

ORIGINAL

Nov 14

8 pm

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(CERTIFIED TRANSCRIPT)

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MACRO INTERNATIONAL, INC.

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FOOD AND DRUG ADMINISTRATION

HEALTH AND NUTRITION: METHYL MERCURY

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Tuesday, November 14, 2000

8:00 p.m.

Moderator: Lynn Halverson

1 P-R-O-C-E-E-D-I-N-G-S

2 (Proceedings in session prior to
3 recording.)

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

7 PARTICIPANT: My name's Rachel.

8 MODERATOR: Oh, Rachel. Okay. Sorry.

9
10 PARTICIPANT: They've misspelled it.
11 There are three people. I have a husband and a
12 baby.

13 MODERATOR: Okay. How old's your baby?

14 PARTICIPANT: Fifteen months.

15 MODERATOR: Wow. Okay.

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

20 MODERATOR: Okay. Thanks.

21 PARTICIPANT: My name is Hart, and
22 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.

1 PARTICIPANT: My name is Duane. I own
2 an apartment. I live by myself.

3 MODERATOR: By yourself, okay. Thanks.

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

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

9 PARTICIPANT: They're still with me.

10 (Laughter.)

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

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

21 PARTICIPANT: Oh, yeah.

22 MODERATOR: You have? What can you

1 tell me, Howard?

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

8 MODERATOR: Okay. And others? Yeah.

9 PARTICIPANT: You know, airborne
10 contaminants.

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

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

16 MODERATOR: Pesticides.

17 PARTICIPANT: My dad actually works for
18 the EPA, so some of what I hear is that the
19 problem's a little over-exaggerated, maybe, at
20 times. That some pesticides don't have such a
21 stress -- as big as an effect as people that
22 claim that they would. Like dioxin is one, I

1 think, where it's like one billionth of a
2 particular that could, you know, that the
3 chemical itself is really harmful, but in the
4 minute quantities that are in our air and water,
5 it couldn't harm us anyway.

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

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

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

15 PARTICIPANT: I have something to say
16 on lead.

17 MODERATOR: Lead, okay. That's fine.

18 PARTICIPANT: I do -- I mean, we live
19 in an older home, so we did have the house, the
20 paint, tested when I was pregnant. And I run --
21 when the baby was on formula, when he was little
22 and I would run the water for a few minutes

1 before making the formula just to be careful.

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

4 MODERATOR: The thermometers with the
5 lead?

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

10 MODERATOR: Mercury?

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

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

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

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

1 of it, kind of thing.

2 MODERATOR: Okay.

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

6 MODERATOR: Okay.

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

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

14 PARTICIPANT: Thermostat switches.

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

19 PARTICIPANT: No really, not much. But
20 I did know that at one time, I think they took --
21 what was it -- swordfish off the market. That
22 was a while back. They claimed that it had a lot

1 of mercury, but as Stacey said earlier, I think a
2 lot of that is maybe a little exaggerated.

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

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

9 MODERATOR: Okay. Speaking about the
10 fish and seafood and that kind of thing, can I
11 just get a show of hands, how many of you tend to
12 eat fish and seafood on a fairly regular basis?
13 One, two, three, four, five, six. Okay.

14 PARTICIPANT: What do you mean by
15 regular basis?

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

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

21 MODERATOR: And how often would you eat
22 it?

1 PARTICIPANT: But I have no opposition
2 to eating fish.

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

5 PARTICIPANT: I don't like seafood too
6 much.

7 MODERATOR: Okay. And --

8 (Tape trouble.)

9 PARTICIPANT: Just about everything.

10 MODERATOR: Ed, how about you?

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

16 PARTICIPANT: (Indiscernible.)

17 (Laughter.)

18 PARTICIPANT: I'll tell you a real
19 quick, sad story. I had stayed off of them for
20 fifteen years. The company wanted to have a crab
21 feast. We were all throwing in twenty-five
22 dollars. At the last moment, somebody said, you

1 know, I bet there are one or two people who plain
2 just don't like soft shell crabs. And they
3 weren't thinking of me. And they said, probably
4 be a good idea if we got a package of hotdogs,
5 just in case.

