

**THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Agency for Toxic Substances and Disease Registry (ATSDR)**

convenes the

SECOND MEETING

CAMP LEJEUNE COMMUNITY ASSISTANCE

PANEL (CAP) MEETING

APRIL 20, 2006

The verbatim transcript of the
Meeting of the Camp Lejeune Community Assistance
Panel held at the ATSDR, 1825 Century Boulevard,
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TRANSCRIPT LEGEND

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-- "uh-huh" represents an affirmative response, and "uh-uh" represents a negative response.

-- "*" denotes a spelling based on phonetics, without reference available.

-- "^" represents inaudible or unintelligible speech or speaker failure, usually failure to use a microphone.

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(alphabetically)

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ENSMINGER, JERRY, COMMUNITY MEMBER
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P R O C E E D I N G S

(9:00 a.m.)

WELCOME, INTRODUCTIONS, PROCEDURES, RECAP OF FEBRUARY

2006 MEETING

CHRISTOPHER STALLARD

1 MR. STALLARD: Please make sure that your microphones are
2 on. Welcome back. We've learned something from our last
3 session together, and that is that we all have to speak
4 into the microphones very clearly so that our court
5 reporter can accurately capture the proceedings.

6 Okay. Welcome back. My name is Christopher
7 Stallard. I am your facilitator, again today, being our
8 third time together. We have an agenda that I think
9 you've all seen in advance. Let me go over -- another
10 thing we learned is that we're on IPTV, so hello to
11 everyone out there who's watching. We had some people in
12 Washington, D.C., as you know, who are interested in this
13 issue and this panel. And they were not able to see very
14 well our first meeting, so we had to modify somewhat
15 where we stand, sort of like stage management here.

16 So let me go over the operating guidelines, remind
17 you of what we -- what guides our interaction together.
18 One speaker at a time. Speak into a working microphone.
19 If we have to, we'll ask you to hold your comments until
20 we can pass the microphone to you. We are starting, as

1 you see, on time. We are going to end on time. Thank
2 you. Thank you for being here and starting on time.

3 Strict adherence to break times. We have zero
4 flexibility on that. So if you're in mid-sentence at
5 10:15 when we break, we're going to break. Please --
6 I'll give you the hi-five or the signal that we need to
7 do that. This is because the people who are on IPTV are
8 operating based on the agenda as it has been established,
9 okay?

10 Focus on topics under the CAP purview. We have met
11 several times now, and we are narrowing in on actionable
12 items. And we want to keep that momentum moving forward
13 on what will be done. So I ask -- we implore you to
14 let's stay focused on those things that we can do and
15 identify those things that might not be under the purview
16 of the CAP, but that should be addressed by perhaps some
17 other competent authority.

18 And that brings me to cell phones. That's okay.
19 I'm going to jump the order there. Cell phones or
20 BlackBerry, any types of electronic devices that create a
21 sound, please turn the sound down and put it on silent,
22 stun, or off. If you need to, you may step out; you
23 manage your own time.

24 Audience is here to observe only. We welcome you
25 here, we're glad that you're here to observe these

1 proceeding; however, your role is to observe only. If
2 you wish to interact, you certainly may do that during
3 breaks or after the session is completed. Any other
4 guidelines that you would like to offer at this time or
5 any clarification? Okay. Good.

6 Now, we work in a bureaucracy, folks. So I have to
7 go over some housekeeping rules. This is make or break.
8 If you want lunch today, you have to make your selection
9 and give your money by the first break at 10:15. Travel
10 orders. Plan your trip very carefully; changes only in
11 emergencies. In other words, when we decide what the
12 next date is going to be at the end of today, we're going
13 to come to a consensus on when we're going to meet next,
14 please plan your trip and try to stick to that itinerary.
15 It's unbelievable now in terms of federal travel
16 management and some of the processes we have to go
17 through just to amend basic forms. So please plan
18 accordingly. Likewise, register by the deadline of the
19 specified date due to security procedures. We want that.
20 Basically, we know who is coming, they committed to the
21 meeting, and we can go through one process that says
22 these are the people who will be coming.

23 Vouchers. As I understand it, in the last meeting
24 there was extraordinary effort to get travel advance in
25 order to bring you all here. That is extraordinary

1 effort outside the normal protocol of how we conduct
2 these meetings. We are in jeopardy of not being able to
3 do that for you if we do not receive your vouchers for
4 reimbursement and whatever expenditures in a timely
5 fashion. That means as soon after you complete this trip
6 as possible, okay? Please help us that we may continue
7 to facilitate your ability to come here.

8 Okay. Lastly, meetings and discussions with our
9 subject-matter experts, as you know, are encouraged. We
10 have time prior to the meetings and time after the
11 meetings. So you are encouraged as a group to meet with
12 the subject-matter experts to help develop framework
13 strategy, questions, answers, things like that. We would
14 like to honor this time that we have together between the
15 meeting times to stick to the agenda that we have. We
16 understand you want to meet with people today. We'll try
17 to work that in at the break or during lunch, okay?
18 That's it on the administrivia.

19 We have new members today at the table. So what
20 we'll do is we're going to go around, speak into the
21 microphone, introduce yourself and the organization that
22 you represent, and then we'll get into the rest of the
23 agenda. Thank you, Jeff.

24 **MR. BYRON:** Good morning. My name is Jeff Byron. I'm a
25 CAP member and I represent The Few, The Proud, and The

1 Forgotten.

2 **MR. ENSMINGER:** I'm Jerry Ensminger. I'm a CAP member.

3 **MS. McCALL:** Good morning, Denita McCall, CAP member.

4 **MS. RUCKART:** Perri Ruckart, ATSDR, Camp LeJeune study.

5 **DR. FISHER:** Jeff Fisher, expert, toxicology.

6 **MS. BRIDGES:** Sandra Bridges, CAP.

7 **DR. BOVE:** Frank Bove, ATSDR Division of Health Studies.

8 **MR. MARTIN:** David Martin, the CAP.

9 **MS. DYER:** Terry Dyer, the Stand, CAP member.

10 **MR. TOWNSEND (by telephone):** Hello?

11 **MR. STALLARD:** Yeah, we'll get to you, Tom.

12 **DR. RENNIX:** Chris Rennix, the epidemiologist for Navy
13 Environmental Health Center.

14 **MS. ROSSITER:** I'm Shannon Rossiter. I'm with ATSDR
15 Division of Health Studies.

16 **MR. TENCATE:** Mike Tencate, United States Marine Corps.

17 **MR. STALLARD:** Thank you, Mike.

18 **MR. TOWNSEND (by telephone):** Hello?

19 **MR. STALLARD:** Yes, Tom, hello.

20 **MR. TOWNSEND (by telephone):** Yes, I'm here.

21 **MR. STALLARD:** Yes, please --

22 **MR. TOWNSEND (by telephone):** Tom Townsend, CAP member.

23 **MR. STALLARD:** Welcome.

24 **MR. TOWNSEND (by telephone):** Thank you.

25 **MR. STALLARD:** Any other questions before we proceed?

1 Any?

2 **MS. MCCALL:** Do we know where Dr. Clapp is?

3 **MR. STALLARD:** No, we do not know. We do know that he
4 arrived last night, and we do expect him momentarily.

5 **MR. ENSMINGER:** Does he have a cell phone?

6 **MS. DYER:** Call the hotel?

7 **DR. BOVE:** Yeah, I don't have my cell phone with me. I
8 could go to my car and get it to see if he left a
9 message.

10 **MS. DYER:** Can we call the hotel?

11 **MS. RUCKART:** Do you want to run out and do that?

12 **DR. BOVE:** Yeah, if you don't mind.

13 **MR. STALLARD:** No, please stay with us because we're just
14 going to briefly go over and Perri is going to give her
15 overview, which he probably has seen before. Okay. So
16 let me just briefly recap. We had our first meeting last
17 -- when was that? February. And there was a good
18 opportunity to start to get to know each other and work
19 together and figure out how we're going to work together.
20 The outcome at the end of the day was that we basically
21 identified as is the charge of this group potentially
22 scientifically credible topics for further research. And
23 if you'll see on your agenda the three action topics, if
24 you will, that came out that meeting were scientifically
25 credible studies, potential endpoints, populations to

1 address, and then we talked about notification and PSAs,
2 and then we talked about prevalence surveys and web-
3 based.

4 So what we are going to do today is to focus on
5 those three areas in that order, in order to develop a
6 strategy of action to guide our future efforts. Is that
7 to everyone's understanding?

8 **MS. McCALL:** Could you say that one more time?

9 **MR. STALLARD:** Which part?

10 **MS. McCALL:** I'm sorry. I didn't catch the last part
11 before you said does everybody understand that.

12 **MR. STALLARD:** I guess I could ask the court reporter
13 what I said. It was a stream of consciousness. But I
14 think that what I said was that we had identified these
15 three main areas that you can see on the agenda:
16 Scientifically credible studies, notification, PSAs,
17 prevalence surveys. These three items will guide our
18 interaction and dialogue today to the degree that we can
19 develop strategies around them.

20 **MR. ENSMINGER:** I thought it was agreed upon in the last
21 meeting -- Jerry Ensminger -- that Dr. Clapp was going to
22 give us a brief on the prevalence studies.

23 **MR. STALLARD:** Are you prepared to do that?

24 **DR. CLAPP:** I'm happy to do it, yeah.

25 **MR. ENSMINGER:** I don't see it on the agenda.

1 **DR. BOVE:** You can raise these issues during when we
2 discuss prevalence studies. Prevalence studies is on
3 there. There was no presentation. We didn't talk about
4 having Dick give a presentation, but certainly Dick can
5 give a presentation when we get to that part of the
6 agenda.

7 **MR. ENSMINGER:** Okay.

8 **DR. BOVE:** Okay?

9 **MR. ENSMINGER:** All right.

10 **MR. STALLARD:** And let us welcome -- well, we did
11 introductions so if you -- and we said we're all speaking
12 into the microphone. This is a lesson learned from the
13 last time.

14 **DR. CLAPP:** I'm Richard Clapp. I'm sorry I was late. I
15 was actually headed off in the wrong direction from the
16 hotel, got disoriented by the construction, and got in at
17 2:00 a.m. from my flight. But other than that I'm here.
18 I'm happy to participate.

19 **MR. STALLARD:** Great. Thank you. Welcome. All right.
20 So that plans pretty much how today is going to go, what
21 we're focus on, who's here, and let's get into then Perri
22 will give us an update on the current study and processes
23 for future studies. Thank you.

24 **UPDATE ON CURRENT STUDY AND PROCESSES FOR FUTURE STUDIES**

25 **PERRI RUCKART**

1 **MS. RUCKART:** Good morning. Tom, I want to apologize in
2 advance. I didn't send you these materials, but we can
3 get them to you right after the meeting.

4 **MR. TOWNSEND (by telephone):** Okay. Thanks.

5 **MS. RUCKART:** Sure. Everyone else, there are handouts on
6 the front table, so ... We're just going to discuss
7 what's been going on since the last meeting.
8 And I want to talk about the feasibility assessment that
9 we're trying to plan.

10 As everyone is probably aware, the February 2005
11 expert panel recommended that ATSDR identify cohorts with
12 potential exposure. This would include adults who lived
13 on base, adults who resided off base, but worked on base,
14 and children who lived on base. So in response to that,
15 ATSDR submitted to DOD a proposal for a feasibility
16 assessment to help identify these cohorts. And there are
17 several steps necessary to accomplish this. And I want
18 to point out that at each step ATSDR will consult with
19 the CAP and receive feedback from the CAP.

20 So step one, ATSDR needs to determine whether data
21 are available from the Defense Manpower Data Center,
22 that's called DMDC, and see if this can be used to
23 identify members of each of the cohorts I just mentioned.
24 And we want to see if data are available on these cohorts
25 as early as -- the early 1970s, and ideally even before

1 that. And data items from the DMDC database need for
2 linkages with health outcomes databases such as the
3 National Death Index, which we call the NDI, or state
4 cancer registries, include the name, the date of birth,
5 and Social Security number. And data items needed from
6 this database to link with the base family housing
7 records include the name, duty location, dates of
8 service, and the sponsor.

9 Another step that we need to accomplish is to
10 complete the computerization of the base family housing
11 records. There are approximately 90,000 records. To
12 date, slightly more than 12,000 were computerized for use
13 in the previous study of adverse birth outcomes; however,
14 all of the data for those 12,000 records may not have
15 been computerized. The variables that we want to
16 computerize included the occupant's name, rank, and dates
17 of residence.

18 Then we will assess the feasibility of linking the
19 family housing occupancy data with data from the DMDC.
20 The linkage would bring together the necessary
21 information on exposure status, with information
22 necessary to link with health outcomes databases, such as
23 NDI and cancer registries. And for Marines who did not
24 reside in family housing, their drinking water exposures
25 will be assigned based on information from the water

1 modeling project and DMDC data on duty location and dates
2 of service. If data are available from the DMDC on
3 family members of the active and retired Marines, then
4 we'll also be able to link those data.

5 ATSDR will also explore the use of the Career
6 History Archival Medical and Personnel System, which we
7 call CHAMPS -- or they call CHAMPS, to evaluate adverse
8 health outcomes other than mortality; because we can
9 evaluate mortality using the National Death Index. And
10 CHAMPS has data on cancers and other chronic diseases, we
11 are told, going back to the early to mid 1970s.

12 **MR. ENSMINGER:** Can I ask you a question about that?

13 **MS. RUCKART:** Yes.

14 **MR. ENSMINGER:** Dr. Rennix?

15 **DR. RENNIX:** Yes.

16 **MR. ENSMINGER:** The CHAMPS, if I've not mistaken, only
17 covered active-duty people, correct?

18 **DR. RENNIX:** That's correct. While they were on active
19 duty, yes.

20 **MR. ENSMINGER:** So once a guy or a girl got exposed to
21 this stuff, say they did one or two tours in the service
22 and got out, CHAMPS isn't going to show that.

23 **DR. RENNIX:** That's correct.

24 **MR. ENSMINGER:** And we know that the latency period for
25 effects of this stuff is some 20 to 30 years.

1 **DR. RENNIX:** Some of them can be short as 5 years, but up
2 to 20, 30 years, yes.

3 **MR. ENSMINGER:** So CHAMPS isn't going to do us squat for
4 those people, right?

5 **MS. RUCKART:** Jerry, that's why we're also going to look
6 at the NDI and the cancer registries. That's just like a
7 first step. We're going to use the DMDC, hopefully, to
8 identify people who passed through Camp Lejeune and
9 CHAMPS is just one other resource we can explore for
10 health outcome data, along with the NDI and the other
11 cancer registries.

12 **MR. ENSMINGER:** Okay.

13 **MS. RUCKART:** So as discussed, there's advantages and
14 limitations of using CHAMPS and we would compare what we
15 get from CHAMPS with data on cancers from several state
16 cancer registries that we discussed last time:
17 California, Ohio, North Carolina, New Jersey,
18 Pennsylvania, Texas, where a lot of Marines have retired.

19 So I also want to let you know that we've contacted
20 CHAMPS staff to see if they could run a very quick
21 preliminary analysis of CHAMPS health data for Marines
22 stationed at Camp Lejeune during 1974 to February 1985 or
23 earlier if available to identify possible health
24 endpoints for further study. Just to get a general sense
25 of the health status of the Marines stationed at Camp

1 Lejeune compared to Marines who were never stationed at
2 Camp Lejeune, keeping in mind that the comparison would
3 not take into account whether the people at Camp Lejeune
4 actually got the contaminated water, but just to see just
5 really quickly if we even see something to begin with.
6 And the response we got back from CHAMPS was that the
7 data was only available from 1980 on, so that would give
8 us five years. Now, that's something that we can discuss
9 later on this morning, but I want to point that out --
10 what can we do with that? Just keep that in the back of
11 your mind.

12 **DR. BOVE:** Actually, it would give us more than five
13 years because there are people in the CHAMPS data set,
14 it's just that their health information wouldn't start
15 until 1980. So depending on how many people they have in
16 the CHAMPS data set, you know, and any health effect of
17 these people from 1980 on would be available. So we
18 still think it might be useful. We'll continue to look
19 at it. We'll discuss it here, too.

20 **MS. RUCKART:** So based on the activities that I just
21 discussed, ATSDR and the CAP will have the information
22 necessary to deliberate on the feasibility of conducting
23 additional studies. And the things we need to consider
24 are the size of the study population that we can identify
25 and then potentially study, the ability to determine the

1 exposure status for the study population, the ability to
2 obtain and confirm health information on outcomes of
3 interest that are biologically plausible, and the ability
4 to evaluate risk factors that could potentially confound
5 the data. And these risk factors would include age, sex,
6 and race/ethnicity, which can be obtained, most likely,
7 from the available databases. However, information on
8 other risk factors such as smoking and occupational
9 exposures could only be obtained by interview. We may be
10 able to conduct interviews of a subset of the population,
11 which we could do in a case-control study. However, it
12 will depend on the ability to find people, their current
13 addresses, and then also we need to take into account if
14 people are deceased, if we could interview their next of
15 kin.

16 So the first few steps that I mentioned will
17 determine the size of the study population, those cohorts
18 mentioned by the expert panel in February 2005, that can
19 be identified and assigned an exposure status. The goal
20 is to identify as many of the potential study
21 participants as possible using the computerized databases
22 that go back as early as the mid to 1970s and ideally
23 prior to that. And then as I discussed in step four,
24 then the feasibility of studying the particular
25 biologically plausible adverse health outcomes will be

1 evaluated.

2 Some things I just wanted to mention to you, just to
3 keep in mind for when we have our discussions later on,
4 about 20 to 30 percent of the survey cohort that we
5 contacted during 1999 to 2002, so that's one to four
6 years ago, did not have a forwarding address when we went
7 to send them the report of the telephone survey in summer
8 2003. So at this point, about 20 to 30 percent of those
9 12,598 cases are not locatable. And that's recent,
10 fairly recent, you know. We're talking about something
11 that happens in 1999 to '02; here we are not able to
12 locate them.

13 **MR. ENSMINGER:** I have a question on that. When you did
14 the surveys on these people, did you not get their Social
15 Security numbers?

16 **MS. RUCKART:** I don't believe we ask them for their
17 Social Security number. We did?

18 **MR. ENSMINGER:** I believe you do have their Social
19 Security.

20 **MS. ROSSITER:** We have the military members' Social
21 Security number, --

22 **MR. ENSMINGER:** Yeah.

23 **MS. ROSSITER:** -- but that doesn't always get us to the
24 survey respondent.

25 **MS. DYER:** It does if they --

1 **MR. ENSMINGER:** Yeah, but I mean if you get a hold of the
2 service member, they are going to be able to connect you
3 with the people you're trying to get a hold of.

4 **MS. RUCKART:** That's actually not always the case because
5 you have to remember some of these people were married
6 40, 30 years ago and they don't actually keep up with
7 their former spouse. It's just the reality, so --

8 **MR. ENSMINGER:** I do for protection.

9 **MS. BRIDGES:** You have to.

10 **MR. ENSMINGER:** You know, let's face it, you know, the
11 IRS can find me. These people, if you have their Social
12 Security number, they can be found.

13 **MS. RUCKART:** Well, you may think that, but in reality 20
14 to 30 percent of these people could not be found. And we
15 did -- as we discussed last time -- you know, extensive
16 searches to try to locate people and that's a sizable
17 number, you know, 20 to 30 percent. I just want to point
18 that out to you for when we talk later on about, you
19 know, ways to contact people and how we can get about
20 that. So I just wanted to mention that. We can talk
21 more about that later.

22 Also, I wanted to point out that approximately 30
23 percent of the self-reported cases in the survey were
24 confirmed to not have the reported condition. So I just
25 want to point that out. That's why it's important to

1 verify the cases. We can't just go by self-report. We
2 need to get medical records. Also, approximately seven
3 percent of the self-reported cases in the survey refused
4 to participate further and provide medical records. And
5 what we learned when we were conducting the study and the
6 interviews last spring and summer is that at least 25
7 percent of the study respondents were not able to provide
8 detailed address information for 1968 through 1985.

9 Things that they couldn't provide were the months and
10 years when they lived at certain residences or the exact
11 address where they lived. So we have to remember that
12 we're asking about something that was 30, 40, 20 years
13 ago and everyone's mind is, you know, may get a little
14 fuzzy on those details, which is understandable.

15 **MS. BRIDGES:** But the government has it, the records.
16 They filed Social Security. They filed income tax.

17 **MR. ENSMINGER:** No, their housing records will be in the
18 service members' record book. There was a page three and
19 page eleven entry made in my record book when I was
20 assigned housing and when I was -- when I vacated
21 housing. There's also entries made in pay records
22 because your BAQ stops; when you vacate housing, when you
23 clear housing, your BAQ starts again. So that
24 information is available.

25 **MS. RUCKART:** The one thing though is that's for the

1 sponsor and in our study we were most interested in where
2 the mother lived and she didn't always reside at the same
3 exact place as the sponsor, so we wanted to verify. We
4 do have a lot of information from the housing records on
5 the military member and then we would confirm with the
6 mother of the study child, did you live there? And
7 sometimes they'd say yes, sometimes no. And then even
8 when it was no, they were fuzzy on where they did live.
9 They know it was different, but...

10 **MS. BRIDGES:** And household moves.

11 **MS. RUCKART:** Right.

12 **MS. BRIDGES:** They paid to move them.

13 **MS. RUCKART:** Well, there were a lot of moves and people
14 --

15 **DR. BOVE:** Let me explain a little bit. Often times the
16 woman may not have moved with the sponsor, but instead
17 lived with her mother, her parents, during the pregnancy.
18 This is an issue with our current study. That's why we
19 asked the question, you know. You're married to this
20 person, they have this -- we have in the housing record
21 that they lived at this address during this period. Did
22 you live there? And sometimes we'd get no, we didn't
23 live there. We lived somewhere else during the
24 pregnancy. So that happens. It just happens.

25 **MR. ENSMINGER:** Yeah, but how often?

1 **DR. BOVE:** That's why we asked the question. I don't
2 know how often.

3 **MS. DYER:** More often than not?

4 **DR. BOVE:** We can look at that. We have the data for it,
5 but the issue is not that. The issue really is is what
6 housing information we do have. The housing information
7 we do have is from the base. It's on index cards, and we
8 computerized some of it for the previous study and we're
9 going to computerize the rest of it. But it includes
10 name, rank, period you were there, street address for the
11 sponsor, okay.

12 And what we'd like to do is link that name, right,
13 with the information that's in the DMDC and other
14 databases. The problem we can talk about later is that
15 at least in the early years of the DMDC database is that
16 they don't have full name. That's going to be a
17 difficulty.

18 **MR. ENSMINGER:** Yeah, but this thing about people living
19 elsewhere when they're assigned base quarters, that's got
20 to be the exception and not the rule.

21 **DR. BOVE:** Not for the woman who is pregnant,
22 necessarily. I don't know the percent, but it's not
23 unusual.

24 **DR. RENNIX:** We did look at this in another study that we
25 did on spontaneous abortion and we found that if the

1 service member is deployed that the wife would go home.
2 So she would find out she's pregnant, she'd spend a few
3 months there, and then she'd go home. There's no support
4 for her there in the house. So it happens, but there are
5 conditions for that. So it is rare, but it's very easy
6 to travel in the states.

7 I did my study in Japan where the guy would go out
8 on the ship and the wife would take off and go back to
9 the states. So they'd have a record in the OB/GYN clinic
10 that they were pregnant and then no delivery because they
11 delivered at another military hospital someplace back in
12 the states. So it does happen. But you're right, it is
13 the exception and not the rule.

14 **MS. DYER:** Can I ask a question? How far -- and this
15 might have been mentioned already -- Terry Dyer, CAP --
16 How far do the housing records go back?

17 **DR. BOVE:** That's part of what we need to computerize.
18 In the previous study they were only interested in going
19 back to '68. But in looking at the computer file I
20 noticed that it went further back for some entries. So I
21 assume that it goes back before '68, but I'm not sure
22 exactly how far back.

23 **MR. ENSMINGER:** Well, Tom Townsend, who's on the phone,
24 he's got every one of his assignments to housing. He
25 sent in a FOIA and they came up with the information. I

1 mean, just like that.

2 **MS. DYER:** And Tom was there in the 40s or 50s, I mean?

3 **MR. ENSMINGER:** Fifties. He's not that old.

4 **MS. DYER:** I thought he was. Just kidding.

5 **DR. BOVE:** Well, that's one of the things that we need to
6 talk about is --

7 **MS. McCALL:** Remember, he's listening.

8 **MS. DYER:** I know.

9 **DR. BOVE:** -- where this data exists. What we do have
10 are these housing records, you know. And we'll have to
11 see if there are other data sources as well.

12 **MS. DYER:** Is this something the Marine Corps would
13 provide to us then?

14 **MR. TENCATE:** The records?

15 **MS. DYER:** The housing.

16 **MR. TENCATE:** Absolutely.

17 **MS. DYER:** Okay.

18 **MR. TENCATE:** And I think the point that Perri's making
19 is that we're using all the records we have available to
20 us, but there are some limitations to what those records
21 contain.

22 **MS. DYER:** Then how far does the housing go back?

23 **MR. TENCATE:** I don't know off the top of my head.

24 **MS. DYER:** But you can find that out and get that
25 information to them?

1 **MR. TENCATE:** We can find out what we have, yeah.

2 **MR. STALLARD:** How far back does Tom's go? Hey Tom, how
3 far back do your housing records go?

4 (no audible response)

5 **MR. ENSMINGER:** Tom?

6 **MS. DYER:** Wake up.

7 **MR. TOWNSEND (by telephone):** What's that?

