Community members were quite aware, because they know the people in their neighborhood who work at the school, that those people were at the school the night before the sampling was supposed to take place, scrubbing the place clean.

The one community member who was allowed, due to the demands of the advocates in the community to choose a sampling site says I know who cleaned this place. I know where they wouldn't check, because I know what they would do and they wouldn't do.

So they went up to one of the gratings in one -- the bathrooms that was high up. And they said put your sample right back there. And that was the one out of the
dozens of test sites that came back overwhelmingly above
the standard that was the subject of the underlying
lawsuit.

So that's just to underscore the point that there
can be errors of perception on both sides of that
equation, and we do best when we exercise the wisdom of
both the researchers and the community partners to make
sure we're getting to the right results.

CHAIRPERSON SCHWARZMAN: Nancy, did you have --
you said you had some thoughts about it too. Do you want
to contribute anything to that discussion?

MS. BUERMeyer: Nancy Buermeyer with the Breast
Cancer Prevention Partners.

Yeah. I mean, I think the answer that we gave
to -- because we were in talking to the head of CDPH about
getting money to do this project. Like, we were part of
the advocacy to get the million dollars. And I'm really
excited at all that has been accomplished, and really wish
we could have got it on an ongoing basis, and need to keep
talking about that.

But yea, I mean, the answer -- because they
were dealing with sort of bad press at that moment around
Exide I think. And just saying the way to do it is to
engage the community from the beginning and explain that
not all the results are going to look exactly the same and
may not look exactly like what you want.

I mean, the challenge is that for data that's produced by the State, you can't not publish the data, right? Like it has to be public. So I think that sort of understanding up front, what may or may not come up. And I love the idea of talking to people about how to do the sampling, because, you know, who thinks they're going to clean the school the night before. Apparently, the people the community did, right?

So that was sort of where we were coming from is just the importance of building that sense of trust. I mean, we also heard from folks that we talk to a lot of distrust of public agencies, and that's a challenge. And, you know, to the point where people, like, we won't believe those data. I'm like, really?

Because, yeah, it's -- I mean, it was really shocking to me how burned communities feel by the State agencies. And I think that's a much bigger problem than the Biomonitoring Program, but I think it potentially could have an impact.

MR. BAILEY: One quick segue, which actually a pass off to my colleague Esther here, is that part of the answer, which you describe there, is making sure that, you know, scientific method and the production of knowledge itself is a site of constant contestation, right? There's
debate to be had over this. And one of the -- one of the
best thing we can do is have a diversity of inputs.

So among the things that we can do in -- from an
environmental justice methodology is empower environmental
justice communities to be scientists. And with that, I'd
love to pass it off to Esther to describe some of the work
that Comite Civico Del Valle has done in direct air
sampling, which I think gets to your point.

MS. BEJARANO: So if I can hold it, it would be
better.

So, yes, the more community understand science, I
think the more they are able to be part of advocacy and
action efforts. But as I mentioned earlier, we started
back about 10 years ago, when we had a state
implementation plan and our air basically did not meet
State standards.

So we had a group of individuals residents that
were just ready. They were on board. They were just
tired of looking at websites that were not working, that
were not relaying information, that were not accurate.
And so that's when the -- I think -- and I'm going to
shout out Catalina Veja she says you know what, we were in
a public meeting and says, you know, what we are going to
put monitors out in our community.

And everybody started laughing, right, who thinks
that residents are going to be able to put out monitors
and locate them in areas of concern to them. And so
that's what we did with IVAN Air. We partnered with CDPH,
Paul English and the Health Tracking Program, which have
been very -- not just great partners, partners who really
care. And we feel they really care about communities as
in Imperial County.

And so initially, we started really going to
those that were there already, that were already at the
front line of city meetings, of talking to local
government. And so we came out with community air
monitoring network, which we are now -- so basically, it's
guided by residents. It's guided by members of the
community, where each community is -- has two CSE members.
They guided -- we went out and did a mapping and assets
one day. We went out, and went out, our residents went
out, and they had, obviously with training, and guidance,
and education went out to their communities. They said
this is where we are affected. They say this is where we
want to monitor -- a monitor site.

And so that's how we did it throughout the whole
phase of our program. For example, we have a school that
was out maybe 30 miles away from our local county
government monitor. And so they were checking with the
school flag program. They have it -- we have it
implemented.

Their flag color was going to be very different if they would check a monitor that was on a roof top of the court house, and they're out by a feed lot by industry, by semis, out by fenceline to ag. And they had to read the monitor that was 30 miles away that is in the inner-city and that's on top of a rooftop of their local courthouse. And so what that said, monitors were located and are still being located where residents need them, where they come out, and they gather, and they said this is where we are most affected, and this is where we want to monitor.

And so efforts have not been -- challenges have been definitely on board with, you know, what happens when this project program ends? What happens with funding for the monitors that are, for example, in eight schools in Imperial County? Those eight schools are taking a lead daily, flying up a flag, relaying information, reducing exposure to the children that are right by feed lots, right by diesel emissions. And so children who have asthma, they stay inside they exercise inside, but also we have other schools in Imperial County, right?

We're only targeting eight schools with that -- for example, the school flag program, we have 70 schools that are -- that are still part of the what we -- we need
to bring on board.

But yes, it was guided by residents. Residents are now science -- what do you call them? They're advocates, and they're basically completely overwhelmed with the fact that they have a monitor that is next door to their site. They're -- they can pass by, and they can go online. They can go out on IVAN Air, and they can see the array of monitors, and then this is where I'm going to be this weekend. This is where my grandfather, who has cardiac problems is going to be on Saturday. And so they can receive an alert, and they're not offline. They're not connected to sometimes sources of where maybe sometimes government does not want them on, because it's going to exceed, right -- exceed a level of air pollution.

But, yes, I think that that -- that is really how it was led. It's completely led by CSE members. And those members still guide it, and so happy to share that with you. You can also go on IVAN online.

MS. GRACIA-SANTIAGO: Can I add something?

First, thank you for having us and me. And I'm -- I'm hearing a lot of the same stuff like that I was going to say -- so I'm really glad we're all saying it -- is yeah, we need to -- this process needs to be community driven. Community folks that have lived in these communities, they're the experts. They don't -- they may
not use the same terminology, the same language as we do, but they know what nose bleeds are. They know what asthma looks like. They know, damn, I got this rash the other day was flaring, and the refinery -- uh-oh, I said damn.

Sorry

(Laughter.)

MS. GRACIA-SANTIAGO: I work with young people. But what I'm trying to say is that the community expertise is already there, right? And so I think that we also need to shift how we're looking at -- how we approach communities in thinking does biomonitoring want to keep studying folks in these communities, or are we going to actively try to make some policy -- use this data to change policy. And I think that that's where we really should be focusing on.

You know, the data needs to be intentional. And so that it's not affirming what communities already know, but rather it's supporting their efforts, and how they've already been activists in their, you know, neighborhood.

And so with that, it goes back to what Colin was saying in regards to when these studies begin, it needs to be community driven, and it also -- there needs to be clear goals. What are the goals that we want, and how are we going to use this data? And it needs to be transparent.
One of the things that I was wondering in the report back from the diesel project was the folks that participate in the study will receive their -- their results, if they ask for them. And so, in my head, I was like why don't -- why don't we just -- why don't we just -- why isn't -- why do they have to ask? Like, they should just be given to them. It shouldn't be asked. You should just provide it immediately. That's an immediate support that you can offer. I have a lot more to say, but I'll stop there.

MS. BEJARANO: Yeah, and I can just share on that, when we did our biomonitoring study - I don't know Sharyle, it was probably six years ago - we did have residents. We had a day where a physician was -- was on site, and we had scheduled appointments for each resident, each participant. And that participant went in and the doctor read them their results. I was actually one of the participants, because we had a family that was -- did not -- wasn't able to show up.

And so really understanding what -- you know, what it's even relaying, right? You can ask questions to the doctor. If you have some concerns, she's there in front of you. And so that's what -- you know, it was just a great experience. I remember, they told me you've got to stop smoking.
I said, I've never smoked in my life. And so to me, that was very daunting is am I going to die of lung cancer? Why is she saying that I'm smoking? I'm going to die. I have to stop smoking. So if I wouldn't have had that doctor there to really ask that question, does that mean that are my lungs okay? Because you're saying that I have to stop smoking, but I've never smoked in my life.

And so I think that's very -- that's a very good point making sure that those participants are able to go back, and ask those questions at least to that extent in having that doctor on site or somebody who can relay feedback.

MS. HOOVER: Duyen wanted to interject about the results.

MS. KAUFFMAN: Hi. This is Duyen Kauffman with OEHHA. I totally agree with you that -- you know, the principle of right to know of results is very -- it's a founding principle of Biomonitoring California. When we were created, advocates really said people deserve to know their results. You know, a lot of scientific research in this country is paternalistic, and people -- you know, what they don't know, won't hurt them. And they won't know what to do with the information. But our advocates said, no, you can trust people. People know how to -- people are smart, people can process this information.
So we -- it's a very clear part of the informed consent process, that we ask them do you want them? And we do have people who say we -- they don't want them. They say, I want to help you. I want to help my community. I don't want to know. I have enough things to worry about. Please don't tell me. So we don't force them on people, but we definitely -- that's just a guiding principle that we offer them to everybody, and it's quite unique actually for a biomonitoring program. So we're totally in agreement with you, and thanks for raising it.

MS. KAYANO: I have a little bit scenario than my colleagues here. If you have a contaminated site, and we do have one in Riverside called the Ag Park, that was heavily ladened with PCBs, and DTSC came down and pretty much said nothing -- it was safe. That what they found was safe and they declared the land clean after about two years of clean up, because it wasn't safe to begin with, but they -- developers cleaned it up under DTSC.

The residents had concerns. They kept on bringing it up. And, of course, what I wished happened didn't happen until much later, where CDPH did come in and sit down with the residents and talk to them about the possibility of PCBs being in their body, and also the -- maybe not being in their bodies at high levels, or not being in their bodies as all.
And I think when you have a contaminated site, there's so many things that you have to think about, the value of the homes, if this gets out, so where is the responsibility then? So even as CCAEJ, we have to take some responsibility too. But how do we -- how do we work with the agencies and the State agencies, because I do believe that the residents are the experts, but there's always that -- that they not be as severe as we think. I mean, I think that's possible.

And Russell, you can speak to it, because Russell worked on this. But I think if CDPH had come in at the very beginning and worked with DTSC about the contaminated site and the possibilities. I think that would have been a much better outcome for the residents and for everybody involved. I mean, I don't know. I'm just thinking. It just shouldn't be just one agency coming in and dictating everything.

MR. BARTLETT: Russell Bartlett, CDPH.

So we came in much later. You're absolutely right, Jean. And that was because our process works on a petition. And we were not even aware of the site at the time when a lot of the issues were being spoken about in city hall meetings, correct?

And -- but the city and CCAEJ together worked to get us involved. And then once we -- once we were there,
we were able to have an open discussion, and we still are looking into those things, looking into those issues as well. And I think what you're saying has a lot of value, because I think what it sounds like a cooperation in a sense. Whereas CDPH, in a sense, where we have a lot of the knowledge about these contaminants, in particular to a site, we can describe and we can discuss about what the potential exposures could be and the results of that. So bringing biomonitoring into that could be something very powerful.

