MACRO INTERNATIONAL, INC.

FOOD AND DRUG ADMINISTRATION

HEALTH AND NUTRITION: METHYL MERCURY

Tuesday, November 14, 2000
8:00 p.m.

Moderator: Lynn Halverson
MODERATOR: -- tell the rest of the group your first name and, gosh, how about how many people there are in your household. Okay?

PARTICIPANT: My name's Rachel.


PARTICIPANT: They've misspelled it.

There are three people. I have a husband and a baby.

MODERATOR: Okay. How old's your baby?

PARTICIPANT: Fifteen months.

MODERATOR: Wow. Okay.

PARTICIPANT: My name is Judy. There are only two of us, my husband and myself because my two daughters are grown. I have a son-in-law and a granddaughter.

MODERATOR: Okay. Thanks.

PARTICIPANT: My name is Hart, and there are five of us.
1 MODERATOR: Okay. Thanks.

2 PARTICIPANT: I'm Howard. There's my

3 wife and I. My two older sons have moved out.

4 MODERATOR: Flown the coop, huh?

5 PARTICIPANT: Oh, yeah.

6 MODERATOR: Okay.

7 PARTICIPANT: My name is Stacey. There

8 are four of us. I have a husband, a

9 three-year-old son and a seven-month-old

10 daughter.

11 MODERATOR: Okay. Thanks.

12 PARTICIPANT: My name is Craig. I've

13 got a wife and teenage son and daughter at home.

14 MODERATOR: Okay.

15 PARTICIPANT: My name is Cecilia Yen.

16 My husband and I and two year old.

17 MODERATOR: Okay.

18 PARTICIPANT: My name is Ed, and

19 currently there are two of us because the three

20 sons have grown and moved out and have given us

21 three grandchildren.

22 MODERATOR: Wow, okay. Thanks.
PARTICIPANT: My name is Duane. I own an apartment. I live by myself.

MODERATOR: By yourself, okay. Thanks.

PARTICIPANT: My name's Rosa. I have two boys and two girls. The two boys are grown, and two little girls, ten and twelve.

MODERATOR: Ten and twelve. Okay. So, they're still with you?

PARTICIPANT: They're still with me.

(Laughter.)

PARTICIPANT: The boys too, their nineteen years and the other one is twenty-five (indiscernible).

MODERATOR: Okay. All right. I'd like to start out talking about possible environmental contaminants that get into the air we breath or the water we drink or the foods we eat. Things like mercury or lead or pesticides or something like that. Have you heard of these kinds of contaminants?

PARTICIPANT: Oh, yeah.

MODERATOR: You have? What can you
tell me, Howard?

PARTICIPANT: Well, I guess the federal government uses the EPA many times to monitor that, Environmental Protection Agency. We can get mercury, usually I think you find it in fish, but I don't know how far you want me to go with that.

MODERATOR: Okay. And others? Yeah.

PARTICIPANT: You know, airborne contaminants.

MODERATOR: Stacey, when you think of those kinds of contaminants, what do you think of?

PARTICIPANT: What was -- you said mercury, lead and something else?

MODERATOR: Pesticides.

PARTICIPANT: My dad actually works for the EPA, so some of what I hear is that the problem's a little over-exaggerated, maybe, at times. That some pesticides don't have such a stress -- as big as an effect as people that claim that they would. Like dioxin is one, I
think, where it's like one billionth of a particular that could, you know, that the chemical itself is really harmful, but in the minute quantities that are in our air and water, it couldn't harm us anyway.

MODERATOR: Okay. Duane, what kinds of things do you think of with these environmental contaminants?

PARTICIPANT: Well, pesticides. They can harm you in food.

MODERATOR: That brings up a good question, where would you find pesticides? You said, food. Any other places you would encounter pesticides?

PARTICIPANT: I have something to say on lead.

MODERATOR: Lead, okay. That's fine.

PARTICIPANT: I do -- I mean, we live in an older home, so we did have the house, the paint, tested when I was pregnant. And I run -- when the baby was on formula, when he was little and I would run the water for a few minutes
before making the formula just to be careful.

PARTICIPANT: The thermometers, too, they leak. Do all thermometers --

MODERATOR: The thermometers with the lead?

PARTICIPANT: They leak too. We're supposed to give them if they break -- no throwing in the trash, because of the mercury inside.

MODERATOR: Mercury?

PARTICIPANT: Um-hmm. Okay. So, the mercury in thermometers.

(A participant requested a bathroom break from the group.)

MODERATOR: Where do you think you would be most likely to be exposed to pesticides, for example? Craig?

PARTICIPANT: Well, alongside a well-traveled roadway, perhaps. The back of someone's garden, say in the shed you might run across something that's in a can that's been there twenty years and, ew, the bottom fell out
of it, kind of thing.

MODERATOR: Okay.

PARTICIPANT: Pesticides, possibly from the fish, but I'm not -- not that likely, because fish is not that cheap anymore.

MODERATOR: Okay.

PARTICIPANT: I know my parent's live in Laurel, Maryland, and they do the planes where they spray the fields, and then it's in the air. But, it never really worries me. I mean, I've watched them do it.

MODERATOR: Where would you be most likely to be exposed to mercury?

PARTICIPANT: Thermostat switches.

MODERATOR: Thermostat switches. And Rosa, you mentioned the thermometers. Howard, you mentioned the fish. What can you tell us about that?

PARTICIPANT: No really, not much. But I did know that at one time, I think they took -- what was it -- swordfish off the market. That was a while back. They claimed that it had a lot
of mercury, but as Stacey said earlier, I think a lot of that is maybe a little exaggerated.

MODERATOR: Okay. Judy, anything to add to that?

PARTICIPANT: I think factories and everything that they're not inspected, that they could release things like that into the ground and waterways and things like that.

MODERATOR: Okay. Speaking about the fish and seafood and that kind of thing, can I just get a show of hands, how many of you tend to eat fish and seafood on a fairly regular basis?

One, two, three, four, five, six. Okay.

PARTICIPANT: What do you mean by regular basis?

MODERATOR: I don't know, what do you mean by regular basis?

PARTICIPANT: I thought once a week when you said regular basis, and I don't eat it that often.

MODERATOR: And how often would you eat it?
PARTICIPANT: But I have no opposition to eating fish.

MODERATOR: Okay. Cecilia, you didn’t raise your hand either. You don't --

PARTICIPANT: I don’t like seafood too much.

MODERATOR: Okay. And --

(Tape trouble.)

PARTICIPANT: Just about everything.

MODERATOR: Ed, how about you?

PARTICIPANT: I eat it all. The only thing I can’t eat because it gives me an allergic reaction are the soft shell crabs and the, you know, the full size crabs, no problem. It’s just the soft shell crabs.

PARTICIPANT: (Indiscernible.)

(Laughter.)

PARTICIPANT: I’ll tell you a real quick, sad story. I had stayed off of them for fifteen years. The company wanted to have a crab feast. We were all throwing in twenty-five dollars. At the last moment, somebody said, you
I know, I bet there are one or two people who plain just don't like soft shell crabs. And they weren't thinking of me. And they said, probably be a good idea if we got a package of hotdogs, just in case.