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

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

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

17 MODERATOR: Okay. Howard?

18 PARTICIPANT: Maybe twice a week.

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

21 PARTICIPANT: Yeah. Fresh fish,
22 shrimp, scallops.

1 MODERATOR: Hart, how about you?

2 PARTICIPANT: All I eat is carry out.

3 MODERATOR: All you eat is carry out
4 fish?

5 PARTICIPANT: No, carry out like
6 McDonald's.

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

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

11 MODERATOR: Did you? And Rachel?

12 PARTICIPANT: Not very often.

13 MODERATOR: Not very often? Okay.

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

19 What I'd like you to do is follow along
20 with this with me. Don't read ahead, because
21 we're going to be talking about it in the section
22 by section.

1 And the first page is saying, a message
2 for women who are pregnant, planning to become
3 pregnant with in the next six months, nursing
4 mothers, about need to limit to eating certain
5 seafood, and there are at least one, two, three,
6 four, five males around here. So, I guess you're
7 not planning to become pregnant in the near
8 future, but it's the kind of thing that in the
9 general population, we do have people who are
10 pregnant. So, we wanted to talk to the general
11 population.

12 Okay. So, let's move on -- and I'd
13 like to just read out loud the first section and
14 then talk about it a bit. Seafood can be an
15 important part of a balanced diet for pregnant
16 women and nursing mothers. It is a good source
17 of high quality protein, is low in fat and
18 contains Omega III fatty acids that help your
19 baby develop its' immune and nervous systems.
20 Some seafood, however, may contain high levels of
21 a form of mercury, called methyl mercury that can
22 harm the fetuses of pregnant women. By being

1 informed about methyl mercury and knowing the
2 kinds of fish that are safe to eat, you can
3 prevent any harm to your baby and still enjoy the
4 important health benefits of eating seafood.

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

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

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

12 PARTICIPANT: To alert about the
13 mercury.

14 MODERATOR: To alert about the mercury?

15 PARTICIPANT: Exactly.

16 MODERATOR: Okay.

17 PARTICIPANT: One kind.

18 MODERATOR: Okay. Now, I know that
19 Howard had mentioned something about mercury in
20 fish a little earlier. This was something I
21 didn't know anything about until I started doing
22 this project. Is this the kind of thing that you

1 knew about before you read that information, that
2 there was mercury in fish, or not? Is this new
3 information to you? Yes. Rachel?

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

7 MODERATOR: Okay.

8 PARTICIPANT: Well, this is news to me.

9 (Laughter.)

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

18 MODERATOR: Okay. Craig?

19 PARTICIPANT: There's no surprise about
20 many contaminants being in any kind of seafood,
21 depending on where they're caught from, whether
22 it's a bottom feeder or an upper level feeder or

1 somewhere in the middle. It depends on its
2 feeding habits.

3 MODERATOR: Anyone else?

4 PARTICIPANT: I've seen something about
5 the contamination in the Chesapeake Bay, on the
6 fish, they were dying here somehow.

7 (Indiscernible.) I didn't pay attention too
8 much.

9 MODERATOR: You didn't pay attention to
10 it?

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

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

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

20 MODERATOR: Okay.

21 PARTICIPANT: But usually, you know,
22 when thinking about it, you will say, I will cook

1 good, all through.

2 MODERATOR: Duane, how about you? Had
3 you heard about this methyl mercury in fish?

4 PARTICIPANT: No, I never heard of it.

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

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

10 MODERATOR: Hart, any response, sir?

11 PARTICIPANT: No, I never knew about it
12 either.

13 MODERATOR: Okay. Let's go down to the
14 next section then, it says, how does methyl
15 mercury get into fish? Mercury occurs naturally
16 in the environment and is released also into the
17 atmosphere, primarily from coal burning power
18 plants and waste incinerators. Traces of mercury
19 get into ground water accumulating in streams and
20 oceans. Nearly all fish contain trace amounts of
21 methyl mercury, which are not harmful to humans.
22 Fish absorb methyl mercury from water as it

1 passes over their gills and as they feed on
2 aquatic organisms. Long-lived, larger fish that
3 eat on other fish accumulate the highest levels
4 of mercury and pose the greatest risk to people
5 who eat them.