But I think where -- when I think about that, I that the CARE Program is actually on a really good direction, because when you examine a chemical in a person's body, you have to have something to compare it to. And I think the direction we're going is we're going to be able to do that regionally in California, so then we can actually have a really good discussion with those people, that are next to a site, and actually show them yes or no if this is elevated or not elevated. And that will be something that will be better for everyone. Does that -- does that sound right? Is that where you're thinking too, Jean?

MS. KAYANO: Yes. And that's where I thought biomonitoring could come into play earlier on rather than keep on testing the soil, and keep on -- because that's a
hit and miss. You know, if you have 63 acres, and they're only taking one sample, in the middle of that acre, that's not enough. I mean, now, it's literally over 1,500 or more. It's closer to 2,000 now.

So obviously, there's a problem, but it would have helped if Biomonitoring was at the very beginning with CDPH and say, hey, let's see if it is in your body.

MR. BARTLETT: You're right. It's actually up to 3,000 samples now.

MS. KAYANO: Okay. Thanks for letting me know.

(Laughter.)

MR. BARTLETT: You're welcome.

MR. BAILEY: Colin again. I have a question, I think, is probably directed at the more technically minded folks in here, probably the Committee members and the Biomonitoring staff. But it's kind of two pronged. So given the geographic focus, I assume folks are familiar with what's going on in the Salton Sea, which by and large is an ecological disaster of pretty enormous portion, and entirely of our own making on both ends of that equation, not least of reason which that the Colorado River waters, which have fed it, are now being siphoned off to the wealthy coastal communities in San Diego, much to the detriment of the region, its health, the birds and, of course, the people.
So part of the question then predicated on that is whether there are elements of the resulting exposed playa that when they become airborne, which is among the things that Comite Civico Del Valley is testing, which are a mixture of toxic sludge from urban runoff, from agricultural fertilizers, pesticides, and other manner of thing, not all of which are known to us, which have potentially synergistic properties, how -- the technical question is how much of that would be transferable, and actually show up in what you all study in the blood and urine samples?

The second question is more of an operational question. I was discouraged, as I assume others were, by Dr. Wu's presenta -- Dr. Wu's presentation of the funding scenarios, which show not only a decline, but the, at least temporary, stopping of the EJ focused component, just as we're getting this great, you know, start. And the question there is, you know, to what degree do you remain nimble enough to respond to real-time policy decisions that leave particular regions acutely exposed, as in those communities around the Salton Sea.

And maybe that's just one emblematic example that you can describe kind of how it is that you operationalize, how you mobilize in response to acute hazards?
DR. WU: Those are excellent questions. This is Nerissa. And unfortunately, I don't have good answers for that, because it is a -- it's a refrain we talk about all the time. There are so many chemical panels, and the ones you noted, pesticides and urban runoff, we do have a lot of laboratory capability. But as our Program shrinks, it is very hard for us to support that long list of chemical exposures. And as you know, every day there are new chemical exposures that we need to worry about.

Chemical companies have all day to make up new chemicals, and we just can't keep up. So there's a real demand for this. I know our labs, maybe they could speak to this, the move towards non-targeted screening and some of these classifications of chemicals. I mean, developing new lab methods to keep up with that really is an inherent and very important part of biomonitoring, and something that we hope to be able to support. The same with the ability to do environmental justice work. This is critical. These are the vulnerable communities who are disproportionately impacted. And as we've seen from the ACE work, it's so important to focus on communities to which information is not getting or where we really need to raise awareness of what the health risks may be.

So they are priorities to us. We'll continue to -- looking for funding and trying to increase our base,
and hope to collaborate with the people in this room and
beyond on creative ways that we can bring those -- or
maintain those pieces of the Program.

CHAIRPERSON SCHWARZMAN: Maybe I'll say something
just for a moment about technical question you asked and
others may want to improve on my answer.

But I'd say there's a couple mechanisms for how
airborne contaminants can get into people. One is, you
know, the direct one that we think about is inhalation,
but the particles have to be quite small to get absorbed
by the body by inhalation. So what may be a larger source
is when you get the disbursement of contaminants via dust,
then it's landing on every surface.

And so there's direct dermal absorption, but
there's also the idea of like you have a dirty hand and
then you eat a sandwich, so there's multiple mechanisms of
exposure when something becomes airborne like that in
dust. And we may think about air quality and that kind of
contamination, but there's probably other routes that are
equally or more relevant.

MR. BAILEY: Thank you.

MS. HOOVER: Is this working now?

Okay. Yeah, Colin I'll just -- I think what you
were asking, and just to clarify, were you asking about
how much we can study in terms of looking at a whole
mixture of what might be there? Was that your question like what our capability is to actually measure what's there, the whole mix of various things? Were you asking that, or could you clarify what your technical question was?

MR. BAILEY: Yeah, you may have actually detected an element of my question that I didn't originally intend, but it's a good part of it. So please do answer that. The question was really about with specific reference to the type of airborne particulates and the mixture, do you have the technical capacity? Well, actually the first question was to Dr. Schwarzman's point, will that pass through in -- and be detectable in blood and urine? The second very good question that you kind of added to it is what is your technical capability to actually decipher what's -- what that exposure rate is?

MS. HOOVER: Yeah. So like Meg was just saying about the mechanisms. And part of it is it depends what's in there, if it gets absorbed or not. But in terms of our capability to look at more than just a few targeted contaminants, this is something that we've been really interested in for a long time.

One thing that our -- the CDPH lab has done is they've expanded the -- their metals panel. So now we have quite a range of metals. I imagine that would be a
relevant, you know, mixture of contaminants in that particular scenario.

But the other thing we're interested in, and it's actually one of our SGP topics that we've been coming back to is the so-called non-targeted screening, where you try to actually look more broadly. Now, it's -- ultimately, it's great. You know, ultimately the goal of what we're going to do with that is great, but it's step-wise. So we're really starting with more semi-targeted screening where you looked within a certain class, but it really has the power, and we're already seeing that in some of the studies, to really reveal that there are lots of things there that are not on our targeted list, lots of things of concern.

So that's something that we're really interested in pursuing in real studies. And there's some ethical issues about, you know, how do we return results like that? It's a little bit uncertain what we're measuring in terms of information on it. So that's a discussion we hope to have is if we try to do studies like that. Under our scenario of our mandate and our commitment to returning all results, that can become a little bit more difficult communication-wise, but -- so we are -- we are looking at that. We're very aware of the synergistic issues and the desire to more broadly measure and we're
moving in that direction.

MR. BAILEY: Thank you.

CHAIRPERSON SCHWARZMAN: Yeah, Mel.

PANEL MEMBER KAVANAUGH-LYNCH: So I have a question for --

Oh, sorry, Mel Kavanaugh-Lynch.

So thank you very much to the panelists for being here. And I agree completely with what several of you have said about the need to involve community from the beginning, have community be a part -- control the questions that are asked and the methods that are used and things like that.

And I think we have to face the reality that the Biomonitoring Program is not doing that, and I'm not even sure can do that. So to the extent that, for instance, the CARE Study is one that has been carefully designed by Biomonitoring staff. Keeping in mind community concerns, and scientific concerns, but it's really the Biomonitoring Program that has determined what questions are going to be asked, and how they're going to be asked, and methods to be used. And I don't even think that they could even talk about not owning the data. They would -- that they would have to own the data.

Given those realities, how can the Program work more effectively with communities to address their
concerns, and to share what ownership there is available
to share?


    So I was talking about this with our team. It's
like, oh, I have a feeling they're going to be like, oh,
we can't do everything you want us to do.

    Not like -- I know that's not what you meant, but
I meant in the sense that I think that's why from the very
beginning, biomonitoring and just in general agencies,
regulatory agencies, need to be very clear when they're
communicating and partici -- and working with the
community on what are the goals here, and prioritizing
communities, right? Because that's who we're -- who we're
working for. That's who we're advocating for.

    So there needs to be transparency and community
like agreements, goals. Like, we're working together.
This is a mutual relationship, right? Like a lot of folks
have said, our communities have been studied to death.
Like, we -- you know, back in 2012, when the Chevron
refinery fire happened, over the -- more than 15,000
people went to the hospital.

    And rather than -- and so all of the tests that
were done on those folks that went to that hospital, all
of the records disappeared, because then that hospital
shut down.
So we have -- the data has been there that -- we have the data, and it's just because there isn't enough community involvement, there's not that next step of doing that policy change, right?

So obviously, biomonitoring can't write-up their own policy, but we want allyship, right? So if you have that data, come with us to the Board meetings, come with us and share your information alongside communities, so that it's not just communities speaking up, right?

So we want that allyship. If you're going to come and study our communities, also show up to the political -- to the political landscape with us, because we've been going back to -- you know, right now we're trying to work on refinery emissions to make sure that crude oil, you know, it doesn't come in more.

And because we were overridden by a State policy -- but again, all of that data is there of how asthma is so prominent in our communities. There's this -- it -- there's this mistrust between government and communities.

And I think that that's -- it goes back to what I was saying originally that we need to be intentional about how we work with community, and what exactly we want that outcome to be.

And to not be afraid and speak up, and the -- you
know, speak truth to power and recognizing that industry is very in our regulatory and government. And we need to recognize that, and we need to look past that, and still actively speak up on behalf of the communities that we're studying and researching.

And to kind of just touch a little bit on something that was said earlier, someone mentioned, you know, using 617 or AB 32 money to continue funding studies, so AB 32, the money that was set aside was to uplift and support the communities being impacted right, front-line communities.

If you're going to attempt to use that money to study these communities, again there needs to be that outcome of something to immediately support that community.

You -- we can't use that money that's been set aside to support front-line communities to continue doing research, if there is no immediate outcome that community can look forward to.

It goes back to 617, and AB 398. You know, AB 397, the cap-and-trade extension, it really harms front-line communities. And something that -- something that could have -- when we're thinking about 617, it's like, okay, that money is there now, but we should still recognize that where it's coming from isn't -- isn't where
we should be moving towards. You know, we shouldn't be relying on this funding.

And that's -- and that's something, you know, that as a person who's working on climate adaptation and resiliency, I also have to keep in mind, because a lot of that funding is for resiliency and adaptation efforts. But I just wanted to make it clear that if we're going to say we want to work with communities, there needs to be an allyship, as well as mutual benefits in regards to -- I do think that, you know, stipends are very important. You know, a lot of our communities are -- here, in Richmond, I'll speak a little bit on like we have the refinery. We have open coal at our port. We have coal moving in through our communities. We have crude oil moving in through our communities. We have three major freeways. On top of that, our folks are facing gentrification. We're facing, you know, lack of access to food, lack of green spaces.

So asking us to now participate and log everything that we're doing on a daily basis is a lot of work. And it's a lot on our -- on our community leaders. So we need to recognize that, and be grounded and meet our folks where they're at, and support, so that they can have this like community research and participation.

MS. BEJARANO: Yes. Thank you. Yes, I would
recommend not coming in with an agenda. Maybe coming in with a plan, and seeing if we can -- if it's going to be a certain community, how can we incorporate it that fits your community needs? A lot of the communities do have a lot of data. But a lot of communities have never -- they're -- they're unforgotten communities.

There's no cookie cutter that's going to fit every single community. And so maybe coming in with some of the numbers and how do you --

CHAIRPERSON SCHWARZMAN: Can you just watch the --

MS. BEJARANO: How does your community want recommendations? How does you community want to gather? How does -- so maybe asking those questions initially, would -- I think would be very beneficial.