Well, the great day came. I hadn't had soft shell crabs in fifteen years, and my thought was they're not going to bother me. One bite, after one bite. I sat down, because I had to. For two plus hours, and finally got up and walked over to the grill and there were two or three of these little, burned hotdogs on it.

MODERATOR: Okay. Let's keep moving on. Craig, you said you do eat seafood, or --

PARTICIPANT: At an average about once every two weeks, whether it's shrimp or whatever.

MODERATOR: Okay. Howard?

PARTICIPANT: Maybe twice a week.

MODERATOR: Okay. What kind, fresh fish or --

PARTICIPANT: Yeah. Fresh fish, shrimp, scallops.
MODERATOR: Hart, how about you?

PARTICIPANT: All I eat is carry out.

MODERATOR: All you eat is carry out fish?

PARTICIPANT: No, carry out like McDonald's.

MODERATOR: Oh, okay. So, you don't eat fish at all? Judy, how about you?

PARTICIPANT: At least once a week. I had salmon tonight.

MODERATOR: Did you? And Rachel?

PARTICIPANT: Not very often.

MODERATOR: Not very often? Okay.

PARTICIPANT: The information that we're going to be looking at today is actually some information about seafood and I have one, two, three, four, five, six, seven, eight, nine, ten and there is one for me. Good.

What I'd like you to do is follow along with this with me. Don't read ahead, because we're going to be talking about it in the section by section.
And the first page is saying, a message for women who are pregnant, planning to become pregnant within the next six months, nursing mothers, about need to limit to eating certain seafood, and there are at least one, two, three, four, five males around here. So, I guess you're not planning to become pregnant in the near future, but it's the kind of thing that in the general population, we do have people who are pregnant. So, we wanted to talk to the general population.

Okay. So, let's move on -- and I'd like to just read out loud the first section and then talk about it a bit. Seafood can be an important part of a balanced diet for pregnant women and nursing mothers. It is a good source of high quality protein, is low in fat and contains Omega III fatty acids that help your baby develop its' immune and nervous systems.

Some seafood, however, may contain high levels of a form of mercury, called methyl mercury that can harm the fetuses of pregnant women. By being
informed about methyl mercury and knowing the
kinds of fish that are safe to eat, you can
prevent any harm to your baby and still enjoy the
important health benefits of eating seafood.

Okay. When you read this introductory
section, what is that telling you -- just in
plain, ordinary English? Cecilia?

PARTICIPANT: Seafood is important,
gives you Omega III fatty acids.

MODERATOR: Okay. Anything else that
comes out of this first section to you?

PARTICIPANT: To alert about the
mercury.

MODERATOR: To alert about the mercury?

PARTICIPANT: Exactly.

MODERATOR: Okay.

PARTICIPANT: One kind.

MODERATOR: Okay. Now, I know that
Howard had mentioned something about mercury in
fish a little earlier. This was something I
didn't know anything about until I started doing
this project. Is this the kind of thing that you
knew about before you read that information, that
there was mercury in fish, or not? Is this new
information to you? Yes. Rachel?

PARTICIPANT: No. When I was pregnant
you get that kind of stuff, and definitely being
careful about what foods you eat was in there.

MODERATOR: Okay.

PARTICIPANT: Well, this is news to me.
(Laughter.)

PARTICIPANT: And I feel like I tried
to be pretty informed when I was pregnant. I do
remember eating sushi and things like that
because people had said, oh, that's dangerous and
there can be more harmful things in there. But
at first I was like, wow, I don’t think I eat
enough seafood and then I thought well, not I
didn’t. So, it was sort of shock to me.

MODERATOR: Okay. Craig?

PARTICIPANT: There's no surprise about
many contaminants being in any kind of seafood,
depending on where they're caught from, whether
it's a bottom feeder or an upper level feeder or
somewhere in the middle. It depends on its
feeding habits.

MODERATOR: Anyone else?

PARTICIPANT: I've seen something about
the contamination in the Chesapeake Bay, on the
fish, they were dying here somehow.
(Indiscernible.) I didn't pay attention too
much.

MODERATOR: You didn't pay attention to
it?

PARTICIPANT: I did pay something -- I
know a lot, don't go to details.

MODERATOR: When the fish were dying in
the Chesapeake Bay, did that have to do with
methyl mercury or was that --

PARTICIPANT: I really had stopped
thinking about it as time -- going to happen when
you buy fish, especially when I go fish. And
then we stop thinking about, you know.

MODERATOR: Okay.

PARTICIPANT: But usually, you know,
when thinking about it, you will say, I will cook
MODERATOR: Duane, how about you? Had you heard about this methyl mercury in fish?

PARTICIPANT: No, I never heard of it.

MODERATOR: What do you think when you read something like that?

PARTICIPANT: Well, hmm. It's something that I never knew about. I know about mercury.

MODERATOR: Hart, any response, sir?

PARTICIPANT: No, I never knew about it either.

MODERATOR: Okay. Let's go down to the next section then, it says, how does methyl mercury get into fish? Mercury occurs naturally in the environment and is released also into the atmosphere, primarily from coal burning power plants and waste incinerators. Traces of mercury get into ground water accumulating in streams and oceans. Nearly all fish contain trace amounts of methyl mercury, which are not harmful to humans. Fish absorb methyl mercury from water as it
passes over their gills and as they feed on aquatic organisms. Long-lived, larger fish that eat on other fish accumulate the highest levels of mercury and pose the greatest risk to people who eat them.

Okay. So, that section’s trying to tell about how mercury gets into fish. Again, what I’d like to do is kind of get your general reaction to the information you’ve gotten so far.

Ed?

PARTICIPANT: Well, it’s informative.

I had heard about mercury in fish, but never specifically methyl mercury. I did know that it came from coal burning plants. I did not know that it was harmful, particularly to pregnant women. I wasn’t aware of that. Most of this, you can either pick up on the newspaper or pick up on the TV news shows, and EPA as other people have said, makes a point of publicizing things like this. But, it’s good information, you know.

MODERATOR: Judy, what’s your reaction so far to the information you’ve gotten?
PARTICIPANT: Basically, the same thing. It has -- you know, you always hear about contaminants in everything. I have heard about mercury, but not a specific kind of mercury.

MODERATOR: Okay. Any other thoughts or reactions to what you've read so far? Yeah, Craig.

PARTICIPANT: Yeah. If fish accumulate mercury in a certain way then why just mercury? Why not other things as well?

MODERATOR: Okay. Again, I'm not the expert, but that's -- those are the kinds of questions we'd like to know that it raises for you.

PARTICIPANT: There are also several different varieties of mercury. I don't understand they particularly focused on methyl mercury, because they're some very stable forms of it too.

MODERATOR: Okay. So, that would be information you would want too. Anyone else? Rachel, anything else you would like to add?
PARTICIPANT: Not really. If I was reading this as a pregnant mother looking for information, that wouldn't be what concerns me. I would just want to know it was there and what to avoid.