8 **MR. ENSMINGER:** How far back do your housing records go?

9 **MR. TOWNSEND (by telephone):** I lived there in 1955. The
10 Marine Corps didn't own that property -- it was a rental
11 housing at that time. I've got my records from '67 --
12 no, '65.

13 **MS. DYER:** Now, I can state this: When Marie Socha was
14 involved with the ATSDR and I first got involved in this,
15 when I called her, gave her my dad's Social Security
16 number, she pulled up every house that we lived at and we
17 moved onto to Bogainville in 1958. She knew the address
18 of the Bogainville, she knew my Chosen Circle, and both
19 had good addresses.

20 **MR. TOWNSEND (by telephone):** Oh, did they?

21 **MS. DYER:** Yes.

22 **MR. TOWNSEND (by telephone):** I frankly did not ask for
23 that far back.

24 **MS. DYER:** Yeah. That's when we moved and she knew every
25 address. So 1958, they should at least be able to go

1 back that far if we were able to.

2 **MR. TOWNSEND (by telephone):** Now, Tarawa Terrace was
3 being operated by Spangler Realty and we were paying rent
4 and it wasn't quarters when I lived there. That's why I
5 didn't ask for it, but I have a copy of the index card
6 from '65 onward on the quarters I lived in.

7 **DR. BOVE:** Yeah, Marie was using the database I was
8 talking about. It's partially computerized, and we just
9 want to computerize the rest of it.

10 **MS. DYER:** Okay. So it went back to '58?

11 **DR. BOVE:** Yeah.

12 **MR. BYRON:** Real quick; Jeff Byron for the CAP. Back to
13 the cohort feasibility studies, according to a recent LA
14 Times article, there are 1400 sites that the DOD is
15 responsible that has TCE poisoning. When you go to do
16 your cohort study between the individuals that lived at
17 Camp Lejeune, say, and individuals that lived at Camp
18 Pendleton, how are you going to insure that TCE wasn't in
19 their water? So that there can be an honest comparison,
20 not that it wouldn't be dishonest. But how can you
21 assure that the data is not going to be skewed to show
22 that there isn't a higher incident rate? That concerns
23 me deeply.

24 **DR. BOVE:** Right. There are several different kinds of
25 studies we can do, okay. One, the quick and dirty thing

1 we talked about, if you want to call it that, was using
2 the CHAMPS data and then comparing Camp Lejeune Marines
3 to other Marines, and that would be a problem. But we
4 were thinking of doing that because we thought maybe it
5 could be done rather quickly and give us a sense of some
6 health endpoints that are not easily ascertained; a lot
7 of the endpoints that have put on the Stand website that
8 people have besides cancers.

9 But what we would -- you know, our main effort would
10 be to compare those exposed at the base versus those
11 unexposed at the base based on Morris' water model. So
12 that deals with that issue. Well, it deals with that
13 issue except that after people leave Camp Lejeune, do
14 they go to other Marine bases? Of course, do they do
15 other jobs when they resign or leave the military and get
16 occupational exposures? There's all kinds of issues that
17 make these studies difficult.

18 **MR. ENSMINGER:** But we have one common denominator here.

19 **DR. BOVE:** Right. I'm just saying.

20 **MR. BYRON:** Do we have to compare them to Marines? Do we
21 have to compare ourselves to other Marines? Why can't we
22 compare ourselves to just a human population outside of
23 the Marine Corps area?

24 **DR. BOVE:** We can.

25 **MR. BYRON:** And hopefully they haven't been exposed.

1 **DR. BOVE:** Right. The National Death Index we can
2 compare the Marines from the general population.

3 **MR. BYRON:** Okay. Thank you.

4 **DR. BOVE:** But we'd like to be able to compare exposed
5 Marines at Camp Lejeune with unexposed Marines at Camp
6 Lejeune.

7 **MS. RUCKART:** Okay. Just a few more things that I want
8 to update you on before we move on to Dr. Fisher. Since
9 we last met in February I am very happy to report that we
10 confirmed one more neural tube defect. So that brings us
11 to 17 neural tube defects. The oral clefts is holding at
12 24. The childhood hematopoietic cancers, still 16, but
13 we're attempting to confirm one pending leukemia by
14 having a senior researcher at the Winship Cancer
15 Institute at Emory go back and hand search records and do
16 an extensive search. So that brings us to 56 confirmed
17 cases -- 57.

18 And just some other items I want to discuss with
19 everybody. There are several steps that we need to
20 undertake before we can actually begin a study. And I
21 just wanted to let everybody know about our process, just
22 so we'll know what we're dealing with here. So the steps
23 required before ATSDR can start a new study include peer
24 review, institutional review board approval, that's IRB
25 approval, and Office of Management and Budget approval,

1 OMB approval.

2 Peer review takes approximately three months. Peer
3 review is the process by which scientific or other
4 research protocols, such as detailed study plans, are
5 validated. And these are validated by independent
6 experts outside the government. And this is to ensure
7 the highest quality of science for all ATSDR studies.

8 All study protocols performed or funded by ATSDR
9 must be peer reviewed. And typically there are three to
10 seven peer reviewers and they come from the scientific
11 fields relevant to the study subject. The peer reviewers
12 must have no conflict of interest, and they address a
13 standard list of questions. Then the reviewers' unedited
14 comments are sent to the principal investigator or the
15 study lead for a response. And the study lead responds
16 to the peer reviewers' comments in writing and prepares a
17 revised protocol, if necessary.

18 And the peer reviewers receive the study lead's
19 response and the revised document package. The protocol
20 and other supporting documents such as questionnaires,
21 letters, brochures, et cetera, must be approved by the
22 NCEH/ATSDR Office of Science. And once the study has
23 been through peer review, then OMB clearance can be
24 sought. And that takes approximately six to nine months.
25 So prior to beginning data collection, we must obtain

1 approval from OMB.

2 You look confused.

3 **MS. DYER:** Okay. I just want to ask a question. This
4 scientific panel that met a year ago -- that we were all
5 up here, Ozonoff and all of them -- you're not
6 considering them the panel that said that we needed to
7 have future studies?

8 **MS. RUCKART:** Terry, it's a very detailed process. We
9 have to prepare a protocol, which is kind of like a
10 detailed outline of what we want to do. And you have to
11 have your study questionnaires so the interview that you
12 want to conduct. You have to have any letters you want
13 to send to recruit people, any brochures. I mean, it's a
14 very detailed process. And then it goes through three to
15 seven peer reviewers that are selected by the Agency's
16 Office of Science who have knowledge in those areas. So
17 it's not just a general idea, it's more fully fleshed
18 out. It has to be very specific.

19 **MS. DYER:** Okay.

20 **MS. RUCKART:** Okay. So then we need the OMB approval.
21 OMB approval is needed if data will be collected for more
22 than nine people. And the reason why OMB reviews the
23 packages is to ensure that activities minimize burden,
24 have practical utility, reduce duplication, and meet a
25 specific agency need.

1 But before a package can be submitted for OMB
2 clearance, a notice describing the proposed study is
3 published in the Federal Register and 60 days are allowed
4 for receiving public comment. So we just put something
5 in the Federal Register that says we're thinking of doing
6 a study on this topic and then we invite comments on it.
7 It just briefly describes what we plan to do.

8 So after that is done, we address any of the
9 comments, and then a second notice is published in the
10 Federal Register once the study protocol and data
11 collection instrument and other related materials and the
12 supporting statement are submitted for OMB review. And
13 30 days are allotted for receiving public comments from
14 the second notice.

15 And then at that point we submit the package to OMB
16 and they have 60 days to review it. OMB may submit
17 questions and the PI, the study lead, needs to respond
18 either in writing or via a conference call with OMB
19 staff. And at the conclusion of the 60-day OMB review
20 period, OMB can either approve the study, disapprove it,
21 or ask the Agency to withdraw the request. If they do
22 approve it, the clearance is granted for three years.

23 And then after the OMB approval, we need to get the
24 IRB approval. So that is conducted by the CDC/ATSDR
25 Institutional Review Board. They review protocols with

1 respect to protecting human subjects. The things they're
2 looking for is if there's a balance between the potential
3 risks and benefits. If the selection of subjects is
4 appropriate and fair, if there are provisions for
5 protecting confidentiality and safety of the
6 participants, and if there is appropriate and informed
7 consent.

8 If the IRB has any questions or concerns, the study
9 lead needs to address those in a written response. And
10 the study can only begin after the IRB approval. IRB
11 approval is valid for one year and we do yearly renewals,
12 but that's initiated before the first year is going to
13 expire so that we can have continuity for the project.

14 **MR. STALLARD:** And how long does the IRB normally take?

15 **MS. RUCKART:** That's approximately three months.

16 **MR. STALLARD:** I might ask a question here. So this is
17 the standard protocol for a new study to be conducted,
18 correct?

19 **MS. RUCKART:** Yes.

20 **MR. STALLARD:** Okay. So we're looking at a year,
21 roughly, once it's all put into place to begin that
22 study?

23 **MS. RUCKART:** Right. But I will say that's a year after
24 the protocol and all supporting materials are developed.
25 So we need to have some time to develop those. That's

1 probably a few months to flesh out the protocol, flesh
2 out the study plan, write the questionnaire. So we're
3 talking about a year, a little more. That's correct,
4 yes.

5 **MR. STALLARD:** Okay. One question that begs to be asked:
6 Is there an expedited process in any of these that we
7 know of? Like OMB, for instance; is there any type of
8 expedited process?

9 **MS. RUCKART:** No. And for --

10 **DR. BOVE:** Just the opposite. It could go longer because
11 they could string you out with informal review processes
12 before they start the formal process. That happened,
13 actually, with the current study. They had an informal
14 question period, which we had to respond to. Then there
15 was a formal question period we had to respond to. So
16 OMB is a problem that we have to deal with because we
17 have to by law. The peer review process is also by law.
18 So those things are set in stone. And the IRB is set in
19 stone, too. So there is no way up. That's why it takes
20 a long time to do these studies because of these
21 processes.

22 **MS. RUCKART:** With the IRB there is an expedited -- you
23 can ask for an expedited review and that is the three
24 months. I'm just going under the assumption that we will
25 have an expedited IRB review and that's three months.

1 **MS. McCALL:** Okay. I just need to understand whether all
2 three of these reviews can go on simultaneously or does
3 one have to wait for the other?

4 **MS. RUCKART:** Well, before anything can be sent to OMB
5 and IRB it does need to go through peer review. IRB and
6 OMB can happen simultaneously, but then you can run into
7 some problems if one group is asking you to address
8 comments that affect what the other group is reviewing.
9 So it gets kind of tricky at that point to try to respond
10 to both sets of comments and then make sure they're each
11 reviewing the same revised package. It's sort of dicey.
12 So you can do it, but that may end up lengthening your
13 process if you have to pull it back and then submit a
14 revised one.

15 **MS. DYER:** All right. Perri, I've got a question, and I
16 think this is the proper time. Frank, do you feel like
17 the ATSDR has enough information with the study that
18 you're conducting on the in utero to warrant future
19 studies?

20 **DR. BOVE:** I wouldn't base doing future studies on the
21 current study. I would base it on the fact that there
22 were exposures and that the previous scientific panel
23 said that a mortality study was warranted. So I would
24 run on those recommendations and the fact that there were
25 high exposures.

1 **MS. McCALL:** Can we direct that question to Dr. Clapp?

2 **DR. CLAPP:** I agree. I think that I agree with what the
3 previous panel suggested a year ago, and I think the
4 mortality study ought to go right ahead as soon as the
5 list of who's exposed is available.

6 **MS. DYER:** We're not asking about the mortality because
7 we know that that's going to go.

8 **DR. CLAPP:** Yeah.

9 **MS. DYER:** We're talking about was there enough evidence
10 in the studies in the in utero to warrant future studies
11 of children and adults that were out there.

12 **DR. CLAPP:** I don't enough information that's --

13 **MS. DYER:** Okay. Well, that's the other thing we need to
14 talk about then is that both doctors are not getting
15 information, evidently, that they need from the ATSDR
16 because --

17 **DR. CLAPP:** You asked a very specific question about
18 childhood illnesses and I'm sure I can get that
19 information, but --

20 **MS. DYER:** Is the ATSDR sharing everything that they're
21 doing with you all?

22 **DR. CLAPP:** Yes, absolutely.

23 **MS. DYER:** Dr. Fisher?

24 **DR. FISHER:** I guess I feel like I'm not real informed,
25 but I'm not an epidemiologist.

1 **DR. BOVE:** Okay. I'm trying to figure out what we're
2 talking about because I'm very confused now.

3 **MS. McCALL:** The question is: Do the doctors feel they
4 have enough information with the in utero study to make a
5 children's and adult's study feasible? And you just said
6 something about there was a high incidence in the in
7 utero study.

8 **DR. BOVE:** I didn't say that.

9 **MS. McCALL:** No.

10 **DR. BOVE:** I didn't say anything of the sort.

11 **MS. McCALL:** Okay.

12 **DR. BOVE:** What I said was -- and I thought you were
13 talking about the mortality study as well. So now I
14 understand it's a different question. The mortality
15 study I think is warranted based on the exposure.
16 Additional studies, like a cancer study, was also
17 recommended by the scientific panel. Again, it had
18 nothing to do with the current study. It had to do with
19 exposures. I think with the exposures at Camp Lejeune
20 you can justify doing a mortality study and an adult
21 cancer study.

22 Beyond that, we haven't talked about -- and the
23 panel, if you remember, was kind of vague on all kinds of
24 possible approaches. But they thought that a mortality
25 study definitely should be looked at for feasibility and

1 done if it was possible and the cancer study. And that
2 was based on exposure. It was not based on -- and
3 previous studies that had been done at Woburn and so on,
4 okay. But the information -- all of you, not just the
5 experts, but all of you and the DOD have the information
6 about the current study as we can give it to you. In
7 fact, Morris this afternoon will update you on the water
8 modeling. So there's no information we have about the
9 current study that you don't know and DOD doesn't know.
10 You all know the same. We haven't done the analysis yet
11 of the current study because we don't have the water data
12 yet in hand to make the connection between the cases and
13 controls and their exposure, okay. So that needs to wait
14 until we do that analysis.

15 **MR. BYRON:** So what we can say is the incident cancer
16 rate study and the mortality study would lead to children
17 that were exposed and adults who were exposed studies?
18 Yes, no?

19 **DR. BOVE:** We have to discuss that.

20 **MR. BYRON:** The possibility would be there?

21 **DR. BOVE:** Right. The problem I see is what kind of data
22 are available to do a credible study? That's what I'm
23 grappling with, and I want you to grapple with me on it,
24 okay. That's where we're at. And we have part of the
25 agenda is to talk about these things. We talk about the

1 scientific credible studies, the prevalence study,
2 notification, that's all on the agenda. But we can start
3 that now, if you don't shoot me. I'll let the chair
4 decide on what we need to do.

5 **MR. STALLARD:** Well, there are some specific questions on
6 here. We want to allow enough time for Dr. Fisher to
7 give his presentation. Will that lend itself as well to
8 the discussion of toxicology?

9 **DR. FISHER:** Maybe.

10 **DR. RENNIX:** Can I ask a question, Frank? Chris Rennix.
11 For the mortality study, since you're not going to be
12 actually contacting individuals, do you need OMB approval
13 for that? You're not doing a survey? As I recall, since
14 you're not actually contacting individuals, you do not
15 need OMB approval. You can go straight from peer review
16 to IRB.

17 **DR. BOVE:** I'm trying to think because we just had a
18 discussion about this. We're collecting information on
19 individuals. I have to get a reading from my Agency.

20 **DR. RENNIX:** Because I believe OMB, the restriction is if
21 you have to contact and request information from an
22 individual -- more than nine individuals -- you have to
23 have approval. Since you're not contacting them, you're
24 doing a registry review and a database review, that OMB
25 approval is not required. Most universities don't have

1 to go that route.

2 **DR. BOVE:** Right.

3 **DR. RENNIX:** I know. I understand.

4 **DR. BOVE:** We're different. I think I agree with you.

5 **DR. RENNIX:** For mortality study you're not contacting
6 individuals.

7 **MS. RUCKART:** Right. Yeah, I think we may not need to do
8 OMB if you're not contacting because the key word is if
9 they're contacting more than nine people.

10 **DR. RENNIX:** Absolutely.

11 **MS. RUCKART:** But I was just laying out the steps when we
12 do any study. But, right, that's possible that we may
13 not need the OMB. So we would just still need IRB --

14 **DR. RENNIX:** And peer review.

15 **MS. RUCKART:** -- and peer review.

16 **DR. BOVE:** What we normally do is we send the information
17 to our -- we have an OMB group at the Agency and they
18 tell us. But I think you're right, it would probably get
19 through without having to do it.

20 **MR. STALLARD:** Okay. So we've identified a potential
21 expedited approach to at least the mortality study,
22 pending verification.

23 **DR. BOVE:** The problem with the mortality study still to
24 me is -- and we can discuss this, but this is the problem
25 I see is being able to link the family housing

1 information, which again we have name, rank, time period
2 they were there, and the address with DMDC personnel
3 records, which don't have the full name until sometime in
4 the mid-70s.

5 **MR. ENSMINGER:** Yeah, but when you're doing a mortality
6 study, now, you're going to be looking at active-duty
7 people, too. I mean, housing records don't have a thing
8 to do with them.

9 **DR. BOVE:** No. But I would want to be able to identify
10 where people were at at the base. If they lived in
11 family housing, I want to know that and where. If they
12 lived in the barracks -- they didn't live in family
13 housing, then I think we'll probably assume they lived in
14 the barracks unless someone can tell me that that's not a
15 good assumption. So we'll have an idea of where they
16 were.

17 If we don't have that, then we're stuck with the
18 situation of we don't know who's exposed and who isn't.
19 And given that there's a sizable population at Camp
20 Lejeune that was not exposed, it's important to know that
21 because if you mix the two groups together, it's harder
22 to find a positive finding. So we want to be able to do
23 that, if at all possible.

24 **MR. STALLARD:** Dr. Fisher, you're preparing for your
25 presentation I see.

1 **TOXICOLOGY OF TCE AND PCE**

2 **JEFF FISHER**

3 **DR. FISHER:** I'm trying. I don't know how to operate
4 this... You have handouts and I don't. I may have to
5 look at one of my handouts. Do you have this? It's a
6 copy of the slides.

7 **MR. STALLARD:** Here's more.

8 **DR. FISHER:** If I can talk from these. Okay. Someone's
9 coming to save the day.

10 **MR. STALLARD:** Frank, in answer to your question should
11 we talk about the issues of data integrity and whatnot
12 that we were getting into. No, we're going wait until we
13 get to a point when we start talking specifically about
14 those topics.

15 **DR. FISHER:** They're going to work on it. I'll get
16 started. When I was asked to talk about
17 trichloroethylene and perchloroethylene toxicology, you
18 know there's a tremendous amount of literature and it's
19 just a very broad topic. Then I asked myself the
20 question: What information can I provide that will help
21 the CAP? Then it became very difficult what I talk
22 about, so I have a few slides of information that I think
23 are relevant to this.

24 You should know from a regulatory perspective that
25 both trichloroethylene --

1 **MS. RUCKART:** We have some AV help coming.

2 **DR. FISHER:** So the regulations, you know, the
3 environmental standards like drinking water -- I mean,
4 there's standards in place, but both trichloroethylene
5 and perchloroethylene, I say are in flux from a
6 regulatory standpoint. And that really stems from the
7 late '80s when a science advisory panel for the U.S. EPA
8 reviewed the epi, the toxicology and they looked at
9 classification of these compounds -- cancer
10 classification, and they came up with a classification
11 that didn't exist for the U.S. EPA.

12 So U.S. EPA withdrew their risk assessment
13 information off of the database that's on the Internet
14 called IRIS, I-R-I-S, Integrated Risk Information System.
15 So if you look there you'll probably be confused. Lots
16 of states use old numbers -- cancer risk numbers. Also,
17 just the classification of cancer. EPA's had a draft
18 document for ten years and they just came out with a new
19 guideline for cancer classification.

20 Most of all this information is gathered in animal
21 studies. Rarely is it derived from humans. So when you
22 look at five parts per billion as a drinking water level,
23 you know, they're really -- they're not derived from
24 humans. They're thought to be protective of humans, but
25 those numbers -- if you look at the math and risk

1 assessment approaches, it's liver tumors in a certain
2 kind of mouse from studies done in the '70s and early
3 '80s.

4 On the second page, I've taken a little bit of
5 information. There is a lot known on the toxicology of
6 these solvents from use as a degreaser, occupational
7 exposures. There's a long history of use and documented
8 effects. A lot of acute effects, CNS effects, dizziness,
9 tingling of the arms, even kidney toxicity, liver
10 toxicity, high exposures. And I've listed symptoms for
11 perchloroethylene or tetrachloroethylene that are
12 documented. You know, there are cases where adults and
13 children have actually swallowed these solvents; some
14 have died. So there are these case studies of
15 individuals. So there's lots of information. They're
16 well-studied compounds.

17 But if you look at the epi studies that regulators
18 use, they first have been looking at occupational
19 exposure data sets. And even those data sets have some
20 of these same confounding problems when you go to human
21 exposures of people that are exposed a year, 30 years, in
22 deriving health outcomes. But there have been a lot of
23 associated health outcomes, and I've listed some of the
24 organ systems. And drinking water studies I actually --
25 for epi, Dr. Bove and I have Dr. Gibbs, actually he's a

1 physician that's working in Chile with another study and
2 I put his name. I meant to say Dr. Clapp. They know
3 those studies. They're familiar with the data and the
4 analyses of drinking water studies, epidemiologic studies
5 of these solvents and other solvents.

6 Why is there all of this confusion? Why is this so
7 difficult? And the next slide can give you some inkling
8 about trichloroethylene. It's the second page, bottom
9 slide with lots of columns. Look at this. I don't
10 usually show pleathered (ph) slides like this, but since
11 the mid-70s some federal agency in the U.S., Europe has
12 done a risk assessment for trichloroethylene and come up
13 with totally different results. And besides that, there
14 are peer-reviewed published risk assessments on
15 individual cancers by scientists, epidemiologists,
16 toxicologists, risk assessors. So these compounds have
17 been looked at a lot.

18 And on this table you'll see up at the top the
19 classification symbols; three minus signs; a plus, two
20 minus signs. And the first symbol means that it's an
21 animal carcinogen, known animal carcinogen for
22 trichloroethylene. The second symbol means it's a
23 positive epidemiologic study; human study for
24 trichloroethylene. And the third symbol means that it's
25 a probable human carcinogen. So the strongest evidence

1 is on the far right with three plus symbols. But yet you
2 can go to the left and see federal agencies having three
3 negative symbols. How can that be?

4 **MR. ENSMINGER:** Well, who is ACGIH, Dr. Fisher? Who is
5 that?

6 **DR. RENNIX:** That's the American Conference of
7 Governmental Industrial Hygienists.

8 **MR. ENSMINGER:** Oh, gee.

9 **DR. RENNIX:** It's not a federal organization. It's a
10 professional organization that sets exposure limits for
11 occupational only.

12 **MR. ENSMINGER:** Industry?

13 **DR. RENNIX:** No, they're not industry people. They're
14 dot org.

15 **MR. ENSMINGER:** Oh, I know that. Are they part of the --
16 How are they tied into the -- what is it-- the industry
17 protection agency?

18 **DR. RENNIX:** They get sued all the time by industry
19 because their standards are set and the industries don't
20 agree. They're a dot org nonprofit organization of
21 professionals that get together, like AMA, American
22 Medical Association. They're a nonprofit organization.

23 **MR. ENSMINGER:** What's the Halogenated Solvents Industry
24 Alliance?

25 **DR. RENNIX:** They're not part of that.

1 **MR. ENSMINGER:** They're not part of that?

2 **DR. RENNIX:** They don't get any funding from that at all.
3 I'm a member of the ACGIH, that's how I know.

4 **MR. ENSMINGER:** Is that right?

5 **DR. RENNIX:** Yeah. Then there's another group called the
6 American Industrial Hygiene Association. It's another
7 completely independent from any influence from industry
8 or from government. They are independent.

9 **MR. TENCATE:** And they look at workplace safety?

10 **DR. RENNIX:** It's workplace, not environmental issues,
11 only workplace.

12 **DR. FISHER:** So this type information can add to the
13 confusion of what's going on. That's the only point that
14 I wanted to make. And that's what this person, this
15 author, was trying to do was just look at the history of
16 this chemical. And it still goes on today with these
17 compounds.

18 Okay. So a little bit of toxicology that's
19 relevant, I think, to the drinking water issues here that
20 we do now know some of the metabolites of these solvents
21 are the bad actors. At least in animal models, these
22 acids that are formed, dichloroacetic acid,
23 trichloroacetic acid. It's interesting because these
24 acids are also found in drinking water that's chlorinated
25 in the presence of humic acids surface waters. So some

1 of these acids that are the bad actors as metabolites of
2 both solvents can also be found in drinking water. And
3 in the environment, these solvents starting with
4 tetrachloro, perchloroethylene can be broken down to
5 trichloroethylene, dichloroethylene, 1 2 cis and trans,
6 and then a human carcinogen called vinyl chloride. So
7 there are other compounds that might be of interest.

8 **MR. ENSMINGER:** Well, you know, that's one of the
9 questions that I asked the panel that was put together by
10 the National Academy of Sciences when I went up there to
11 address them was we have PCE, which breaks down to TCE,
12 which breaks down to DCE, to MCE, and eventually all of
13 them become vinyl chloride, which is a known human
14 carcinogen.

15 **DR. FISHER:** Right.