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

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

21 MODERATOR: Judy, what's your reaction
22 so far to the information you've gotten?

1 PARTICIPANT: Basically, the same
2 thing. It has -- you know, you always here about
3 contaminants in everything. I have heard about
4 mercury, but not a specific kind of mercury.

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

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

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

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

20 MODERATOR: Okay. So, that would be
21 information you would want too. Anyone else?
22 Rachel, anything else you would like to add?

1 PARTICIPANT: Not really. If I was
2 reading this as a pregnant mother looking for
3 information, that wouldn't be what concerns me.
4 I would just want to know it was there and what
5 to avoid.

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

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

15 MODERATOR: What kind of an
16 organization made --

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

20 MODERATOR: What kind of study?

21 PARTICIPANT: Exactly, and then I would
22 have more concerns about it.

1 MODERATOR: Okay. All right. Any
2 other comments so far?

3 PARTICIPANT: I think that was a good
4 point.

5 PARTICIPANT: Yeah. Who made it?

6 PARTICIPANT: Maybe the poultry and the
7 beef industry.

8 (Laughter.)

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

15 Yeah, Craig, do you have something else?

16 PARTICIPANT: No. I just said it.

17 MODERATOR: Okay. Let's move on and,
18 what are the risks for methyl mercury to my baby?
19 Methyl mercury can be dangerous to the fetus
20 because it effects the baby's developing nervous
21 system, which can result in learning disabilities
22 later in life. It takes about six months for

1 methyl mercury to be eliminated from the body,
2 that's why safe seafood eating is especially
3 important immediately after becoming pregnant, as
4 well as during pregnancy. The first trimester is
5 a particularly critical period in a baby's
6 development. So, when you read this information,
7 is this beginning to answer the kinds of
8 questions that Rachel was asking?

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

22 MODERATOR: Okay.

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

14 PARTICIPANT: Thinking of trying to get
15 pregnant.

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

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

1 PARTICIPANT: Right.

2 MODERATOR: But you hear, nervous
3 system --

4 PARTICIPANT: Nervous system.

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

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

8 MODERATOR: The nervous system?

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

12 MODERATOR: Okay.

13 PARTICIPANT: Like avoiding drinking
14 and smoking.

15 MODERATOR: Yeah.

16 PARTICIPANT: I would, even thought
17 I've never been pregnant (laughter), I would very
18 much agree with Stacey that when you start
19 talking about the nervous system, and when you
20 start talking about learning disabilities later
21 in life, my wife is a schoolteacher and faces
22 that with her students day in, day out, day in,

1 day out, and it's terrible. Really, it truly is.
2 Junior high school kids, who because of something
3 like this -- I'm not saying this specifically --
4 but because of something that happened very
5 possibly while the mother was carrying, will
6 carry these disabilities through their lives. In
7 many cases, they unfortunately pass these
8 disabilities onto their children, even without
9 any of this because it's in their genes.

10 MODERATOR: Okay. Any other responses?
11 Rachel.

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

19 MODERATOR: Yeah, Cecilia?

20 PARTICIPANT: I think after reading
21 this I'll be thinking of how to properly cook the
22 fish and what type of fish you should eat during

1 pregnancy and all that stuff.

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

11 Any responses to this information?

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

18 MODERATOR: Okay.

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

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

1 honorary pregnant woman?

2 PARTICIPANT: Come on.

3 PARTICIPANT: Come on, guy.

4 PARTICIPANT: All right.

5 MODERATOR: So, you've read all this
6 information. How are you reacting to it so far?
7 You're pregnant, remember.

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

10 MODERATOR: You just want to eat the
11 fish?

12 PARTICIPANT: No, I wouldn't.

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

16 PARTICIPANT: None of it.

17 MODERATOR: No fish?

18 PARTICIPANT: None.

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

22 PARTICIPANT: I'd eat shrimp and

1 lobster.

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

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

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

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

22 Tuna steaks can be eaten three times a

1 month. Canned tuna, which is made from smaller
2 fish, has less mercury than tuna steaks. You can
3 eat one and a half six ounce cans of tuna every
4 week with no problem.

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

12 PARTICIPANT: Yes.

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

21 So, here you have all this information. You are
22 making a decision on what to eat. How would you

1 decide?