MODERATOR: Okay. All right. Now, they've talked specifically about, that can harm the fetuses of pregnant women. So, obviously, you folks are not pregnant women sitting here. When you read that, do you have any reaction to how this information would affect you?

PARTICIPANT: The first question for me would be, is this information clear, what kind of organization who made this was.

MODERATOR: What kind of an organization made --

PARTICIPANT: From the government, or is it a private organization, what kind of information, what kind of study do they do?

MODERATOR: What kind of study?

PARTICIPANT: Exactly, and then I would have more concerns about it.
MODERATOR: Okay. All right. Any other comments so far?

PARTICIPANT: I think that was a good point.

PARTICIPANT: Yeah. Who made it?

PARTICIPANT: Maybe the poultry and the beef industry.

(Laughter.)

MODERATOR: Okay. Let me just stop that line right now, because this actually is a National Academy of Sciences study that has recently come out which is why it was done. So -- and that's why we're having this discussion.

Yeah, Craig, do you have something else?

PARTICIPANT: No. I just said it.

MODERATOR: Okay. Let's move on and, what are the risks for methyl mercury to my baby? Methyl mercury can be dangerous to the fetus because it effects the baby's developing nervous system, which can result in learning disabilities later in life. It takes about six months for
methyl mercury to be eliminated from the body,
that's why safe seafood eating is especially
important immediately after becoming pregnant, as
well as during pregnancy. The first trimester is
a particularly critical period in a baby's
development. So, when you read this information,
is this beginning to answer the kinds of
questions that Rachel was asking?

PARTICIPANT: It answers it a little
bit more. My initial reaction when I read
something like this, you know, when it says it's
most dangerous during that first trimester is
that there are so many women who don't know
they're pregnant during that first trimester
until they're well into it. If you are -- you
know, reading this what are the risks for methyl
mercury to my baby? You know, I'm
assuming this is going to be read by someone who
is already pregnant. You know, that's a little
late. It should be marketed to people who are to
become pregnant.

MODERATOR: Okay.
PARTICIPANT: Yeah. Actually, because it says in here, not after becoming pregnant; it says, before becoming pregnant. You know, in one paragraph, I read trace amounts. You can think any food contains things that (indiscernible). People aren’t going to, like this, stop having Hershey’s kisses because they have chocolate and caffeine in them. You know, like, what foods can you avoid when you’re pregnant? What can you eat? But on the other hand, the stakes are so high that when I see a baby’s nervous system, that says to me, don’t eat fish anywhere near the time you’re thinking about being pregnant or --

PARTICIPANT: Thinking of trying to get pregnant.

PARTICIPANT: Here, you have trace amounts make me want to write it off, but then when I see nervous system, forget it. I think it’s not worth the risk.

MODERATOR: Okay. So, you hear the word, trace amounts, and that sounds like, oops, not a problem?
PARTICIPANT: Right.

MODERATOR: But you hear, nervous
system --

PARTICIPANT: Nervous system.

MODERATOR: Huh. Okay. How about the
rest of you, Rosa?

PARTICIPANT: For me, it's a red line.

MODERATOR: The nervous system?

PARTICIPANT: The nervous system is in
the first (indiscernible), and then you look for
the effects of this.

MODERATOR: Okay.

PARTICIPANT: Like avoiding drinking
and smoking.

MODERATOR: Yeah.

PARTICIPANT: I would, even thought
I've never been pregnant (laughter), I would very
much agree with Stacey that when you start
talking about the nervous system, and when you
start talking about learning disabilities later
in life, my wife is a schoolteacher and faces
that with her students day in, day out, day in,
day out, and it's terrible. Really, it truly is.

Junior high school kids, who because of something like this -- I'm not saying this specifically -- but because of something that happened very possibly while the mother was carrying, will carry these disabilities through their lives. In many cases, they unfortunately pass these disabilities onto their children, even without any of this because it's in their genes.

MODERATOR: Okay. Any other responses?

Rachel.

PARTICIPANT: I also -- if I had been pregnant and reading this, I also would have had the reaction, okay, what fish have I eaten. I would have, you know, thought back, oh, my God, have I now hurt my baby because I had some fish back then. Oh, my God, it might have been mercury. It's an added, unnecessary worry to it.

MODERATOR: Yeah, Cecilia?

PARTICIPANT: I think after reading this I'll be thinking of how to properly cook the fish and what type of fish you should eat during
pregnancy and all that stuff.

MODERATOR: Okay. Let's go onto the next section, then, which says, how can I protect my baby? You can protect your baby by limiting the kinds of fish you eat. The Food and Drug Administration and the Environmental Protection Agency recommend that you limit the amount of fish that you eat with high levels of mercury and only eat fish that have low levels of mercury or no mercury in them.

Any responses to this information?

PARTICIPANT: Well, it's a little more encouraging rather than wiping them all right out of your diet, you know, you're giving us a little bit of hope that because seafood is good to eat, there are some kinds of seafood that are not harmful.

MODERATOR: Okay.

PARTICIPANT: That's what I got out of it.

MODERATOR: Okay. So, Hart, you're a pregnant woman here (laughter), can you be our
honorary pregnant woman?

PARTICIPANT: Come on.

PARTICIPANT: Come on, guy.

PARTICIPANT: All right.

MODERATOR: So, you've read all this information. How are you reacting to it so far?

You're pregnant, remember.

PARTICIPANT: No. I just wouldn't eat it.

MODERATOR: You just want to eat the fish?

PARTICIPANT: No, I wouldn't.

MODERATOR: You wouldn't want to eat it. Okay, and what kinds of fish wouldn't you want to eat?

PARTICIPANT: None of it.

MODERATOR: No fish?

PARTICIPANT: None.

MODERATOR: Okay. Even though some have high levels of mercury and others have low levels of mercury?

PARTICIPANT: I'd eat shrimp and
lobster.

MODERATOR: Okay. So, you would eat
shrimp and lobster, okay. How would the rest of
you make decisions on this kind of thing?

PARTICIPANT: I'd have to find out what
kinds of fish it was. I'd have to find out and
see.

PARTICIPANT: I would want more
information, as she says; there are some fish
that are more susceptible. The bottom feeders
like flounder, there's other ones that it's not a
problem.

MODERATOR: Okay. Let's go onto that
next section then that says, what fish have
higher levels of mercury and shouldn't be eat?
King mackerel, shark and swordfish have higher
levels of mercury in them and should not be eaten
more than once a month. If you eat other fish,
you should not eat king mackerel, shark or
swordfish at all. Tuna steaks have moderate
levels of mercury.

Tuna steaks can be eaten three times a
month. Canned tuna, which is made from smaller fish, has less mercury than tuna steaks. You can eat one and a half six ounce cans of tuna every week with no problem.

And in discussions before this group, we realize that the title, what fish have higher levels of mercury and shouldn't be eaten really applies to the first three, the king mackerel, shark and swordfish. Then the tuna steaks are in another category. Canned tuna is in yet another category. Is that clear?

PARTICIPANT: Yes.