16 **MR. ENSMINGER:** So what's the debate? What's the debate
17 about?

18 **DR. CLAPP:** Money.

19 **DR. FISHER:** Well, you're looking for these other
20 compounds, as well as just the starting compounds, the
21 solvents that were used; perc and tri, TCE as it's
22 called. Maybe some of these other compounds, are they
23 being tracked also? I'm not sure about that.

24 **MR. ENSMINGER:** The information that was used to create
25 the new standard that is now under question by DOD and

1 NASA and the Department of Energy, when it came out they
2 stated that they had underestimated the toxicity of these
3 chemicals, or TCE, by as much as 60 times. What data did
4 they use to come up with that new risk assessment?

5 **DR. FISHER:** The National Academy?

6 **MR. ENSMINGER:** No, the EPA.

7 **DR. FISHER:** Oh, the 2001 document?

8 **MR. ENSMINGER:** Yes. The scientists that came up with
9 the data for that risk assessment for the EPA, which is
10 now being -- was now under fire, was kicked -- punted
11 over to the National Academy of Sciences.

12 **DR. FISHER:** Right.

13 **MR. ENSMINGER:** What data did they use to come up with
14 that statement that they could possibly have
15 underestimated the toxicity of these chemicals by as much
16 as 60 times?

17 **DR. FISHER:** Data from more recent epidemiologic studies
18 with trichloroethylene by drinking water, and a few
19 reproductive studies with animals. There's one page in
20 that document that lays out all the studies and the
21 sensitivity that would address the issue. Off the top of
22 my head I know of one study in Europe, but I don't
23 remember all of the studies.

24 **DR. BOVE:** They use the Kidney Cancer Study in Europe.
25 They use the New Jersey Drinking Water Study, which I

1 worked on. They used -- after that, I'm trying to
2 remember. They didn't use Woburn. They used another
3 occupational study from Wartenberg's meta-analysis, but I
4 can't remember.

5 **MR. ENSMINGER:** And now I understand --

6 **DR. BOVE:** But you're right, there's one page, though,
7 and we can get that, we can reproduce that.

8 **MR. ENSMINGER:** I understand that this thing that the
9 National Academy panel is now hung up on the metabolism
10 of this stuff.

11 **DR. FISHER:** I have no clue.

12 **MR. ENSMINGER:** That's what I hear through the grapevine.

13 **DR. RENNIX:** They're due to report out this summer on
14 that methodology. And they're going to either endorse
15 EPA's methodology or they're going to recommend a change
16 to their process.

17 **MS. McCALL:** With all of these studies that we're talking
18 about, are we able to use any of the data from any of
19 these studies to expedite our study?

20 **MS. DYER:** Is any of it conclusive?

21 **DR. FISHER:** You're going to have to ask Dick. You're
22 talking human studies, more than likely.

23 **DR. CLAPP:** I don't think any of this new data adds
24 further weight to the need to do a study for Camp
25 Lejeune. That's already there. If anything, it just

1 confirms that. It doesn't really say well, it's not more
2 urgent.

3 **MS. McCALL:** Well, I only ask that question because at
4 the last meeting we were grappling with the question of
5 is it feasible to do any more studies. So I guess what
6 I'm asking is what is the next step after we identify
7 useful studies.

8 **DR. CLAPP:** Well, this is all about cancer, mostly. And
9 so there's a mortality study which will include cancer as
10 a cause of death, and then the notion of several states,
11 California, Ohio, Pennsylvania, North Carolina, Texas
12 cancer incidence studies. As soon as the cohort is
13 assembled, the names of people and whether they were
14 exposed or not is assembled, that should go forward.

15 **MS. McCALL:** What does the ATSDR need in order to go
16 forward?

17 **DR. BOVE:** Well, that's the subject of this afternoon.

18 **MR. STALLARD:** If we could, let's finish with Dr.
19 Fisher's presentation and we're going to get to the meat
20 of the matter, okay?

21 **MS. McCALL:** Okay.

22 **DR. FISHER:** Okay. Last slide. So for the CAP group,
23 the animal studies probably don't help you. I mean, it's
24 background information, it's useful, but it doesn't
25 address your needs. And the modeling, I think, is

1 helpful because that's the exposure connection and the
2 magnitude of the exposure to relate to health outcomes.
3 Dose response, if you will.

4 But I ask the question now, what if you assume
5 worst-case scenario for whatever the major concentrations
6 were, 1600 parts per billion or around two parts per
7 million in water, what do we know about human exposures
8 at that level right now today without doing the future
9 work? What can we say about that? I ask that of my
10 colleague. I don't know the answer. It's an
11 epidemiologic question.

12 The ongoing studies, as I mentioned I'm trying to
13 get a grasp on what's going on within the Agency, the
14 level of effort, number of people working on it, and
15 what's planned in the future. So I'm still behind the
16 eight ball on figuring that out. That's it. Thanks.

17 **MR. STALLARD:** Thank you.

18 **MS. DYER:** Does he want those questions answered now?

19 **MR. STALLARD:** Which question?

20 **MS. DYER:** Didn't he ask how many people were working on
21 it?

22 **MR. STALLARD:** Speak into the microphone.

23 **MS. DYER:** I'm sorry. Dr. Fisher, were you wanting to
24 have those questions answered now? How many people were
25 working on it? I mean, everything that you just asked,

1 do you want that answered now?

2 **DR. FISHER:** Well, if there's a simple answer.

3 **MS. DYER:** Okay. Frank?

4 **DR. FISHER:** How many people in the Agency like we had
5 briefing of what was going on -- does that represent one
6 person, five people working full-time, or ...

7 **MS. RUCKART:** Well, one thing I want to say before we can
8 go forward with some of this work, we need to know
9 whether our proposal is going to be approved by the DOD.
10 That is a big question before we can move forward.

11 **MS. DYER:** Can we answer that now?

12 **MR. TENCATE:** I think approval is the wrong word.

13 **MS. DYER:** Funding?

14 **MR. TENCATE:** We have your initial proposal and I think
15 Dr. Rennix has asked for more clarification, more detail.
16 The MOU that's in place envisions comments back and
17 forth, back to you, and then you would go into your
18 pipeline with OMB, the other agencies, peer review, et
19 cetera.

20 **MS. DYER:** If it had to be sent back for more
21 information; is that what you're saying?

22 **DR. RENNIX:** Right. What I've asked ATSDR to do, the
23 proposal we got was vague in the detail about how they
24 wanted to spend the money. Specifically, what were their
25 contractor costs going to be? How many hours were they

1 expecting to take to do this database before we would be
2 able to fund it? So I've gone back and asked them to put
3 it in an NIH sort of format like everybody else puts in
4 for grants. That can then -- once we look at that and
5 say yes, it seems that it's in line with what we've seen
6 in other studies, then they would negotiate with Mike
7 White and the DOD, because he's the person that transfers
8 money from DOD to ATSDR for funding.

9 **MS. DYER:** How long ago did you ask for this?

10 **DR. RENNIX:** I asked for clarification about the
11 beginning of the week last week, something like that.

12 **MS. DYER:** Okay. Can we get a timeframe on when the
13 ATSDR can get that back to them?

14 **MR. STALLARD:** We certainly can talk about that when we
15 resume from our break in 15 minutes, and we will begin to
16 have an active open dialogue. Thank you. Be back in 15
17 minutes. Make sure you get your lunch paid for and
18 identified.

19 (Whereupon, a break was taken.)

20 **DISCUSS RECOMMENDATIONS FROM FEBRUARY 2006 CAP MEETING**

21 **MR. STALLARD:** All right. Welcome back. May I have your
22 attention, please? We're broadcasting live. Let's focus
23 back here. Thank you. I have been asked to remind you
24 that make copies of your receipts and submit the
25 originals and keep your copies. It's back to that

1 bureaucracy thing we've been talking about this morning.
2 Okay.

3 I need clarification, just so that we all understand
4 what the dialogue was just before we went to break where
5 Dr. Rennix was responding that there's a proposal from
6 ATSDR and they've gone back and forth on that. And that
7 proposal is specifically about what, so that everybody
8 knows?

9 **DR. RENNIX:** The proposal is to obtain money to start the
10 framework for whatever future studies we're going to do.
11 So they've requested money for contractor to input all of
12 these housing records into a database and for money for
13 travel to go to DMDC and to Naval Health Research Center
14 to look at these databases to see what more information
15 that can get from them.

16 **MS. RUCKART:** One clarification, I'm sorry. We're not
17 asking for money for a contractor.

18 **DR. RENNIX:** Not a contractor. I'm sorry. Yes, to pay
19 for a person to enter the information.

20 **MS. DYER:** Is that information only the mortality, or is
21 that information for the children and adults?

22 **MR. STALLARD:** Please, hold on. Hello, Tom?

23 **MR. TOWNSEND (by telephone):** Yes.

24 **MR. STALLARD:** Are we having a family feud there?

25 **MR. TOWNSEND (by telephone):** (Inaudible)

1 **MR. STALLARD:** Okay. Well, we're getting some feedback
2 from you then that's a little distracting, just so you
3 know.

4 **MR. TOWNSEND (by telephone):** I'm sorry.

5 **MR. STALLARD:** That's okay. All right. And folks here,
6 please speak into the microphone.

7 **DR. RENNIX:** So I got a proposal sent to me by the Marine
8 Corps to take a review of.

9 **MS. RUCKART:** Tom, could you mute your phone if you're
10 not speaking, please? Is that possible?

11 **MR. TOWNSEND (by telephone):** All right.

12 **MS. RUCKART:** Tom, are you able to mute your phone if
13 you're not speaking?

14 **MR. TOWNSEND (by telephone):** Am I speaking?

15 **MS. RUCKART:** No. If you're not speaking are you able to
16 put your phone on mute?

17 **MR. TOWNSEND (by telephone):** I'll try.

18 **MS. RUCKART:** Okay. Thanks.

19 **MR. TOWNSEND (by telephone):** Sorry.

20 **DR. RENNIX:** So I received a proposal from the Marine
21 Corps to review for them, and I went back to Frank and to
22 Perri and basically said we needed more detail. They
23 provided more detail, except one line about funding. So
24 I responded we needed some more detail on that. I talked
25 to them during the break, they're going to provide that,

1 specifically how much they wanted for the data input and
2 how much they needed for travel. We'll look at that, and
3 then it becomes a budget issue with ATSDR and DOD because
4 it's either going to be money taken from current projects
5 or it's going to have to be delayed until our next
6 funding cycle.

7 **MS. RUCKART:** Well, one thing I wanted to tell you. Our
8 DOD liaison told me that she submitted the budget request
9 in October, so you should have that.

10 **DR. RENNIX:** I know. October is past our funding cycle.
11 We're ready now to develop our FY '07 funding cycle.

12 **MS. RUCKART:** Okay. Then that money will be to you by
13 May 31st. I believe that's your deadline.

14 **DR. RENNIX:** For FY '07.

15 **MS. RUCKART:** FY '07.

16 **DR. RENNIX:** Right.

17 **MS. RUCKART:** But we also put in a request for this in FY
18 '06. It's going to span two fiscal years.

19 **MR. STALLARD:** Okay. So the issue is -- we all
20 understand what the -- and those were the states that we
21 talked about prior, correct? The major Marines Corps --
22 thank you -- the major Marine Corps locations, correct?

23 **MS. RUCKART:** That's something that would be after that
24 point. We're just talking right now about the
25 feasibility assessment to see if we can identify the

1 people who we can then further study. We haven't even
2 gotten into requests for that budget-wise yet. That will
3 come later.

4 **MR. STALLARD:** Okay.

5 **MS. DYER:** So I guess I want to ask this: So this means
6 that every little tiny step we take is going to have to
7 be budgeted separately? So every little thing that we go
8 through is going to have to go through this?

9 **MS. RUCKART:** Well, Terry, we budget on a fiscal year and
10 we plan ahead. So right now we're talking about fiscal
11 year '07. That's going to start October 1, 2006. And
12 we've already sat down about a month ago here at ATSDR to
13 think about our financial needs for '07. And then we
14 have until May 31st to submit that to DOD. So we think
15 about it for a full year. So we've thought about our
16 budgetary needs from October 1, 2006 to September 30th,
17 2007 and we will be submitting to them what we need. We
18 do it in broad chunks. We do it in a yearly basis.

19 **MS. DYER:** So what your funding is now for is the
20 mortality. It's not children and adult studies. So is
21 that something that we need to try to get going now?

22 **MS. RUCKART:** Let me clarify. We need to do this
23 feasibility assessment before we can undertake any future
24 studies because we need to know who the people are that
25 we're trying to study. So for FY '06, fiscal year '06,

1 which is what we're in now, started October 1st, 2005,
2 it's going to go through September 30th, 2006. We've
3 asked for some money to begin the feasibility assessment,
4 that is to try to see what data the DMDC and CHAMPS has
5 available to us, as well as computerize the housing
6 records. And we've also asked for some money in fiscal
7 year '07 because it's going to start now and continue on.
8 Fiscal year '07 is October 1st, 2006 to September 30th,
9 2007.

10 Now, we're going to be doing that and we're not
11 going to need that whole time till the end of 2007. If
12 we determine that there's enough data, we can identify
13 the people through those databases, DMDC and CHAMPS, we
14 could start pursuing a mortality study. We don't
15 necessarily need money from DOD to start that here
16 because the things that we discussed that we need to do,
17 develop a protocol, go through peer review, doesn't
18 really require direct funding from DOD.

19 So when we actually need funds to start a study, the
20 interviewing of people, mailing out letters to people,
21 things like that, that would actually be fiscal year '08,
22 which would start October 1st, 2007 and we would be
23 submitting money to them -- that's a little bit ahead of
24 ourselves right now.

25 **MS. DYER:** So everything that you do, can you get that on

1 a timeline for us so that we can stick to it?

2 **MS. RUCKART:** We can't start a timeline right now because
3 we need to see what the feasibility assessment shows us.
4 We need to see if the data are available. Once we see
5 what data are available, when the feasibility assessment
6 is done, we can start talking about broad timelines, but
7 that's a little premature. We need to see the results of
8 the data assessment to see what DMDC and CHAMPS has.

9 **MR. ENSMINGER:** Well, let me ask you a question. Will
10 you share with us your budget requests for your FY 2007
11 planned work for Camp Lejeune? I mean, show us what
12 you're asking for.

13 **MR. BYRON:** And what you hope -- pardon me. And what you
14 hope to accomplish with it when you get it.

15 **MS. RUCKART:** I would like to just first check and see if
16 we can share that with you before we share it with DOD.
17 I'm not sure of the answer of that.

18 **MR. ENSMINGER:** We may have some suggestions.

19 **DR. BOVE:** Well, that's what this meeting is all about.

20 **MS. RUCKART:** But, see the budget, I just want to clarify
21 --

22 **MR. ENSMINGER:** But I want to see what kind of money
23 you're asking for.

24 **MS. RUCKART:** We're talking about broad activities and
25 broad numbers. And what we just talked about is what

1 we're asking for money for in '07, which is to continue
2 the feasibility assessment; to travel, to meet with the
3 staff that houses this data, to computerize the housing
4 records, and that's all that we need at this point
5 because we need to wait for the results of those
6 activities to talk about future studies and that's down
7 the line. So I think now we're pretty set for FY '07.

8 **MR. ENSMINGER:** But didn't you tell me you asked for that
9 money in 2006?

10 **MS. RUCKART:** We asked for money for fiscal year '06 and
11 '07 because it's going to span two fiscal years. We're
12 wanting to start it now, but we may not finish by
13 September 30th. It may continue on to the first quarter
14 of '07. I know it's confusing because we're talking
15 about fiscal and calendar year --

16 **DR. BOVE:** Let me try to clear this all up, okay, so we
17 know what we're talking about. The first thing we're
18 talking about is a feasibility assessment. We're not
19 talking about a study. Let's call it what it is. It's a
20 report back to DOD and to CAP, which says this is what is
21 at DMDC. This is what's at CHAMPS. This is what's at
22 any other database that we can find that's worth using or
23 that can be used for any future study. This is what's
24 there. This is the limitations of that data, right.
25 This is what we can link and what we can't link.

1 For example, I'd mentioned before, we'd like to do a
2 mortality study. We want to link the personnel records
3 we have with the housing records we have. There's a
4 problem in the early years because names isn't on -- full
5 name, at least, isn't on the personnel records. We're
6 going to try to figure out what to do about that. Do we
7 just forget about people earlier and start where we have
8 full name, or can we do something to get that full name,
9 okay. So these are the questions we're going to be
10 asking, okay.

11 For that effort, we're not talking about a lot of
12 money here. We're talking to someone to computerize our
13 housing records, to finish that job, right. As we said,
14 Marie Socha used it. We used it in both studies; very
15 important data. It's there. It's on index cards. Some
16 of it's illegible. We're going to have to figure ways to
17 make it legible, if necessary, right. Tom Townsend got
18 his housing records from some place. We'll have to find
19 out where he got them. That's what the feasibility
20 assessment is all about, okay.

21 Once we've done that, we have to do that to make a
22 case for the mortality study. Even though the science
23 panel said to do a mortality study, we have to see just
24 what that will involve. Who can we include in that
25 mortality study, given the data at hand, the personnel,

1 and linking it with housing records? Because we want to
2 compare -- we'd like to compare exposed with unexposed.
3 We don't want to compare Marines to the general
4 population because the general population is different
5 from the Marines, okay. Actually, you run into some of
6 the same situation often times you do in occupational
7 studies. It's call the healthy-worker effect. The
8 Marines are healthier than the general population, so
9 that it makes it harder to find an effect, okay. So you
10 don't want to do that. You want to have a comparison
11 group that is comparable to Marines.

12 Now, another issue is as brought up by Jeff, some of
13 the Marines are exposed to contaminants in other bases,
14 all right. So if we'd like to maybe confine it to Camp
15 Lejeune. These are issues that we're going to be
16 thinking about here and in the feasibility report, okay.

17 So that's what that's all about. It doesn't require
18 a lot of money. It requires some time, some discussion.
19 I'm going to be working closely with Chris, Dick, and
20 whoever to try to flesh these issues out, okay. So
21 that's that timeline and I hope to have it done --

22 **MS. RUCKART:** Well, the timeline that we discussed is
23 having a report to the Marines on our feasibility
24 assessment in the second quarter of fiscal year '07.

25 That would be by the end of March 2007. And then at that

1 point we can talk about timelines for conducting
2 additional studies. Any time before that would be too
3 premature.

4 **DR. BOVE:** So that's when the feasibility report is done.
5 You don't need money to come up with a protocol for the
6 mortality study. We can prepare the protocol, send it to
7 our IRB. We may not need OMB approval. I think that's
8 probably the case, we don't need it, but we'll have to
9 check just to be sure and we can move on that. So that
10 gives you some sense of the time.

11 The cancer study is going to be more difficult.
12 We're going to need more thinking about just how to do
13 that study, because there's various ways to do it. You
14 can look at a couple states, which states make sense.
15 We've listed some, but we need to revisit that. How
16 available is the data in those states? How far back can
17 those states go? So on and so forth. So these are
18 issues -- the cancer study is more difficult. And then
19 any other study is even more difficult, okay. So that's
20 how it looks to me right now.

21 **MR. TOWNSEND (by telephone):** Hey, Frank?

22 **DR. BOVE:** Yeah.

23 **MR. TOWNSEND (by telephone):** Tom Townsend, here.

24 **DR. BOVE:** I know.

25 **MS. RUCKART:** Go ahead, Tom.

1 **DR. BOVE:** Go, Tom.

2 **MR. TOWNSEND (by telephone):** I thought various questions
3 about the budgeting process was interesting because I've
4 asked Linnet Griffiths a number of times for the budget
5 submission to DOD and I have never received anything.
6 And I think last year a number of the recommendations
7 from the CAP did not go forward with the budget
8 submittal. So I think that has to be worked on.

9 **MR. ENSMINGER:** Tom, we didn't have the CAP last year.
10 You're talking about the expert panel.

11 **MR. TOWNSEND (by telephone):** Yeah, okay, the expert
12 panel; that's correct. But that didn't go forward and
13 then they have submitted -- had submitted some
14 supplemental requests for money. But I agree. I'd like
15 to know what kind of money is being asked for to support
16 programs that are being recommended to ATSDR.

17 **MR. ENSMINGER:** I've just got a general comment on this.
18 We have DOD controlling the purse strings and everything
19 you do has to get the approval of DOD. DOD was the
20 people -- or some of the people responsible for this
21 catastrophe. Something ain't adding up here. I mean,
22 we've got the fox guarding the henhouse here. I mean,
23 this is the largest water contamination case in the
24 history of the United States. I mean, Woburn,
25 Massachusetts had 267 parts per million -- billion of TCE

1 at the well. At Camp Lejeune, we had 1,400 parts per
2 billion at the tap. And the Marine Corps has
3 misrepresented the contamination that took place at Camp
4 Lejeune from day one.

5 Now, damn it, we need the money to find these people
6 and to study them and find out what the hell happened
7 with this ghoulish experiment.

8 **MR. TENCATE:** If I may?

9 **MR. ENSMINGER:** You may.

10 **MR. TENCATE:** The Marine Corps or DOD does not approve or
11 disapprove anything that ATSDR does. There is a process
12 that's set out, the Memorandum of Understanding or
13 Memorandum Agreement, about how monies are disbursed.
14 It's not an approval process.

15 **MR. ENSMINGER:** But, Colonel, how long has this thing
16 been going on? How many years has this been dragging
17 out? Camp Lejeune was declared a superfund site in 1989,
18 and the foot dragging started then.

19 **MR. BYRON:** It started in 1980.

20 **MR. TENCATE:** There's no foot dragging. What I'm trying
21 to tell is that there is a budgeting process for all the
22 IR sites all over the country. And this site is no
23 different. It goes through that same process.

24 **MR. ENSMINGER:** Yes, it is different. We had hundreds of
25 thousands of people exposed to high levels of

1 contamination at this site. Compared to the other sites,
2 you didn't. That's the difference. The difference is my
3 child died from this site. How many other people died?
4 I know very well that a law firm that I'm dealing with,
5 some of them are sitting right here, right now, have had
6 multiple calls with people from non-Hodgkin's lymphoma,
7 adults.

8 **MR. TENCATE:** And I think that's what ATSDR is trying to
9 do with their studies is try to find answers. We all
10 want the answers.

11 **MR. ENSMINGER:** Do we?

12 **MR. TENCATE:** That's why we're here. That's why we're
13 sitting at this table.

14 **MR. ENSMINGER:** But, all this stuff about going back to
15 them and saying hey, you got to put -- dot this I or
16 cross this T before we give you that money or forward it
17 into the budget -- uh-uh. You know what they're doing.

18 **MS. McCALL:** With all due respect, Colonel, we understand
19 the process that you have to go through and we're not
20 holding you personally responsible. You know that. But
21 what we're saying is on our side, we're dealing with the
22 emotions and the health effects of this chemical
23 poisoning, and that takes us to a different level. We're
24 sitting here listening to budget constraints and
25 proposals. That doesn't mean much to us right now. What

1 we're looking for is an expedited process to this already
2 long and drawn out situation. We are looking to somebody
3 from the Department of Defense or the ATSDR to let us
4 know how much longer we need to wait for answers. I
5 think we have a lot of answers already. We need to
6 connect the dots. And we understand about all of the
7 processes and all of the things that you must do to hand
8 out the money. But you need to understand, we are
9 dealing with this on an emotional level. And when Jerry
10 gets upset or I start crying, that's where it's coming
11 from.

12 **MR. TENCATE:** I understand that. And I think that's why
13 we're all here at this CAP meeting is to talk about
14 getting from point A to point B.

15 **MS. DYER:** But one of the reasons why we wanted someone
16 on the CAP from the DOD was so that we could say to you,
17 this is different, like Jerry was saying. This is not
18 your normal thing. It's not. And if you need to go back
19 to them and say look guys, we need to open our
20 pocketbooks wide to them and get rid of some of this
21 paperwork continues. Every time we want something we're
22 going to have to come and beg for it and it has to be
23 approved? That's got to stop. You know what we need,
24 you know that we need the money, and you know that we
25 can't get anything done unless we have the money. You

1 need to open up your pocketbook and hand it out.

2 **MR. TENCATE:** And what I'm trying to help you guys
3 understand is that we can't just open our pocketbook. We
4 have constraints as well, by law. Now, however, the DOD
5 is not the sole source of funding here and there are
6 other sources.

7 **MS. DYER:** Well, if you know that there are other
8 sources, then you need to go to those sources and get
9 that money for us because we don't know where to go. And
10 I know this sounds crazy, but you can buy guns. You have
11 no problem sending billions of dollars over to Iraq.
12 These are people that have been wounded here in your own
13 country. These are your people. And it happened on a
14 military facility. You need to take care of them. Find
15 the money.

16 **MR. TENCATE:** And that's a great way of looking at it is
17 that Congress appropriates money to the military for
18 specific purposes.

19 **MS. DYER:** Okay. So is it you that needs to go to
20 Congress and ask for this?

21 **MR. TENCATE:** For guns, for example. And if we use it to
22 -- if we spend that money on something other than what it
23 is appropriated for, then we're in trouble.

24 **MR. ENSMINGER:** Has anybody from DOD asked for more
25 funding for this purpose, for these studies for what

1 happened at Camp Lejeune?

2 **MR. TENCATE:** We get a budget of environmental response
3 funds from Congress, and that's fixed.

4 **MR. ENSMINGER:** Defense appropriation.

5 **MR. TENCATE:** Exactly. And that's the source. That's
6 the source of all monies.