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

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

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

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

19 PARTICIPANT: For me, if they say --
20 first of all, those -- king mackerel, I don't
21 eat. So, I'd have to go for the fish that I
22 really eat and see my preference. When you start

1 thinking about what kinds of fish and make a
2 selection, that's it.

3 MODERATOR: Make a selection from the
4 low?

5 PARTICIPANT: From the low ones.

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

10 PARTICIPANT: No. I would try to do
11 too. Just in case something happened. Who knows
12 in the future? I prefer to avoid.

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

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

22 MODERATOR: Okay. Cecilia?

1 PARTICIPANT: If I'm not pregnant and I
2 think it would make my life easy since I don't
3 like fish. I'd just take vitamins.

4 MODERATOR: Okay.

5 (Laughter.)

6 MODERATOR: Rosa?

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

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

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

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

21 MODERATOR: Anyway you want, Howard.
22 This is your chance to shine.

1 PARTICIPANT: I like king mackerel and
2 tuna. I'm going to eat it.

3 MODERATOR: Okay. Craig.

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

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

13 PARTICIPANT: Congratulations.

14 (Laughter.)

15 PARTICIPANT: A millionaire.

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

18 PARTICIPANT: I'd probably abstain from
19 it.

20 MODERATOR: While you're pregnant?

21 PARTICIPANT: Um-hmm.

22 MODERATOR: Craig.

1 PARTICIPANT: Yeah. I'd abstain. I
2 can always eat later. I will.

3 MODERATOR: All right.

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

9 MODERATOR: No, we're not.

10 PARTICIPANT: Nursing mothers and
11 becomes.

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

18 (Laughter.)

19 MODERATOR: Okay. It's getting late,
20 Howard. Okay. So, you have this information and
21 we're making our decisions. Judy, how do you
22 interpret this information for you personally?

1 PARTICIPANT: Well, I have a daughter
2 that's of childbearing age, so I would be fearful
3 for her and I would warn her. You know, if
4 you're going to get pregnant within the next
5 year, avoid these kinds of fish.

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

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

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

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

16 MODERATOR: All right. Okay, let's
17 move to the next page. If methyl mercury can be
18 harmful to my baby, why isn't it harmful for me
19 or the rest of my family? If you and the other
20 adult members of your family consume an average
21 amount of seafood, tuna sandwiches and salads,
22 the occasional fish steak, the level of mercury

1 in the seafood supply is not a risk. To be
2 perfectly safe, fish with high levels of mercury
3 should be eaten only once a month.

4 Okay. Any reactions to that
5 information? Ed.

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

17 MODERATOR: Okay. Duane?

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

21 MODERATOR: Okay. The part from here
22 is, you say if you and other adults -- what about

1 children? I would be more concerned about
2 children, because they say only adults. But if
3 there's a risk at three, four, five years old, we
4 have to be concerned. What -- in this study they
5 found out why they make something, only to the
6 newborn babies or the babies, the pregnant ladies
7 and adults, nothing happens. What happens in the
8 children?

9 MODERATOR: Okay.

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

1 us, but it doesn't say.

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

1 MODERATOR: So, you could find the
2 information --

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

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

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

12 MODERATOR: Okay.

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

15 PARTICIPANT: What amount?

16 MODERATOR: Okay.

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

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

22 Rosa eats fish many -- how many times a week?

1 PARTICIPANT: Maybe two, three times a
2 week.

3 MODERATOR: Two, three times a week.
4 Stacey eats it once every two weeks, maybe?

5 PARTICIPANT: Maybe once a month I
6 would say.

7 MODERATOR: Is it moderate amounts,
8 both of them?

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

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

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

1 not much.

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

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

14 MODERATOR: Okay. What would you do
15 if, let's see -- what you really like is blue
16 fish and it's not on this list here at all. How
17 would you deal with that? It isn't listed with
18 king mackerel, shark and swordfish. It isn't
19 listed with the medium things with the tuna, and
20 it isn't listed with what fish have low levels or
21 no levels of mercury in them. What would you
22 assume about those fish? Rachel.

1 PARTICIPANT: If I were pregnant,
2 nursing or planning on becoming pregnant, I would
3 simply avoid it. If not, I would probably eat
4 it.