MODERATOR: Okay. So, when you see this information, and let's look at that chart below too, what fish have low levels of mercury or no mercury in them? There are a bunch listed, and then right at the top of the next page, it says, breaded fish sticks, fish sandwiches and imitation crabmeat are generally made from these fish and have low levels of mercury.

So, here you have all this information. You are making a decision on what to eat. How would you
PARTICIPANT: I think I must have made this decision. I know Rachel said something before, but how did I not know that. But, I think you know what, I probably did hear this and then I read all the information and thought, oh, well, I would never eat fish that often anyway, because like I said earlier, I wouldn't have fish one a month anyway. So, I thought, I'm not at risk, so it's not a big deal. Therefore, it doesn't apply to me.

MODERATOR: Okay. And Rosa, you said you eat fish a lot.

PARTICIPANT: I eat almost every day a can of tuna fish for lunch.

MODERATOR: Okay. So, usually this information -- how do you interpret this information?

PARTICIPANT: For me, if they say -- first of all, those -- king mackerel, I don't eat. So, I'd have to go for the fish that I really eat and see my preference. When you start
thinking about what kinds of fish and make a selection, that's it.

MODERATOR: Make a selection from the low?

PARTICIPANT: From the low ones.

MODERATOR: Okay. For the king mackerel, shark and swordfish, you, obviously, are not pregnant right now. So, would you stay away from that too, or just a pregnant woman?


MODERATOR: How about the rest of you? I don’t think any of us around here are pregnant women, how do you interpret that information for you, personally? Ed, then Cecilia?

PARTICIPANT: Well, we haven’t read anything yet that it is a negative thing to do unless you are pregnant. So, based on what we’ve read so far, I don’t think I would change anything at this point.

MODERATOR: Okay. Cecilia?
PARTICIPANT: If I'm not pregnant and I think it would make my life easy since I don't like fish. I'd just take vitamins.

MODERATOR: Okay.

(Laughter.)

MODERATOR: Rosa?

PARTICIPANT: For me, this one, the king mackerel, the fish I would try to have none for myself, because if you cook something and somebody comes to eat in your house or a guest or relative and they are healthy woman, thinking to about getting pregnant or maybe pregnant already. I don't want to cook anything troubles. I'd just avoid fish.

MODERATOR: So you would avoid the king mackerel, shark and swordfish if you had company?

PARTICIPANT: Yes. If I have company or somebody to come.

PARTICIPANT: Are the guys supposed to look at this or as pregnant women or guys?

MODERATOR: Anyway you want, Howard.

This is your chance to shine.
PARTICIPANT: I like king mackerel and tuna. I'm going to eat it.

MODERATOR: Okay. Craig.

PARTICIPANT: In the past I've been exposed to a lot of different chemicals and such, I've been in traffic here and there, played the dodge car show (ph), see, and I guess my time was up five years ago, maybe twenty years ago, you never know. But, to make a long story short, I'll eat anything.

MODERATOR: Let's say Howard's pregnant now.

PARTICIPANT: Congratulations.

(Laughter.)

PARTICIPANT: A millionaire.

MODERATOR: And you still love king mackerel, so how do you --

PARTICIPANT: I'd probably abstain from it.

MODERATOR: While you're pregnant?

PARTICIPANT: Um-hmm.

MODERATOR: Craig.
PARTICIPANT: Yeah. I'd abstain. I can always eat later. I will.

MODERATOR: All right.

PARTICIPANT: Have we decided not to focus on the first page that said, pregnant, planning to become pregnant or nursing mothers? Are we eliminating those last two categories for some reason or --

MODERATOR: No, we're not.

PARTICIPANT: Nursing mothers and becomes.

MODERATOR: Yes. The nursing mothers, and still planning to become pregnant or all categories too. I guess I just said pregnant women to make it easier. I just can't imagine -- I can imagine how pregnant, but not as a nursing mother.

(Laughter.)

MODERATOR: Okay. It's getting late, Howard. Okay. So, you have this information and we're making our decisions. Judy, how do you interpret this information for you personally?
PARTICIPANT: Well, I have a daughter that's of childbearing age, so I would be fearful for her and I would warn her. You know, if you're going to get pregnant within the next year, avoid these kinds of fish.

MODERATOR: Okay. And which ones would you tell her to avoid?

PARTICIPANT: Well, first the king mackerel, the shark and the swordfish, and eat very moderate amounts of tuna.

MODERATOR: Okay. What is that, Craig, you said they're predators?

PARTICIPANT: They're all predators. They eat off of anything else. They're at the top of the food chain, so they get a --

MODERATOR: All right. Okay, let's move to the next page. If methyl mercury can be harmful to my baby, why isn't it harmful for me or the rest of my family? If you and the other adult members of your family consume an average amount of seafood, tuna sandwiches and salads, the occasional fish steak, the level of mercury
in the seafood supply is not a risk. To be
perfectly safe, fish with high levels of mercury
should be eaten only once a month.

Okay. Any reactions to that

PARTICIPANT: Well, I think it's
something that confirms what we said, that unless
you are in one of those three categories,
planning to become pregnant, or are pregnant or
are a nursing mother, then it's not going to have
any great effect or any effect actually. Like
Judy, I would say, I'd warn my daughters-in-law,
but I haven't read yet that says it's going to be
harmful to me or harmful to my wife, who is
beyond childbearing age. So, I don't think I'd
change anything.

MODERATOR: Okay. Duane?

PARTICIPANT: All the fish that have
high mercury in it, and I don't eat anyway, so I
think I'm going to be pretty safe on that.

MODERATOR: Okay. The part from here
is, you say if you and other adults -- what about
children? I would be more concerned about children, because they say only adults. But if there's a risk at three, four, five years old, we have to be concerned. What -- in this study they found out why they make something, only to the newborn babies or the babies, the pregnant ladies and adults, nothing happens. What happens in the children?

MODERATOR: Okay.

PARTICIPANT: I think I agree with what Rosa is saying. It seems to me that this doesn't answer the question. It doesn't tell us why it's not harmful to the rest of us, and I think the obvious answer is because it's so little and it's going to get more into their bloodstream (indiscernible, multiple speakers), but this doesn't say that. This just says that it's not that dangerous to you and just don't eat it more than once a month, which is what we already heard. So, I think if they're trying to answer our question here, they need to really answer it and state what may seem to be obvious to all of
us, but it doesn't say.

MODERATOR: Okay. Anyone else? All right. What about the fish caught by sport fishers, are they safe to eat? There can be a risk of contamination from methyl mercury in fresh waters from natural and industrial causes. Check with your state or local public health department for any advisories, warnings of mercury in waters in your local area. Remember to protect your baby, avoid eating fish with high levels of mercury and only eat fish with low levels of mercury or no mercury in them. Check with your local public health department to see if there are any advisories on methyl mercury before you eat fish caught in local waters. For further information, you can contact the Environmental Protection Agency or the Food and Drug Administration, and they have websites. So, when you see that information and you look at all of it in general, it sounds -- Stacey, like you -- have a couple of unanswered questions.