7 **MR. ENSMINGER:** How many years has the Marine Corps known
8 about this? How many budget cycles have they gone
9 through and how much have they asked for this specific
10 case?

11 **MR. TENCATE:** I think it started in the early '80s.

12 **DR. RENNIX:** I think you need to ask ATSDR to provide
13 input on their budget submissions. I'm not sure if they
14 can provide that to you. You can always ask that
15 question. As far as expedited review, you have to ask
16 for it. Ask. I mean, you guys have been empowered as a
17 panel to advise. If you would like expedited review,
18 then you ask for expedited review. You ask for special
19 funding, ask for it.

20 The DOD has got many things that they're looking at
21 and it's not just Camp Lejeune. It's sick kids in other
22 bases. I mean, you're not the only place where we have
23 children who have been poisoned or maybe have been
24 exposed. We don't know.

25 **MR. ENSMINGER:** No. This is the biggest.

1 **DR. RENNIX:** It's the biggest. I'm not going to argue
2 that fact. I don't know.

3 **MS. BRIDGES:** It's the oldest, but we have grandchildren.

4 **DR. RENNIX:** I don't know all of the sites that have
5 pollution. I don't know -- you might have the biggest
6 population of people, but there might have been other
7 sites.

8 **MS. BRIDGES:** We're the oldest.

9 **DR. RENNIX:** Okay. I would prefer to deal from facts.
10 So all the sites we have, all the populations, and all
11 the diseases from all these sites, but as a panel, you
12 were given expert guidance a year-and-a-half ago or a
13 year-and-three-months ago from a group of scientists that
14 gave you specific guidelines that you should pursue. So
15 I would take that as your charter to move forward and if
16 you're not getting what you want, then you need to put it
17 in writing and request it. I would suggest that. Then
18 you get a response back.

19 **MR. BYRON:** So what you're saying is is if we come up
20 with the budget for this, DOD will back it or possibly
21 back it?

22 **DR. RENNIX:** It has to be submitted by ATSDR.

23 **MR. BYRON:** It has to be submitted by ATSDR or Congress
24 as a bill for legislation to go to the next defense
25 appropriations act, there's a possibility you'll back

1 that?

2 **DR. RENNIX:** I'm not an expert in that area. I know how
3 that works. I know how that works. But, if you would
4 like expedited review or expedited funding what happens
5 is our budget is already set for FY '06, which means that
6 ATSDR would have to negotiate with the DOD and take other
7 projects off the table, stop those projects, to move
8 funding into this, because that money has already been
9 appropriated. FY '07 is coming up; again, same thing.
10 There's a pot of money that's given to us and we have to
11 appropriate it. How important that is is how much
12 pressure we get from -- you know, because you're
13 competing with the Air Force and the Army for their
14 dollars too, and they're thinking, you know, are we going
15 to give money to the Marine Corps for this problem that
16 they created or didn't create? You know, we have sites
17 that have to clean up that we have affected populations.

18 **MR. BYRON:** Right. As members -- this is a possible
19 recommendation -- bring your family members that have
20 been affected. And let's let the Congress and everyone
21 else viewing this see their illnesses. Maybe that will
22 stir someone for action.

23 **MS. BRIDGES:** My seven-year-old grandson weighs 40 pounds
24 and just learned to talk last year.

25 **MR. STALLARD:** Please, let me interject here for just a

1 moment. The issue -- and clarify for me -- is that this
2 panel is looking to raise this issue to a level of
3 resolution and identification. Identify the problem and
4 find a solution for it and find the funding for it; is
5 that fair? That's what we're trying to do here?

6 **MS. McCALL:** Yes.

7 **MR. STALLARD:** Okay. And there's a sense that there are
8 impediments, bureaucratic impediments, along the way. So
9 how can we collectively identify what those might be and
10 seek solutions to alleviate those bureaucratic
11 impediments? So what I'm hearing over here is that just
12 last week the proposal was submitted to do the number one
13 step of a feasibility assessment.

14 **MS. RUCKART:** Actually, the proposal was submitted
15 several months ago. The initial proposal was submitted
16 in October, November of 2005.

17 **MR. STALLARD:** Okay. So the issue is what do we need to
18 do to better track and monitor timely response on both
19 sides -- on all sides and transparency of information
20 being shared? So that you know what's being submitted
21 and when and there's a responsible person someplace who
22 is actively engaged and interested in helping find
23 solutions to the problems.

24 **MR. ENSMINGER:** What set me off on this whole thing was
25 that this thing was submitted a couple of months ago.

1 They just got a reply back last week. Why? What's the
2 hang up?

3 **MS. RUCKART:** We submitted our initial request in October
4 or November 2005. It was a supplemental request to our
5 fiscal year '06 budget. The reason why it had to be
6 supplemental was because this is in response to the 2005
7 panel's recommendations. That's didn't come until June.
8 That was past our initial '06 request. And then we had
9 our response in August. So we had to make this
10 supplemental, which we did that following our usual
11 channels. And what we submitted was rather brief, but
12 that's what we were used to submitting. And then the DOD
13 asked for something further.

14 **MR. ENSMINGER:** When?

15 **MS. RUCKART:** That was, maybe, February, I would say.
16 And we submitted something a few weeks after that. So
17 let's say sometime in March. And then just a few days
18 ago Frank got an e-mail for further details.

19 **MS. DYER:** So that's two furthers?

20 **MR. ENSMINGER:** Yeah, but this thing left your hands in
21 October and what did it do, go through your pipeline?

22 **DR. BOVE:** Regardless, we're doing the work already.
23 We're exploring the -- We've already contacted the DMDC.
24 We've talked to CHAMPS several times. That's how I can
25 tell you what I found. So we're already starting this

1 thing. Most of the money will be necessary to
2 computerize this data set that I'm talking about; the
3 housing records. And that won't take long. So I don't
4 think that's a big issue. I really think that it's not
5 going to delay the feasibility assessment. We're going
6 to get the money. How much money, I'm not sure. But it
7 will be enough to do the job. So I don't think that's a
8 problem.

9 **MR. ENSMINGER:** Yeah, but what I'm trying to do is
10 expedite these events.

11 **DR. BOVE:** Yeah, --

12 **MR. ENSMINGER:** We've been pissing around with this since
13 1992.

14 **DR. BOVE:** Yeah, I know. But I don't think it's going to
15 delay a thing. I think the bigger problems are just what
16 I was saying before. What are the constraints from that
17 the data itself is going to present to us and limit what
18 we can do? That's the question. How far can we stretch
19 data that was collected for another purpose? The
20 personnel records were not collected to do a health
21 study.

22 **MR. ENSMINGER:** Yeah, I know.

23 **DR. BOVE:** And CHAMPS doesn't seem to have been
24 necessarily that way either, but there are some good
25 things about CHAMPS and I think we can exploit it, you

1 know. But all of the data sets have been collected for
2 other purposes. The housing records, I don't know why
3 they were collected. They're not in great shape, you
4 know. But that's what we have. That's what we have.
5 And we'll work with it. So that's the real constraint,
6 not -- I don't think the money is going to be a
7 constraint. I really don't think that's going to be a
8 constraint. If it becomes a constraint, we can deal with
9 it.

10 **MR. ENSMINGER:** Well --

11 **DR. BOVE:** But I think the problem is going to be just
12 what we can do with the available data. What states we
13 can work with on cancer registries. That's where the
14 difficulty and the time is going to be, is working all
15 that out to get a study off the ground.

16 **MR. ENSMINGER:** I'd like Chris to put up on his chart up
17 there that CAP be afforded the opportunity to see what is
18 budgeted for the Camp Lejeune situation.

19 **MS. DYER:** What was the question? What did you just ask?
20 A request?

21 **MR. ENSMINGER:** That the CAP be afforded the budget items
22 -- what's being budgeted for for the Camp Lejeune
23 situation.

24 **MS. DYER:** The whole situation?

25 **MR. STALLARD:** Which is an evolving process because once

1 the feasibility assessment is then you're going to know
2 what can be done, right. And then budgets will be
3 developed and proposed based on that.

4 **MR. ENSMINGER:** I know that we are the driving force or
5 some of it here, but to actually see what you all are
6 requesting, we don't see that.

7 **MS. RUCKART:** We didn't tell you the dollar amounts. You
8 know the activities. The activities are travel to meet
9 with DMDC staff to see what data is available and the
10 computerization of the housing records. That's all we've
11 asked for at this point. As we mentioned, we need to
12 wait and see the results of that assessment to further
13 flesh out what our next activities will be and we can
14 discuss that with you, but that's not going to happen
15 until early 2007.

16 **MR. STALLARD:** I'd like to make a statement of I think
17 what the obvious is here. And that is that we have now
18 expanded the membership of the CAP to include the DOD.
19 We have two people sitting here at the table engaged in
20 this process, correct? So I think it's clear, all
21 emotion aside, that we have people interested and
22 participating in advancing this collectively and
23 collaboratively, okay?

24 We are also finding out that there may be
25 opportunities to improve our communication or business

1 practices in terms of how we respond bureaucratically in
2 this new partnership between ATSDR and DOD, perhaps.
3 It's just an issue that's come up. Why does it take from
4 October to February to get another oh, by the way? Is
5 that clear? So that's something that we can explore.
6 This is a new relationship that's building, okay? So
7 there.

8 Now, how do we move forward from here? If we don't have
9 the feasibility study done yet, Frank, how do we talk
10 about scientifically credible studies, endpoints, and
11 populations?

12 **MS. BRIDGES:** Can I say something?

13 **MR. STALLARD:** You may, but not unless you have a
14 microphone in your hand, okay?

15 **MS. BRIDGES:** All right. I haven't heard anything
16 brought up about records -- hospital records, the old
17 hospital records; before the new hospital was built. It
18 was built along side it. The old hospital records, which
19 would have gone back.

20 **DR. RENNIX:** Okay. I can answer some of those questions.
21 If --

22 **MS. BRIDGES:** The new one was what, 1972?

23 **DR. RENNIX:** I don't know the history on that.

24 **MR. ENSMINGER:** It was in '83.

25 **MS. BRIDGES:** '83, okay. The old hospital records.

1 **DR. RENNIX:** The inpatient records, the records where
2 the doctor writes notes down and puts it in a folder.
3 Those are kept for three to five years and then
4 they're destroyed, okay. Your personal health record
5 is archived when you leave the service or your spouse
6 leaves the service, if it's there. From my research
7 on another case, when we went and looked for the
8 actual health records in the files we found less than
9 one-third were there. We might have found a sheet of
10 paper that said the person had their exit physical.
11 So what's happened is when people leave the service,
12 they don't turn their records in, and it doesn't keep
13 you from leaving the service.

14 **MS. BRIDGES:** Okay. You said that they're not there
15 after five years, they just get destroyed?

16 **DR. RENNIX:** No, no. The record at the hospital. So
17 when you go see the doctor and the doctor writes in a
18 note, okay, those are in-hospital records. They keep
19 those for three to five years and then they're
20 destroyed.

21 **MS. BRIDGES:** What about patients in the hospital?

22 **DR. RENNIX:** They go in their health record, that
23 folder that's the different colors, okay. That's
24 what goes in that. That, if it's turned in when the
25 service member leaves the service, goes to the

1 National Archives, the National Personnel Center, or
2 to the VA, depending where you are in the system, all
3 right. And if we have a Social Security number of
4 the sponsor, we can go find those records.

5 **MR. BYRON:** Pardon me. You said if it's turned in?

6 **DR. RENNIX:** If it's turned in.

7 **MR. BYRON:** You mean the member was responsible for
8 turning it in?

9 **DR. RENNIX:** When you leave the service, when you go
10 to do your final checkout, you are supposed to turn
11 in your dental record and your health record, and
12 your family member records are archived from the
13 hospital where they're kept. If they have them in
14 their home, they still have them, nobody knows about
15 it.

16 **MR. BYRON:** I've got copies of my medical records.

17 **DR. RENNIX:** You should have copies.

18 **MR. BYRON:** When I left, I thought that all went in.

19 **DR. RENNIX:** If you didn't turn it in, they would
20 just note it in your exit document you didn't turn in
21 your health record. That's it. They're not going to
22 stop you from exiting the service.

23 **MR. BYRON:** So when you -- I don't really technically
24 remember it, but I must have went to the hospital to
25 get my records and then as I closed out all of my

1 business that's when I would have turned it in.

2 **DR. RENNIX:** That's correct.

3 **MR. BYRON:** Okay.

4 **DR. RENNIX:** I just retired in November. That's the
5 process. It's been that way for years. And I've
6 gone to the National Archives and actually pulled
7 records off the shelves. So there's a folder for you
8 in the National Archives or the VA that has your
9 personnel record, your pay record, and your health
10 record, if it's there.

11 **MR. BYRON:** I didn't know that it was an option that
12 you could keep your records. I've got copies is why
13 I said that.

14 **DR. RENNIX:** The rules are you're supposed to turn it
15 in, but I've never heard of anybody being stopped
16 from retiring or leaving the service because they're
17 health record wasn't available.

18 **MR. TOWNSEND (by telephone):** Chris?

19 **MR. STALLARD:** Yes, go ahead, Tom.

20 **MR. TOWNSEND (by telephone):** I've got a copy of the
21 index file for housing. Just as a matter of
22 curiosity, that it shows in one house that I lived in
23 it ranges from 1961 to 1982. So they're fairly
24 inclusive for long periods. That's a 21-year period.
25 And it shows every field-grade officer that lived in

1 that particular house. And then in the smaller
2 quarters that I lived in as a Captain, it runs for a
3 period of five years because it was a faster
4 turnover.

5 So if you have those records, you're going to
6 have the names and the ranks of people that we have
7 probably never, ever contacted. I think it's
8 critical to get those records, and it's called
9 Optional Form 99.

10 **DR. BOVE:** Right. Those are the housing records
11 we've been talking about computerizing. We have them
12 partially computerized.

13 **MR. TOWNSEND (by telephone):** Okay.

14 **DR. BOVE:** They were computerized for the previous
15 study. So only those people who had a child born at
16 the base, because that's what the previous study was
17 about. Those records were computerized and then
18 there are information -- there's 90,000 records in
19 this database. It corresponds to 66,000-some
20 individuals. So the name of all 90,000, I think, is
21 computerized, but the rest of the information is only
22 computerized for 12,400 and some, okay.

23 So what we want to do is for all those 90,000
24 records we want to have the full information; the
25 name, the rank, time period they were there, and the

1 address, okay. Now, what I would like to do with
2 that database, once it's all computerized, it
3 shouldn't take long -- that's what we're going to be
4 doing the next couple of months with this money we're
5 requesting, okay, is to see whether we can link it up
6 with the personnel data. And the problem right now
7 is that full name is not on the personnel record
8 until sometime in the mid-70's. I can't remember
9 exactly when. That's something that we can find out.
10 But it doesn't go back to 1970 when the database at
11 the -- the personnel database starts. The personnel
12 database starts sometime in July 1970. I'd like to
13 be able to go back to 1970. I'd like to go back
14 before that, but no one seems to be aware of any data
15 before that. But there's data from July or so of
16 1970 onward of those who were in active duty, but
17 they don't have full name until the mid-70's. So you
18 see the problem there, is trying to -- so I want to
19 see what the feasibility is of linking these housing
20 records with personnel records going as far back as
21 we can. And then going from there to the National
22 Death Index and then that is also a base for other
23 studies.

24 **MR. TOWNSEND (by telephone):** Well, what I'm saying
25 is that the listing I'm looking at has the last name,

1 the first name, the middle initial, and the rank, and
2 the from and to date for where the person lived.
3 That should be pretty straightforward. What I'm
4 getting at is that all these people that lived and
5 all these people are on this list were exposed.

6 Now, this is not to say that they have suffered
7 any adverse effects or have died as a result of
8 exposure, I'm saying that these people need to --
9 what I'm getting at is these people should be
10 contacted to let them know that they have been
11 exposed.

12 **DR. BOVE:** Well, okay. Not all of them -- First of
13 all, not all of them have been exposed.

14 **MR. TOWNSEND (by telephone):** Why not?

15 **DR. BOVE:** Because they lived in housing areas that
16 were served by Holcomb Boulevard, which was not
17 contaminated.

18 **MR. TOWNSEND (by telephone):** Not from 1983 they
19 weren't -- not from '73 they weren't. They were all
20 getting it from Hadnot Point.

21 **DR. BOVE:** I'm not sure what you're talking about
22 now. I thought you were talking about the housing
23 information we have.

24 **MR. TOWNSEND (by telephone):** My housing area where I
25 lived was solely serviced by Hadnot Point from 1942

1 to 1983.

2 **MR. ENSMINGER:** '73.

3 **MR. TOWNSEND (by telephone):** '73.

4 **DR. BOVE:** All right. You're talking about just the
5 housing units that had contaminated water. Those
6 people haven't been notified. Is that what you're
7 saying?

8 **MR. TOWNSEND (by telephone):** That's correct.

9 **DR. BOVE:** Okay. Right. They haven't been notified.
10 My own feeling about this is that when Morris has
11 that data up on the web where you can, right, put
12 your address into the website and date you were there
13 and you'll know whether you were exposed or not and
14 to what levels and to what contaminants. I think
15 that's a good time to get the word out. That's my
16 feeling about it. We can -- the CAP can discuss this
17 issue, and that's on the agenda -- notification is on
18 the agenda. That's my feeling about it is that once
19 we have something to tell everybody -- because if we
20 start notifying people now and we tell people that
21 there was exposures -- a number of people weren't
22 exposed. I don't want have any confusion when we do
23 a notification effort. I want people to be able to
24 find out once and for all whether they were exposed
25 or not. And not worry about exposure if they weren't

1 exposed or vice versa. That's my position.

2 **MR. BYRON:** Okay. I think that what Tom's saying is
3 once we identified those that have been exposed, that
4 there is a list of everyone who lived in that home,
5 and that those individuals whether or not they should
6 be contacted by the DOD, ATSDR, whoever, I don't know
7 that we should just leave it up to them to come find
8 a website and see that they were exposed or not.
9 They should have a letter. I think that's what Tom's
10 saying. Am I correct, Tom?

11 **MR. TOWNSEND (by telephone):** Yeah.

12 **DR. BOVE:** Well, we'll have it on the website. We
13 should do whatever we can to make sure -- whatever we
14 can.

15 **MS. RUCKART:** Publicize the availability of the
16 website through the various channels. We can discuss
17 that later. But then everyone will have the ability
18 to go in and put in their own address and check it
19 out.

20 **MR. TOWNSEND (by telephone):** You're dealing with a
21 population; some of us are in our mid-70's at this
22 point in time and are not particularly computer
23 literate. I happen to be a ^, but I use the computer
24 when I have to. But what concerns me is that we have
25 listings of people and we know their names, we know

1 their ranks, and we know the exact dates when they
2 lived in this house. And when Morris gets his water
3 distribution model and survey completed, that will be
4 very useful. But at the same time, I think all these
5 people -- the latency period for this exposure is
6 incredibly long. My wife died just about two months
7 ago after 40 years after the bloody exposure. And
8 the autopsy and the biopsy all say this is related to
9 trichloroethylene.

10 **DR. BOVE:** Well, your point is well-taken. When we
11 talk about notification, and in the future when we
12 talk about notification, too, we need to keep in mind
13 just what you said, that there are a lot of people
14 who are not computer literate and we need to have a
15 strategy for reaching them as well. So we're not
16 ruling that out at all. I'm just saying that once we
17 have the information -- maybe I should put it that
18 way, whether it's on a website or wherever it is.
19 Once we have Morris' information for the entire base;
20 for all the water -- for Hadnot Point and for Tarawa
21 Terrace we need to come up with a strategy that the
22 people who need to know find out.

23 **MR. TOWNSEND (by telephone):** Frank, you know, when you
24 all published the public health assessment in 1997, it
25 basically said that everybody above 19 years of age was

1 probably not going to be affected. And that is obviously
2 false because my wife was 73 years old two months ago and
3 she certainly was exposed and certainly had a dreadful
4 adverse effect.

5 **DR. BOVE:** Right. Well, that's why we're going to look
6 at -- we're exploring studies of other populations.

7 **MR. TOWNSEND (by telephone):** I don't want it to drag on
8 for another year or two when you might be able to tell
9 somebody, if you know, that they're at risk. I don't
10 know what the hell you do about it when you find you're
11 at risk. But I think they're entitled to know on a moral
12 and ethical basis.

13 **MS. DYER:** Well, Frank, can't we go ahead and start
14 talking about doing notification and a registry at the
15 same time? Do them simultaneously, parallel to each
16 other. Do those and let's go ahead and set a date
17 because the ATSDR, you are a registry. So, you know, you
18 need to start that registry. And so do them both at the
19 same time. When can we get that going?

20 **DR. BOVE:** We haven't discussed doing a registry. That
21 hasn't been discussed yet.

22 **MS. DYER:** We did discuss it at the last CAP meeting.

23 **DR. BOVE:** Well, I mean, it hasn't been fleshed out. I
24 mean, a registry to do what? We haven't discussed what
25 the purpose of the registry would be, what kinds of

1 things we would ask in the registry, what the purpose of
2 the registry is, what do we hope to accomplish from the
3 registry.

4 **MS. DYER:** Isn't that what the ATSDR does?

5 **DR. BOVE:** ATSDR has done registries in the past.

6 **MS. DYER:** Well, then you know what they're supposed to
7 accomplish and what -- you know.

8 **DR. BOVE:** They're different in every situation --
9 they're different in different situations.

10 **MR. ENSMINGER:** What was the purpose of the -- I guess
11 it's defunct now, but the TCE registry? The TCE
12 registry, I guess it still exists, but they're not adding
13 any more people to it; that ATSDR had in the past?

14 **DR. BOVE:** I'm not sure how to answer this because
15 it's still, as far as I know, under review as to the
16 future of that registry. I would rather not talk
17 about past registries. I would like to talk about if
18 we want to do a registry, exactly what would it look
19 like and why we would want to do it and what focus it
20 should have and so on. I would prefer to talk that
21 way than to revisit previous registries because I
22 have feelings about them and I just want to avoid
23 having that discussion if at all possible.

24 And let's talk about if a registry is being
25 discussed, just exactly why we would want to do it,

1 what kind of registry it would be, what the purpose
2 of it would be. Dr. Clapp mentioned at the last CAP
3 meeting about an effort that was sort of like a
4 registry, that Lipari Landfill. So that I think when
5 we talk about prevalence studies, we can talk about
6 it there. But I'd rather not talk about past
7 registries because it's under review. I'm not part
8 of that review process.

9 **MR. ENSMINGER:** It's like David Ozonoff said at the
10 last time, what is this, ATSD?

11 **DR. BOVE:** Well, our name is unfortunate, but there's
12 nothing I can do about our name. But if you remember
13 from the scientific panel, there was a discussion
14 about registry and the chair of the panel was trying
15 to get people away from using that term because it
16 meant different things to different people. And so I
17 think that was a good move on his part. We need to
18 flesh out what we mean by registry then. So we
19 haven't had that discussion yet. That was for this
20 afternoon.

21 **MR. STALLARD:** Just a moment, please. I have a
22 request to have Morris come in earlier on the water
23 modeling. He's on leave and is coming in
24 specifically to give you the presentation at two
25 o'clock so...

1 **MS. McCALL:** Did he not know we were having a meeting
2 today?

3 **DR. BOVE:** No, he's on vacation.

4 **MS. RUCKART:** Denita, it was so hard to get
5 everyone's schedule to align. We have to take into
6 consideration when the room is available and ...

7 **MS. McCALL:** But I just feel like Morris is the most
8 important component to this meeting today, and he
9 should not be at two o'clock and only give us one
10 hour to discuss the water modeling. I remember
11 ending at three o'clock last time and it wasn't
12 enough time. I don't believe two o'clock to three
13 o'clock is enough time to talk about this very, very,
14 very crucial component.

15 **MR. ENSMINGER:** Well, I think his presentation is going
16 to generate a lot of questions.

17 **MR. STALLARD:** It probably will and his presentation is a
18 preliminary, as I understand it, step prior to what?
19 What does it take for it to be less than a final --

20 **DR. BOVE:** It's going to be preliminary results that need
21 to go through a review by what we call the collegial
22 review by someone from USGS, and then it goes to an
23 outside peer review, okay. Then it goes through agency
24 clearance. And the reports will be ready by -- he'll
25 tell you all this, but I can tell you this now, sometime

1 at the end of summer, okay.

2 So he's going to give you what we know now. Are the
3 numbers going to change, are the dates going to change?
4 They might, but probably not. But, again, they have to
5 go through this process. If one of the reviewers can see
6 a flaw, then we need to address it. So it could change,
7 but we don't expect it to. I think that it won't take
8 that long, actually. And there's always the next CAP
9 meeting to continue the discussion. But I think you'll
10 have enough information in an hour.

11 **MR. STALLARD:** I need to check the pulse here of the CAP
12 because A, we want to have an outcome from these
13 meetings. The agenda says that we were going to look at
14 the issues of scientifically credible studies,
15 notification, prevalence surveys, and the issue of
16 registry. So although we're having good informative
17 dialogue about many different things, I need to try to
18 focus us on, you know, Frank says well, we're going to
19 talk about registries, right.

20 **MS. DYER:** This afternoon.

21 **MR. STALLARD:** Well, when is the time to talk about it is
22 my question to you. Of these three items on here,
23 scientifically credible studies, notification PSAs, and
24 prevalence surveys, which we now understand to include
25 registries, correct?

1 **DR. BOVE:** Yeah.

2 **MR. STALLARD:** Which one can we -- what is the highest
3 priority for the highest potential impact and good that
4 we need to discuss first?