MS. KAYANO: Well, I certainly agree that when you're going to have the residents and families help monitor, they should have some stipend. That's one thing that seems to be missing. I know in Seattle they did a housing project, and they wanted the community to be involved, but they did it differently. They did pay the community to be there for their -- for what they wanted to see in their community. They paid for child care. They paid for their time involved.

And at the end of the day, those residents felt
like they helped design their own community, and they
bought into it. And they felt very proud, because they
were part of the design, and they were also paid, not a
whole lot, but to say that they were important enough.
That their -- that their ideas and what they wanted to say
were important to the developers.

Well, the same thing can happen here. I think if
you want to know what's going on in the community, you
want to help them, and they -- and they're helping you,
then I think they should be paid for the time that they
have to monitor, because it's a lot of work. It's a lot
of work doing the air monitoring.

MS. BEJARANO: Especially, if you do want a
community to stay on board and not fallout. I know that
for us, you've got to be very careful. I mentioned the
home visitation earlier that how do you come in to a home
of maybe a family of 50, but what number do you have at
the end? And what are the results, right? They won't be
the same, because if you don't provide, you know, maybe a
nice lunch, or nice -- maybe a stipend or something.

Obviously, just for travel and for day care, they
will fallout, and then you will basically have this -- you
know, the results not being real true to what the needs
were. I know that I've seen that in other projects that
that -- that were done locally in Imperial County.
PANEL MEMBER SUÁREZ: Just a question -- just to follow up on that. Just to clarify, are you referring to participants or are you talking about community health brokers, community researchers with payment?

MS. KAYANO: No, the actually residents.

MS. HOOVER. Microphone.

MS. KAYANO: The participants themselves, because there's air -- AQMD has this air monitoring program they wanted us to do, and they were only going to pay $100 for the entire year to a resident to help monitor. And they had to use a computer. They had to do it every day. They had to -- and, you know, that's a lot of work. And I just -- I just think that's just not enough. And they're going to be getting tons of data from it. I'm not sure they're going to have anything done for them. So, I mean, I think that's what I'm talking about.

CHAIRPERSON SCHWARZMAN: I think Jenny had a question.

PANEL MEMBER QUINTANA: Hi. This question is for first the two speakers to ask you following up on what you said about the time is now to make -- take action, not to do further research studies, so to do something for the communities. And so I guess my question for you is do you see value in biomonitoring in demonstrating that action has worked. I'm thinking of specifically like blood lead,
where I think every professor here shows this graph of blood lead in America -- American kids before they banned lead in gasoline. And then as soon as they banned lead in gasoline, it just drops, drops, drops, drops. It's a very powerful reminder of how policy can really work.

And so my question to you is do you see value to the Biomonitoring Program maybe to show what happens if you reroute the truck traffic away from schools, you know, before and after like to help show it? Is that -- or is that just still taking money away from what might be further used to do better. I'm not sure. I just want to have your opinion on that, if possible.

MS. KAYANO: Yes, I think it would help. That's what we're fighting right now is the truck traffic, and we're finding we want to have a restricted truck route for the Mira Loma Village and we're not getting it. Instead, we're getting additional warehouses. And they're just not getting it that this is a very dangerous thing for the families. There's -- it's very toxic. And yet, both counties are into this let's build as many warehouses as we can, because we have to deal with the Port of L.A. L.A. is going to expand. That's going to expand the warehouses in our two counties, and it's all based on jobs.

The sad part is that the jobs are not bringing
prosperity to both counties. In fact, we have tremendous
growth. Three times as much as maybe the entire nation.
The poverty rate has gone up, prosperity has gone down.
So something is wrong, and that's because the warehouse
workers in the warehouse are part-time. They're temporary
workers. They're abused. They get paid underneath
the -- I mean, they're just -- it's just a lot of wage
theft.

So you have to understand that this thing that's
going on with the industry, the warehouse industry, the
logistics, the goods movement is not a good thing. I know
we need them, but I mean, it's not a good thing. We need
to take care of that diesel exhaust for one thing. We're
not against warehouses. They should be green. The trucks
should be green. And I think if we can show that, hey,
people in -- they are getting it in their -- in their
body. I mean, it's kind of like the cigarettes, right?

CHAIRPERSON SCHWARZMAN: I want to break here and
hear from our second two discussants, our last two
discussants, and then we can pick up the conversation
where we left off. So, Laura

MS. GRACIA-SANTIAGO: Hi, everyone my name is
Laura.

I'm the CARE coordinator, CARE -- oh, well you
already said that, but I'll just say it again because I
already started, climate adaptation, and resiliency enhancement program. So the Communities for a Better Environment is a statewide organization. We work out of Wilmington, which is a large refinery community. It has neighborhood oil drilling, as well as it's close to the Long Beach Port, a lot of diesel trucks running through as well. We have SELA which is also a very industrial corridor with a lot of diesel trucks. Sorry, SELA stands for South East Los Angeles, Huntington Park.

We work out of East Oakland, which is also a very industrial corridor. Right now, they're fighting a huge crematorium that will be burning 365 bodies a year. On top of that they're very close to the airport, the AB&I Foundry and, you know, a lot of freeways.

And then Richmond, which I already said a little bit about, we have the Chevron refinery right here next door. We have coal running through. We have crude oil running through. We have the freeways, and on top of all the other social justice issues that we deal with. And we have four other refineries in our county. Yeah. So that's a little bit about the communities that we work out of.

And I'm mostly here to -- I know, I've been talking a lot about Richmond, but I want to highlight all of the other communities that we've been organizing. And
our community leaders have been involved in huge -- you
know, huge battles. Our youth program down in Wilmington,
you know, sued the City of L.A. for rubber stamping
Tesoro -- I mean, refinery permits. They won -- they got
a settlement with the City of Los Angeles. They're not
getting counter-sued by the oil industry.

But, you know, our Huntington Park office right
now is dealing with the 710 expansion project, so we're
trying to slow down that process, to get a lot of
community feedback. Our East Oakland office, like I said,
is working on the crematorium here in Richmond. We're
working on our refinery emissions cap to prevent more
crude oil from coming into our community.

AB 398 really, really messed us up, but our --
this goes back to that topic -- to what I mentioned about
mistrust between regulatory agencies and community
members, is that we've been, for a long time, working on
Rule 1216 here in Richmond, and along with a lot of Bay
Area allies in -- and just capping pollution, making --
and again, it's a preventative measure. You know, it's
not saying, you know, just stop producing. It's saying at
this level stay right here right now.

So find whatever else you need to -- find
whatever technology you need to make sure that you stay at
this level. And so we've been organizing, and we've been
showing up at these spaces, and there's a lot of push-back within our air district in saying, oh, AB 398 is overriding us, but AB 398 is focusing on -- it says that you can't limit greenhouse gases, but we're saying we're just trying to cap it, and we're also focusing on particulate matter.

So that was another thing I was going to highlight. You know, we're talking a lot about diesel particulate matter, and diesel exhaust. But here, there's a lot of -- there's particular toxins that come out of the refinery. So I'll be repeating this over and over again. But we really need to look at cumulative impacts. I know that in order to do a study it has to be, you know, the narrower the best. But our folks aren't just dealing with one thing. They're dealing with a lot of different things out once.

And the -- to go back on one of other question that was brought up earlier, how can biomonitoring support, you know, the work that we've been doing, is -- it's -- it's working with community organizations that have been organizing here, to make sure that you're not overstepping and being respectful of the efforts that have -- the community has already driven.

I've got a lot of mixed messages about, you know, the Google air monitoring going on, as well as some other
air monitoring from big orgs that come into East Oakland. But our community members have been odor logging for a very long time around AB&I Foundry. And when we started working with the air district, we also noticed that the days that we were odor logging, after a while, they started not being as bad as when we had first initially started the project, and that's because we feel like someone -- someone started telling AB&I, hey, we're going to be coming around often.

So that's why it really needs to be community driven. It needs to be community led. And so I just -- I'm going to keep going back to that of asking biomonitoring, you know, what -- what is our ultimate -- you know, what are we for? Are we here to support community? Are we here to just do research and study?

If not -- if that's the case, then I don't know if that's very helpful. You know, the study and -- the study and the research is helpful, if it's working -- if it's alongside community, and it's improving the situation, right?

Yeah, that's it. Here, you go.

(Laughter.)

MR. BAILEY: If you've got it in, you've got four more minutes.

All right. Thank you very much, Laura. Colin
Bailey here with the Environmental Justice Coalition for Water, EJ CW as we're know. For those unfamiliar with our work, we're a statewide organization that supports a grassroots movement for water justice, which is our shorthand way of saying the intersection of environmental justice and water.

The Coalition ranges through every corner of California. And our activities, as you've heard a little bit about them, include a wildly wide range of activities. Everything from community based participatory research, which I'll mention a little bit later to litigation, legal advocacy, lobbying, administrative, advocacy in front of whole handful of mostly state, but also regional -- regional administrative agencies, community organizing, capacity building, technical assistance, regional planning.

In recent years, we have grown the range of activities in response to a whole host of new threats wrought by climate change and the water-related impacts there from.

So with that as background, the -- I came to biomonitoring by way of an interview. When was that? Like a year, year and a half ago. Sat down Ian Walker, who I understand now is sadly no longer with CDPH.

MS. ROSSI: It was about six months ago.
MR. BAILEY: Oh, six months ago. Man, I've been working hard.

MR. BAILEY: So the -- and I had lots of questions for those folks, so -- and they were really responsive. And I really appreciate that. In thinking about on my own experience of -- and what I've heard this morning, all of which has been a learning process for me, not being someone from kind of the biohealth sciences, but rather as an attorney, the -- we've got to grapple, I think a lot, with the limitations of what it is that you're doing.

And by limitations, I've heard technical limitations, methodological limitations, financial limitations, and in terms of scope. And our question today is really about how to amplify the impact and reach through partnership, through some real strategic thinking about how we utilize those -- the possibilities within the limits.

The -- to reflect a little bit on what I've heard also in light of kind of environmental justice best practices, a few things jumped out.

One is I heard in the morning presentations is race consciousness, which as an environmental justice
organization, everything that we do is race conscious. As I'm sure this community is well -- this group is really well aware, race plays a determinative factor in so much of not only health, but outcomes for opportunity across the board.

And in our work, we try to be very clear, because that also has its roots in a not very distant history of formal racial apartheid in housing, in schooling, in access to credit. And it has its reverberations to this day, we could make the link should -- if we had the time to things like AB 398, and its current impacts, et cetera, et cetera.

One thing that also came up, which is kind of a two-pronged piece is the cumulative impacts. We've heard a little bit from you all about some of the limitations of your methodology for addressing cumulative impacts, but I'm hopeful that we can explore more about what that would look like, perhaps with some real targeted inter -- I'll say interventions, but I'm going to use the word later -- with some real targeted assessments.

The other element of that, which is a closely-related cousin, is kind of the synergistic health impacts of multiple constituents. And I'll talk a little bit about some of the work we're doing to try to get at that. And I may not have a lot of answers, but I'll have
some good questions.

The third kind of -- the pinnacle environmental justice policy making would be embracing at the national level, at the State level, at every level the precautionary principle. And this may be an arc of change that, you know, I don't want to give too much ground, but it could be a long time in the making. We are under no delusion that the chemical industry lobbyists in Sacramento, in Washington, and every other capitol and every other place that matters, are dumping lots of money into the political process to turn it to their benefit, and heaping the externalities of the means of production on communities that are disproportionately impacted, mostly low-income communities of color, who are less well equipped to deal with the consequences of those ill health effects.