5 MODERATOR: Okay. How about the rest
6 of you?

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

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

11 (Laughter.)

12 PARTICIPANT: That's quite a work.

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

15 PARTICIPANT: I'd stay away from it.

16 MODERATOR: Why would that be?

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

22 MODERATOR: If you were pregnant, how

1 would you use this information? Would you take
2 the list of the fish with you to the grocery
3 store and chose according to the list or would
4 you just kind of remember? How do you use the
5 information?

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

15 MODERATOR: Okay. How about the rest of
16 you?

17 PARTICIPANT: I'd remember.

18 MODERATOR: You'd remember those three?

19 PARTICIPANT: Oh, yeah. Yeah.

20 MODERATOR: Okay.

21 PARTICIPANT: I'd remember those three,
22 but I also picked out ones on the lower list that

1 I know I like. I'm like, next time out; it's
2 okay to order salmon. I know for sure that's
3 safe.

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

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

16 MODERATOR: Okay. Cecilia, do you have
17 something?

18 PARTICIPANT: No.

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

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

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

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

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

21 DR. LEVY: The advice for pregnant
22 women is once a month or less for things like

1 king mackerel, tuna steaks, whatever.

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

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

10 PARTICIPANT: Exactly, more specific.

11 PARTICIPANT: I think so.

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

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

21 DR. LEVY: We're trying to explain that
22 the risk is primarily for neural development.

1 When neural development is taking place, that's
2 when mercury is particular, a concern and that's
3 when -- when the baby is in the womb is a really
4 critical time. But throughout the early years,
5 there is more -- when there's growth. So,
6 certainly nursing mothers would be concerned, and
7 as the kid grows it becomes less of a concern.
8 Exactly when is --

9 PARTICIPANT: What I want to know --
10 I'm sorry, I didn't mean to interrupt but I have
11 a baby that I am nursing and I have a
12 three-year-old son. Which is more harmful? For
13 me to have a little bit of this fish and then
14 nurse my baby, or for me to give my toddler a
15 small portion where he's directly getting the
16 fish?

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

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

21 DR. LEVY: When there is growth, neural
22 growth, and so the older they are the less in

1 that there would be.

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

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

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

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

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

22 DR. LEVY: That is our -- yes. It

1 would be the same. It depends on how much you're
2 doing.

3 PARTICIPANT: All this is based on
4 statistics.

5 DR. LEVY: Right.

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

16 DR. LEVY: Well, that's -- the question
17 is, what are -- the reason we're doing this today
18 is that we're trying to get some insight about
19 how we can talk about this without unnecessarily
20 scaring people. That is a concern, obviously,
21 that we had. All of these recommendations are
22 based on really significant safety factors, are

1 built into these recommendations. The
2 variation -- there is variation, obviously, in
3 levels at any given -- in any fish, but we've
4 built in at least a ten-fold safety factor in
5 these amounts. So, that's how we addressed the
6 fact that there is natural variation. We're
7 going to err on the side of caution.

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

11 DR. LEVY: Right. The real context
12 here is that for long time mercury has been
13 recognized as an environmental toxin. Both the
14 EPA and FDA have in place certain regulations
15 that govern exposure of humans to mercury. A
16 major source of mercury being released in the
17 environment is through power plant emissions.
18 EPA has regulated the levels that are allowed in
19 power plant emissions. The major source of human
20 exposure to mercury is fish, and FDA has
21 regulated the amounts of mercury that are allowed
22 in fish.

1 What's happened in the last few years is that
2 there has been these two studies that have
3 recently been done that have actually looked
4 specifically at the effects of dietary
5 consumption of mercury on development of
6 children. These are very, very difficult kinds
7 of studies to do, and one has been done in the
8 Seychelles Island, which is in the Indian Ocean.
9 You have a population that eats a lot of fish.
10 Another one has been done in the Faroe Islands,
11 which is off the coast of Greenland, where you
12 also have a lot of fish eating.
13 These studies have shown that there is a greater
14 problem for the developing fetus from mercury
15 than previously had been understood. That's
16 motivated both FDA and EPA to start doing some
17 things. EPA is going to lower the allowable
18 levels of mercury in emissions in power plants,
19 and FDA is going to disseminate some of this
20 information about the hazards of mercury in fish.