5 **MS. DYER:** I think we need to discuss -- and I don't
6 think we need to wait for this afternoon because it's not
7 going to give us enough time -- doing a notification and
8 letting that be included in the prevalence studies. We
9 need to talk about how we can do that. How we can do a
10 registry. And we haven't done a registry before. The
11 CAP members haven't done one. ATSDR has done them in the
12 past. And so we do need to rely on them for the past
13 information on how to do a registry. So you tell us how
14 to do a registry, and let's go ahead and put a timeline
15 on getting that started along with the notification.

16 **MR. STALLARD:** So Terry you're suggesting to collapse
17 both notifications and a registry into one?

18 **MS. DYER:** Yes, absolutely.

19 **MR. ENSMINGER:** Everything we're talking about here
20 hinges on the water modeling.

21 **MS. DYER:** Depends on the water modeling. And I
22 understand that. I just don't want to come back, Jerry,
23 and have to go over how to do a registry.

24 **MR. ENSMINGER:** Yeah, but we can't set some of this stuff
25 in concrete until the water modeling data is --

1 **MR. MARTIN:** Right. And until that's done, we're
2 spinning our wheels sitting at these meetings.

3 **MS. McCALL:** Right. Notification PSAs and prevalence
4 surveys right now are -- I don't know, obsolete until we
5 get a water modeling done. We can't even begin.

6 **MS. DYER:** And that's been our whole thing, you know,
7 coming to this CAP meeting and any future CAP meetings
8 and that we can go ahead and bring that up now. Is until
9 the water modeling is completed, we're not doing anything
10 here. We don't have the information we need to be able
11 to move on. So I don't want to have another CAP meeting.
12 I'm wasting taxpayers' dollars. I'm wasting my time.
13 And it costs money for them to be away from their
14 businesses, all of us. I don't want to come again until
15 the water modeling is completed, unless we know we're
16 going to get something concrete done.

17 **MS. RUCKART:** Look, Terry, the issue isn't whether
18 there was exposure, it's just who was exposed. We
19 know that some population was exposed. So I think
20 that we can just work from that premise and plan
21 future activities. We don't know right now the exact
22 group of people, but I don't think that stops us from
23 moving forward. It's not like we're waiting for the
24 water modeling to answer was there even exposure
25 there at all.

1 **DR. BOVE:** Let me break in here. I'm sorry. This is
2 what we know. We know it right now. We know that
3 Hadnot Point was contaminated with TCE, okay. We
4 know it was high levels. Exactly how high? The
5 modeling will tell us. The modeling is not ready
6 yet. But we know there are high levels of TCE in the
7 parts per million range. There is no question about
8 it. There is no question it goes back far in time.
9 How far back? We've not done the modeling yet. He's
10 not going to talk about Hadnot Point because we
11 haven't finished that. We haven't even started
12 really - well, we've started, but it needs to go
13 through a process. Where we are - the main thrust of
14 his talk will be about Tarawa Terrace. Again, we
15 know there was PCE in the water. We know now - we
16 have a sense of what the highest levels were on
17 average -- in a monthly average. He's going to talk
18 about that. We also know that it goes back to the
19 late '50's. We've known that before. So there's
20 nothing new really revolutionary or new in Morris'
21 presentation today and there's nothing new that you
22 didn't know before you came in the door today.

23 So there's no reason, absolutely no reason, I
24 can see why we can't discuss future studies. We have
25 the information that we need. Whether the date that

1 Tarawa Terrace reached five parts per billion started
2 in '58, '59, '57, doesn't mean a whole lot. It
3 doesn't matter, first of all, because it's going to
4 be hard to go back and get those people anyway. We
5 don't have - we only have data that's computerized in
6 its limited fashion back to '70, right, with the
7 personnel record. So unless we find another data set
8 somewhere that may be in someone's desk drawer, but
9 that's what we have. So it doesn't matter when the
10 contamination -- date when contamination started at
11 Tarawa Terrace. You know it started by 1960, I
12 think, it could start there. That's good enough
13 information for us to talk about. I guess it's not
14 clear to me what information you think that you don't
15 know about the water information that's precluding
16 you from having this discussion. That's what I'm
17 having a hard time understanding.

18 **MS. McCALL:** Well, why is he on the agenda if he doesn't
19 have anything new to tell us?

20 **DR. BOVE:** He does have something new to tell you, but
21 it's not of the nature that would change the discussion.
22 That's all. Yes, and we want you to be updated, but it
23 has no real bearing on our discussion, because we already
24 know the basic facts. Hadnot Point was contaminated with
25 TCE goes way back. Tarawa Terrace had PCE, it goes way

1 back. Holcomb Boulevard wasn't and Holcomb Boulevard
2 went online I can't remember the exact date sometime in
3 '72. Morris knows by heart at this point, but I keep
4 forgetting. And that's what we know. We know that right
5 now. We knew that yesterday.

6 **MS. DYER:** Okay. If we know that then can we just go
7 ahead, since it's not that important, we know most of it,
8 can we go ahead and start talking about how to do a
9 registry?

10 **MR. STALLARD:** Sure we can, if that's what the group
11 wants to do. Did you have something to say?

12 **MR. BYRON:** I'll table it so we can move on.

13 **MR. MARTIN:** I've got one concern. You know, we're
14 talking about trying to contact and locate and find
15 people all over the world. We've got close to a
16 thousand people that have found us on our website.
17 And I know we talk about studies and what we're going
18 to do when we find these people and how we're going
19 to notify them. What are we going to do about the
20 thousand people that we have now? Is there any way
21 that we could start an interview process? What are
22 we going to study? I am totally confused about when
23 we get these 200,000 people in this room, what are we
24 going to do with them? We haven't discussed any of
25 that. We talk about surveys and studies, this TCE,

1 these toxins, have been studied for the last 40 or 50
2 years from what I've seen; over several periods,
3 several times. Everybody knows what they do. But
4 everything is inconclusive except that we have people
5 that lived at Tarawa Terrace that drank the water and
6 played in the water and ate food that was prepared in
7 the water and we're burying them every day. And this
8 has gone on since 1980. I mean, we keep talking
9 about two months down the road, three months down the
10 road, five months down the road. You know, I've seen
11 people die over the last couple of three months.

12 **MS. RUCKART:** Well, you know, Jeff showed that slide
13 before -- Dr. Fisher -- and he had the different
14 studies that have been done and he had his little
15 rating system, the three minus signs, plus minus
16 plus, and the three pluses. And we want to make sure
17 that the study that we do could show the most. We
18 don't want to put something else up there that come
19 back and say this doesn't really help us. That's why
20 we need to really flesh it out further. We want our
21 study to be on a slide and people to say, like, yes,
22 this showed us something. So that's why we need to
23 think more about it and that takes planning. And I
24 know that everyone's frustrated with the bureaucratic
25 processes that we've discussed, but when we put

1 something up there we want other people to look at it
2 and say this was good, this was good work. This adds
3 to what we see, not this confuses us more.

4 **MR. MARTIN:** But how are we going to do the study? I
5 mean, are we going to call the people in, are we
6 going to interview them, are we going to say -- we do
7 have to determine whether they're actually sick or
8 not.

9 **MS. RUCKART:** Correct.

10 **MR. MARTIN:** You know, because the world is not full
11 of honest people.

12 **MR. ENSMINGER:** But how are these studies going to be
13 done?

14 **MR. MARTIN:** We need to have an outline of what's
15 going to happen when we notify these people, because
16 we don't have answers for anybody right now. We
17 don't have answers for ourselves.

18 **MS. RUCKART:** Again, it goes back to the feasibility.
19 We need to see who was there.

20 **MR. MARTIN:** We have a thousand of them.

21 **MS. RUCKART:** We need to see who was there on base
22 during as early as we can get that information to
23 when the contamination stopped. That's why we need
24 to get more information from DMDC. That is step one
25 and we've been talking about that all along.

1 **MR. MARTIN:** And when we have that, what are we going
2 to do?

3 **MS. RUCKART:** Then when we have that, we plan to link
4 it with mortality data. We talked about that maybe
5 we could shorten that process by not needing to go to
6 OMB because we wouldn't have to contact people
7 because we would just be looking to see what did they
8 die of and we can get that from that National Death
9 Index. So that is something that we are working
10 towards, we're actively working towards. Once we
11 have DMDC data, who was there, key point, then are
12 they dead? What did they die of?

13 And then we've talked about the cancer
14 incidences. That would be, you know, the logical
15 progression of what can we do the quickest. And I
16 know it's not quick in your mind, but that's honestly
17 the quickest. Then we can look at the CHAMPS data.
18 We can look at these other cancer registries that
19 we've discussed in the states where a lot of Marines
20 retire. And we mentioned before, we want to look at
21 CHAMPS and try to do something real quick just to see
22 people who lived at Camp Lejeune are they reporting
23 other health conditions, realizing that there's going
24 to be other -- if we compare it to people who didn't
25 live at Camp Lejeune, maybe they also lived somewhere

1 where there was contamination, but just to see is
2 anything jumping out. And that can be a starting
3 point for these other endpoints. But that is
4 something that we want to discuss with you. If there
5 are other endpoints that you want us to consider, we
6 can talk about that now.

7 **MR. MARTIN:** Well, I think we should consider
8 contacting some of these people and finding out
9 exactly what diseases we're involved with. I know
10 cancer comes up very often. You've just described
11 getting a -- or compiling a tremendous amount of
12 data. We've talked about budgets. We've also talked
13 about staffing. So when we have all of this data
14 together, are we still going to have two people in
15 your office looking at it, analyzing it, making
16 decisions, making determinations of well, yeah, this
17 person sounds like it could have been kidney cancer,
18 but it probably isn't. So we'll put them over here
19 into, you know, --

20 **MS. RUCKART:** One thing I'll tell you, though, while
21 it may seem like we just have three staff members
22 working on the project, that's true; where we have
23 three Division of Health Studies members right now
24 working on our current study. But we actually had
25 more people than you might think because the

1 interviews were done by a contractor and they had a
2 whole staff. So it wasn't just like the three of us
3 contacting, you know, thousands of people. We did
4 have more help. It's not, maybe, obvious or really
5 apparent, but when we do these other studies, again,
6 we would use a contractor mechanism. So we would
7 have more help than maybe it appears, but I guess it
8 would depend on if these things are going on
9 concurrently if we could -- What we do is we budget
10 how much staff time we need for a project. And for
11 the feasibility assessment we have enough in-house
12 staff right now to do that. When we talk about
13 future studies we'd have to determine the number of
14 person hours and then we'd have to see do we have
15 that currently, and if not, we'd have to see about
16 getting it.

17 **DR. RENNIX:** Perri, I have a question. Is the tough
18 part of this whole process the review by your
19 scientific committees and your peer reviews; is that
20 what really causes this process to drag out? If
21 those things were lifted away, how long would it take
22 if you had all of the data and Morris' model is done,
23 the cases have all been ascertained and all the
24 surveys were done, how long would it take -- then you
25 tack on all of the bureaucratic stuff.

1 **MS. RUCKART:** Okay. I'll give you some indication.
2 We started with our contractor in October 2004. So
3 that means that we're meeting with them to try to
4 outline how are they actually going to contact these
5 people and these are the questions we want to ask, we
6 need you to get it in a computer system so when they
7 call them and interview them they can have the
8 information already entered into the computer as
9 they're talking to them. So we started with them in
10 October of 2004.

11 And they were able to contact the people, get
12 the computer system set up, complete the interviews
13 by July 2005. And then they had to go through and
14 look at their data, make sure that what they were
15 going to send back to us was accurate and clean, and
16 we got data from them and we were finished with them
17 by September 2005. So that was about a year. So
18 that is once all the red tape of getting our protocol
19 approved through all those mechanisms we talked
20 about. We started with them in October; to interview
21 that was about 800 people, but they were trying to
22 locate, maybe, let's say a thousand people. They
23 ended up interviewing, like, seven, 800 people. That
24 took a year. So if that gives you some sense of how
25 long that process would take.

1 Then as far as -- let's say, if we have the
2 water modeling data at the same time. If we had had
3 that in September, we would still need a few months
4 to analyze the data to really get at which variables
5 are we going to look at and do our statistical
6 modeling and then write a report we'd still need
7 probably another, what, six months for that process,
8 would you say? If everything was running very
9 smooth, analyze the data, three to six months, write
10 a report, three to six months. Maybe six months to
11 nine months more. But that's the ideal picture.

12 **DR. BOVE:** I think it depends on what kind of study
13 you want to do. I think we need to take a step back.
14 Just because you have a thousand people on a mailing
15 list doesn't mean necessarily it makes sense to
16 contact them for a study.

17 We have to start thinking strategically. What
18 do we want to do? Do we want to have a scientific
19 credible study? Do we want to just find out what
20 people are sick of, what kinds of things that might
21 be important to us, which will not necessarily be a
22 scientific credible study? What do we want to do?
23 Do we want to notify people? There are different
24 strategies for different purposes, okay. Some are
25 better than others. In the case where we talked

1 about doing a cancer study, right, the first thing
2 that we would probably do is go to the cancer
3 registries that we can work with, with any
4 information we have, and see how many of those people
5 had the particular cancers, okay. And that's part of
6 a study. Then, we can turn around and interview
7 those cancer cases, take a sample of the people that
8 don't have the disease in the same population of
9 Marines at Camp Lejeune and do it just like we're
10 doing in the current study.

11 So you can both have an interview portion and
12 you can have a non-interview portion of the study,
13 and get useful information out of both. It doesn't
14 mean contacting these thousand. It means contacting
15 the cases of the cancers. So it really depends on
16 what you're trying to do who you contact, would it
17 make sense to contact them. That's why I want to see
18 if we can think strategically, okay?

19 **MS. DYER:** Okay.

20 **DR. BOVE:** Not because we have 12,594 people we
21 contacted a couple of years ago, whether it makes
22 sense to contact them again necessarily. That may
23 not be the most effective way to do what you want to
24 do. I want you to think that way. I want you to
25 think of what is the most effective way to do what we

1 want to do. And the first question is what do we
2 want to do? What do we want to do with this
3 information? Do we want it to be strong enough to
4 stand up in court? Do we want it to be strong enough
5 so that scientists will take up and notice or what?
6 Or do we want to just get some sense of what the
7 situation is among people for other purposes; getting
8 them healthcare or something else. There are
9 different purposes and depending on the purpose,
10 there are different strategies that are more
11 effective or less effective. That's what I'm trying
12 to get us to think.

13 **MS. McCALL:** Okay. With all of those scenarios,
14 standing up in court, getting healthcare, getting
15 attention from scientists, what scenario would cover
16 all those bases? Would it be a registry?

17 **DR. BOVE:** No.

18 **MS. McCALL:** Would it be a survey? No? What it is
19 then? What's the magic word?

20 **DR. BOVE:** That covers all the --

21 **MS. DYER:** What is it?

22 **MS. McCALL:** Dr. Clapp, do you know the answer?

23 **DR. CLAPP:** I'll give you my answer.

24 **MS. McCALL:** Okay. Good.

25 **DR. CLAPP:** I actually think we're on the right track

1 here. I know it's frustrating it's taking so long,
2 but trying to assemble this list from the housing
3 records of who was exposed and who was less exposed,
4 let's say, and then linking that to the National
5 Death Index to see what people died of, that's a
6 scientifically credible study. It's in the
7 literature all the time. Usually it's with workers
8 who worked at a factory or industry, what did they
9 die of. And then that goes into the literature and
10 we learn things like Jeff was showing us about okay,
11 these people were exposed to trichloroethylene and
12 they died more of kidney cancer than other people.
13 That, I think in a community setting like this, will
14 add to the literature if that's what we find in this
15 mortality study.

16 Cancer incidences is even better. I've done
17 both of them, actually. I think I mentioned this
18 last time. I did both of these on Vietnam veterans;
19 mortality in Vietnam veterans compared to other
20 veterans. That's in the literature. That's part of
21 why Vietnam veterans are now compensated for soft
22 tissue sarcoma, was that study. Then I did the same
23 thing with cancer incidences. In there, you know,
24 not everybody gets cancer, thank God, dies of it. So
25 there's a lot more data, you get a more powerful

1 study with the same starting list. You get more
2 cases to look at, and if you can associate them, the
3 cases of some individual type of cancer with more
4 exposure to trichloroethylene in Camp Lejeune water,
5 that goes right on the list. That's a plus, plus,
6 plus study. And then, you know, and we wanted to
7 help people who call or come into your website saying
8 I'm worried, I lived at such-and-such address, I've
9 got some symptoms. And maybe I think it's my immune
10 system and I get too many colds. You might say as a
11 service to that family this maybe that you're at
12 increased risk of cancer called non-Hodgkin's
13 lymphoma. You ought to see your doctor to get that
14 checked out. So that's a service, I would say, or a
15 counseling type --

16 **MS. McCALL:** Okay. So when you keep saying list, are
17 you referring to a registry?

18 **DR. CLAPP:** Yeah, I would say in my view right now,
19 --.

20 **MS. McCALL:** We need a registry.

21 **DR. CLAPP:** -- I'm talking here right now, that a
22 list that we're talking about from these cards is the
23 registry.

24 **MS. McCALL:** So we have a registry?

25 **DR. CLAPP:** We are getting it.

1 **MS. McCALL:** We're getting a registry from the
2 National Death Index?

3 **MR. ENSMINGER:** No, no, no.

4 **MS. McCALL:** From the housing records, okay.

5 **DR. CLAPP:** So that, in my view right now, as I sit
6 here is what in this context is the registry. Some
7 people think a registry means you have to be more ^
8 and that's just not a list to see who we contact
9 every month in the newsletter or it's -- that's what
10 this Lipari thing was, actually. A newsletter went
11 out to members who had signed up saying keep me
12 informed of what happens -- what's happening around
13 Lipari. That's a more active registry.

14 But I actually think that this initial list of
15 who was living where at Camp Lejeune is the registry,
16 and it's the most complete registry that could be
17 gathered and it's a really important scientific step
18 to take and it would be an important service to the
19 Marines and their families.

20 **MS. McCALL:** Right.

21 **MS. DYER:** And so once that registry is compiled,
22 you're going to need personnel to call those people
23 with a survey.

24 **DR. BOVE:** No, see that's where things start breaking
25 down because a registry can be done in different

1 ways. That's why I try to stay away from the term
2 because what we did -- the way we did registries in
3 the past has been problematic, and that's why it's
4 under review, to be honest with you. And I said this
5 at the scientific panel, whenever that was, okay.
6 And I don't want to revisit that.

7 I just want to say that there are various
8 things you can do with a cohort. I like to use that
9 term better than registry. Because we say the term
10 registry and people start thinking about what we did
11 in the past, which was collect -- do interviews of
12 people, but not verify diagnoses and to tell you the
13 truth, you don't see it in the TCE literature. None
14 of the risk assessments or literature, really -- I
15 didn't want to do that. So seriously, I don't mind
16 using the term registry, that's fine; cohorts,
17 registry, whatever. My question is what to do with
18 that information. What's the best thing to do with
19 that information? And there's several things I've
20 been talking about.

21 One, again, was -- and Perri mentioned it too
22 -- was to link it with the National Death Index. I
23 just would like to be able to determine, using the
24 housing records, which people were exposed and which
25 weren't. And I said before, part of the problem is

1 if you try to go far back in time you run into the
2 problem with personnel records not having full name,
3 but that's a complete registry. It's much better
4 than the thousand people you're talking about. It's
5 the actual complete group.

6 **MR. ENSMINGER:** And this would be a barometer?

7 **DR. RENNIX:** The mortality studies.

8 **MR. ENSMINGER:** This mortality thing that you're
9 talking about would be -- and cancer incidences would
10 be a barometer to see --

11 **DR. RENNIX:** Kind of like what I call a hypothesis
12 generating exercise. So they look for things that
13 don't fit the normal distribution you would expect to
14 see and say oh, this appears to be -- it's related to
15 TCE exposure, it's elevated. Now we have a group
16 that we can study and see if there really is
17 something there related specifically to TCE or it
18 could be some other exposure they had or it could be
19 that they were all heavy smokers, you know, in that
20 one area, you know. So that's generally what you do
21 is you're trying to generate places to look and
22 really dig in and do the hard -- do the surveys, do
23 the interviews, verify the cases, so that you can
24 actually get science out of that.

25 **MR. ENSMINGER:** Now, the results of this would be

1 scientifically significant?

2 **MR. BYRON:** We hope; if it's conducted right.

3 **DR. BOVE:** Yeah, basically the strategy that Chris is
4 just mentioning is you have a cohort, you find a
5 disease in that cohort, and you can then get a sense
6 of whether there's an excess, and then you can go
7 interview the case. The best way to handle a
8 situation like this is then go back to the cases of
9 people with the disease, take a sample of the rest of
10 the population that didn't have the disease, a small
11 sample. Now, you have a manageable -- which is
12 exactly what we're doing in the current study. Now,
13 you can interview them -- a smaller group -- and get
14 occupational information, get complete housing
15 history, if you know, so you know where they lived.
16 You can get smoking and all kinds of other things and
17 people keep saying well, your study's flawed because
18 you didn't take into account smoking, this, that, and
19 the other. You can collect that information and you
20 have a scientific credible study.

21 **MR. ENSMINGER:** Now, you're covering mortality and
22 cancer incidence with the limited number of people.

23 **DR. BOVE:** As wide a range as we can get. I mean, as
24 far back as we can go. If we can go back to 1970, at
25 least, with the personnel record it will be from

1 people who lived there who were active duty -- now
2 we're talking about the cohorts, too. We have active
3 duty from the personnel records. We have civilians
4 that also go back a certain distance in time. We
5 have employees who, which only we have name only
6 going back to 1980. All these data that exist -- and
7 again, I think this is -- what I found out so far
8 that we need to go over there. I want Chris to come
9 with me. I want Dick, if he can come with me, to go
10 to San Diego for the CHAMPS database and go to DMDC
11 in Monterey -- bring my surfboard -- and actually
12 find out exactly what the data looks like and what
13 the limitations are. So we're not talking about that
14 limited at all. We're talking about as many people
15 as we can find, that we have data on, that we can
16 link with the housing records to go to the cancer
17 registries and the National Death Index, find out
18 which diseases seem to be elevated, do a case-control
19 sample of the cases are that elevated disease and the
20 controls are a sample of the people who don't have
21 those diseases in the same populations. And there
22 have two -- those are great studies right there.

23 **MS. RUCKART:** It's not a sample of the cases --

24 **DR. BOVE:** Let me continue. So that's cancer and
25 that's death. There are a lot of other illnesses

1 that are on your list. And the only way, right --
2 now we're talking strategically. So how can we do
3 this? What we've done in the past with the TCE
4 registry was we interviewed people, they told what
5 they had, we compared it to the National Health
6 Interview Survey.

7 **MR. ENSMINGER:** Yeah, I saw the results.

8 **DR. BOVE:** And those studies -- what's the best way
9 to put this? They don't have high regard in the
10 scientific community for these studies; is that fair?

11 **DR. CLAPP:** That's fair.

12 **DR. BOVE:** Okay. So you have to keep that in mind,
13 okay. Now we're thinking strategically. That's why
14 I wanted to use the CHAMPS data, because the CHAMPS
15 data is inpatient data. They don't have ambulatory
16 data until later. They have inpatient data, at least
17 from 1981. And you've pointed out some of the
18 problems with that. If you resign, you leave, you're
19 gone. You're right. So I don't know what to do
20 about that other than we can at least study the
21 people that we have information on and we've got to
22 think hard about what would be useful to get at these
23 other diseases, or is it possible to get at them in a
24 way that anyone with any -- in a way that it would be
25 credible to the scientific community.

1 Because if you want to use any of this research
2 in court or anything, or even to advance knowledge,
3 you're going to have to find a way to verify these
4 endpoints.

5 **MS. McCALL:** In court what it's going to come down to
6 is expert against expert. That's what it's going to
7 come down to.

8 **DR. BOVE:** Sure. But in order to even get to first
9 base in court you have to have -- you have to show a
10 judge that you have scientifically credible evidence.
11 It's called the Daubert gate, if you will, because it
12 was based on a decision by the Supreme Court called
13 the Daubert decision. And I'm not a lawyer, so
14 that's as far as I'm going on that. But just keep
15 that in mind that in order to get even to first base
16 -- if you saw the movie *A Civil Action*, you saw what
17 judges can do. So you need to -- of course, not all
18 of that was done before the more recent Woburn study,
19 which is a stronger study. But even so -- but I
20 think we all want to see research come out of here
21 that makes a difference. So that's all.

22 **MR. MARTIN:** I just need to take everything and make
23 it real simple, okay, because the science, I agree,
24 is important, but I see the science going on for
25 another 20 years. My point -- and I don't know what

1 everybody else in the room wants or which direction
2 they want to head, I want to find out what we have to
3 do to make this government admit its liability in
4 this matter and take these people that are sick and
5 ill and get them treatment, or at least make their
6 lives as comfortable as they possible can for what
7 time they've got left.

8 **MR. BYRON:** Can I see if I can summarize this at
9 least as how I see it so that the rest of the CAP
10 members can possibly -- if I'm wrong, you can correct
11 me. So what we're saying right now is first off
12 there should be a feasibility study to see if there
13 is enough data out there to even conduct any further
14 studies. In other words, what's in the mortality
15 index? What's in the incident cancer index? So as a
16 cohort to the people that lived in Camp Lejeune, say
17 Tarawa Terrace for instance, you're going to go back
18 and you're going to see what cohort, what people
19 lived there, then you'll compare that to the national
20 cancer index and also the mortality index. And from
21 that if you have, say, 20 percent of the people dying
22 of heart attacks that are related to TCE or maybe not
23 even related to TCE, 20 percent have heart attacks
24 and die, 50 percent have liver cancer. The national
25 average for tests in liver cancer is two percent.