I'm reminded in making that statement of one of the often repeated phrases from a City Council member in Maywood, who I'm assume folks know down in South L.A. is surrounded on three sides by the City of Vernon, the City Seal of which I think reads something like strictly industrial since 1912.

(Laughter.)

MR. BAILEY: And it is an environmental abomination. The City of Maywood is tiny. It's kind of
like Gaza. It's like basically a square mile with 30,000 people almost -- I think it's something like 85 percent monolingual Spanish speaking, many undocumented, and very low income. And that community just gets dumped upon. The quote -- thanks I'm -- all right. It's the attorney in me.

The quote is he says, you know, we're cleaning the environment with our bodies. And it struck me that you all, through your biomonitoring process, probably have the deepest insights of most people into that very statement what that actually means when you're looking at the blood and urine samples and you're seeing what's in there. In fact, those are being removed by the very people on whose behalf we work through their biological system.

The -- a piece that came up that really caught fire, and this is all part of my learning process. I'm kind of just talking out loud as I'm learning here. But the interventional study really I think is important, and because it's in those -- it's in the intervention study that you can test the if-then proposition.

And from a policy perspective, which is one of our questions asked today, I think that's really a key methodology to embrace.

Just take for one example, and this is actually
working in the inverse of what I was going to talk about. But just the other day -- and actually, Dr. Zeise maybe able to help remember -- remind me of the particulars, though it's not your Department, the California Department of Pesticide Regulation after years of work by Pesticide Action Network and Californians for Pesticide Reform, and many others, finally instituted kind of a limited ban on the use of pesticides and herbicides during certain hours, 6:00 a.m. and after, and near schools.

Hugely important, great step forward. It's got some pretty serious loopholes. What if somebody's spraying the stuff at 6:58 -- or sorry at 5:58 in the morning? You know what are the impacts there. What if it's Sunday evening. You know, there are some things that are questionable from a hypothetical perspective. But let's get to the empirical side of things, if we can actually test what the blood and urine results are from a policy like that, in the appropriate time frame, I think that's a really important indicator of whether the policy is having its intended effect. And that's just one example.

The more generative side would be also can we examine -- can we examine blood and urine in a way that gives rise to new policies that simply are absent?

And in there, we have a whole bunch of
potentially triggering effects. One of them would be, and I think it was mentioned here, you know, the game of Whac-a-Mole with the chemistry -- chemical industries, if we can't embrace the precautionary principle - and we will get there. We'll have to - then can we each time a new chemical comes out follow the, you know, commodity chain. Figure out where it's going to be, what the likely exposure paths are, and examine the heck out of it. And if it's not good, let's get it off the shelves. Let's get it out of people's body.

There would be a variety of other impacts, I think, that would be worth studying, because that needs to translate right back to this -- to the -- to the policy frame.

There's also, and this might be a little bit much for you all, but the enforcement side, I think is really important. And I don't mean just the regulations, but I actually mean the empirical back-up for the civil administrative liability action from the Attorney General's office, or the private right of action from the law firm/public interest group that want's to bring the claim.

And that's where your data definitely need to be made public, but also I think should be driven by, as Laura and my colleagues -- other colleagues said, by
community's active campaigns.

What do we know is most impacting communities now? And you've heard a variety of different examples. I want to quickly rattle of, because I've got less than a minute left. In terms of our second question, which is really about, you know, what are the highest priorities? Working in water, lead has been very much in the news lately for those who have been watching. It's showing up in the aging infrastructure, especially in the schools with the most vulnerable populations. I think biomonitoring would do well to continue the work. I've seen you doing a lot of work in that area already, but continuing to do the work following the headlines, and continue with the longitudinal studies.

Climate change, the -- and the global agricultural industry are colluding to warm up waters, and -- our drinking water and add ever more nutrients to them. And the toxic algae are popping up absolutely everywhere. We're -- I think this East Bay MUD territory here, yeah. So it's been in reservoirs. It's very costly to clean up, but it also can be quite bad for your health.

Working with some colleagues, plastics are, at this point, breaking down and pretty much dang near everywhere, including in our bodies, as I understand it. I'd really love to know some more about that.
I've got the heck freaked out of me by a colleague who studies silver nanoparticles, which is now showing up both to seed rain in the Sierras when we're in our inevitable drought, but also in people's underwear, because it has antibacterial properties, and you can wear it without washing your clothes. That's great for the drought, but not great for potentially for your biological health.

Among the most pervasive water contaminants is nitrate. And I saw you had some studies on those. Keep up with that, because we're going to make some big pushes on that soon. It turned out that University of Nebraska studied where naturally occurring uranium and nitrate co-occur. The nitrate and the uranium -- the nitrate actually changes the uranium, such that it becomes more water soluble and bioavailable.

I've been pushing with the Central Valley Board, the water board, to take a look at this. And maybe you all can help by examining from the biological side what we're actually seeing there in the Central Valley.

Everybody has forgotten about the Fukushima plant. But as I understand it, radiation is washing up on shores every day, finding its way into the biosphere.

There was one other thing I was going to hit you with. What the heck was it?
That might be it, but I was going to talk -- I was going to have you talk about IVAN when we get the chance. We'll talk about that in Q&A.

With that, let me pause and maybe in Q&A, I can tell you about some of the other academic studies that we've been involved in.

CHAIRPERSON SCHWARZMAN: Thank you so much. And it's -- I at least really appreciate the list of specific suggestions that gives I think the whole program a little bit more to respond directly to, because I think there's a lot of -- there's a lot of agreement probably on priorities and values. And it's harder to -- anyway, the specifics suggestion are helpful.

We have a few minutes for questions for our last two discussants, and then to transition back into the general conversation.

And if there aren't questions, we'll just go into discussion.

One ear.

Alex Nguyen.

MR. NGUYEN: Hello. Hi. My name is Alexander Nguyen. I'm the community development manager APA Family Support Services. And when I first heard about biomonitoring two years ago, I was at APA Family Support Services and I had no idea what it was. And I started
learning more about it. And as we were introducing the project to the community, I can tell you first hand directly that the community was very interested in, and we found a lot of benefits having this project. And working in collaboration with the California Department of Public Health, I think Dr. Wu, and Duyen, and the rest of the biomonitoring team really took into consideration the community that they were going to be studying and working with from the language, down to the dialect, through every single step of the process, our participants were completely informed and had complete access to any of the staff that were involved in the ACE Project.

And I just want to add again that the community found this as a move from, I think -- if I can say the -- from the government, our State agency as something that they were finally being represented in something substantial to their health.

And I think I want to go back to the other point is that we've completed the study, and now these participants have their results. And as you know, the results show elevated levels beyond the national average. And it is a point of concern. And I think where we see a disconnect between the trust of the community working with maybe the State, is that just as the State may want some of the community members to be scientists, and contribute
to studying their communities, I think we have a lot of people who are in particular situations who might be in the low-income financial situation or they may have just arrived to the states and not understand how the operations within society works.

So it is quite hard for them to kind of be the scientist within the community, but I think also what they would expect is maybe for some of us here, who have the knowledge, to be advocates for them as well. But I understand that there are limitations to how far that we could reach. But I think just bringing this point up, and just the fact that you guys are discussing what type of action plans can be taken for these communities, I think is a great step. But biomonitoring I think has definitely been a benefit. And our community is more aware -- some of them might not even heard of what chemicals were before, now they have some sort of understanding that there are these things that are quite invisible, but they're very dangerous and very harmful.

So I just thank you for that.

CHAIRPERSON SCHWARZMAN: I have a thought for discussion, but I don't want to hog the mic if someone else has -- something else they want to start.

You, Scott.

PANEL MEMBER BARTLETT: I actually just had a
pretty quick comment.

MS. HOOVER: Mic.

PANEL MEMBER BARTELL: I'm never close enough.
Is it on?

I actually wanted to go back to a couple comments that were raised in the first half of this discussion this afternoon on compensating participants in these studies. And it's something we have actually talked about at some past meetings, maybe not recently. And I think it's always a challenge for Biomonitoring California to do that, given the tight budget.

But I just wanted to share briefly that I -- you know, my experience in community based studies in Anniston, Alabama and Parkersburg, West Virginia, both cases we were fortunate to have the funding to pay participants. And I felt that actually is very useful and important from a variety of perspectives, first of all, out of just fairness, I think, to participants, which I think underlies some of the comments you were making earlier. This is often a substantial amount of your time.

And even if you're not able to pay a lot for that, having some compensation, you know, sort of recognizes their contribution to the research. Of course, the staff who are collecting these samples, analyzing these samples are being paid.
So I'm a big advocate. I just wanted to add my voice kind of from the researcher perspective to say I think it is important to try to find even some small amount of compensation to help, you know, support people to spend their time as participants.

But I also want to add a voice as a statistician, arguing that actually my experience with that has been that even when it's a small amount. I think we paid something like $30 or $40 per participant for about an hour of time doing a questionnaire and a blood sample in Anniston, you know, we had tremendous participation rates, even though it wasn't a lot money.

And as all know as scientists, right, we always worry when we have low participation rates about whether we have selection bias.

So I think it's well worth kind of considering each time, you know, the Program embarks on one of these studies, to what extent it might be able to compensate participants, because both from as a researcher's perspective, the validity of the data, I believe, can be improved by that, and second just out of fairness to the communities who are participating.

MS. HOOVER: This is -- can you hear me?

(Yeses.)

MS. HOOVER: Okay. Scott seemed to be directing
that towards me --

(Laughter.)

MS. HOOVER: -- so I'm going to respond.

You know, I think there's a little bit of a confusion. This is not a budget issue. We have certain restrictions about how we can use State funds. We are extremely aware of incentives. In fact, on the diesel study, we've been seeking outside funds to fund incentives. Asa was able to identify two pots of money.

We are not stopping. We're continuing. I'm doing more research and reaching out to other partners. So it's definitely not a question of we don't think it's worth funding incentives. We absolutely want to fund as substantive of incentives as we possibly can. So that's the ethic across the Program. I can speak for everyone on that.

I also wanted to add a couple things about the diesel study. So part of what you're seeing with the diesel study is we had our wonderful EJ advocates who managed to get us a million dollars, that was one-time funding, that had to be spent within one fiscal year.

So, you know, there's -- that's a great amazing thing, and then there's also challenges about what we can do. So we were fortunate in having this whole history with the SGP to know that diesel was a priority.
Diesel is a very big priority with the SGP, with communities around here. So that's why we were able to jump on that study. Now, we are just getting a -- so we were able to design, we were able to find our PI, we were able to transfer the money. We were able to do this all very quickly, because of this history of, you know, years and years of meetings, and examining what is really important to study, what can we study, what has a biomarker.

So that -- just to give you a little context. You know, it's not like we're walking in and just deciding this is an important thing to study. We have a lot of input that supports that, and there's a lot of interest actually across the State, and in communities about studying diesel.

And then the last thing I'll say is that now we're about to be poised with our final approval. We're also going to be trying to have some formal service orders with community organizations to help us with recruitment, and actually, you know, a payment to community organizations to participate.

So we're very aware, and very supportive of involving the community. I think you heard that you know with the ACE study, that was a very -- a lot of involvement from the community in that study, a lot of
interest in that. Also, there was a long history of
working with DPH, and that's why that long history led to
the ACE study. But it was the long history that -- with
the community that allowed that study to occur.