PARTICIPANT: Vague information here.
So, you could find the information --

PARTICIPANT: No. I said vague. This has no specific information that we would need. We have more questions.

MODERATOR: You have more questions, okay. What questions aren't answered yet by this information?

PARTICIPANT: I would think, like Stacey pointed out, you know, is it safe for my kids to eat.

MODERATOR: Okay.

PARTICIPANT: How many pounds of swordfish can you eat a month?

PARTICIPANT: What amount?

MODERATOR: Okay.

PARTICIPANT: I mean, what are they talking about quantity wise.

MODERATOR: All right. They say in moderate amounts. How would you interpret that information?

Rosa eats fish many -- how many times a week?
PARTICIPANT: Maybe two, three times a week.

MODERATOR: Two, three times a week.

Stacey eats it once every two weeks, maybe?

PARTICIPANT: Maybe once a month I would say.

MODERATOR: Is it moderate amounts, both of them?

PARTICIPANT: Stacey, I believe, is much closer to being moderate. Whereas Rosa's diet for this country, I would say would be somewhat excessive.

MODERATOR: Do you think you eat moderate amounts of fish or --

PARTICIPANT: For me, it's moderate. Because in Venice, if you eat three times a day. It's different. You have only once or twice in a week, and you have lunch, breakfast and dinner, you have salad and try some potatoes and different things. It's not only fish that you eat. The portion maybe two or three ounces, and besides all the other food. So, for me, it's no,
not much.

MODERATOR: How would the rest of you determine what is moderate? Judy, you see some information that says, may eat moderate amounts. And you say you have daughters that might get pregnant. So, how would you interpret that information?

PARTICIPANT: I would think maybe once a week, maybe twice a week if you count canned tuna and things like that, because that's very frequently a popular item for lunches. So, I would say no more than four times a week at least.

MODERATOR: Okay. What would you do if, let's see -- what you really like is blue fish and it's not on this list here at all. How would you deal with that? It isn't listed with king mackerel, shark and swordfish. It isn't listed with the medium things with the tuna, and it isn't listed with what fish have low levels or no levels of mercury in them. What would you assume about those fish? Rachel.
PARTICIPANT: If I were pregnant, nursing or planning on becoming pregnant, I would simply avoid it. If not, I would probably eat it.

MODERATOR: Okay. How about the rest of you?

PARTICIPANT: Go for it, I'd eat it. It's delicious.

MODERATOR: I think we'll make you pregnant again, Craig.

(Laughter.)

PARTICIPANT: That's quite a work.

MODERATOR: If you were pregnant and it wasn't on the list?

PARTICIPANT: I'd stay away from it.

MODERATOR: Why would that be?

PARTICIPANT: Just on the side of caution. Anything with fish, anything that might have any hint or perception of contamination, just for those times. Maybe not for me, but for certainly the next generation.

MODERATOR: If you were pregnant, how
would you use this information? Would you take
the list of the fish with you to the grocery
store and chose according to the list or would
you just kind of remember? How do you use the
information?

PARTICIPANT: I think that the easiest
way to do it is not to take the list necessarily,
because the list is listing a great number of
okay fish. The top three at the top, which are
negative, are much easier to keep in your mind
than this somewhat lengthy list. So, I would
remember mackerel, shark, and swordfish and say
no, and be moderate with the tuna fish steaks and
all the rest is okay.

MODERATOR: Okay. How about the rest of
you?

PARTICIPANT: I’d remember.

MODERATOR: You’d remember those three?

PARTICIPANT: Oh, yeah. Yeah.

MODERATOR: Okay.

PARTICIPANT: I’d remember those three,
but I also picked out ones on the lower list that
I know I like. I'm like, next time out; it's okay to order salmon. I know for sure that's safe.

MODERATOR: What would you do about the blue fish, kind of thing that isn’t on there?

PARTICIPANT: I've never eaten blue fish anyway, so I guess I'm missing out from what you're saying. But, to be honest, there are so many things that are unsafe (indiscernible) I don’t have time to keep up with it. There are so many things, especially with little babies and everything that's recalled and dah, dah, dah. Again, since I've never had blue fish, I probably would not be inclined to order it. I don't think it applies.

MODERATOR: Okay. Cecilia, do you have something?

PARTICIPANT: No.

MODERATOR: Okay. Anyone else? What I would like to do now is actually bring somebody in here who is with the Food and Drug Administration. They're trying to get

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information together for consumers and, obviously, this information is targeted to pregnant, planning to become pregnant, nursing mothers and so forth, but what they're trying to do is get information from the general public on this. So, there is somebody from the Food and Drug Administration shortly. I think I hear him now, actually. Bring a chair over, oh, have your own chair.

This is Dr. Alan Levy with the Center for Food Safety and Nutrition at the Food and Drug Administration. He had some questions he'd like to ask you.

DR. LEVY: One question I have is, do you have any questions that are raised by what you've read today?

PARTICIPANT: How much is a moderate amount of fish? Say you're going to eat king mackerel, which is identified, and I like king mackerel and I like tuna steaks.

DR. LEVY: The advice for pregnant women is once a month or less for things like
king mackerel, tuna steaks, whatever.

PARTICIPANT: How much? We want you to be more specific.

DR. LEVY: We're assuming like a six-ounce serving size. You know, a normal serving size like six ounces or something. So, do you like the serving size information? Would you like more quantitative kind of information about how much?

PARTICIPANT: Exactly, more specific.

PARTICIPANT: I think so.

DR. LEVY: Do you think these lists were long enough and comprehensive enough complete enough?

PARTICIPANT: Only at the end, I have concerns about the children. So, be as specific, nursing mothers, but why the nursing mothers where they have no (indiscernible) nursing the baby, and then what happens with another babies, the toddlers or the infants?

DR. LEVY: We're trying to explain that the risk is primarily for neural development.
When neural development is taking place, that's when mercury is particular, a concern and that's when -- when the baby is in the womb is a really critical time. But throughout the early years, there is more -- when there's growth. So, certainly nursing mothers would be concerned, and as the kid grows it becomes less of a concern.

Exactly when is --

PARTICIPANT: What I want to know --

I'm sorry, I didn't mean to interrupt but I have a baby that I am nursing and I have a three-year-old son. Which is more harmful? For me to have a little bit of this fish and then nurse my baby, or for me to give my toddler a small portion where he's directly getting the fish?

DR. LEVY: The toddler is less at risk, obviously, than the --

PARTICIPANT: Just now you said, anytime where there's growth.

DR. LEVY: When there is growth, neural growth, and so the older they are the less in
that there would be.

PARTICIPANT: So, you're saying even at
two and a half or three it's not --

DR. LEVY: By the time children are
eight, there's actually relatively little brain
development going on by them. Most of the brain
development happens before they're two, but there
is some from two to six. It would be much less
of a concern after two years.

PARTICIPANT: I have a fifteen month
old and he loves tuna. I would want to know,
should I be limiting the amount of tuna that I
give him?

DR. LEVY: You know, the advice is
quantified. Depends on how much tuna he's
eating. It would be, you know, prudent to cut
back if he's eating more than a can and a half a
week.