1 Well, there could be an indicator, right? So maybe
2 that's the one that we want to look at.

3 So then you move on to the mortality study of
4 incident cancer after you know you have the data
5 there, right? And then --

6 **DR. BOVE:** Let me try one more -- it is confusing.
7 So let me see if I can do it.

8 **MR. BYRON:** But the feasibility study has to come
9 first to see if we have the data or not?

10 **DR. BOVE:** All right. So the first thing you do is,
11 right, you do a feasibility assessment, and in
12 talking about that this is what have the personnel
13 data looks like, this is what the CHAMPS data looks
14 like. We know what the National Death Index looks
15 like. The cancer incidence data in the various
16 states, we need to find out what we need to do and
17 how far back the cancer data in those states go. So
18 that's part of the feasibility study.

19 Once we've done that, we have housing records,
20 which can be the basis of registry, cohort, whatever
21 you want to call it. Again, I'd like to link that up
22 with the personnel data so that we have Social
23 Security number from the personnel data. We need the
24 Social Security number to go to the National Death
25 Index. We have the housing information to tell me

1 which people were exposed and which weren't, okay.
2 The National Death Index and heart disease comes up
3 as in excess compared to either the general
4 population, to other Marines, or better, to the
5 exposed Marines versus the unexposed Marines at Camp
6 Lejeune, okay.

7 Then we can interview those heart disease
8 cases, take a sample of this cohort, this registry of
9 people who didn't have heart disease and see all
10 right, we know about their exposure, but let's get
11 their full residential history. Let's find out if
12 they have any occupational exposure. Let's make sure
13 they didn't get exposed to Agent Orange or Gulf War
14 whatever they were going through and smoking and all
15 of that stuff. And then you do the same thing for
16 the cancer registry stuff. You use that cohort. You
17 go to those -- Now, for the cancer we're going to
18 maybe limit it to certain states, because there's no
19 such thing as a national cancer registry. So we're
20 going to think -- it's difficult, but we can do
21 something. We can pick the states where you think
22 most Marines probably ended up.

23 **MR. BYRON:** So the cohort will get smaller, but it
24 will still be studyable possibly.

25 **DR. BOVE:** The cohort will get smaller, but what can

1 you do. Yeah, this is life. You can still do stuff,
2 yes. Credible stuff, okay. So we do that, we go to
3 the cancer registry with this information from these
4 cohorts, and there's some difficulties in here, but
5 we can work it out. We find out which cancers seem
6 to be elevated, once again. And again, we go get
7 those cases in a sample of controls and we interview
8 those people. So that's how that progresses.

9 Where I'm having a problem thinking about
10 strategically -- and this is why I'm glad Chris and
11 Dick are here -- is what do we do about other
12 diseases. Is it possible to do something good
13 worthwhile looking at any of the other diseases on
14 your list, or is this not the best population to do
15 that and we just can't do a scientifically credible
16 thing.

17 And then, okay, so if we decide that or -- give
18 me an example, give me a disease that's on the list
19 that's not a cancer or --

20 **MR. ENSMINGER:** Liver disease; Tom's wife.

21 **DR. BOVE:** All right. Liver disease.

22 **DR. RENNIX:** Cirrhosis of the liver.

23 **DR. BOVE:** Yeah, let's say cirrhosis of the liver.

24 So we can't -- we think we probably can't do a
25 scientifically credible study -- if we want to look

1 at diseases like that in a scientific credible way we
2 would need to be able to verify the diseases. It
3 would be difficult. I'm thinking who would you do an
4 interview of? I mean, you'd have to do all of the
5 people in that cohort. I mean, this is something I
6 have to think about myself. I'm not sure.

7 But the difficulties I see of looking at other
8 diseases is verification. Full ascertainment so we
9 don't miss anybody who has the disease and then
10 verifying that they actually have the disease.
11 That's -- you don't have to worry about that with the
12 cancer registry. You don't have to worry about that
13 with a National Death Index. But you do have to
14 worry about it for diseases that are not covered by
15 registries like this. And the National Death Index
16 is a registry. So that's where I'm having difficulty
17 thinking about what could be scientifically credible.

18 Now, there are other purposes in mind, you
19 know, like services, you know. And I don't have any
20 interesting things to say about services other than I
21 think everyone should have -- there should be a
22 national health program in this country, but that's
23 something that we can talk about, too. Does that
24 help you now?

25 So there's the exposure side of the equation,

1 which is the personnel records, the housing records,
2 Morris' water modeling, all that's over here. And
3 the problems there are the limitations of the
4 personnel data and the illegible housing records,
5 okay. On this side we have the cancer registries,
6 the National Death Index; they're fine. And then
7 that's what we have.

8 **MR. BYRON:** I just wanted people to understand, and I
9 don't think the studies are going to be done in a
10 year. I don't think they're going to be done in two
11 years. I don't think they're going to be done in
12 five years.

13 **DR. BOVE:** Well, they don't have to take 20 years.
14 They don't have to take 20 years.

15 **MR. BYRON:** They don't have to take 20 years?

16 **DR. BOVE:** No.

17 **MR. BYRON:** This one hasn't taken 20 years that were
18 in utero.

19 **DR. BOVE:** Well, let's take a look at how long this
20 study --

21 **MR. BYRON:** Some of it's been going on since '97.
22 Believe me, I've got two kids. I don't want to get
23 into that.

24 **DR. BOVE:** This study has taken quite a long time
25 because we had to do a survey. See, this is the

1 problem when you're looking at diseases where
2 there are no registries. Nowadays, we could have
3 done this study a hell of a lot quicker, because
4 there are birth defect registries. There are cancer
5 registries. If the exposure started in 1995 instead
6 of 1950-whatever, right.

7 **MR. BYRON:** We didn't get started until '97, right?

8 **DR. BOVE:** I'm just saying that in order to -- so
9 this study started roughly around -- the protocol was
10 written --

11 **MS. RUCKART:** '98.

12 **DR. BOVE:** Yeah, sometime around '98. And we had to
13 go through all of these clearances, right.

14 **MR. BYRON:** But that's what I want people to
15 understand. This current has been going since '98.

16 **DR. BOVE:** And it's still going on.

17 **MR. BYRON:** This isn't going to happen overnight.

18 **DR. BOVE:** No, no. But now, there's a couple things
19 that are accomplished. One is we don't have to worry
20 about the water modeling anymore. It's done and will
21 be done. So that's -- and notice, I haven't said we
22 were going to contact tens of thousands and interview
23 tens of thousands. You don't need to do that. The
24 most efficient way is to interview cases, a smaller
25 number. Because all these diseases that we're

1 talking about, they're rare diseases in a sense of
2 it's a manageable number of people that you
3 interview, okay. So the studies don't have to take
4 20 years. They do take time for all the reasons that
5 we've talked about, all the clearances. It does take
6 time to interview people. It takes time to analyze
7 the data we record. So it does take time, but it
8 doesn't take 20 years.

9 **MS. DYER:** Okay. So if we do -- if we take the death
10 mortality and the data that we've been talking about
11 and getting it from the base housing and everything
12 like that, then we can take and do a prevalence
13 survey with those people so that you've got a list of
14 other diseases, and so am I correct? Because you
15 were talking about doing a prevalence study, and see,
16 you were talking about what kind of diseases do we
17 list and all that stuff.

18 So if you're sending out that data that once
19 you compile that, you know who lived there, you've
20 got a cohort to work with, then we can take and do a
21 prevalence survey and list, you know, your liver
22 diseases, you could list cyst, you could list thyroid
23 problems, reproductive problems and all that and
24 you've got that cohort and you've got that prevalence
25 study and that shows you. And then you're going to

1 compile that and you're going to see all the
2 different illnesses, and that's where you're going to
3 get your data from to see whether or not to continue
4 a study, correct?

5 **DR. CLAPP:** It's possible to do that. That is what
6 was done with the Lipari list.

7 **MS. DYER:** Okay.

8 **DR. CLAPP:** There was a prevalence survey; it was
9 mailed. It was sent by mail to people, they filled
10 it out. We gathered the results and we computerized
11 them, and we said wow, it looks like this group of
12 people had a much higher prevalence of -- let's see,
13 nosebleeds, actually, was one of the findings.

14 **MS. DYER:** Okay.

15 **DR. CLAPP:** And it was especially true of people who
16 lived near the landfill. So then that actually was
17 never published. I don't know that we could have
18 gotten that published. It was a subset of a subset
19 that responded to the survey, but it was part of a
20 lawsuit. It was used as a justification for medical
21 surveillance that was a result of a lawsuit. I don't
22 think ATSDR would fund a survey like that. That
23 would have to come from some other source.

24 **MS. DYER:** Well, then DOD can fund a survey. After
25 lunch, can we talk about what we want to do as far as

1 going ahead and you working with ATSDR to get a
2 survey compiled to send out to the people that we get
3 from the database?

4 **DR. BOVE:** Lipari actually is an interesting example
5 because at Lipari what was published was a birth
6 outcome study -- adverse birth outcome study using
7 birth certificates to determine whether the child was
8 born small for gestational age we call it or low
9 birth weight even though they reached term, okay.
10 That study actually was published and actually had
11 some impact on the scientific world because we can
12 verify from the birth certificate, and there were
13 problems with the birth certificate, at least you can
14 verify that they had this weight and this gestational
15 age and you can do a study.

16 It's the same thing again. The diseases where
17 we have registries where we can verify the disease
18 outcome, those are the credible studies. The studies
19 where, like, our previous registries where you don't
20 verify the studies, they're less credible, and that's
21 real life. That's what's out there. So you have to
22 think that way.

23 If you don't verify the diagnoses and as we
24 said, even in our study we had people saying they had
25 the disease and they didn't. And I don't think

1 they're lying to us. I think there's confusion, you
2 know. Maybe they didn't get proper medical care
3 either, who knows. I'm willing to say these people
4 are all honest and I just don't know why, okay. But
5 it's the fact, they didn't. They said they had this
6 disease and they didn't, you know. And that is how
7 scientists and the courts look at this stuff, you
8 know. So that's why I'm saying to think
9 strategically.

10 You have a list already. You don't need to
11 generate a new list of diseases. You have a list of
12 diseases that your thousand people have already given
13 you. There's also diseases in the literature. TCE
14 and PCE are neurotoxins. There's plenty of
15 occupational information about what kinds of diseases
16 you get when you get high exposure. That's not
17 what's needed, I don't think. But this is where the
18 discussion is. We don't need to come up with another
19 list of diseases. You need to have studies that have
20 impact so that you can make your case either in court
21 or to the public court, you know. You need
22 compensation for these diseases. We have evidence,
23 you know, scientific evidence for this.

24 **MS. DYER:** Then over lunch you need to think
25 specifically what those are that we need to do

1 because we don't know.

2 **DR. BOVE:** Okay. We can keep the discussion going,
3 yes.

4 **MR. STALLARD:** We will keep the momentum going after
5 a credible lunch.

6 **MS. BRIDGES:** Can I say something?

7 **MR. STALLARD:** Can you say something other than bon
8 appetit?

9 **MS. BRIDGES:** What can we do to help the -- all the
10 genes that they have now? You've got all these
11 statistics and trials and things that you've already
12 done. Are there any groups that are looking into
13 helping those people? I mean, all these studies that
14 you've done got a lot for statistics for scientists,
15 but has anything been done to help these people?

16 **MR. STALLARD:** So think about this over lunch, are
17 there any gene therapy treatments that you're aware
18 of that would be a clinical intervention? Thank you.
19 Please come back at 1:15. We will eat on time and
20 start on time.

21 (Whereupon, a lunch break was taken from 12:00 p.m.
22 to 1:15 p.m.)

23 **CONTINUE DISCUSSION**

24 **MR. STALLARD:** Okay. Welcome back, folks. We're
25 ready to resume now. It is 1:15. The court reporter

1 is speaking into his device. We left prior to lunch
2 with the question posed by Sandra about if anyone
3 knew of any emerging gene therapy-type interventions.
4 So if you do, tell Sandra, but it appears that the
5 group that that might be beyond their purview at this
6 point. They don't know, okay? So if anybody knows
7 of any medical treatments available for people
8 exposed please feel free to share that information
9 with the group.

10 **MS. BRIDGES:** Because everybody wants to know.

11 **MR. STALLARD:** Right, with the group.

12 **MS. DYER:** What was that -- there was actually -- we
13 were in Arizona there's a group out in California
14 that is working with that. So I will try to get the
15 information to her.

16 **MR. STALLARD:** To everyone?

17 **MS. DYER:** Uh-huh.

18 **MR. STALLARD:** Good.

19 **MS. BRIDGES:** Put it on your website.

20 **MS. DYER:** Okay.

21 **MR. STALLARD:** Okay. So we are back at picking up
22 the momentum. I think Frank was finishing off just
23 before lunch and we were talking about the process
24 that is going to be required and getting a better
25 understanding of some of the time constraints

1 involved in these, starting with the feasibility
2 assessment, the data sets that we're going to be
3 looking at, how that will inform then the cadre or
4 cohort or whatever we're going to call it, right.
5 And then we left that conversation about what about
6 other diseases and Frank had implored Chris and
7 Richard for any type of suggestions or guidance on
8 how to go about that. The difficulties in looking at
9 -- or did you address that just prior to the break?

10 **MR. ENSMINGER:** Do we know if we got Tom?

11 **MR. STALLARD:** Do we have Tom? Tom, are you with us?

12 **MR. TOWNSEND (by telephone):** (no response)

13 **MS. BRIDGES:** I hate that because he's missing and he
14 knows he's missing. He wants to be on there.

15 **MR. STALLARD:** Perri, can you try the connector
16 again?

17 **MR. ENSMINGER:** I have to know what I have to fill
18 him in on.

19 **MR. STALLARD:** All right. But, in the meantime ...

20 **DR. BOVE:** I think we've beaten it to death, the
21 cancer and mortality. And one area where there's
22 still confusion on my part is other -- how to do
23 other illnesses that we don't have disease registries
24 for. So that's one issue.

25 Another issue Chris and I were talking -- and

1 Dick were talking just a few minutes ago. Dick
2 mentioned a registry and was talking about the
3 housing records, okay. And, okay, so the housing
4 records are the sponsors of people, right. So that's
5 that group, but there's other people that -- other
6 cohorts that have been raised and they're going to be
7 harder. So that's another area where I'm going to
8 have difficulty trying to figure out how to do it.
9 We could discuss it or whatever.

10 So the cohort, the registry, whatever will be
11 active duty and have family housing. That's what
12 that database is. There's also active duty who did
13 not live in family housing. That's the personnel
14 data. Employees at base, the data I have -- the
15 layout I have on that from DMDC tells me that the
16 employee name was not included in the records of
17 December 1981, but the files go back to '72. All
18 files have Social Security number, date of birth. So
19 you have some information, but we don't have the
20 name. That's what the employee database looks like
21 and it goes back to '72.

22 **MR. ENSMINGER:** But you got names from '81?

23 **DR. BOVE:** Names go on as of -- names are not on
24 until December '81.

25 **MR. ENSMINGER:** But we've got from '81 to '85?

1 **DR. BOVE:** Yeah. So that's --

2 **MR. ENSMINGER:** So that's a cohort?

3 **DR. BOVE:** I didn't say we couldn't do anything. All
4 I'm saying is this is what they have.

5 **MR. ENSMINGER:** I'm not jumping you.

6 **MS. DYER:** Just make a decision.

7 **DR. BOVE:** All right. The last group are family
8 members, okay; children, spouses, so on. That,
9 again, I'm not sure whether there's any computerizing
10 on that. So those are things -- we don't have to
11 discuss all this today. These are just things that
12 we need to think about. We all need to think about
13 to figure whether we can do something, if so what, or
14 whether we feel that maybe it's too difficult to do
15 something.

16 **MR. ENSMINGER:** Well, another thing we need to
17 remember on the civilian employees, were the civilian
18 women who were of child bearing years. They were
19 never covered in the in utero study.

20 **DR. BOVE:** Unless they gave birth.

21 **MR. ENSMINGER:** No, civilian employees were --

22 **DR. RENNIX:** Because we would know where they gave
23 birth.

24 **MR. ENSMINGER:** Well, more than likely Onslow
25 Memorial.

1 **DR. RENNIX:** But that wasn't the -- the purpose was
2 to get a big enough cohort and that's why they went
3 after the active duty sponsor. There's a smaller
4 group now that we have a database --

5 **MR. ENSMINGER:** Yeah, you're right. I'm sorry. This
6 for scientific purposes, the in utero study will show
7 or not show, whatever the case may be, a connection.

8 **DR. BOVE:** And we're going to reanalyze -- as soon as
9 we have Morris' data, we'll reanalyze the other study
10 too. That can be done without asking for any money.

11 **DR. RENNIX:** That's the Sonnenfeld study?

12 **DR. BOVE:** Yeah.

13 **DR. RENNIX:** Okay.

14 **DR. BOVE:** So that will happen.

15 **MS. DYER:** What about school records? Have you
16 checked with the superintendent's office on base to
17 see how far back they go with school records?

18 **DR. BOVE:** No, I haven't.

19 **MS. DYER:** Okay. Then that's a possibility. And you
20 were saying about the civilians not having them until
21 '72 -- where they lived on base until '72; is that
22 what you just said?

23 **DR. RENNIX:** No, no, no. That we have their
24 personnel file electronically was not until -- didn't
25 start until '72.

1 **MS. DYER:** Oh, but there are records that go back
2 further?

3 **DR. RENNIX:** We don't know. We don't know. From the
4 DMDC data source we can look at each of the data sets
5 that they have available and they have start dates
6 for each one of those. And so there's a civilian
7 personnel data file that we can look at and it gives
8 you the limitations for each of those. That's the
9 DMDC bible; every data base that they have.

10 **DR. BOVE:** But anyway, as for civilian employees, as
11 I said, we have data going back to '72, the names
12 only to December of '81, and family members, school
13 records at a base is one source that we'll need to
14 find out. And other than that --

15 **MS. BRIDGES:** Are you able to go into the census,
16 state census, the county census? Like we're not able
17 to go in past 1930, the public, but can you go in
18 after that? Will they let you access those records?
19 That would give you the full name, birthdates.

20 **DR. RENNIX:** That's every ten years. It's ten years.

21 **MS. BRIDGES:** It's what?

22 **DR. RENNIX:** It's every ten years.

23 **MS. BRIDGES:** Right.

24 **DR. RENNIX:** Well, there's -- people come and go
25 quite a bit in that ten-year period.

1 **MS. BRIDGES:** But you'll be able to find them. You'd
2 be able to find them with their Social Security
3 number and you'd get their full name, where they were
4 from, sisters and brothers.

5 **DR. BOVE:** You mean that snapshot when they did the
6 census, say, every ten years. You'd know those
7 people, but not the people in between.

8 **MS. BRIDGES:** You'd know who was born in 1980 at the
9 base.

10 **MR. ENSMINGER:** We already got that.

11 **MS. BRIDGES:** You'd know their parents, where they
12 were from, who they married, their children's names;
13 if you were able to access those records.

14 **MR. ENSMINGER:** What records?

15 **MS. BRIDGES:** The state census records.

16 **MR. ENSMINGER:** Yeah, but all it's going to show is
17 if they were a service member stationed at Camp
18 Lejeune, all that would show is that -- well, I don't
19 even think they take census at bases.

20 **MR. MARTIN:** I don't think they do on base.

21 **MR. STALLARD:** So that's a question of census bureau
22 info.

23 **DR. BOVE:** Yeah, I don't know anything about that.

24 **MR. ENSMINGER:** I never took a census when I was on
25 active duty. I was there for 25 years.

1 **MS. BRIDGES:** For the outside. I'm not talking about
2 on base, on the outside.

3 **MS. McCALL:** Civilian census?

4 **MS. BRIDGES:** Civilian census, uh-huh.

5 **MR. ENSMINGER:** Who you trying to find?

6 **MS. BRIDGES:** Anybody that --

7 **MS. DYER:** I will tell you this, though, Frank, the
8 Lejeune alumni reunion, they go to the forties and
9 contact people.

10 **DR. BOVE:** Who's this?

11 **MS. DYER:** Lejeune High School reunion. They go back
12 to the forties because we've got members --

13 **DR. BOVE:** Well, then they must have records.

14 **MS. DYER:** That's right. That's what I'm telling
15 you. So you've got a real good resource right there.
16 And I can get you in touch with people you need to
17 get in touch with about that.

18 **DR. BOVE:** Okay. Do that.

19 **MS. DYER:** Okay.

20 **DR. BOVE:** E-mail me.

21 **MS. DYER:** I don't want to write you. I'll call you.

22 **DR. BOVE:** All right. Whatever. Is it good reading?

23 **DR. CLAPP:** It's fascinating. It's amazing how much
24 stuff they have.

25 **DR. BOVE:** Well, except a lot of it doesn't start

1 until '85, '90.

2 **DR. RENNIX:** Well, you've got to remember the
3 military did not use computers for personnel records
4 until probably late '70s, early '80s, as a rule. But
5 everything was done in paper.

6 **MR. MARTIN:** What do the National Archives list? I
7 mean, I know you can get payroll records for Civil
8 War veterans. If you've got a name or a unit number
9 you can get a confederate or union soldier.

10 **DR. RENNIX:** Each -- National Archives has branch
11 offices that have -- I'm sorry, I keep forgetting
12 this. National Archives have branch offices that are
13 charged with archiving certain records. So you'd
14 have to go to the National Archives and look to see
15 where records that were from Camp Lejeune, that are
16 not associated with personnel, where they were
17 archived, okay. So maybe all Civil War records are
18 kept in two archives. So it makes it easy for them
19 to search when that search comes in. So they farm
20 that out. Anything that has to do with pay or
21 medical or your service record, that's kept in one of
22 two locations, and that's the VA or the National
23 Personnel Center.

24 **MS. BRIDGES:** Ancestor.com has it. It has the First
25 World War for guys when they filled out their --

1 **DR. RENNIX:** Right. If you want to pay about \$35 per
2 person, you could have a search done on a Social
3 Security number.

4 **MS. BRIDGES:** No. I mean when they go into the
5 service --

6 **DR. RENNIX:** I know, but it has to be Social Security
7 number. We have to know their Social to go look
8 anywhere. So we're stuck with not having --

9 **MS. BRIDGES:** At ancestor.com, anybody that dies,
10 Death Master Index has their name and their Social
11 Security number, the date they died. I'm telling
12 you. I know what I'm talking about. I've done it
13 all the time. I do all the time. It's my hobby.

14 **MR. STALLARD:** Ancestor.com?

15 **MS. BRIDGES:** Right. Ancestry.com.

16 **MS. DYER:** And if they died their Social Security
17 number is on there?

18 **MS. BRIDGES:** Well, it's not right there on that.
19 Then you go down and you put the information that you
20 get off the Master Death Index down below, and it
21 will pop up their Social Security number.

22 **MR. ENSMINGER:** On the Internet?

23 **MS. BRIDGES:** On the Internet. Ancestry.com.

24 **MR. ENSMINGER:** That's dangerous.

25 **MS. BRIDGES:** My mother was adopted.

1 **MR. BYRON:** It also gives your history of your family
2 and everything.

3 **MS. BRIDGES:** It will give your sisters and brothers.
4 It will even give neighbors. You can find that off
5 of the old census. But they don't give -- they don't
6 let you have access to anything after 1930 because
7 it's a privacy law or whatever; not after 1930. But
8 you being here, maybe you could. They'd let you have
9 access to it, I'm sure. The government would let you
10 have access.

11 **MR. STALLARD:** All right. So we have that as a
12 potential resource to look at, the Census Bureau
13 info. And you're suggesting, Sandra, that the
14 ancestry.com, although it's a commercial bank charge,
15 might be a potential resource to track living and
16 deceased?

17 **MS. BRIDGES:** Yes.

18 **MR. STALLARD:** Because it's linked to the Death --

19 **MS. BRIDGES:** I have a friend that -- my mother was
20 adopted and I found her people. And just last week I
21 went really -- I tried to do it for Christmas and I
22 couldn't do it for a friend of mine I've known for 30
23 years, so it's grouped together. She was adopted and
24 her parents had told her -- her adoptive parents had
25 told her that her mother's name was Lydia Cooper.

1 And this woman was born -- my friend, Fran -- was
2 born in 1939. So I had to the year, 1939 and I had
3 her mother's name of Lydia Cooper. You know how many
4 Lydia Coopers there were in eastern United States or
5 through the United States, not knowing her birth
6 date? But I found it just by knocking them down.

7 **MR. STALLARD:** So it's a potential resource --

8 **MS. BRIDGES:** But I found it and she found she had a
9 sister; that was the day after Easter.

10 **MR. STALLARD:** Wow.

11 **MS. BRIDGES:** And she's already talked to her.

12 **MR. STALLARD:** So when this information comes from
13 housing and they're looking at how to track people
14 down, we've identified several different potential
15 resources including this one.

16 **MS. BRIDGES:** It doesn't cost anything. Well, it
17 does. It's \$29 or I don't even remember what it was
18 now that I paid. I don't know what it was. It was
19 so many months ago.

20 **MR. STALLARD:** Who knows? Maybe we can negotiate.

21 **MS. BRIDGES:** Yeah.

22 **MR. ENSMINGER:** The DOD uses LexisNexis.

23 **DR. BOVE:** Yeah, that's what we used to track the
24 12,000.

25 **MR. STALLARD:** You already used LexisNexis, right?

1 **MS. BRIDGES:** It gives you a Zip Code.