So definitely a strong ethic of wanting to
involve the community, and also compensate the community
wherever we can. I just wanted to explain some of the
context for that.

PANEL MEMBER BARTELL: Sorry, because I think you
have explained a little bit of that to me before
throughout. So thank you.

MS. KAUFFMAN: Just a little bit. Duyen Kauffman
from OEHHA. In ACE, we also specifically had scoping
interviews just to sort of, you know, talk to people
about, you know, barriers to giving samples. We asked how
much they thought would be fair to be compensated, or, you
know, a gift -- an incentive to participate. So we -- it
was quite for us. It was $100. And, you know, we had
cooperative agreement funding that we could pull from.
And, you know, some people wanted it higher. And we kind
of like settled on $100. It seemed -- you know, it seemed
fair. People seemed fairly happy with that, but we -- you
know, we can't use State funding for that, so it's -- it's
a different picture now.

PANEL MEMBER BARTELL: Can I ask --
MS. HOOVER: Mic.

PANEL MEMBER BARTELL: So I'm just wondering, you know, in terms of trying to make that process easier for you all, is there -- you know, what would have to change? Would it -- is it a law pertaining to like all State agencies, or is this something specific to CDPH, is this something that the Panel could even advocate for? Because I -- you know, I think it sounds like this has been a continued barrier.

MS. HOOVER: Yeah, absolutely.

PANEL MEMBER BARTELL: I mean, and we have a lot of other barriers you need to overcome to do these programs too. But if this is one that, you know, would -- that could be changed through some advocacy to allow monies -- state monies to be spent for that purpose.

DR. WU: Yeah, I do believe it is a law that applies to all State agencies. And it is the same kind of law that prohibits us from spending money on swag, you know, any kind of gifts for participants. So recruiting and giving out little magnets is also not something we can do, and spending money on food or -- so when we hold community events, I want to make it a welcoming and convenient venue for people to come participate in, we can't do things like feed them.

In our partnership with APA, luckily APA was able
to do that, and they did provide child care, and food, and
made it -- I mean, this was just -- this was great place
to come, and learn, and hang out with community. And
that's how we were able to get around that for ACE.

But it is a barrier for a lot of our
participation. And I think it's something that keeps us
feeling like not part of the community. I mean, it's --
these are things that keep us from creating real
relationships with people that we have all these State
barriers.

PANEL MEMBER BARTELL: Thanks.

CHAIRPERSON SCHWARZMAN: Jenny had a question or
a suggestion, a discussion point.

PANEL MEMBER QUINTANA: Actually, it's following
up a little bit on the question that you posed that you
were commenting on, Scott. And that is that I -- for one
thing, I don't think we should call it incentives.

That's -- to me, it's like a -- it creates this kind of
barrier. It's compensating someone for their time. You
know, it's really compensation is what it is.

And I'd had many fights with our human subjects
review committees, because they're very worried that if my
-- our compensation is too high, we're kind of putting
pressure on people to join. But I'm saying, you know,
look, it works out to more than 10 hours of their time,
and you say $50 is too much. You're saying they don't even get minimum wage. You know, like, so I think that fairness is really an important part, but not just for participating, but like you said for providing support to community members.

And I just wanted to give a quick plug here for funding agencies to think about bringing in local community college students, high school students, and like, for example, San Diego State has a campus at Imperial Valley, but I think we should also really try to bring in student support. People can see the value of students in their own community getting money to go to school, and then participating in these kind of studies, as well as community groups themselves I think is providing a bridge.

But I do think that -- I don't know. I'm -- I'm getting sick of being on grants where all these researchers are getting this salary support, and then the amount going to the community is small, and it's just not right. You know, that's not how the money should be spent.

MS. BEJARANO: You know, I can actually relate to that --

MS. HOOVER: Esther, the mic.

MS. BEJARANO: I can actually relate to that and
just quickly. I don't want to go off point, but our organization has been -- had been in the same location for almost 20 years, and our organization burned down. Our director, I think was in Sacramento, and we were -- it was 3:00 o'clock in the morning, and it was down to nothing.

And struggling just to keep an organization afloat is just very challenging. And just talking about, you know, the funding these and the incentive -- or non-incentive, but support, there was some -- somebody called me the next day. We're trying to meet. We're trying to gather the community health workers and meet. And then I get this phone call, she's like, hey, Esther -- I think it was Department of Pesticide Regulation -- we're going to come down. And I've been emailing you, and you -- you know, we want to hold the training at your area. Can you get people together for me, and can you host the food?

And I'm -- we're trying to survive. We just lost our building, and, you know, she's telling me that, you know, government is coming down, and I've got to pay for the food, right?

It was just -- it was really not a good day for me. And I think it just really hit me that day -- one is what are you talking about you know?

But that happens, and it's very unfortunate.
MS. HOOVER: Let me just pipe in. Meg, just real quick, two things. Actually, interestingly, Jenny, Asa, on our project, he specifically said we should not call it compensation, because it's so small. So we recognize that it's insufficient. We do not consider this compensation, so that's why he wanted to call it an incentive, because it's a small amount. We -- again, we completely support the concept of adequate compensation, which we are not able to provide.

But I will say about the food, you'll notice -- and we're coming up on our break -- all the nice food that's laid out there Biomonitoring California staff paid for and provided for the audience. So just so you know, we are aware, and we just -- we did that, you know, to treat you. And it's a limitation of the state, but it's not a limitation of State staff. So just so you know.

(Laughter.)

MS. GRACIA-SANTIAGO: If I can just say something on the youth aspect real quick. As a previous youth organizer, our young folks are constantly like being asked to be at things. And so -- and this -- I know I sound like a broken record, but I'm just going to keep saying it, it's about being intentional about who you're bringing into the -- into the work, into the study, into whatever.

Our young people are like -- they've been told --
they've been asked -- they've been invited into conferences. And then when we go to the conference, and we speak truth to power, we say, hey, our air district isn't cooperating with us, and we've been -- you know, we have all this data already. We've been going to all these public hearings. I've told them about, you know, what -- what that day was like when the refinery caught on fire.

And yet, our voices are still not -- they're heard, but they're -- they're not taken seriously. So if you're going to invite young people into this process, which I think is a great idea definitely. There are a lot young people that are very interested in like research and STEM, and we definitely need that in our communities, but we need to be intentional about it needs to be a leadership opportunity. It needs to give some type -- again, mutual. If it's not money, it has to be like some type of credit for school or something.

And there needs to be like a real like debrief process of checking in, and how are you -- what do you need from me? What do I need -- you know, it has to be a real growing experience. If it's not intentional and really thought out, then I feel like it's taking advantage of the young people that really are wanting to grow. And if they're not receiving those resources, then I would say don't -- just don't do it.
So just being very careful about how we bring young people into these spaces to not discourage them. We've gone to many public board -- many public hearings at our air district, where, you know, we've -- they're constantly -- all the board members are saying, oh, it's so great to have you. Thank you for missing school right now. It's so great that you're here, because we want to hear you.

But at the same time, we go into these spaces, and we -- one, there's not enough space, so we don't even get to sit in the main room. Two, you know, our time gets cut down to 30 seconds. Three, you know, there's no -- there's not enough community partici -- there's not enough -- the agencies aren't trying to meet the community where they're at, right?

So again, the fact that we have to go to these meetings at Wednesday at 9:00 a.m. I'm kind of going off tangent. But what I'm saying is please be intentional when you're talking about bringing young people into these spaces.

CHAIRPERSON SCHWARZMAN: Nancy has been in the queue for a little while.

MS. BUERMeyer: Thanks. Nancy Buermeyer with the Breast Cancer Prevention Partners. And I wanted to say thank you to the staff. I was actually going to lead with
that, that the staff had paid for the yummy munchies in
the back. So thanks.

So there's sort of two things I wanted to touch
on briefly. One is this notion of scientists as
advocates. And I actually don't know what the regulations
are for State staff to show up at the City Council meeting
next to you, and say you should do this because the data
says you should.

And I think that's a problem, not just with State
funded staff, but academics in general tend to be a little
queasy about that, not just around biomonitoring, but by
around a lot of stuff. And I appreciate the academics on
this Panel, because I think you guys are the exception to
the rule.

And it's something that in the advocacy that we
do around breast cancer prevention, we have to find
scientists who will get up and actually say, these
policies are good and the science shows that these are
policies that should pass.

So I think -- and again, I don't know exactly. I
know that State staff have a lot of restrictions on what
you can and can't say and do, and to whom, and about what.
So I think one of the things to think about is how do you
do a team effort, where you have a community group that
does advocacy for a living or at least is a piece of what
you do.

An academic who has more freedom to step up and say, you know -- to say that the advocacy piece is important, and then the State agency that can do a lot of the technical work, and the design of the project. And maybe the agreement with the academic goes back to the MOUs you were talking about, Colin, and saying okay when we get this data and it shows that action needs to be taken, you're going to show up with us and say that, right?

Because I think that's an important responsibility that people have when you go in and work with a community to do research.

So I wanted to say that the funding piece, you know, as somebody again who worked to try to get this money for this project, I almost -- you know, there's a part of me that's like really proud that we got a million dollars. And then there's the part of me that worries it's going to sort of open a conversation that's going to come to a screeching halt because there isn't the resources to continue to do it. And it speaks to the sort of consistency of showing up with communities that you've invited into a process, or asked for input from, you know.

And then the flip side is by engaging the communities that have been part of the organizations
across the State, they can be very powerful allies to go
to the State legislature and say, this is important and we
need to keep funding this.

Like I know, Comite has very good relationships
Eduardo Garcia, because I know he was involved in some of
those air monitoring pieces. And then that speaks to like
what are the actual survival priorities for the
communities, right? Like maybe funding for biomonitoring
is a really key issue for a community. And maybe it's
getting, you know, water to not have lead in it. You
know, there's a lot of different pressures on just keeping
an organization afloat, and then, you know, if you had AB
32 money is that what you'd use it for or would you use it
for something else?

So I don't -- I don't have a real good answer to
any of that. I think it's a little bit circular, and it's
one that is incredibly frustrating to me, because I listen
to all of these discussions and I have talked to the
Biomonitoring California staff who are fabulous for years
about the struggles with money and what they've been able
to do with so little, and trying to get money out of the
State and trying to get money out of the federal
government to keep this Program afloat.

And I just -- I so want there to be some sort of
grounding route of sustainable funding that allows you
guys to do your job and not have to spend so much time just figuring out how to get the next panel read.

So I want to say thank you for the efforts that you take -- that you do around that. And, you know, I'm not quite sure what the answer is, but I know it's a huge challenge that we face on so many different issues including biomonitoring.

CHAIRPERSON SCHWARZMAN: Thank you for that.

It's almost time for us to wrap-up and have a little break, not for the end of day, just for a break, and eat these snacks that everybody has been talking about.

(Laughter.)

CHAIRPERSON SCHWARZMAN: But Nancy's comment I want -- there was a little piece that I wanted to amplify about what Nancy said, because I think there's some really creative ways to think about how, within the limitations that State staff have about where they can show up and what they can say, ways to strengthen the connections between community organizations and say biomonitoring, because that's what we're talking about today, so that the information is being communicated. And then perhaps there's a third partner, like Nancy is saying, about an academic institution or researcher. And there's maybe things that can happen if we think a little bit outside of, you know, the State staff has to show up alongside the
community group, which, in some ways, would be powerful and wonderful, but as -- in some settings is just not possible for the staff.