21 PARTICIPANT: Is mercury the only heavy
22 metal that they're really, really looking at or

1 are chromium and manganese and some other ones,
2 are they also a problem? Or, how much of a
3 problem are they?

4 DR. LEVY: Again, they're similar.
5 They're known to be toxins, but I don't think the
6 amounts of them are anywhere near as significant
7 as mercury. Mercury is quite widespread in the
8 environment. It's pretty evenly distributed in
9 the oceans. There are really two kinds of
10 problems with mercury in fish. One is with
11 respect to ocean fish. There, the primary
12 factors are how large the fish is and whether
13 they're predators or not, whether they're at the
14 top of the food chain. Those are the ones that
15 are going to accumulate mercury and tend to have
16 high concentrations of mercury. So, there you're
17 talking about the swordfish, the shark, and the
18 king mackerel. It's pretty nicely correlated
19 with size.
20 Freshwater fish are -- mercury can be a problem
21 in freshwater fish, primarily because of the
22 local waters maybe -- have high levels of mercury

1 because of pollution and other kinds of things.
2 Freshwater fish tend to have a high level of
3 mercury are not commercially sold. They're
4 recreational kinds of fish. The way that is
5 usually addressed is that the states issue
6 consumer advisories for the specific waters where
7 these kinds of fish are to alert people about the
8 potential hazard of mercury levels of the fish.
9 The main thing that FDA is concerned with, and
10 what we have jurisdiction over is commercially
11 sold fish, which is primarily ocean fish and,
12 like we said, commercial freshwater fish is
13 usually farm raised. And farm raised fish is
14 actually not an issue for mercury contamination
15 because the water quality is controlled. So,
16 freshwater farmed fish is not a problem.

17 PARTICIPANT: That's too new an
18 industry anyway.

19 MODERATOR: Could you repeat that,
20 please?

21 PARTICIPANT: Catfish industry is too
22 new an industry to be really a problem.

1 DR. LEVY: But it could be.

2 PARTICIPANT: Yeah. It could be.

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

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

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

12 (Laughter.)

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

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

17 DR. LEVY: One thing that I'm curious
18 about in listening to the discussion tonight is,
19 the extent to which the point has gotten across
20 in the materials that you've looked at today.
21 What we're really concerned about are not single
22 eating occasions of fish. What we're really

1 interested in dietary patterns of fish
2 consumption. That these levels that we're
3 talking about -- we're really talking about
4 chronic dietary patterns. We're not talking
5 about, you had a week somewhere where you
6 happened to eat two or three servings of fish and
7 that's itself a problem.

8 MODERATOR: Does that message come
9 across clearly, do you think? It doesn't,
10 Stacey?

11 PARTICIPANT: I don't think so at all.
12 In fact, that was something I was going to ask,
13 like is it okay, you know, one month to have it
14 three times and not have it all again when you're
15 pregnant? Frankly, I'm just looking back at the
16 paragraph, what are the risks for methyl mercury
17 with my baby, I just feel like, the chronic part
18 doesn't come across enough to me. So, I'm
19 hearing once a month and I don't have enough
20 information on the nervous system thing. Where I
21 think if it were explained in more detail to me,
22 how it effects is, and then there was more

1 hammered home about the chronic, I would make my
2 decision and be more than likely to still have my
3 once a month fish or whatever it is.

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

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

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

20 PARTICIPANT: I feel, in fact, that is
21 what it said. At the very end, protect your
22 baby, avoid eating fish with high levels of

1 mercury and only eat fish with low levels of
2 mercury or no mercury in them. I mean, that's
3 what it doesn't say. I hear them saying, don't
4 eat fish.

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

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

14 MODERATOR: Cecilia?

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

1 MODERATOR: So, include statistical
2 information?

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

10 PARTICIPANT: That's a big old problem.

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

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

5 MODERATOR: Rosa has a question, I
6 think?

7 PARTICIPANT: Yes. How bad -- how bad
8 wrong if this study? Like two, three years ago,
9 because I had my twelve-year-old girl -- before I
10 get pregnant, you know, I want to get pregnant.