2 **DR. BOVE:** We used LexisNexis to find -- we had birth
3 certificates to find the current address of the
4 parents for the survey.

5 **MR. STALLARD:** Okay. So this was kind of spontaneous
6 identifying potential resources. How does this
7 relate to --

8 **MS. BRIDGES:** I found my uncle when he was in the
9 First World War. And I found how many Hogues
10 enlisted and all the Hogue boys must have gone down
11 at the same time and enlisted, because there was
12 William and John and Frank and all of them. They all
13 went at the same time, and it's right there. It
14 tells who they're married to, if they support anyone,
15 what township, their age, color of hair.

16 **MR. STALLARD:** I'm afraid to look, but thank you very
17 much for suggesting that. That's an out-of-the-box
18 kind of solution that we can consider.

19 **MS. DYER:** Do we want to talk about the registry and
20 exactly what would go on it?

21 **MR. STALLARD:** I think we want to talk about whatever
22 you want to talk about, but I'd like to bring
23 to your attention that we specifically identified
24 three topic areas. We have another half-an-hour
25 before Morris comes. We have already covered the

1 issue of scientifically credible studies.

2 Do you agree, Frank, that we've talked about
3 the process for that and the integrity of the need
4 for the data and all of that? Has that been
5 addressed? Do you all feel that --

6 **MS. McCALL:** I do.

7 **MR. STALLARD:** Okay. With the endpoints of
8 mortality, cancer incidence, and other. We talked
9 populations just now and how that data will relate.
10 I'm not talking into the microphone, are you catching
11 me?

12 **COURT REPORTER:** (Court reporter nods head.)

13 **MR. STALLARD:** So now we're to what Terry would like
14 to look into, one topic, the issue, if I'm not
15 mistaken, the notification slash prevalence surveys,
16 which what would that be comprised of? What was it,
17 registry or something, right?

18 **MS. DYER:** Uh-huh. He didn't want to call it one,
19 but we'll make up a name for it.

20 **MR. STALLARD:** Make up a name.

21 **MR. ENSMINGER:** Cohort.

22 **MS. McCALL:** The ATSD --

23 **MR. ENSMINGER:** Big list.

24 **MS. McCALL:** -- L.

25 **MS. DYER:** Yeah, the ATSDL.

1 **MS. McCALL:** List.

2 **MS. DYER:** List.

3 **MR. MARTIN:** The list. Are you on the list?

4 **MS. McCALL:** You know I am.

5 **MS. DYER:** We're all tired. You need to wake us up.
6 Do y'all have coffee or something?

7 **MR. STALLARD:** We can all stand up and do Simon Says.

8 **MS. DYER:** We are dragging.

9 **MR. STALLARD:** I know. Wait until Morris comes in,
10 then you can sleep.

11 **MS. DYER:** Okay.

12 **MS. McCALL:** Bring him on now.

13 **DR. CLAPP:** Morris is here.

14 **MR. STALLARD:** Yes.

15 **DR. CLAPP:** He's been waiting a while.

16 **MR. STALLARD:** Oh, really?

17 **DR. CLAPP:** And we can change the order and have him
18 come ^ notification and prevalence based on where
19 people lived.

20 **MR. STALLARD:** Morris is here. Well, come on up. Is
21 that all right with everyone?

22 **MS. DYER:** It's fine.

23 **DR. BOVE:** Maybe Morris can get us going.

24 **MS. RUCKART:** Morris, where is your presentation hand
25 out?

1 **MR. MASLIA:** Oh.

2 **MS. RUCKART:** I'll get it.

3 **DR. MASLIA:** Just let me know when to start.

4 **MR. STALLARD:** Right now.

5 **UPDATE ON WATER MODELING**

6 **MR. MORRIS MASLIA**

7 **MR. MASLIA:** Okay. Good afternoon and I'd like to
8 thank the CAP for inviting me to give an update and a
9 status report on the ATSDR water modeling done in
10 support of the current health study at Camp Lejeune.

11 And what I'd like to do, my presentation is
12 about 15 minutes. So if I could go through the
13 entire presentation and then we'll open it up to
14 questions. I think that's the -- Mr. Facilitator's
15 job.

16 **MR. STALLARD:** No. If that's what you want, that's
17 what it will be, right?

18 **MR. MASLIA:** That will be my preference.

19 **MR. STALLARD:** Okay.

20 **MR. MASLIA:** Okay. Just as a reminder, the findings
21 and some of the results I'm presenting today have not
22 gone through an external peer review, and they have
23 not been formally cleared by the Agency. And as
24 such, we view them as preliminary, and they are
25 subject to change pending those two actions, external

1 peer review and formal Agency clearance.

2 We had three goals with respect to the water
3 modeling activities in support of the current health
4 study. The first was to determine the arrival time
5 of contaminants at water-supply wells, as well as to
6 reconstruct the particle concentrations of PCE or
7 other chemicals depending which area we were doing at
8 the wells. And to accomplish this we're using
9 groundwater flow and contaminant and disperse of
10 transport models.

11 The next goal was to determine the
12 concentration of water being distributed from the
13 water-treatment plants, the treated water. And to
14 accomplish this we're using a combination of
15 simplified mixing models as well as complex
16 water-distribution system models.

17 And finally, we need to determine the
18 reliability of modeling results. As with any type of
19 analysis where we have limited data or nonexistent
20 data, we're looking at different exposure scenarios,
21 we really need to provide the epidemiologists what
22 our constant is in the modeling results. We're
23 accomplishing the third task through the use of
24 sensitivity analysis and Monte Carlo simulation.

25 The groundwater flow modeling areas, the first

1 area is the blue rectangle is the Tarawa Terrace
2 area, the Holcomb Boulevard area, and the Hadnot
3 Point area. I want you to notice that the
4 generalized areas, obviously, are a lot larger than
5 the actual area that we're studying. And that's
6 because of numerical requirements of groundwater
7 models. The Tarawa Terrace area, since it's
8 basically nearly complete, more closely approximates
9 the modeling domain. The other two, Holcomb
10 Boulevard and Hadnot Point, since we're currently
11 working on those and developing those models, should
12 be considered as generalized modeling areas.

13 We also have three water distribution system
14 modeling areas. We have a Tarawa Terrace area -- I
15 don't have a laser pointer, but I'm sure everyone is
16 familiar with it, which is in the northern part area,
17 the central area, Holcomb Boulevard and then the
18 southern area, Hadnot Point area, which includes
19 French's Creek.

20 For present day conditions, there are two water
21 treatment plants and that is the Holcomb Boulevard or
22 building 670, which supplies treated water to the
23 Holcomb Boulevard and the Tarawa Terrace Camp Johnson
24 area. And then there's a treatment plant building
25 20, which is the Hadnot Point, it supplies Hadnot

1 Point including the French's Creek area.

2 During the time frame of the epi study we had
3 three water treatment plants that we're interested
4 in. It was a Tarawa Terrace water-treatment plant
5 that provided treated water to Tarawa Terrace and the
6 Camp Knox trailer park and the Camp Johnson area and
7 Munford Point areas. Then in 1972, about June, our
8 best efforts to obtain information Holcomb Boulevard
9 came online and of course, the oldest water-treatment
10 plant serving the entire area was Hadnot Point. For
11 purposes of the epidemiologic study, we're
12 considering unexposed areas -- I mean exposed areas,
13 exposed as Tarawa Terrace and Hadnot Point, and
14 unexposed being Holcomb Boulevard area.

15 In order to limit the number of slides, and so
16 we can allow more time for questions, I'm just going
17 to use these abbreviations to give you the status of
18 the modeling that we've done. I believe you can read
19 them on the handout provided you. I'll start with
20 Tarawa Terrace; the status of those models. The
21 groundwater flow model is calibrated. The flow and
22 dispersive transport model is calibrated. The
23 water-distribution mixing model is calibrated. The
24 water-distribution hydraulic, the water-quality model
25 is calibrated. The sensitivity analyses are

1 completed. And the uncertainty analyses using Monte
2 Carlo simulations are currently ongoing.

3 With respect to Holcomb Boulevard and Hadnot
4 Point, the groundwater flow model is under
5 construction, that is we're looking at exactly where
6 to put model boundaries based on the geo-hydrologic
7 framework and data that we're looking at. And so the
8 risk of the models having to do with groundwater flow
9 are dependant, of course, on the calibrated
10 groundwater flow model. So we have not developed
11 those as of yet. We do have a calibrated for each of
12 these two areas a calibrated hydraulic and
13 water-quality water-distribution system models.

14 At this point what I would like to do is go
15 over some preliminary results from model simulations
16 for the Tarawa Terrace areas. This graph shows a
17 number of things here, and I'll go over it. The top
18 or gray line shows the simulated and historically
19 reconstructed PCE concentrations for Tarawa Terrace
20 well TT-26, from the start of pumping through about
21 the middle of 1980s.

22 The blue line shows the water being delivered
23 from the water-treatment plant. It's important to
24 understand that in computing the exposed water or
25 water that was delivered to the population, that we

1 use other wells besides TT-26. It takes all the
2 wells, that's the mixing model. However, for
3 simplicity of just presenting a slide and PowerPoint
4 and since the prime moving well as far as
5 contamination is well TT-26, I'm just showing this --
6 the only groundwater well is TT-26, but there are
7 other wells that are used in coming up with this
8 bottom graph right here. Also, what I want you to
9 notice is that this red-dash line at five parts per
10 billion is the MCL. This is just the standard that's
11 currently set for PCE; so just as a reference point
12 here.

13 So what that gives us then is we can determine
14 an arrival time. At TT-26, PCE at five parts per
15 billion arrived in June 1957. Again, these are all
16 based on the calibrated model. In February '58,
17 having mixed with other wells, the water delivered
18 from the TT water-treatment plant reached a
19 concentration of PCE of five parts per billion.
20 Okay. By the time of the start of the epi study, and
21 that's this shaded area right in here, this
22 rectangular-shaded area, is the time frame of the epi
23 study, January '68 through December of '85. From our
24 modeling results we see that the PCE concentration in
25 TT-26 was about 270 parts per billion and in

1 delivered water about 40 parts per billion.

2 And I need to get you to understand that the
3 historically reconstructed concentrations, both in
4 TT-26 as well as the exposure model, are average
5 values. Those are average monthly values. They
6 could represent any typical day within a month time
7 frame. That's the resolution of our models.

8 And the final thing I want to point out is
9 where we do have observed data, this is observed
10 coming out of the water treatment plant right here,
11 these red dots, that's actually measured data. You
12 can see the very good agreement with our mixing
13 model. And also, one other point to note when TT-26
14 shuts down, that's the stats here, the concentration
15 and the exposure, of course, goes immediately down
16 downward. Again, these results are considered
17 preliminary.

18 So let me just go over now from a verbal
19 standpoint our summary of the results. PCE at five
20 parts per billion arrives at well TT-26 in June 1957.
21 By February of '58 the mixed water coming out of the
22 treated water plant at Tarawa Terrace reaches a
23 concentration of five parts per billion. From '68
24 through '85, which is the time frame of the current
25 health study, TT-26 has a mean value of 409 parts per

1 billion and a maximum of 831 parts per billion. I
2 mentioned TT-23 here because, of course, it was
3 turned on for a short period and our modeling
4 analyses from August '84 through April '85, based on
5 the data that we had, TT-23 has a mean of 61 parts
6 per billion and a maximum of 77 parts per billion.
7 And the concentration coming out of the treated water
8 plant or that water which people would have been
9 exposed to has a mean of 66 parts per billion and a
10 maximum of 177 parts per billion. Again, these are
11 average values, average monthly values.

12 The question that should come up now as I said
13 in the beginning is what is our confidence in these
14 numbers? Is there a huge range plus or minus the
15 order of magnitude, which is not unusual for
16 measuring concentration value or are we better than
17 that? And so we did some initial sensitivity
18 analyses and one thing that we found out is that the
19 pumping schedule is the main parameter that affects
20 the movement or the transport of the PCE in the
21 Tarawa Terrace area. So another way of saying what
22 is our confidence we like to know what the variation
23 in arrival times are. You know, is it plus or minus
24 ten years, plus or minus five years, or what is that
25 number?

1 So to do this we need to look at the variation
2 on what we term on-and-off cycling, when the wells go
3 on and when they go off and what is that pumping
4 schedule. Now, I'm going to look right now at TT-26;
5 however, again, we've looked at all of the wells that
6 are there. Let me just preface this by saying as
7 complicated as the modeling that we've done prior to
8 this sensitivity analysis or parameter estimation
9 analysis is, this particular aspect is not a trivial
10 solution. There's not an off-shelf model to do this.
11 We had to come up with a novel approach to come up
12 with this answer. And the reason being is that not
13 only do we have to cycle on and off and basically
14 look at an infinite number of on/off pumping cycling
15 schedule, but then we also have to look at how that
16 affects the movement, the fate and transport of PCE,
17 still maintaining our calibrated model.

18 And for rather than showing a whole series of
19 graphs, I'm going to summarize the results here, and
20 that's on the next slide. And again, the way I'm
21 going to phrase these or put these is in terms of the
22 arrival of the five parts per billion concentration.
23 Arrival at well TT-26 could be as early as February
24 1957 or as late as August of 1958. What's
25 interesting to see if we were dealing with reality,

1 you'll notice our calibrated value is in between
2 these two dates. So that gave us, you know, I won't
3 say a sigh of relief, but it gave us some confidence
4 in our calibrated model that it did fall in between
5 these two dates. Again, the calibrated model being
6 done totally independently to these two estimates.

7 If we look at the delivered water from the
8 Tarawa Terrace water treatment plant, the five parts
9 per billion or the exposed concentration could have
10 occurred as early as December '57 or as late as April
11 of '59. And again, our calibrated mixing model shows
12 February '58; again, falling within those ranges.

13 So now to address what is our confidence in our
14 values, that is basically the variation in arrival
15 times, let's look at the current health study, which
16 goes from '68 to '85. When we look at the data for
17 in 1968 what we see is there's less than a one
18 percent difference in any of the arrival times. What
19 that tells us is a couple of things. Number one, it
20 tells that basically we are 99-point plus or minus
21 percent confident in our results, in our calibrated
22 model. It's that unique of a calibration. But it's
23 also an indication that even though we did not have
24 specific documentation on on/off cycling, the day or
25 the hour when they cycled wells on and off, there's

1 apparently a very narrow operating range. You could
2 not operate this system over a very wide range of
3 on/off cycles. It had to be a very narrow operating
4 range. And so what we feel is that the calibrated
5 operational schedule, the calibrated model, is
6 probably the most likely most representative schedule
7 of average operating conditions during this time
8 frame of the heath study.

9 So what reports are we planning to describe the
10 Tarawa Terrace activities? I've listed them here.
11 Obviously, these are all the components that have
12 gone in into developing the calibrated model
13 sensitivity analyses. I won't read them all off
14 here, but I do want to concentrate on the summary of
15 findings. And the summary of findings is intended to
16 provide a very concise technical summary or concise
17 summary from a technical standpoint, to stand up to
18 scientific scrutiny, but it also contains verbiage
19 that can be understood by the general public. Also,
20 these are similar to those who are familiar with our
21 work that we did in Tom's River; we had about a
22 30-page summary of findings report. It will be like
23 that. It will also have a question-and-answer
24 section in the back. And then the other documents
25 will be the detailed supporting -- and technical

1 supporting documents.

2 And so the process now for releasing reports
3 are as follows: We'll draft a report. We're
4 obviously working on a number of reports currently of
5 the Tarawa Terrace area. They all have to go through
6 external peer review, each report. The reports are
7 then -- once we get the external reviews back,
8 depending on what they say or what the reviews say,
9 maybe to make some modifications or adjustments,
10 depending on what the reviews say or answer a few
11 comments, we will then send out -- and they all have
12 to be cleared by the Agency -- then prepared for
13 printing and prepared for web access, then the
14 reports are released to the public.

15 All modeling reports, with exception of the
16 summary findings, will contain the calibrated model
17 input data sets, the output files, the public domain
18 model codes that we've used, and any and all data and
19 supporting documentations that we have used to
20 develop the simulations as well as the modeling
21 reports.

22 And I just want to thank you for the
23 opportunity to give you an update on our water
24 modeling activities, and I'll be happy to answer any
25 questions that I can at this point.

1 **MR. BYRON:** Thank you, Morris. On page five, for the
2 simulated PCE concentration.

3 **MR. MASLIA:** On the graph?

4 **MR. BYRON:** Yes, sir.

5 **MR. MASLIA:** Let me get that.

6 **MR. BYRON:** The two lines are both simulated models,
7 right?

8 **MR. MASLIA:** That's correct.

9 **MR. BYRON:** And then the red measured the water
10 treatment; is that from Granger Laboratories?

11 **MR. MASLIA:** It could be any number -- we've got them
12 from what's referred to as JTC reports, and JTC
13 reports there's a whole slew in the '80s of where
14 they went and obtained water samples.

15 **MR. BYRON:** So JCC?

16 **MR. MASLIA:** JTC. J like in John, T like in Tom, C
17 like in cat. And the Granger reports typically were
18 groundwater data or groundwater wells and we have to
19 use the JTC reports in assessing the calibration of
20 the groundwater modeling report, and that may, data
21 will in fact be presented in the groundwater modeling
22 report. We were comparing our simulated versus
23 measured data.

24 What these are were -- and some people refer to
25 them as tap samples. Some were taken at tap, some

1 were taken, for example, at pump outlets after the
2 treated water tank in Tarawa Terrace, and it's the
3 only data that we have found in searching all -- But
4 that's why they're on the exposed line and not on the
5 groundwater simulated line, okay, because that is
6 treated water samples.

7 **MR. BYRON:** Okay. But from what I could deduce from
8 this is that you've actually been able to simulate
9 the results that were actually measured?

10 **MR. MASLIA:** Yes. That is correct.

11 **MR. BYRON:** Thank you.

12 **MR. MASLIA:** Or that is a check on the calibration of
13 the mixing model. We have -- unlike a lot of
14 studies, we have been very rigorous in our
15 calibration effort. We've actually got four levels
16 of calibration, the mixing model being the final
17 calibration to try to ensure the most unique
18 calibration for the models.

19 **MR. ENSMINGER:** You said you took into consideration
20 the pumping schedule for these wells?

21 **MR. MASLIA:** Let me qualify that if I could, because
22 that is an important point. In the later '80s, we
23 had some information on pumping schedules. We did
24 not have -- these wells, basically, can be operated,
25 turned on and off, on an hourly basis. That data was

1 very limited or non-existing.

2 What we did have in the middle '80s, the U.S.
3 Geological Survey conducted some studies on behalf of
4 the Navy, and there's some published reports. And
5 they've got some monthly totals. Where we have
6 monthly totals then we used those. We do not have
7 per se the hourly operating, from hour to hour
8 on/off, cycling schedules. But what we had to
9 maintain and be honest to was the total volume of
10 water. So in other words, if I'm running my model
11 and I'm not matching on some parameter and I say
12 okay, let's turn on well XYZ for 20 hours and I'm
13 getting a million more gallons, I can't use that,
14 okay, even though I may match some observed water
15 level at some point because that's not honoring the
16 volume of water that went through the plant. And
17 that's why I said you should consider these results
18 as average monthly because that's the finest
19 resolution we had based on some of that 1980 data
20 where we had monthly volume totals for the pumping.

21 **MR. ENSMINGER:** But TT-26 was the highest producing
22 well at Tarawa Terrace, correct?

23 **MR. MASLIA:** That's correct.

24 **MS. McCALL:** And I see that you've put in the Knox
25 trailer park and Camp Johnson when you talk about TT,

1 does that include them as part of the water
2 distribution -- getting the same amount of water from
3 the same well that TT?

4 **MR. MASLIA:** It includes all supply wells that
5 provided water that ran through the TT water
6 treatment plant. In other words, there were two
7 wells that are actually outside the model domain,
8 wells six and seven that pump in the middle 1950s
9 through the early 1960s. Those aren't included in
10 the exposure model, okay. They're not included in
11 the groundwater model because they did not come from
12 the same aquifer or the same groundwater regime. But
13 in water supply, again, we've got, you know,
14 different components. You've got the groundwater
15 model, then we've got the water treatment plant. So
16 if they're supplying water to the water treatment
17 plant, you have to take that into account in the
18 equation of the mixing models. So those are included
19 in there.

20 **MR. ENSMINGER:** These JTC results you're referring
21 to, what are those?

22 **MR. MASLIA:** Those are lab -- analytical lab reports
23 that went to -- JTC is the name of a lab. And that
24 is information provided to us by the Marine Corps.

25 **MR. ENSMINGER:** Really?

1 **MR. MASLIA:** And they did a series of analyses on
2 water quality samples, a water quality sampling.

3 **MR. ENSMINGER:** JTC?

4 **MR. MASLIA:** Yes.

5 **MR. ENSMINGER:** Know who to ask for.

6 **MR. MARTIN:** I've got a question regarding the
7 Holcomb Boulevard area. You've got that shown as
8 unexposed, which also encompasses Midway Park.

9 **MR. MASLIA:** Right.

10 **MR. MARTIN:** Now, prior to 1972 wasn't Midway Park
11 provided with water from the Hadnot Point
12 distribution area?

13 **MR. MASLIA:** Yes.

14 **MR. MARTIN:** Will that be considered going --

15 **MR. MASLIA:** Exposed and unexposed will change
16 somewhat depending on which water treatment plants
17 were online or not online, and that slide, again, was
18 meant as a generalized-type statement. It was not
19 meant to be a temporal or time sensitive type of an
20 analysis. So again, I caution you those are
21 generalized. I may specifically for generalized
22 modeling areas and generalized categorization.
23 Obviously, as you've seen by this chart right here we
24 reconstruct month by month. And so as things change,
25 we obviously change them in the model. Our

1 interpretation changes in terms of exposed versus
2 unexposed.

3 **MR. MARTIN:** Okay. Thank you.

4 **MR. STALLARD:** Any other questions for Morris?

5 **DR. CLAPP:** Morris, can you envision a way of using
6 this finally where a person could put in on a website
7 their address for a particular time for say a
8 particular month and that would query this database
9 and tell them what their average concentration of TCE
10 was where they lived?

11 **MR. MASLIA:** If your question is can that be done,
12 the answer is yes, it can be done. The actual
13 logistics of how it will be done and exactly what
14 information will be derived by the person querying, I
15 think that's probably up to Frank and DHS as the
16 lead, but it can be done. Again, all our data,
17 whether it's input, and I'm talking about the
18 calibrated models, input data sets as well as output
19 are spatially sensitive. Do we know exactly the long
20 of every one of the 24,000 cells, the centroids of
21 the cells and the cells are only 50 feet by 50 feet.
22 So the answer is yes.

23 **MR. ENSMINGER:** Well, in the case of Tarawa Terrace
24 there was only one water treatment plant. So in
25 essence everybody would end up getting the same

1 amount of contamination, right or wrong?

2 **MR. MASLIA:** That is correct.

3 **DR. CLAPP:** For given point in time. It will change
4 over a point in time.

5 **MR. MASLIA:** That's the assumption and that is one of
6 the assumptions brought out by our expert water
7 modeling panel as to why we could make use of a less
8 complicated or a simplified mixing model, okay. But
9 again, we do have the more sophisticated hydraulic
10 water-quality model, which goes pipe by pipe and
11 hydrant by hydrant, which again, was capped and
12 calibrated.

13 **MS. DYER:** So now we've seen this and you're saying
14 that that's something you would like to see done?

15 **MR. MASLIA:** Yeah.

16 **MS. DYER:** So, Chris, you want to write that there?
17 That's something, Frank, that you can go ahead -- can
18 you go ahead and start working on that?

19 **DR. BOVE:** I was hoping that you were actually going
20 to work on this.

21 **MR. MASLIA:** Again, I caution you that there's
22 probably at least a six-month clearance process
23 probably.

24 **MS. DYER:** Is that clearance process or it will be
25 six months before it's done?

1 **MR. MASLIA:** We cannot release it without it being
2 cleared.

3 **DR. BOVE:** Yeah, we'll work that out.

4 **MS. DYER:** Okay.

5 **DR. BOVE:** But the issue to me is more of do we have
6 the expertise in-house to establish a website with
7 this kind of clearing possibility, and I think we do.

8 **MR. MASLIA:** We do because we've got the grants for
9 whatever. So the technology is there.

10 **MS. DYER:** Okay.

11 **DR. BOVE:** So yeah, we've been talking about doing
12 it. So we just have to identify the people who can
13 do it. I don't have to.

14 **MR. STALLARD:** Just so I'm clear that I have --

15 **MS. DYER:** To this level, when will all the areas be
16 done?

17 **MR. STALLARD:** Excuse me. That question is when will
18 all the --

19 **MS. DYER:** Areas be done for this level, yes.

20 **MR. MASLIA:** At this level? Right now our goal is --
21 let me tell you what our goal is to have calibrated
22 groundwater flow model for Holcomb Boulevard and
23 Hadnot Point by the end of September of 2006. And
24 after that we develop the fate and transport models
25 and the same process is here. It goes a little bit

1 faster in terms of putting the models together
2 because now we do have all the information and data
3 in our database. We know where to go look for that.
4 Obviously, it's in our possession, but I mean what
5 documents to search, what's some of the meanings when
6 they're describing certain data and certain types of
7 sampling and what that really means. So that goes
8 much faster than it did for the Tarawa Terrace area.

9 However, we have other things that make it more
10 difficult than Tarawa Terrace. There's not a single
11 source of contamination at Hadnot Point. There were
12 multiple, multiple sources of contamination and
13 multiple contaminants, and that makes it a little bit
14 more difficult. So I would say, again, I think we
15 can meet the goal of getting it a calibrated
16 groundwater flow model by the end of September of
17 2006 for both Hadnot Point and Holcomb Boulevard.
18 Further than that, which is around six months or so
19 I'm really not going to speculate at this point.