But are there ways that the staff and the community group could talk together about, well, what data are there out there that would support your cause? And who could come speak on those? Is there the academic researcher who did that study who you could then pressure whatever hearing or board, local or State, it is to say you need to have a presentation by this researcher so that you're aware of these data, so that you're not having to stand up and be the only ones advocating and saying there's information here you guys need to listen to and care about our community, but you know enough about the presence of the data to compel boards, agencies, and city councils, whatever the venue is that you're working in, to say you need to hear from this researcher.

And then it's -- it doesn't have to be in your word. It can be in the researcher's words and you've kind of gotten them in to support you, but in a slightly less direct way than, you know, standing alongside you, which they may not be able to do always, even if, in essence, they want to be able to, but can't support you in that way to think about how they realistic can.

And if some of those ties are strengthened,
perhaps some of that sort of informing can happen behind
the scenes, such that you are bringing in allies, each in
their own capacity to strengthen your case for action.

So I sort of -- I appreciate that kind of
creative thinking about how each player in their -- still
working within the constraints of their own role, can
nevertheless, support the cause for change.

So on that note, let's break and have snacks and
we will reconvene at 3:55, a 15-minute break.

(Off record: 3:38 p.m.)

(Thereupon a recess was taken.)

(On record: 4:01 p.m.)

CHAIRPERSON SCHWARZMAN: Okay. I think we're
going to start again.

Thank you all for your conversation and
discussion and thoughtful contributions to the day as a
whole. And we have another about half hour, yeah, to
continue the conversation.

I wanted to seed the discussion a little bit.
I've been sitting on my question. And so I'll use it to
seed the next section of discussion. And it's a little
bit taking off on some of the issues that Colin was
raising about intervention studies. You know, it's a
topic that I think I mentioned we've talked about as a
Panel for some time, and by Biomonitoring California has
done some of these.

But it occurs to me it's one of -- you know, as
I'm listening to our guest discussants, there's -- can be
a little bit of a mismatch between what we're hearing the
community needs and what the scope of Biomonitoring
California is. And so it's one of the ways that I think
we can get at a potential overlap, because the community
needs many things, and Biomonitoring California has a
relatively narrow scope of what it can do.

And, you know, I know the staff are excellent
listeners and really responsive to what communities want
and need and what feels like it's going to be beneficial.
And then we also have to work within the scope of what the
program can do, but this is one of the areas where there
may be overlap. And I thought it would -- I would like to
hear some input about places where you think some of these
connections could be made.

So, for example, Colin mentioned the
precautionary principle. And there's one city I know that
is actually implementing the precautionary principle,
which is San Francisco, Department of the Environment.
And they had a particularly interesting project, in which
they undertook decreasing glyphosate use, Roundup, in the
city. And they did it not through regulation, but by
employing the precautionary principle and asking the
people who use Roundup, okay how is it used, so the city
gardeners, and got a rundown of all the ways that it's
used, and then what the alternatives are.

And they came up with a long list of alternatives
and found through one or another, not just chemical
alternatives, but like my favorite flamethrower anyway.

(Laughter.)

CHAIRPERSON SCHWARZMAN: Lots of ways to treat --
other than using a chemical herbicide. And through that,
I believe reduced their use of herbicide about 90 percent,
93 percent maybe, and limited it to some really essential
uses like SFO runways, where they can't shut down SFO and
turn goats out to graze on the runways, which was one of
the other alternatives.

(Laughter.)

CHAIRPERSON SCHWARZMAN: So they -- they really
reduced the use of it. And I would be curious whether
that affected San Franciscans levels of glyphosate
metabolites. So maybe that's not a priority, but I only
raise that example, because there are -- in addition to
regulatory and sort of policy-informing studies that can
be done, there are a lot of non-regulatory actions that
are taken also.

Colin mentioned the regulatory one about
pesticide application timing. But I think there's -- you
I know, I know about similar -- similar to the glyphosate, you know, areas of working with safer wet cleaning instead of dry cleaning. There's efforts to do substitution in nail salons. And each of these is potentially opportunities for looking at does that intervention make a change in the worker's exposure or the surrounding communities' exposure.

And I think the more ideas that we have about what is happening within communities, either in regulatory or non-regulatory ways that provide opportunities for those kinds of studies, the better. And that's a link that could potentially be made between community groups and Biomonitoring California that could lead to some interesting study designs.

So I wanted to raise that as a potential discussion point. And maybe I should stop there. I have another thought, but stop there for the time being.

MR. BAILEY: Yeah, I think what you presented makes -- sounds a lot like what I was thinking would be very effective. And, you know, Nancy raise the point of -- I think it was who raised the lead in gas.

MS. BUERMEYER: That was Jenny.

MR. BAILEY: Oh, it was, Jenny. Sorry forgive me, Jenny.

The -- uh-oh. I hope I didn't lose my train of
thought. The -- So I'm making an assumption here that may or may not be right from a technical perspective, but from a policy one, it feels like I sure hope it's right.

And that is that biomonitoring can, by virtue of detecting things in blood and urine, predict some of the pre-cursors to some of the health outcomes that we want to avoid, but that might take place years, sometimes decades, into the future. And in that way, there's some more immediate indicator of a -- with some predictive value of the things we want to avoid down the road.

CHAIRPERSON SCHWARZMAN: That's definitely the idea with the caveat that most health effects have many causes. So very few --

MR. BAILEY: So isolating.

CHAIRPERSON SCHWARZMAN: -- other than like asbestos has a very direct correlation -- asbestos exposure has a direct correlation with one disease. And that disease isn't really caused by anything other that asbestos. There's very few health outcomes that you can say that for with chemical exposure.

So with the -- with the caveat that most health outcomes that we talk about with environmental exposures, also have a lot of other contributors. Aside from that point, I would say what you said is true.

MR. BAILEY: So then in terms of study design,
can -- could you, especially in anticipation of some change in policy that's supposed to change practice, do a before-and-after study. So you --

CHAIRPERSON SCHWARZMAN: Yes.

MR. BAILEY: So you have some point in time Comparison, or we talked about earlier, you know, tradeoffs between broadening the substantive scope, as well as the geographic. You could look at a place where the policy is in place, and it's having its presumed impact on practice versus a place where it's not in place and the practice remains at the baseline.

CHAIRPERSON SCHWARZMAN: Yeah, either. Both are possible. And there's examples of these studies that are done, both -- I mean, some from like California Biomonitoring -- and I should stop answering questions, let some other people too who can give more specific examples. But, you know, California Biomonitoring has some like we mentioned the flame retardant study with furniture replacement is one. And then nonprofits in the room have contributed studies like dietary intervention with non-bis -- bisphenol A containing food, so where they measure urine metabolites, and then have an intervention that lasts like a week with complete diet replacement, and subsequent urinary measurements.

So it depends on the substance that you're
measuring, whether it's something that's metabolized very
quickly and eliminated --

MR. BAILEY: Right.

CHAIRPERSON SCHWARZMAN: -- how big the time lag
has to be to see changes, et cetera. So it's
substance-dependent, but all of those comparisons are
theoretically possible.

MR. BAILEY: Yeah. From my line of thinking I
think that that's a -- that's a -- that's a realm of
activity that biomonitoring could undertake that I think
would be really fruitful. It would require folks, not me,
with the scientific background to sit down and think about
each of those kind of the latency periods for how detect
what the policy would be, what the -- like you'd have to
come with a workplan for each and every one. But it
strikes me as potentially quite powerful.

Other thoughts?

CHAIRPERSON SCHWARZMAN: So I guess one of the
things I was asking for input on, or at least just to
say -- not input at this moment necessarily - although, if
you have it, that's great - but as time moves forward, if
you know about a change or an intervention, or something
that you've advocated for in your community and it's now
being done or is going to be done starting a year from
then, that would be an interesting time to talk to
Biomonitoring California.


Along that line, I have heard --I don't know a lot of detail -- that the Port of Los Angeles just put in a plan to reduce exposures to various transportation kinds of pollutants like diesel trucks, and other things. So I'm not sure what the timeline of that is. But even if you could get the samples now, even if you didn't have the money to actually analyze it until 2025, when it's supposed to -- what's that?

There you go. There you go. February, we'll be in L.A.

Just to follow-up on what Meg was talking about, we actually worked with another non-profit to do the dietary study. Took five families biomonitoring them for BPA, fed them food that had not contacted plastic for three days, and found the 60 percent drop in the level of BPA in those folks.

There's a similar study called the HERMOSA study, which was done in the Salinas Valley with Latina teenagers, who were themselves the researchers. And they got their community to change the personal care products that they used to eliminate certain endocrine disrupting chemicals and found significant drops in parabens, and
phthalates, and some other things.

So they're powerful, and then you have to tie them to the health stuff, the health impacts, largely based on laboratory data, because, you know, for breast cancer it can take 50 years for it to show up, and it turns out we get exposed to a whole lot of stuff between now and 50 years from now. So you can't isolate it very well without that scientific -- that laboratory data.

So there's lots of different opportunities like that. And again, I -- you know, I would -- as Meg said, if you know if some change in a policy that you think can have a direct impact, it builds that -- that database of see when you do something, it really does matter.

You know, one of the studies that the Biomonitoring Program did was to look at flame retardants in breast milk, a specific flame retardant that was banned like 10 years ago, and showed a significant drop of that flame retardant in breast milk. They're very powerful stories for advocates to tell, to advocate for other reductions and exposures.

CHAIRPERSON SCHWARZMAN: Along these lines, maybe I'll just mention a study that we're just starting, that we -- has been supported by the California Breast Cancer Research Program, and that we're planning to use Biomonitoring California data on it, and work with OEHHA
to look at whether we can determine whether Proposition 65 has affected Californian's exposure to breast carcinogens and endocrine disrupting compounds.

And one of the things that we hoped to come out of the project, even if we -- you know, the data may not be there to fully answer some of those questions, but what we would like to do is be able to propose the kinds of studies that could determine that. If we can't tell, we at least want to be able to say here's how you could and here's how you could start to look at the effectiveness of these interventions to really make them feed back into actual change in people's health.

MR. BAILEY: We've talked about the -- sorry, Colin here -- the potential of biomonitoring to either come on the back end as proof that the intervention worked, or as the catalyst for the actual policy change, and I'm interested in both of those. It strikes me that what you just said, Dr. Schwarzman, is potentially driving the change that we want to see as well.

I've got to think of more examples of where I can -- we can make that work. I was going to say on Prop 65, there are also some, you know, folks in the environmental community consider loopholes, that I can imagine us, you know, like whether it's with -- when the stuff goes to the dump, and it's not particularly
well-regulated there or when it's in water for that matter.

You know, a lot of the Prop 65 stuff people got it covered what it's at the, you know, little community business type place or the big factory, but when it's actually in the water, and is the subject of a discharge, it's a lot -- people aren't watching that as much.

PANEL MEMBER CRANOR: See does this work?
Okay.

Just a further comment on kind of the limitations of the Biomonitoring Program. You can imagine easily a case in which -- I mean, something Scott and I were talking about on the way here this morning, you measure lead levels in people's bloods and it's elevated. And the thinking that I'm aware of is that there's no safe level of blood concentrations.

But if you had clear elevated blood levels, biomonitoring can inform you of that. But then legal steps to do something about it is beyond, I think, the scope of what legal -- what biomonitoring can do, other than provide the data that you've got a problem here, and then you have to turn to whoever, I mean, private lawyers, the attorney general, whoever might be able to do something about those exposures.