PARTICIPANT: So, it's the same can and
a half for a fifteen month old as it is for him,
you know, for an adult male?

DR. LEVY: That is our -- yes. It
would be the same. It depends on how much you're doing.

PARTICIPANT: All this is based on statistics.

DR. LEVY: Right.

PARTICIPANT: So, supposing your statistics were based on tuna that were taken off of New York/New Jersey coasts, brought in, sampled and so forth, shall we say in a hot little batch, and you base your entire industry, your sayings, your advising on this. Whereas probably there could well beyond maybe ten percent of the tuna that's brought in for human consumption. Would you be doing the public a disservice by scaring them this way?

DR. LEVY: Well, that's -- the question is, what are -- the reason we're doing this today is that we're trying to get some insight about how we can talk about this without unnecessarily scaring people. That is a concern, obviously, that we had. All of these recommendations are based on really significant safety factors, are
built into these recommendations. The variation -- there is variation, obviously, in levels at any given -- in any fish, but we've built in at least a ten-fold safety factor in these amounts. So, that's how we addressed the fact that there is natural variation. We're going to err on the side of caution.

MODERATOR: The study actually was not on certain parts of -- certain groups of fish or anything like that. That was --

DR. LEVY: Right. The real context here is that for long time mercury has been recognized as an environmental toxin. Both the EPA and FDA have in place certain regulations that govern exposure of humans to mercury. A major source of mercury being released in the environment is through power plant emissions. EPA has regulated the levels that are allowed in power plant emissions. The major source of human exposure to mercury is fish, and FDA has regulated the amounts of mercury that are allowed in fish.
What's happened in the last few years is that there has been these two studies that have recently been done that have actually looked specifically at the effects of dietary consumption of mercury on development of children. These are very, very difficult kinds of studies to do, and one has been done in the Seychelles Island, which is in the Indian Ocean. You have a population that eats a lot of fish. Another one has been done in the Faroe Islands, which is off the coast of Greenland, where you also have a lot of fish eating. These studies have shown that there is a greater problem for the developing fetus from mercury than previously had been understood. That's motivated both FDA and EPA to start doing some things. EPA is going to lower the allowable levels of mercury in emissions in power plants, and FDA is going to disseminate some of this information about the hazards of mercury in fish.

PARTICIPANT: Is mercury the only heavy metal that they're really, really looking at or
are chromium and manganese and some other ones. Are they also a problem? Or, how much of a problem are they?

DR. LEVY: Again, they're similar. They're known to be toxins, but I don't think the amounts of them are anywhere near as significant as mercury. Mercury is quite widespread in the environment. It's pretty evenly distributed in the oceans. There are really two kinds of problems with mercury in fish. One is with respect to ocean fish. There, the primary factors are how large the fish is and whether they're predators or not, whether they're at the top of the food chain. Those are the ones that are going to accumulate mercury and tend to have high concentrations of mercury. So, there you're talking about the swordfish, the shark, and the king mackerel. It's pretty nicely correlated with size. Freshwater fish are -- mercury can be a problem in freshwater fish, primarily because of the local waters maybe -- have high levels of mercury.
because of pollution and other kinds of things. Freshwater fish tend to have a high level of mercury are not commercially sold. They’re recreational kinds of fish. The way that is usually addressed is that the states issue consumer advisories for the specific waters where these kinds of fish are to alert people about the potential hazard of mercury levels of the fish.

The main thing that FDA is concerned with, and what we have jurisdiction over is commercially sold fish, which is primarily ocean fish and, like we said, commercial freshwater fish is usually farm raised. And farm raised fish is actually not an issue for mercury contamination because the water quality is controlled. So, freshwater farmeries fish is not a problem.

PARTICIPANT: That’s too new an industry anyway.

MODERATOR: Could you repeat that, please?

PARTICIPANT: Catfish industry is too new an industry to be really a problem.
DR. LEVY: But it could be.

PARTICIPANT: Yeah. It could be.

DR. LEVY: It's actually something that they pay attention to.

PARTICIPANT: Well, if we do away with the coal burning power plants, or cut them back, and we're taking all our nuclear reactors off-line, where are we going to get our power? From the sun? I mean --

MODERATOR: Well, I think that will be another focus group, but --

(Laughter.)

PARTICIPANT: Well, I'm just trying to put it all together here.

MODERATOR: Alan, did you have more questions that you wanted to ask the group?

DR. LEVY: One thing that I'm curious about in listening to the discussion tonight is, the extent to which the point has gotten across in the materials that you've looked at today. What we're really concerned about are not single eating occasions of fish. What we're really
interested in dietary patterns of fish
consumption. That these levels that we’re
talking about -- we’re really talking about
chronic dietary patterns. We’re not talking
about, you had a week somewhere where you
happened to eat two or three servings of fish and
that’s itself a problem.
MODERATOR: Does that message come
across clearly, do you think? It doesn’t,
Stacey?
PARTICIPANT: I don’t think so at all.
In fact, that was something I was going to ask,
like is it okay, you know, one month to have it
three times and not have it all again when you’re
pregnant? Frankly, I’m just looking back at the
paragraph, what are the risks for methyl mercury
with my baby, I just feel like, the chronic part
doesn’t come across enough to me. So, I’m
hearing once a month and I don’t have enough
information on the nervous system thing. Where I
think if it were explained in more detail to me,
how it effects is, and then there was more
hammered home about the chronic, I would make my
decision and be more than likely to still have my
once a month fish or whatever it is.

DR. LEVY: When you say, this nervous
system thing, what do you mean, exactly?

PARTICIPANT: Well, where it says, it's
dangerous to the fetus because it effects the
baby's developing nervous system. I almost want
like a scientific, how it affects the baby's
nervous system so that I can say -- so that I
really can rationalize in my mind that once a
month is okay. Because otherwise, I hear this
and I'm not hearing that chronic message loud
enough. Then I'm almost going to say, it's not
even worth the risk of having it the one time.

PARTICIPANT: I'm going to agree with
Stacey. I wouldn't even hear chronic. I would
simply say, okay, avoid fish. I wouldn't eat it
at all if I were pregnant.

PARTICIPANT: I feel, in fact, that is
what it said. At the very end, protect your
baby, avoid eating fish with high levels of
mercury and only eat fish with low levels of mercury or no mercury in them. I mean, that's what it doesn't say. I hear them saying, don't eat fish.

PARTICIPANT: And I wouldn't. You know, the baby's nervous system, that's a red line -- and actually, I didn't eat it when I was pregnant.

DR. LEVY: That's the kind of information that we're looking for here. How do you think we could be clearer about that? That we're really not talking about singular occasions, we're talking about dietary patterns?

MODERATOR: Cecilia?

PARTICIPANT: I just had a question. I think what would be helpful is to include some kind of statistical data, like this maybe make it a study on a woman eating the fish and have some baby with some kind of problem or something. If there (indiscernible) that happen to the babies, that probably would rest in my mind, yeah, not to eat the fish.
MODERATOR: So, include statistical information?