11 (Indiscernible) over 300 milligrams in
12 cholesterol in my blood. It was too high for me.
13 It was linked to the pregnancy. I started
14 cutting all the fats, only eating more fish
15 because that was the only (indiscernible). But
16 now with this is done, (indiscernible), I don't
17 know what to eat now.

18 (Laughter.)

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

22 DR. LEVY: These studies, one of which

1 is still ongoing, started about ten, fifteen
2 years ago.

3 PARTICIPANT: Oh, okay. I am at risk.

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

14 One time dosage is going to harm the
15 baby.

16 PARTICIPANT: That's why I think,
17 again, getting into a little bit more scientific,
18 while keeping it to what the average person can
19 understand it about that build up and even just
20 using some of the terms that you've used to tell
21 us tonight. Like you coming in here saying
22 chronic dietary consumption, I don't see those

1 words anywhere in here and I think that really
2 clarified it a lot of me, to have you say that.
3 So, if that were reiterated in a couple of points
4 here, exactly those words that you used, I think
5 that would be helpful.

6 DR. LEVY: Chronic is not usually
7 recommended. It's not the sixth grade level.
8 That's a very helpful suggestion. I think that's
9 kind of what we're trying to -- we're struggling
10 with here is that we kind of know what we want to
11 say, but saying it in a way that really
12 effectively communicates is much more difficult
13 than it seems. We really haven't done a very
14 good job in this.

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

17 DR. LEVY: Um-hmm.

18 MODERATOR: And by mixed you mean?

19 PARTICIPANT: Sometimes it seemed
20 really horrible to have fish at all, and
21 sometimes I thought, okay, it's not such a big
22 deal.

1 MODERATOR: Can we just go through and
2 have people point out where --

3 (End Tape Side A, Begin Side B.)

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

8 PARTICIPANT: Harm the fetuses.

9 MODERATOR: What did you say?

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

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

15 MODERATOR: Okay.

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

19 DR. LEVY: Methyl mercury is just the
20 organic form of mercury and it's the one that's
21 most readily absorbed. It's by far the more
22 toxic.

1 PARTICIPANT: I got some right back in
2 here, you want some?

3 (Laughter.)

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

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

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

20 DR. LEVY: Once it's in the water and
21 the bacteria will add basically the organic
22 molecules to it and mentholate it and then that's

1 how it gets into the fish, and that's how it gets
2 to the toxic level. It's just much more easily
3 absorbed.

4 PARTICIPANT: Elemental mercury is hard
5 to absorb.

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

11 PARTICIPANT: That's real common --

12 MODERATOR: So, that whole sentence.

13 PARTICIPANT: Yes.

14 MODERATOR: Okay.

15 PARTICIPANT: First years, and this one
16 the rest.

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

1 PARTICIPANT: Six months before you
2 became pregnant.

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

5 MODERATOR: Okay.

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

10 MODERATOR: Any other red flag type
11 things there.

12 DR. LEVY: Let me explain something
13 else and see if this has any relevance to you,
14 but what EPA and FDA really care about is what
15 they call the reference dose, which is the amount
16 of methyl mercury in your blood. Based on those
17 studies that are mentioned before, and based on
18 the National Academy of Science recommendation,
19 they had set what they consider to be an
20 appropriate reference dose. All this amounts of
21 fish that you're allowed to eat are based on that
22 reference dose, and they factor in, you know,

1 what's the average level of mercury in that kind
2 of fish and then how much of that you can eat in
3 order to maintain that kind of reference dose in
4 the chronic way in your blood. Do you think it
5 would be interesting to talk about this reference
6 dose? Would that help you understand where the
7 recommendations come from?

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

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

16 PARTICIPANT: Exactly.

17 PARTICIPANT: Yeah.

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

20 CHORUS: Um-hmm. Absolutely. Yeah.

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

1 the fish.

2 PARTICIPANT: Even if there are no
3 statistics --

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

6 DR. LEVY: You can.

7 PARTICIPANT: You have a specific test?

8 DR. LEVY: Sure. That's --

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

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

14 (Laughter.)

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

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

19 (Laughter.)

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

22 PARTICIPANT: No. He thinks he's

1 healthy because he eats fish.