MS. BEJARANO: Or going to the source, right?
Or going to the source?

PANEL MEMBER CRANOR: I'm sorry?

MS. BEJARANO: Or going to the source of that either toxic either chemical or something that is -- we find that it's affecting, as we saw in flame retardant.

PANEL MEMBER CRANOR: Well, chose -- because of our conversation, I chose lead deliberately, because you know when it's present in the blood, it's dangerous. It's pretty directly dangerous.

But there are a variety of other things that are ways up the toxicological pathway that are there perhaps, but they're not yet. So approximately dangerous as something like blood lead is, or bone lead is. So sometimes you have biomonitoring evidence that you know you've got a problem right now. You know, it's not 20 years from now, but it's right now. But at that point, I don't think biomonitoring can do probably much, other than say there's a problem. And we -- you know, pass it off then to appropriate State agency, or if you live near a lead processing plant, or something you may go -- there may be the private law path to doing something about that.

CHAIRPERSON SCHWARZMAN: Well, I'd say there's one exception that, which is, you know, it's been used to show that when you clean up housing stock that has old deteriorating lead paint, the blood lead levels of the
kids who live there drop.

PANEL MEMBER CRANOR: Right.

CHAIRPERSON SCHWARZMAN: So, you know, there's significant things to do, I think, with those measurements other than just say this person is in trouble because the blood lead is high.

PANEL MEMBER CRANOR: Right. I guess, I don't know that - you may know the data. I don't - that I don't know how quickly the blood acts, what damage has been done because their blood levels were high for a while, and then they dropped. It's a good thing they dropped, but I don't know what happens in the interim.

MS. GRACIA-SANTIAGO: So I was talking to folks about like more specific, you know, guidance on how can -- how can we work together?

So I was thinking right now as you were talking about how can biomonitoring step in when it comes to -- I'm thinking about how our organizing efforts down in southeast -- in Vernon with the Exide facility -- you know, the -- they had been continuously been getting fines for many, many, many years. And then there was a lot of organizing around that, because again the community noticed how it was impacting their health.

So I'm thinking that there are two ways of intervention right there. You know, maybe some better
communication between regulatory agencies and some, like, research, like, biomonitoring. So this facility keeps getting fined, because they keep -- they keep polluting, and their system isn't up to date. So I wonder -- hmm, I wonder how that's impacting the community. So then, you know, working with folks that have been organizing there, that's one aspect.

And then the second is -- is -- I think that, you know, the evaluation that you all did in regards to working with different EJ organizations all over the state, I think that that's a great first step, right, in recognizing, okay, these are what some of the issues are in the communities. I don't know if it's been done before with biomonitoring, but from my perspective that's a great first step.

And so now it's a matter of following up, right? So making sure that the studies that you will be working on are very tightly linked to the folks that are working there and are organizing there.

And one like -- if you want to work with CBE, that's super cool too. Like, we -- our youth group would love to have you. And back in 2006, we did our own research project where we -- the Richmond household exposure study was done here in Richmond comparing particle -- like the indoor ambient in Richmond and
Bolinas. And obviously levels of toxicity were incredibly higher in Richmond than they were in Bolinas, which is over on that side of the bay -- I mean, yeah, the bay. And so we took that information to the air district and we said, hey, this is why, you know, we need stricter regulations. And the air district told us, you know, yeah, we see that the toxicity is there, but there's no data that shows how it's impacting commune -- like, folks that live there.

So that's -- you know, that would be something that we can work on together. It would be, okay, so we already know that this issue is there. This is what they're asking us for. So now let's give them that, so then there is no roundabout to, you know, why do they need stricter process and giving the refineries permits.

And then -- and a couple of other things that our researcher just said, like make sure you mention the PAHs. You know, that's a combustion product from refineries. And so that's something that we haven't really been working on. And I know that it is something that Biomonitoring can work through -- with in their labs. So that would be another good step -- good place to step in here in Richmond.

Diesel, like I said, is -- it is a big issue, but diesel particulate matter from the refinery is something
that folks have been on -- like have been feel -- dealing with forever since they've lived here, and for generations.

And then also when it comes to the metals -- rare earth metals like vanadium, nickel, and chromium, those are things that we -- that I'm not sure if they're included, because it just says metals into -- in your -- on website. But those are other things that we would like to know more research on in regards to how can -- because we know that that's what's impacting us from the refineries as well.

So how -- how can we include that into some type of policy with our air district. So that would be from an organizing perspective. And this is -- and, you know, if this is something that we were to do again, starting with the community and how -- how are we going to go about in doing this research.

PANEL MEMBER CRANOR: Right. Let me echo something that Megan said. I guess I agree on the lead point.

MS. HOOVER: Mic.

PANEL MEMBER CRANOR: Okay. Is it on?

Okay.

When you have blood lead levels, that's very risky and may be already dangerous. When you have the
nitropyrene that we were talking about this morning, Jenny says they're quite mutagenic. Now, that's not good. You want to reduce those as quickly as possible.

How quickly they will trigger a carcinogen, I don't know. But that's more likely to be a long process. But I guess if they're mutagenic enough, maybe it's quicker, so -- but what the biomonitoring can do is say, you've got this bad actor in your bodies -- we have a lot of bad actors in our bodies and how -- what is the concentration, but we want to reduce them. And a lot can be done to the -- to perhaps to reduce them. So it might be local efforts, it might be legal efforts, whatever.

MR. BAILEY: Yeah, so there -- I mean, there's -- there's kind of a whole theory of change here that's -- we have to identify the problem in the body, which is what biomonitoring can do to be the catalyst then and to understand through, you know, community -- direct community knowledge of their lived experience what is the likely exposure pathway?

PANEL MEMBER CRANOR: Yes.

MR. BAILEY: Given that, and since our conversation is about environmental justice, something in the environment is creating that problem. We identify what that is, and then we have to build community-based power, probably through other allegiances, including with
you all to make the argument that the presence of that stuff is going to cause bad things to happen, and we need to stop it.

PANEL MEMBER CRANOR: Yes.

MR. BAILEY: One thing that Nancy mentioned was -- is, you know, another prong of this, and is to the degree that the, kind of, epidemiological impacts are not well known of a constituent that might be in the blood or urine. We should also take care to try to tether biomonitoring in those instances to the next phase of the research, which biomonitoring won't do, but the -- you know, the toxicologists, the people -- the endocrinologists, the people who are studying, you know, what the fish models, and the mice models, and what happens when this is in your blood, and we can start to extrapolate --

PANEL MEMBER CRANOR: Well, that's one reason --

MR. BAILEY: -- what new bad thing is out there that we need to address.

PANEL MEMBER CRANOR: Right. That's one of the good things and very bad things about lead. A lot is known and they know about the different levels. And so you could figure out a whole panoply of things pretty quickly. And I don't know what happens when you reduce the blood lead levels. Surely that's a good thing for the
person involved. How much damage has been done in the meantime, I have no idea.

CHAIRPERSON SCHWARZMAN: I want to take a moment and just check that we don't have public comment via the web?

MS. DUNN: None.

CHAIRPERSON SCHWARZMAN: Nothing.

And I'm also supposed to just check in and make sure we've gotten all of the formal public comment in the room. We're getting close to the end of the discussion.

Okay. So that's the call for formal -- and go ahead, Nancy.

MS. BUERMEYER: Okay. I just want to make sure nobody else wants to talk. I've been talking a lot.

(Laughter.)

MS. BUERMEYER: Nancy with Breast Cancer Prevention Partners.

So many things to say. The reason I asked to speak was I wanted to follow up on something I'd said. I talked about those intervention studies. And I just want to make absolutely clear that our organization is not about telling kids that you shouldn't use specific products. Our organization is about telling the FDA that you shouldn't allow those chemicals in the products to begin with.
We do not believe you can shop your way out of the problem, nor should you have to. That these are really pieces of data that we take to federal and State agencies to say you're not doing your job to protect people. And if you did protect them, if you did get those chemicals out of all of the products, kids would be safer, and issues around their health would not be nearly the concern that they currently are.

And, you know, to your part, Colin about the sort of follow-ups, you know, epidemiological studies, like studying people over long periods of time, you know, longitudinally, rate for this stuff wicked expensive. And that's a technical term "wicked expensive".

(Laughter.)

MS. BUERMeyer: Which is why it brought me back to your -- to one of the things you said earlier about the precautionary principle. You know, industry is going to say, the chemical not -- it's not dangerous, and you're not exposed to it. And we can say, yes, we are exposed to it, and it is hazardous. Well, you don't have enough of it to be a problem. So there's the whole sort of hazard versus risk.

And the precautionary principle gets us to a place -- although, it is a dirty word in politics, and we need to change that. You know, like we don't talk about
it, because industry -- you know, because industry has convinced legislators that precautionary principle means -- chemophobia is the term they love to use. You know, afraid of chemicals.

But we shouldn't have to show that a specific level makes -- results in a specific health outcome. We need to -- we should show that we're exposed to it, and that there is -- there are health concerns associated with that, based on scientific evidence. And that should be enough. It's not in our world, and that's part of what I think we all have to work collectively to change is to make sure that we can make the case, in a way that is reasonable and get the governments to respond to our health rather than industry's profits.

MS. PATTON: Thank you. I'm Sharyle Patton from Commonweal. And I just think the presentations have been so inspiring and excellent. Thank you so much for all the work you're doing. It's outstanding. It gives me a whole lot of hope.

I wanted to bring up something that I don't think we've talked about very much, which is in many communities, the community itself is not united against stopping the source of pollution, because many people in the community are employed by the polluter. And so they may want to know their levels in the air, water, and soil.
And in their own bodies, they may not want to talk about
it, because the job is what they've got. It may not be
the best job, a good job, or what they want.

But nevertheless, they'll hold onto it, and not
want to speak out too much against the polluter, because
life is tenuous as we know. The economic situation in
this country is being degraded by current political
actions at the federal level.

Sorry. Can you hear me now?

I can hear myself so loud.

(Laughter.)

MS. PATTON: So I just -- I just think that's --
it's a tough conversation to have to try to bring in
members of the community that are employed by the
polluter. I run into that around oil and gas production
sites and agriculture communities. But it's something
that's going to be -- continue to divide communities, and
we have to figure out a way to deal with this. So that is
one thing to talk about.

And the other I think is once people know their
chemical body burden, and they're given their results
back, and the results, of course, are often not going to
give them the kind of information that they prefer --
would like to have, which is this chemical is causing this
health outcome. We'll just get rid of it and we'll be
fine. It's usually more complicated than that.

But once they have their -- that information, they carry it with them for the rest of their lives. And they -- there needs to be some way to address concerns they will have. When you talk to a physician immediately after getting your results, it's also good to talk to a physician or someone three months later, or six months later, because the safety standards may have changed how you evaluate the toxicity of a chemical in terms of socioeconomic status, or stress, or other chemicals, or epigenic change, you know, intergenerational vulnerabilities that are inherited.

Science will evolve. So it's always a way to think about people should be able to come back to somebody to talk about concerns that they may have, and also to learn a little bit more about the continually emerging science that tells us how our bodies are continuing to mirror the pollution outside to the pollution inside.

So it's an ongoing conversation. It's not just a biomonitoring study that empowers a community and acknowledges the wisdom of the community, and creates a dialogue with the scientists and the policymakers. It's more than that. It's really more than that.