PARTICIPANT: Some kind of -- yeah, like, you know, how they do for the baby. Like the way they would do a recall, a common incident that happened. If that -- they could do something like that and I'll probably take it more seriously. Well, since I don't eat fish, but I'd (indiscernible).

PARTICIPANT: That's a big old problem.

DR. LEVY: Certain things are very hard to do. It's really beyond the ability of science to look at an individual case and say what caused a particular thing. These studies are -- they're difficult kinds of studies to do, because basically you have to measure the intact of fish and the mercury level during the pregnancy, and then measure five, six, seven years later through cognitive tests, cognitive functional levels of your children. Very troublesome studies. The best you can do is say whether there's an effect that's correlated with how much mercury there

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was. You find somewhat lower scores, but if you
try to look at a single case, there are so many
things that effect cognitive functioning, your
ability to --

MODERATOR: Rosa has a question, I
think?

PARTICIPANT: Yes. How bad -- how bad
wrong if this study? Like two, three years ago,
because I had my twelve-year-old girl -- before I
get pregnant, you know, I want to get pregnant.
(Indiscernible) over 300 milligrams in
cholesterol in my blood. It was too high for me.
It was linked to the pregnancy. I started
cutting all the fats, only eating more fish
because that was the only (indiscernible). But
now with this is done, (indiscernible). I don’t
know what to eat now.

(Laughter.)

PARTICIPANT: My two girls, they are no
problem so far. I don’t know if ten years ago
you know that.

DR. LEVY: These studies, one of which
is still ongoing, started about ten, fifteen years ago.

PARTICIPANT: Oh, okay. I am at risk.

PARTICIPANT: When I read this, where it says methyl mercury can be dangerous, I would think, oh, my God, I had fish once and it says there's methyl mercury in my blood and it's going to be dangerous. Whereas if it said, the build up of methyl mercury can be harmful, then I would begin to think, okay, it's something chronic and I need to avoid fish from this point on. But just that -- that methyl mercury can be dangerous would stand out to me.

One time dosage is going to harm the baby.

PARTICIPANT: That's why I think, again, getting into a little bit more scientific, while keeping it to what the average person can understand it about that build up and even just using some of the terms that you've used to tell us tonight. Like you coming in here saying chronic dietary consumption, I don't see those
words anywhere in here and I think that really clarified it a lot of me, to have you say that.

So, if that were reiterated in a couple of points here, exactly those words that you used, I think that would be helpful.

DR. LEVY: Chronic is not usually recommended. It's not the sixth grade level.

That's a very helpful suggestion. I think that's kind of what we're trying to -- we're struggling with here is that we kind of know what we want to say, but saying it in a way that really effectively communicates is much more difficult than it seems. We really haven't done a very good job in this.

PARTICIPANT: Yeah, I got a really mixed message as I went through here.

DR. LEVY: Um-hmm.

MODERATOR: And by mixed you mean?

PARTICIPANT: Sometimes it seemed really horrible to have fish at all, and sometimes I thought, okay, it's not such a big deal.
MODERATOR: Can we just go through and have people point out where --

(End Tape Side A, Begin Side B.)

MODERATOR: -- flag, I don't want fish at all. Could we do that? Look at the beginning and go through, let me know when you see the first red flag.

PARTICIPANT: Harm the fetuses.

MODERATOR: What did you say?

PARTICIPANT: The very first line we just went -- when it first said, harm the fetuses of pregnant women in the second paragraph.

PARTICIPANT: That whole sentence. That's very biasing.

MODERATOR: Okay.

PARTICIPANT: By being informed about methyl mercury, if you don't know anything about chemistry you think, oh, my gosh.

DR. LEVY: Methyl mercury is just the organic form of mercury and it's the one that's most readily absorbed. It's by far the more toxic.
PARTICIPANT: I got some right back in here, you want some?

(Laughter.)

DR. LEVY: Elemental mercury is actually not horribly toxic. You can swallow it, you can swallow what's in a thermometer and it probably won't do anything. But against changes -- mentholated, which means it gets some organic molecules added to it and then it can be absorbed very readily by the body. Then are the troubles.

PARTICIPANT: Now, see that information is helpful to me also. That you're saying that, like, as I was reading in here -- you said I never heard of methyl mercury, or someone said that, and I was sort of curious to know how is it different from other forms of mercury.

PARTICIPANT: Well, that's it right there. It goes in the water and -- very easily.

DR. LEVY: Once it's in the water and the bacteria will add basically the organic molecules to it and mentholate it and then that's
how it gets into the fish, and that's how it gets
to the toxic level. It's just much more easily
absorbed.

PARTICIPANT: Elemental mercury is hard
to absorb.

PARTICIPANT: Another red flag for me
is, methyl mercury can be dangerous to the fetus
because it effects the baby's developing nervous
system, which may result in learning
disabilities, that sentence there.

PARTICIPANT: That's real common --

MODERATOR: So, that whole sentence.

PARTICIPANT: Yes.

MODERATOR: Okay.

PARTICIPANT: First years, and this one
the rest.

PARTICIPANT: It takes about six months
for methyl mercury to be eliminated from the
body. That would also bother me. That would be
a red flag, because then I would be thinking, if
I was pregnant, you know, what was I eating four
months ago.
PARTICIPANT: Six months before you became pregnant.

PARTICIPANT: Yeah, before I became pregnant I would be worried about that.

MODERATOR: Okay.

PARTICIPANT: But I think that there is a place there just worth inserting a small clause, because when consumed in x-quantities it affects the baby's developing nervous system.

MODERATOR: Any other red flag type things there.

DR. LEVY: Let me explain something else and see if this has any relevance to you, but what EPA and FDA really care about is what they call the reference dose, which is the amount of methyl mercury in your blood. Based on those studies that are mentioned before, and based on the National Academy of Science recommendation, they had set what they consider to be an appropriate reference dose. All this amounts of fish that you're allowed to eat are based on that reference dose, and they factor in, you know,
what's the average level of mercury in that kind
of fish and then how much of that you can eat in
order to maintain that kind of reference dose in
the chronic way in your blood. Do you think it
would be interesting to talk about this reference
dose? Would that help you understand where the
recommendations come from?

PARTICIPANT: Reference dose just might
get people off track, but to say something along
the lines like, eat three fish a month will raise
your blood levels to the point that they don't
recover for three or four months, might be more
of a hands on, realistic approach to it.

MODERATOR: So, using the concept but
not the term reference dose?

PARTICIPANT: Exactly.

PARTICIPANT: Yeah.

MODERATOR: So, that concept that he's
talking about helps?


DR. LEVY: What we're talking about is
blood levels of mercury, not the mercury level in
the fish.

PARTICIPANT: Even if there are no statistics --

PARTICIPANT: Can you measure the blood mercury in each one in the blood -- the first --

DR. LEVY: You can.

PARTICIPANT: You have a specific test?

DR. LEVY: Sure. That's --

PARTICIPANT: I wish I can do to my husband. He eats fish all day. I thank God he's not pregnant.

DR. LEVY: It's not a routine type of test.

(Laughter.)

DR. LEVY: You can measure it. You can measure it in the hair too.