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

15 Certainly compared to all the other
16 kinds of risks there are, but you know, it's
17 across the threshold that we feel that we have to
18 do something, but we're not communicating very
19 well the magnitude of this problem. People seem
20 to think this is fairly alarming when they hear
21 about this, but this is not as alarming as many
22 of the kinds of things that are in your food.

1 PARTICIPANT: If it's such a small
2 problem, then how come it's so close to being a
3 non-problem, why do they keep bringing this up?
4 I understand we're a focus group and all, but,
5 you know, it's kind of -- it's right on the
6 threshold of being a problem. Aren't there five
7 other things out there in the world that are the
8 real problem?

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

22 PARTICIPANT: From everything that I've

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

18 PARTICIPANT: No.

19 PARTICIPANT: My thought would be, if I
20 were handling -- if I were doing what you're
21 doing, not the research but the P.R. end of it,
22 that's where I would focus on. And the question

1 is, do you want the general public to be aware of
2 it, sure, in a general way you want them to be
3 aware of it. But, do you not want the physicians
4 who are treating the women who are pregnant to be
5 much more aware of it so that they can pass this
6 information on an individual basis. They, too,
7 would understand it because of their education
8 and their background far more readily than this
9 group would as a whole, because they're trained
10 medical doctors, essentially they're scientists.

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

20 DR. LEVY: The dilemma is that you
21 really need the people you want to talk to are
22 women of childbearing age, people should know

1 this even before they become pregnant.

2 PARTICIPANT: Well, I understand that
3 part of it too. That's a very good point.
4 Someone made the point that almost you're almost
5 through that first trimester before you even know
6 you're pregnant.

7 MODERATOR: Stacey had a comment?

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

1 who aren't seeing the doctor who also aren't
2 reading. So, how are you going to target them?

3 PARTICIPANT: I completely agree with
4 you.

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

11 PARTICIPANT: Really?

12 DR. LEVY: Yes. Part of it is because
13 they are burdened. Their agendas are so full
14 with all the risks and there are many, many, many
15 risks that compete for attention. They feel they
16 just can't cover them all. Sometimes it's hard
17 to get onto the list of the month that they pay
18 attention to, and then they're also not -- they
19 have a lot of more immediate concerns and issues,
20 and it's not generally a good idea to rely on
21 them to be the most effective health
22 communicator.

1 PARTICIPANT: I would also, as a
2 parent, be concerned. I would want to know for a
3 young child what to feed him, and there's already
4 a list of foods that you can't give a child
5 before they're one and before they're two. You
6 know, peanuts and some strawberries, and those
7 kinds of things. You know, and I would want that
8 just added to the list. You get a lot of
9 information mailed to you in the last stages of
10 your pregnancy about what to feed your child when
11 they're older and I would want fish added to
12 that, you know, we'd want to know how much fish
13 is safe to feed my son?

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

17 PARTICIPANT: Um-hmm.

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

22 (Indiscernible, multiple speakers.)

1 PARTICIPANT: -- they say only
2 mackerel. It's a big fifteen ounces of --

3 MODERATOR: Canned mackerel.

4 DR. LEVY: Right.

5 PARTICIPANT: This is too --

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

14 PARTICIPANT: I would be the same
15 thing?

16 DR. LEVY: Probably.

17 PARTICIPANT: That the fish in the can?
18 Okay.

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

21 DR. LEVY: No? I -- thank you very
22 much, though. This is enormously helpful.

1 MODERATOR: I really appreciate your
2 participation this evening and if you want to
3 head out to the front there. If I could have
4 these back, as I said, we're revising them, so
5 that would be very helpful. Then, head out to
6 the front. Julian should be out there to offer
7 you a token of our appreciation. Thanks for
8 coming.

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

11 PARTICIPANT: The good conversation
12 about the tuna fish.

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

15 PARTICIPANT: Really?

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

18 MODERATOR: About the?

19 PARTICIPANT: When you talked about
20 the --

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

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

4 MODERATOR: Something health related,
5 though, right?

6 PARTICIPANT: Yeah. Thank you.

7 MODERATOR: Thanks for coming. Take
8 care.

9 (Whereupon the proceedings were
10 concluded.)

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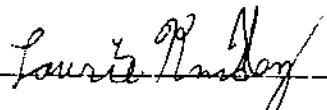
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