So it's not that the California Biomonitoring program can take this on, but all of us together find can
ways to address some of these issues. But I think all of
the Biomonitoring Program is doing excellent work as
benchmark science, benchmark process. And I think
everyone is so proud to be part of that.

And, Nancy and I, of course, are very proud to
have been part of the initiative -- Breast Cancer Partners
and Commonweal to initiate some of it. And I'm proud of
very much what has happened. And I hope we can find a way
to keep strong, keep it going, and keep it relevant.

So thanks, everybody.

MS. GRACIA-SANTIAGO: This is Laura. To speak on
your first comment, you're absolutely right, there have
been a lot of times when I'm organizing -- when I'm door
knocking and I'm doing outreach with folks in our
community, and a lot -- a lot of folks are like, well, the
refinery is doing a lot better now. When I was growing
up, you know, the paint was chipping off the houses, and
that's not happening anymore, so they're doing something
good.

And it's, you know -- and there's definitely --
there's definitely still some tension, right, in regards
to really addressing the polluter, but also recognizing
that -- and I this is very like hyper-localized in
Richmond, you know, fossil fuels are running out. Like,
we can't keep, you know, relying on them, especially not
in environmental justice communities, where we've been on the front lines, and our health has been, you know, put -- has continuously been put aside, and to make sure that the oil industry is still running.

So the way we see it is in -- and when we -- when we are talking to community, recognizing we understand that they're big employers, but it doesn't mean that they're the only ones, right? And the reason that we feel like it -- they are is because there's been so much suppression on renewable energy. So then our push is while we're fighting the bad, while we're organizing to limit refinery pollution to decommission the refinery, we also need to actively be moving towards renewable energy, right?

We need to build the good. We need to make sure that the renewable energy is available in our communities, low income communities. Seventy-five percent of Richmond residents, community members, are renters. And that makes the automatically not available for solar panels. So how we make solar energy and renewable energy accessible to our low income and communities of color.

So we're moving towards a just transition, right? Moving away from this extractive economy that -- you know, folks are talking about the warehouses. They not only pollute, but they also extract so much from folks that
work there. Some of our community -- one of our community members, her mom works at one of the warehouses. And my young person has like -- she's the -- she's the oldest one of seven. And so she -- she's -- you know, she's the one that's doing all of the daily, like, making food, and all of that, because her mom is working at this warehouse incredibly long shifts, overnight shifts.

She has to drive out to work. So even though it is a polluter, it's also just so -- extracting so much from that -- from their personal life and their family.

So a just transition also includes meaningful work, right? Being able to put people at the center and make sure that we're still building these relationships that we need in order to thrive as a community.

CHAIRPERSON SCHWARZMAN: Laura?

MS. GRACIA-SANTIAGO: Yeah.

CHAIRPERSON SCHWARZMAN: I'm sorry. I just want to -- we have ever to close.


CHAIRPERSON SCHWARZMAN: Thank you.

On that note, I want to thank everybody for their contributions to today's discussion. It was really interesting to me to run the Panel meeting this way that we haven't done before. And I so appreciate having our
guest discussants here, and the participation of everybody in the room.

We're going to transition now to a final quick presentation that Sara is going to make about potential topics for 2018 Scientific Guidance Panel meetings. And I know she would appreciate all the input that you have.

While that's getting started --

MS. HOOVER: You don't have to leave this is going to be really short.

So, yeah.

(Laughter.)

CHAIRPERSON SCHWARZMAN: Stay right where you are.

MS. HOOVER: No, we're actually not -- so because of the arrangement, I'm not actually going to present my slides. I just want you to pull out your handout, which is in your packet, which is a green handout that says possible SGP topics. For those of you on the webinar, you can find the link on the meeting page. It's just the link called possible topics for 2018 SGP meeting.

So a little bit different, but just to deal with the logistics of the arrangement, we won't bother with actually slides.

We do this every year. We do this every November, because we like to get input from the Panel, as
well as the public, on our three meetings. We're mandated by our law to have three meetings per year. And we like to try to have a theme like we did today.

So this just gives some ideas on things we have in mind. As usual, we'll be reporting back on our nearly completed and ongoing studies. This first page talks about the ACE study you heard about today, the foam replacement study, as well as CARE and the Diesel Exposure Project. So we'll be reporting back -- we'll probably have an in-depth report back on ACE results maybe around July, including community partners.

Similarly, we'll be inviting partners of the FREES study to join us maybe in November. And we'll continue to give updates on these really interesting studies that we're launching.

That being said, if there's a particular study that people really want to hear about, please let me know.

The next slide is from the laboratory. In addition -- so the laboratory hasn't given a formal update since last November. They'll give a formal update of their work in March. And in addition to the normal just project updates on where they are, here's some of the information of what they're working on now. They provided this to me. And today told me that there's actually an error in one bullet so I want to flag that.
Their analyses in participants under PFASs is actually serum not urine. So if you can X that out and put serum.

So going back up to the top of the slide, we'll be discussing some -- continuing work -- so again, in spite of our diminishing resources, we always like to do as much as we can with what we have. One of the things that one of our labs -- the DPH lab is working on is to expand our phenols panel into some of the, for example, a replacement chemical for BPA, as well as expanding the phthalates panel into phthalates that are more in current use than some of the ones we've been measuring.

The DTSC lab will continue their work on the fluorinated compounds. This first bullet is an interesting concept of looking at the PFASs in serum, simultaneously with measuring PFASs in those participant's drinking water. So that it should be a really interesting pilot study you'll hear about.

They're also working on a high efficiency method for PFASs. You'll hear some about our development of the serum cotinine method that the DT -- the DPH lab has been working on. And then I did allude to earlier this work on non-targeted or semi-targeted screening. It's something that we value very much, and we had a great presentation on that in July.
We're going to circle back on that, and the DTSC Lab is actually working to apply that already in some vulnerable populations, like female firefighters and mother-infant pairs. So that's just a flavor of some of the lab updates. And again, if there's particular topics people are really interested in, you should flag those for me.

The next slide was going to be animated. So you'd be able to read the chemical selection. So every year -- so for those of you who are not so familiar with or program, one of the key roles of the Scientific Guidance Panel has been to work on chemical selection for Biomonitoring California, i.e. adding to our list of so-called designated chemicals, which is the entire pool from which we can choose to biomonitor.

And we regularly evaluate -- you know, we stay up with the literature, we look for emerging chemicals. One of the things that we were tracking is chemicals used in UV applications, like benzophenones and phenolic benzotriazoles. We've decided we're proposing, and the panel can certainly comment on this, to postpone consideration of this. It's quite a large effort to do a document like this. And OEHHA is involved in leading the diesel study right now.

As you also saw, we're declining in lab
resources. So to focus on doing more chemical selection doesn't seem like a great use of staff resources. And last, we are becoming a pretty mature program after 10 years. We have a great range of chemicals already on our list, including chemicals by class.

Again, that being said, if you have a specific idea for a chemical selection item, I'd be happy to note that, and we can try to find a spot for it, either in '18 or '19.

The next slide talks about this theme that we're planning for March, which is to really try to put a capper on. So last March, we celebrated our 10th anniversary. We had a special event to highlight our accomplishments so far. We kind of want to close that celebration by looking into some of our key findings from our first 10 years of studies, and looking at that as an overview and trying to integrate that information.

Also -- Amy Dunn, also from OEHHA, and our web developer Uli Weeren have been working on this really great new website feature called the findings feature, which is going to be presenting -- it's tying -- the feature will be tied to the CARE Study, so it will be showing -- it has the ability to look at findings by region, so you can click on a region and see what work is being done there and the findings that have been done
there. So this is going to be a demo to the Panel to look at design and possible content input. That will be in March.

And then unfortunately, we have to again have this conversation about what should we prioritize in view of declining resources. We actually had a really valuable discussion of that last March. So we want to go back and harvest that. We had guests discussants on that topic. We'll take a look at that. We also will be fortunate enough to engage Deanna again to work on a summary report of our EJ activities, including today's discussion, and try to look at that as part of prioritizing our future work.

So of the other possible topics, we often have special sessions as part of the SGP meetings. And this has come up today, how best to apply biomonitoring data to help evaluate regulatory effectiveness and refine policy. So we really -- that's one of our -- the goals of our program, and we want to get into more discussions of that with -- given the data and resources that we have.

We also want to reach out to other State agencies that we haven't connected with as much, for example, the Air Board and the Water Board to look at areas of collaboration and look at ways to partner going forward.

For example, there's a lot of interest in those
agencies on emerging contaminants in drinking water and
air. And that's something that we could definitely work
with them on.

And then Oliver Fiehn, who's not here today, has
raised the idea past about looking at the ethics related
to doing non-targeted screening studies. So we want to
pair a discussion of non-targeted screening with,
hopefully, finally getting to the ethics discussion.

And last, we're hoping to -- so OEHHA is leading
a study on synthetic turf, potential harmful chemical
exposures from synthetic turf, and they're working on a
protocol for a biomonitoring project. And that might be
ready for comment from the SGP.

And that is it for my talk. We have only two
minutes left about. We have to vacate. So I encourage
you to pick up one of these cards.

Great. So Amy has handed these cards out, which
if you -- you can -- on that card, you could write I'm
really interested in this topic from the handout, or I
propose an additional topic. We also are always happy to
hear from the public any time at this email address.

And with that, I will close and hand it back to
Meg.

CHAIRPERSON SCHWARZMAN: Thank you.

Yeah. Sara particularly mentioned to me in
preparation for this meeting how much she would like to hear input on future topics. So although, there isn't time for the discussion of it now, she really would like emails or these comment cards.

And along those lines, as long as we're talking about the website and email, I think one of the things coming out of today's conversation is how to make the data from these -- this Program available to community groups? And there's a lot that OEHHA posts on the Biomonitoring California website. And I think they would be eager for your input about how to make that -- the communication of that information most accessible and useful to your group.

So if you have time to spend on the website looking at the results of the Biomonitoring California studies, and have input on how to make that most useful, I think that would be very welcome. So with that, we need to wrap-up the meeting. That's the announcement about the topics. The -- and that email is biomonitoring@oehhca.ca.gov, if you want to provide input.

And so there will be a transcript of this meeting posted on the Biomonitoring California website when it's available. And Program staff are going to be in touch with SGP Panel members to schedule the three 2018 meetings that will take place in March, July, and November.

They're asking that if you know about specific
schedule constraints in those three months to go ahead and get in touch with Sara about those. And the March meeting will be held in Sacramento, just for everybody's preparation.

So with that, we will conclude the meeting. Thank you, everybody, for your input and presence today. (Applause.) (Thereupon the California Environmental Contaminant Biomonitoring Program, Scientific Guidance Panel meeting adjourned at 4:45 p.m.)
CERTIFICATE OF REPORTER

I, JAMES F. PETERS, a Certified Shorthand Reporter of the State of California, do hereby certify:

That I am a disinterested person herein; that the foregoing California Environmental Contamination Biomonitoring Program Scientific Guidance Panel meeting was reported in shorthand by me, James F. Peters, a Certified Shorthand Reporter of the State of California, and thereafter transcribed under my direction, by computer-assisted transcription.

I further certify that I am not of counsel or attorney for any of the parties to said meeting nor in any way interested in the outcome of said meeting.

IN WITNESS WHEREOF, I have hereunto set my hand this 26th day of November, 2017.

JAMES F. PETERS, CSR
Certified Shorthand Reporter
License No. 10063