PARTICIPANT: Can you say something to make her feel better so she doesn't go home --

(Laughter.)

MODERATOR: Yeah, no more fish. You can only eat chicken.

PARTICIPANT: No. He thinks he's
healthy because he eats fish.

DR. LEVY: Another thing that I think is not necessarily being communicated very well is really the magnitude of this problem. Up to this point, based on what we knew before, we didn't really consider fish consumption at the levels they occurred in this country to be of concern. I mean, it's only because of those recent studies which essentially suggests that developing fetuses are about three to four times more sensitive than we thought, that this have even reached the point where we think it's -- the public has to be alerted about it, but this is not necessarily a very big problem.

Certainly compared to all the other kinds of risks there are, but you know, it's across the threshold that we feel that we have to do something, but we're not communicating very well the magnitude of this problem. People seem to think this is fairly alarming when they hear about this, but this is not as alarming as many of the kinds of things that are in your food.
PARTICIPANT: If it's such a small problem, then how come it's so close to being a non-problem, why do they keep bringing this up? I understand we're a focus group and all, but, you know, it's kind of -- it's right on the threshold of being a problem. Aren't there five other things out there in the world that are the real problem?

DR. LEVY: I -- you know, it's -- we're trying to figure out just how to talk about this, and whether or not it even deserves to be talked about is a separate question, another kind of policy question. One of the things that we see is that it's hard to talk about a problem, which isn't a big problem without making it seem like it's a big problem. I mean, the mere telling people about it cause them to see it as a fairly big deal, and we're not really accurately communicating the magnitude of the problem. So, it's unclear to us how to do that, but that's what the issues are.

PARTICIPANT: From everything that I've
gathered here, the primary problem is with the pregnant women and nursing mothers who eat a lot of fish. Would not your focus as far as advertising the problem or doing public relations on the problem be your focus -- couldn't that be narrowed excessively and be addressed to OB/GYNs who you would hope would pass this information on? Because fifty percent of the population is automatically eliminated because they'll never be pregnant because they're male, and probably another what, eighty percent -- what percentage of the population is pregnant at any one time is what I'm driving at. So, I see your point and your point is well taken, that it can be harmful to the fetus. But, there are twelve people sitting in this room and you get one nursing mother -- two nursing mothers?

PARTICIPANT: No.

PARTICIPANT: My thought would be, if I were handling -- if I were doing what you're doing, not the research but the P.R. end of it, that's where I would focus on. And the question
is, do you want the general public to be aware of it, sure, in a general way you want them to be aware of it. But, do you not want the physicians who are treating the women who are pregnant to be much more aware of it so that they can pass this information on an individual basis. They, too, would understand it because of their education and their background far more readily than this group would as a whole, because they're trained medical doctors, essentially they're scientists.

It was -- as we were going around the room and discussing this whole thing, that was my thought, that you could narrow your focus considering, and get the message to those who need it most, the way it said, those who are going to be most effected by it, because I think it's pretty rare in this country for a women to go through pregnancy today in this country without medical assistance.

DR. LEVY: The dilemma is that you really need the people you want to talk to are women of childbearing age, people should know
this even before they become pregnant.

PARTICIPANT: Well, I understand that part of it too. That's a very good point.

Someone made the point that almost you're almost through that first trimester before you even know you're pregnant.

MODERATOR: Stacey had a comment?

PARTICIPANT: Yeah. I was going to say, I agree that we -- I hear your point, that, yeah, it's the pregnant women we're going to worry about, but at the same time we do have to worry about people of childbearing age. It's the ones -- they're probably aren't that many -- I wish I had data on how many don't get prenatal care, but there certainly are enough women still in this country who have babies without the advice of a doctor and it's those women that I'm also going to go out on a limb here and say, tend to be less educated also. Tend to be doing less reading on their -- you know, Rachel had done the reading and she was seeing a doctor -- I'm presuming seeing a doctor, too. It's the women
who aren't seeing the doctor who also aren't reading. So, how are you going to target them?

PARTICIPANT: I completely agree with you.

DR. LEVY: Another dilemma here, which is that doctor's, are generally not the best health communicators. There have been a lot of studies that doctor -- you know, if you rely on doctor's to communicate certain things, you're in trouble.

PARTICIPANT: Really?

DR. LEVY: Yes. Part of it is because they are burdened. Their agendas are so full with all the risks and there are many, many, many risks that compete for attention. They feel they just can't cover them all. Sometimes it's hard to get onto the list of the month that they pay attention to, and then they're also not -- they have a lot of more immediate concerns and issues, and it's not generally a good idea to rely on them to be the most effective health communicator.
PARTICIPANT: I would also, as a parent, be concerned. I would want to know for a young child what to feed him, and there's already a list of foods that you can't give a child before they're one and before they're two. You know, peanuts and some strawberries, and those kinds of things. You know, and I would want that just added to the list. You get a lot of information mailed to you in the last stages of your pregnancy about what to feed your child when they're older and I would want fish added to that, you know, we'd want to know how much fish is safe to feed my son?

DR. LEVY: Do you think from reading this that you know which kind of fish are safe or not, just from what we've talked about tonight?

PARTICIPANT: Um-hmm.

PARTICIPANT: I will think about canned tuna. I will think more about how much I'm giving him now than I did before. I don't think he eats a can and a half a week.

(Indiscernible, multiple speakers.)
PARTICIPANT: -- they say only mackerel. It's a big fifteen ounces of --

MODERATOR: Canned mackerel.

DR. LEVY: Right.

PARTICIPANT: This is too --

DR. LEVY: King mackerel is a problem is because it's the big kind. It's the big one. I thought, actually, I don't know about the canned mackerel, but if it's like canned tuna fish, canned tuna fish generally comes from much smaller tunas than the fresh tuna steaks from. So, as a consequence, has less mercury. It probably is the same for mackerel.

PARTICIPANT: I would be the same thing?

DR. LEVY: Probably.

PARTICIPANT: That the fish in the can?

Okay.

MODERATOR: Any other questions for Alan? Do you have other --

DR. LEVY: No? I -- thank you very much, though. This is enormously helpful.
MODERATOR: I really appreciate your participation this evening and if you want to head out to the front there. If I could have these back, as I said, we're revising them, so that would be very helpful. Then, head out to the front. Julian should be out there to offer you a token of our appreciation. Thanks for coming.

Thank you. Your poor husband is still sitting out there, huh?

PARTICIPANT: The good conversation about the tuna fish.

MODERATOR: You may have your name tag if you'd like as a souvenir.

PARTICIPANT: Really?

PARTICIPANT: Lyn, did I hit that right on the money at the beginning?

MODERATOR: About the?

PARTICIPANT: When you talked about the --

MODERATOR: You sure did. That's exactly what we were talking about.

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PARTICIPANT: I didn’t know it. I thought maybe we were going to talk about labels on drugs or something like that.

MODERATOR: Something health related, though, right?

PARTICIPANT: Yeah. Thank you.

MODERATOR: Thanks for coming. Take care.

(Whereupon the proceedings were concluded.)
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