20 **MR. STALLARD:** Morris, let me ask there are three
21 different studies, basically, right, going on?

22 **MR. MASLIA:** Three different modeling areas.

23 **MR. STALLARD:** And so your report, then clearance and
24 all that will be after all three are done?

25 **MR. MASLIA:** No.

1 **MR. STALLARD:** So once you get done with Tarawa
2 Terrace will go into the clearance process and all
3 that?

4 **MR. MASLIA:** There are several reports that have been
5 drafted and actually are right now in external
6 colleague review for Tarawa Terrace, and so that is
7 progressing. Basically, at the end of April we
8 expect to get the external colleague reviews back and
9 then hopefully go into Agency clearance. These
10 reports, I'll remind you, are not small. There's a
11 lot and the more you have of limited data and the
12 assumptions that we're making on modeling, the longer
13 it takes even an expert to review. I mean, our main
14 goal is to make sure all our assumptions are
15 understood. They stand up, not just to this review,
16 but to the test of the scientific time. And so
17 that's why we go through this -- if you want to call
18 it double process of external peer review as well as
19 Agency clearance. But those are the only reports
20 currently Tarawa Terrace for preparation.

21 **DR. FISHER:** Thank you. I really enjoyed the
22 presentation. A couple of questions. You mentioned
23 Monte Carlo analysis for sensitivity, do you have a
24 sense now what the bounds are on those mean
25 simulations?

1 **MR. MASLIA:** Actually, the Monte Carlo -- We did a
2 separate sensitivity analysis. Let me explain sort
3 of what the difference is for those who may not be
4 quite familiar with it. The sensitivity analysis,
5 basically as you find out a parameter ^ or it could
6 be the hydraulic ^ of the aqua material and I want to
7 see how it affects the calibration by changing it,
8 plus or minus, or the magnitude plus or minus ten or
9 twenty percent. I do that and there's some
10 sophisticated products to do that, and that is
11 complete. And basically what it showed is water
12 modeling panel asked us what happened if the grid
13 instead of being 50 feet on a side, which is the
14 groundwater itself or 100 feet on a side or 25 feet
15 on a side? What we were able to demonstrate is that
16 50 feet was a very good point. It made no difference
17 if you went smaller. If we went smaller, we would
18 have been modeling forever because it'd be four times
19 the modeling effort. If we went to 100 feet, it
20 smears out the results.

21 So 50 feet was the judicious choice. It
22 incorporates some of the actual properties, some of
23 the transport properties. So we tested things like
24 that. The pumping, obviously, turned out to be a
25 much more sensitive parameter, and that's why we went

1 to an external -- we went to some genetic algorithm-
2 type analyses.

3 The Monte Carlo simulation basically says that
4 the aqua parameters are random. They're randomly
5 occurring, like a normal distribution. So for
6 example, hydraulic conductivity may be lognormally
7 distributed. The bounds on that are the bounds
8 either found in the literature for this type of
9 aquifer or the bounds that were measured on the site.
10 And so we have that and what we're basically waiting
11 on are faster computers. It takes us right now for
12 one parameter to do 200 realizations -- we actually
13 need to do between 1,000 and 10,000 -- about two
14 weeks, okay. So we've been seeing the computational
15 limit.

16 As I said before and the graph on the early and
17 late arrival time, pretty much says it all. It was a
18 very narrow operating range. And we believe the
19 calibrated model present a realistic average
20 condition for operating the water-supply well. What
21 we've been asked to do and we're complying with it is
22 from our water modeling expert panel they wanted an
23 uncertainty analysis to see, basically, what effect
24 if any and what range of an effect it'd be if we
25 assumed the parameters have an uncertain nature or

1 variable nature, and that's what we're complying with
2 at the present time. But the numbers we would
3 provide to the health scientists doing the health
4 study would be the calibrated values, not the numbers
5 coming out of the Monte Carlo simulation. So I hope
6 that answers your question.

7 **DR. FISHER:** Yeah. One other question, I guess
8 you're going to do trichloroethylene also? Are you
9 trying to address -- is this an issue where you have
10 groundwater intrusion of vapors? Is that another
11 source of exposure?

12 **MR. MASLIA:** Let me answer that in two parts. I'm
13 not going to directly answer exposure from vapors,
14 but back about two or three years ago AH consultant
15 did an analysis on the vaporization of volatile
16 organics from the water treatment plant and what they
17 found out was that basically was less than about ten
18 percent losing any concentration from the water
19 treatment plant. So in terms of groundwater modeling
20 or water distribution model, that's not an important
21 consideration to -- now, I'm talking about human
22 exposure to vapors, I'm talking about the
23 volatilization process that is not and has been
24 documented in a separate report.

25 We are -- and actually a corroborator of ours

1 is developing a pure three-dimensional multi-species
2 multi-component volatile organic model for Tarawa
3 Terrace and it will look at the degradation of PCE to
4 TCE to DCE for Tarawa Terrace. And we get to Holcomb
5 Boulevard and Hadnot Point obviously there are other
6 compounds in there. In terms of groundwater
7 modeling, that would reflect itself in the
8 retardation factor. And TCE has a different
9 retardation factor than PCE does, and that's how
10 we're addressing that issue or will address that
11 issue.

12 **MR. STALLARD:** Any other questions for Morris?

13 **MR. BYRON:** And Frank, that was a question I was
14 tabling concerning the degradation of these chemicals
15 from PCE to TCE. How is that -- I guess that PCE for
16 Tarawa Terrace is a major category of concern, right?
17 But then how do you know if you were being exposed to
18 TCE at the same time and DCE? I mean, it was there
19 for 40 years, or 30 anyway.

20 **MR. MASLIA:** Let me again address that. The
21 multi-species multi-components degradation models --
22 we need to start the other way around. The models
23 that I have shown you look at one constituent. You
24 can think of it as a surrogate, okay. We use PCE.
25 It's characteristic of PCE because of the retardation

1 factor and the mass-transport properties for PCE that
2 we have in the fate and transport model. That's not
3 a simple step ahead. You got one component that's
4 considered three components. It doesn't work that
5 way.

6 What you have to have is a specially developed
7 model that looks at saturations, look at degradation
8 products, volatilization coefficients that are being
9 worked on as I speak by our cooperator at the
10 Multi-Environmental Simulations Lab at Georgia Tech.
11 And obviously, the two models should agree for PCE,
12 but in fact we will be able to tell you what the PCE
13 model and that very complex models what the
14 concentration of in the groundwater of PCE, TCE, DCE,
15 and any vinyl chloride at a certain location at a
16 specific point in time reaching the wells or
17 whatever.

18 So yes, we will be able and that's one of the
19 reports, I don't know if you noticed it, but I forget
20 which report number it is on there, but there is a
21 report that will address that as well.

22 **MR. ENSMINGER:** You said you used those JTC Lab
23 results.

24 **MR. MASLIA:** Yes.

25 **MR. ENSMINGER:** Did you also incorporate into that

1 the Granger Lab stuff and their findings?

2 **MR. MASLIA:** Yes. Let me explain that again. The
3 JTC Lab reports were primarily on the treated water
4 side, okay.

5 **MR. ENSMINGER:** Yeah, it was testing for TTHM.

6 **MR. MASLIA:** Right, but that was on the treated water
7 side.

8 **MR. ENSMINGER:** Yeah.

9 **MR. MASLIA:** Okay. We can't use that as a
10 groundwater model. The Granger Lab, on the other
11 hand, were primarily water levels and concentrations
12 on the groundwater side.

13 **MR. ENSMINGER:** You mean the JTC?

14 **MR. MASLIA:** No, the Granger Lab. They're two
15 different analyses, okay. Let's start back. The
16 Granger Lab reports took samples -- airline samples
17 and some steel tape samples of water levels and some
18 concentrations at wells. Those are not considered
19 exposure quantities. Those are the concentrations of
20 the contaminant in groundwater, okay. The JTC report
21 went to quote, tap samples. Not literally a tap, but
22 that's on the treated water side.

23 **MR. ENSMINGER:** In the 10 August 1982 letter to the
24 commanding general at Camp Lejeune, Granger Labs was
25 testing the water for TTHMs. That was finished

1 drinking water.

2 **MR. MASLIA:** They may have done both.

3 **MR. ENSMINGER:** Oh, okay.

4 **MR. MASLIA:** Remember the data that we have in the
5 late '80s or JTC, they're very few, but I'm saying
6 that's --

7 **MR. ENSMINGER:** Okay. I see what you're saying.

8 **MR. MASLIA:** So we've used all the data at our
9 disposal, and again, looking at it -- in fact, in the
10 modeling report we've got a graph because for example
11 the airline measurements are considered the lowest
12 quality possible to get a water level measurement.
13 And so we show you which measurements are airline
14 versus which ones are steel tape or in monitored
15 wells. It makes a big difference as to your
16 confidence --

17 **MR. ENSMINGER:** Well, you lost me when you start
18 talking about airlines because that's --

19 **MR. MASLIA:** It matters from a standpoint of the
20 quality at the calibration and how you can set your
21 calibration standard. I may want to set it to plus
22 or minus two feet. If I'm using airline
23 measurements, I'm only getting plus or minus ten
24 feet. I'm kidding everybody if I tell you my
25 calibration is any better. So that type of data we

1 need to -- or the assessment that we have done, and
2 not only saying we have data, but assessing the
3 reliability of that.

4 **MR. ENSMINGER:** Okay.

5 **MR. STALLARD:** Any other questions for Morris?

6 **MR. MARTIN:** I'd just like to clarify on your graph,
7 this is something that's been questioned several
8 times over, it shows with TT-26 that it went offline
9 July and August of 1980 and then appears to have come
10 back online again until January of 1983.

11 **MR. MASLIA:** You're talking about out of service?

12 **MR. MARTIN:** Right.

13 **MR. MASLIA:** It was out of service for a couple of
14 months from July to August 1980, and then out of
15 service again from January to February of '83. Those
16 are just like two-month periods that it was down for
17 maintenance or for any reason, but it was not
18 pumping.

19 **MR. BYRON:** What was the second date?

20 **MR. MASLIA:** The first date it was out of service
21 from July through August of 1980.

22 **MR. BYRON:** Okay. Thank you.

23 **MR. MARTIN:** Okay. So other than those two-month
24 periods it was pumping water for that five-year
25 period?

1 **MR. MASLIA:** Yes, and in fact you can see that if you
2 look real closely. Again, the reports will have much
3 better graphics on it, but those three arrows point
4 to gaps, okay. So when it says it's shutdown, we
5 don't run it in the groundwater.

6 **MR. MARTIN:** All right.

7 **MR. MASLIA:** It's zero. The flow is zero from that
8 well. And when flow from zero -- you can see this
9 exposure model point also drops way down because
10 TT-26 is not delivering any water to the water
11 treatment plant.

12 And again, let me just caution you or remind
13 you there are other wells that go into making the
14 blue graph, not just TT-26. I just wanted to keep
15 the chart simplified.

16 **MR. MARTIN:** Thank you.

17 **MR. STALLARD:** Any other questions for Morris?

18 **DR. CLAPP:** I'd like to thank Morris.

19 **MS. DYER:** Thank his kids for letting him come in
20 today, too.

21 **WRAP UP AND PLAN NEXT MEETING**

22 **CHRISTOPHER STALLARD**

23 **MR. STALLARD:** Thank you. We have a few minutes
24 before we are heading to the closing of this meeting,
25 about 40 minutes. Can you? You may.

1 **MS. DYER:** I really want to direct the next part of
2 what we do for a little while to both of you all.
3 After seeing the water modeling, the years, the parts
4 per billion, that part, what are your thoughts now?
5 Where do we need to go from here?

6 **DR. FISHER:** Well, I ask a question about the Monte
7 Carlo because out of that he showed a mean value, but
8 there are really upper and lower bounds because you
9 assume that there's distributions on the parameters
10 and you sample them and you have a probabilistic
11 presentation of the information. The mean is the
12 common thing to do, but you may want to see a
13 worst-case scenario, which might represent a 95th
14 percentile on a frequency distribution. You have a
15 mean simulated concentration which is rather high,
16 but your group may want what's the worst case.

17 **DR. BOVE:** Well, also, when we look at the data and
18 assign exposure, we'll be assigning exposure on a
19 month-by-month basis. Now, if we want to know -- we
20 look at the whole, say, twelve months of -- nine of
21 pregnancy plus three months prior to conception. So
22 a twelve-month period, let's say, and you have
23 different values for each month, because, you know,
24 whether it's pumping or not or how -- the
25 contamination level does change a little bit, at

1 least, month by month. We could average over that
2 entire period for the cancers anyway or we could also
3 keep the maximum over that entire period. So we
4 could also look at it that way, too.

5 So within every month, there's a mean lower
6 bound, upper bound. So there's that, and then we're
7 going this way over the twelve or nine-month period,
8 whatever period we're looking at exposure, values are
9 changing, too. You take the maximum or the mean of
10 that, too. So there's variability going that way,
11 too. So one way to do it is to look at it all those
12 different ways in the study; in any study that we do.

13 **DR. FISHER:** But the numbers are high, pretty high.

14 **DR. BOVE:** The numbers are high no matter how you --
15 right.

16 **MS. DYER:** So we're looking at it, it's a bad
17 situation?

18 **DR. RENNIX:** Yeah.

19 **DR. BOVE:** Yeah.

20 **MS. DYER:** And where do we need to go from here as
21 far as y'all are concerned?

22 **DR. CLAPP:** Well, I think notifying people is next.

23 **MS. DYER:** Okay. So we're going to talk about the
24 notification of the registry list?

25 **DR. CLAPP:** Notifying of the results of this water

1 model so people can find out what they were exposed
2 to when they lived there, if they want to. And then
3 if you do that on a ATSDR website, you might say on a
4 website, if you have questions about what this might
5 mean, call you or go to your website. And that's
6 where you can get people to come forward with I
7 looked at my results and here's what I have, and then
8 you can collect information on your website that way.
9 I'll help you with it. I can look at it. It's not a
10 study, but it is a response, it's a service, it's a
11 response to people's concerns about being notified or
12 finding out what their levels were. I'd be happy to
13 work with you on that.

14 The reason I brought this up was partly because
15 I thought this was possible. It's being done now in
16 Cape Cod, Massachusetts by a group called Silent
17 Spring Institute, and so they have on their website
18 -- it's not just water, actually, it's spraying of
19 pesticides for gypsy moths and a number of other
20 things, but it is a very useful public service. It's
21 Silent Spring Institute, it's silentspring.org. It
22 has it on their website and that might be a good
23 model. I wasn't aware of the Hanford, Washington
24 one, but I know this is the only one in Massachusetts
25 that's about pesticide spraying, especially in Cape

1 Cod.

2 So that's being done now and they've staffed it
3 and it's a nonprofit that does it and they do answer
4 phone calls and requests for information. And I
5 think it may be a next step. In addition to the fact
6 that this model is going to inform all these studies
7 that we're talking about. This is the basis for
8 assigning who's highly exposed, who's medium exposed,
9 who's less exposed for the mortality study and for
10 the cancer incidence study. So this is a great step,
11 I think.

12 **MS. DYER:** So this is the step we need to take? We
13 need to get the ATSDR to put that on their website?

14 **DR. CLAPP:** I would say so.

15 **MS. DYER:** Okay. How are we going to do that and
16 when is it going to be accomplished?

17 **MS. McCALL:** Chris is going to do it.

18 **MR. STALLARD:** Okay. I think what was raised here
19 was is it possible to be done, to convert using
20 Morris' water model to a useful publicly assessable
21 website being proposed on the ATSDR website. What I
22 heard was that we have to work out the logistics on
23 how that is going to happen, correct, Frank?

24 **DR. BOVE:** Yeah. In other words, I don't know how to
25 do it, but there are people in my Agency, I'm sure,

1 that know how to do it. If not, we could find a
2 contractor who could do it for us. I don't think
3 there's any question that we would do this. The only
4 issue is how long it's going to take.

5 Morris, are you still there? Okay.

6 **MR. MASLIA:** Yeah, I'm still here.

7 **DR. BOVE:** My understanding of when the data would be
8 ready to go on such a website would be the middle of
9 next year; is that optimistic?

10 **MR. MASLIA:** That would be appropriate because I'm
11 viewing the rest of the summer will be through Agency
12 clearance and preparation of reports and stuff like
13 that. And we do not want to put something on a
14 website that is -- you know, we want everything
15 consistent.

16 **DR. BOVE:** Right. So we will have -- I mean, for the
17 study we'll have the data before that, but ready for
18 the website we're talking probably the middle of next
19 year. And then -- yeah, and then we could find
20 someone to do the work.

21 **MR. MASLIA:** We have the people or the technology is
22 in-house to do that. Again, in doing the reports and
23 making them web accessible is not a matter of simply
24 just running it through the HTML or XML software
25 packages you can buy. It has to meet certain

1 standards. The government has certain complying
2 standards that the reports have to --

3 **MS. DYER:** Does this have to be funded to be able to
4 do this website? So the DOD needs to be approached
5 about funding it? So it needs to be in the budget?

6 **MR. MASLIA:** I'm not the one to answer that.

7 **MS. RUCKART:** When we do the budget for that time
8 period, you know, as we discussed we do it in year
9 chunks, we would be aware that that was coming and
10 factor that in.

11 **MS. DYER:** Okay. Now, I'd like to ask Dr. Clapp do
12 you think that the time that they're saying it's
13 going to take is appropriate?

14 **DR. CLAPP:** The time to put this up on the website?

15 **MS. DYER:** Yes.

16 **DR. CLAPP:** As far as I know, yes.

17 **MS. DYER:** Okay.

18 **MR. MASLIA:** If I could just explain and give you
19 some sense of the volume of information that we have
20 to put up, because it seems like, you know, you put
21 up a map and one person clicks where they live or
22 where the interest is and that single number comes
23 up. That's the end result. However, to make it
24 generalized so that anybody anywhere can do that we
25 have to make all the model results of every single

1 cell, and for each layer of the model, and there's
2 several layers, there's 24,000 cells, okay. We've
3 already gone through and purchased a terabyte, a
4 thousand gigabytes of additional storage, just to
5 continue our work. You're not -- we're not dealing
6 with a small amount of information. And so we need
7 to do it in such a way that we're not overloading
8 people with just raw data coming out of every time
9 they go --

10 **DR. BOVE:** We'll talk about this, but I think that
11 because we can assume that everybody in a housing
12 complex got the same water on a given month that we
13 can try to simplify it a little bit so we don't have
14 to have that kind of complexity to answer the kinds
15 of questions people will -- So we need to sit down
16 and discuss this. I don't want have a discussion
17 now. But I think there's -- what we need to put on
18 the website is just what will answer the people's
19 questions. We don't need to have all those cells on
20 there, I don't think, but we'll talk about it to try
21 to simplify it.

22 **MS. McCALL:** Well, when about six years ago when I
23 first found out about the water I had gone to the CDC
24 website, the atsdr.cdc.gov, and I was able to pull up
25 superfund site and then target right in on the map of

1 Camp Lejeune. No -- well, just going directly to
2 this website and so what I'm saying is I think you
3 already have a head start on the technology because
4 it's there, it's already there. I've been there.
5 I've printed off maps years ago.

6 **DR. BOVE:** I don't know.

7 **MS. McCALL:** So I don't think what we're talking
8 about is a monumental undertaking. I think it's just
9 going to take -- I just can't see why it would take
10 six months.

11 **MR. STALLARD:** Because -- Excuse me, I can address
12 that. Because it can't be published until it gets
13 through the peer-review process. I mean, that's the
14 world of public health. The epidemics come and go,
15 but it might not be published.

16 **MS. DYER:** I guess what we were asking is we know
17 that the water modeling has to be completed, needs
18 the peer review, but after it's all completed, time
19 wise, how long is it going to take for them to get
20 this on the web?

21 **DR. RENNIX:** Is it possible to prepare the site
22 beforehand, knowing the parameters of the data, so
23 that when it gets approved you can just plug it in?

24 **MS. DYER:** Thank you.

25 **MR. STALLARD:** Okay. We are now talking about next

1 steps and what we need to be doing. You've already
2 identified that this is a high priority to take -- to
3 start preparing for this to be loaded as soon as it's
4 through clearance process and not start at that point
5 in time.

6 **MS. DYER:** Right.

7 **MR. STALLARD:** That's the message, right?

8 **MS. DYER:** Right.

9 **MS. McCALL:** That is the message.

10 **MR. STALLARD:** So that's going to require some work
11 between Frank and Morris and the members here in
12 terms of what would the structure of that website be,
13 frequently asked questions about process, contact
14 numbers. Who do they call, Frank or Stan or? Those
15 things have to be worked out. So then the question
16 is: How are we going to work those out between now
17 and the next meeting? And we have to decide when the
18 next meeting is.

19 **MS. McCALL:** Also, and I just believe that through
20 this website there will be -- that will create a
21 study group because remember at the last meeting I
22 said why are we trying to go out and find people?
23 Let them find us.

24 **DR. BOVE:** Well, I think we have some other things to
25 talk about in terms of this website, and that would

1 be the issue that Tom Townsend raised about the
2 computer illiterate -- or not computer illiterate,
3 but --

4 **DR. RENNIX:** Computer accessibility.

5 **DR. BOVE:** Right.

6 **DR. CLAPP:** Computer resistant, he calls himself.

7 **DR. BOVE:** Computer resistant and getting the word
8 out that the thing exists in the first place. So
9 those are two issues we need to discuss probably next
10 time. Morris and I will talk about logistics.

11 **MR. MARTIN:** I don't know if everybody has seen
12 Google Earth. I mean, you enter an address in there
13 like 2754 Tarawa Boulevard and it's going to take you
14 right to the house. You know, so that could possibly
15 -- just something you enter that --

16 **MR. ENSMINGER:** Not anymore. They destroyed all of
17 them.

18 **MS. DYER:** And you know we've had a lot of this
19 happen with us with people contacting our website and
20 then I get a phone call because the Daily News put my
21 telephone number in there, and I'm getting calls from
22 a lot of elderly people that are not computer
23 literate. But dag gone it if they don't find a
24 neighbor or a son or a daughter and they get them
25 over there to do it.

1 **MS. McCALL:** Library.

2 **MR. MARTIN:** A library.

3 **MS. DYER:** And also -- and that's what we tell them
4 is, you know, go to the library. The librarian will
5 help you. You know, don't feel like you can't do
6 this. So yes, it needs to be addressed, but there
7 are ways and if they want it, they'll find a way.

8 **MS. McCALL:** Right. If they've got a health issue or
9 a death issue and they feel that that's been caused
10 by the water, there are computers in the malls, in
11 the library, at the neighbor's house. I don't think
12 that should be an issue to be taken into
13 consideration.

14 **MS. DYER:** No.

15 **MR. STALLARD:** Okay. So some of the specific action
16 items that we have discussed today, which I think you
17 all will probably continue to communicate
18 electronically, which you do, right?

19 **MS. DYER:** Mostly.

20 **MR. STALLARD:** Most of the time?

21 **MS. DYER:** Telephone calls.

22 **DR. BOVE:** And I want to encourage everyone to talk
23 amongst yourselves, for one thing. Talk to your
24 experts. Don't wait until these meetings to do that.
25 I will also be talking to your experts as well.

1 **MR. STALLARD:** All right. We know where we're going
2 with the feasibility study. The process that's going
3 to -- that will lead into an informed for other
4 future studies. The active notification of those
5 known to live at exposed sites, we found a water
6 model, we're just talking about how the website will
7 be able to address that, but not everybody, based on
8 Tom's comments.

9 We're talking about checking out the school
10 records and how far they are available, that was the
11 next item. All right. And then working on the
12 format structure and building that framework for the
13 website so that the day after it gets cleared it can
14 be loaded, should that be possible.

15 So now, what else? We have a few minutes
16 before we need to talk about the next dates.

17 **MS. DYER:** Well, one thing and then I would like to
18 bring up and I know it's past, but for now on in the
19 future correspondence between the ATSDR and the DOD -
20 - because it seems like it has taken so long for
21 things to get back and forth to them, if there are
22 questions there's a telephone, you know.

23 So instead of doing paperwork, can we be on a more
24 personal basis with everybody so that some of this stuff,
25 you know, a month, two months doesn't go by from having

1 to wait for something to come in the mail, let's get it
2 done on the telephone and use --

3 **MR. ENSMINGER:** No, do it via computer.

4 **MS. DYER:** All right. Well, computer, telephone, I don't
5 care. But if it's going through the mail and it's taking
6 two months there's no excuse for that and that's making
7 us have to wait. And so either get on the phone, you
8 know, we do have these things nowadays that help us get
9 things accomplished quicker and we need to use them. And
10 I just don't think there's any excuse for it. If you get
11 something, you don't understand it, then get on the dag
12 gum phone and call them and ask them what they want.

13 Because too much time is going past and we need to get
14 some of this stuff done quick. And I appreciate Chris
15 talking about going ahead and proposing to get this
16 computer website, get it ready now. Start working on it
17 immediately, you know, so that it is ready. So these are
18 the kinds of things that we want to see as a CAP being
19 done. We don't want to wait until the next meeting. We
20 want to see that they're doing stuff as we ask them to do
21 it.

22 **MS. McCALL:** If they can.

23 **MS. DYER:** And monies, if we need to talk about that
24 again, you know, then I think that that needs to be, you
25 know, something that we put, you know, maybe at the next

1 meeting, you know, talking about future monies for future
2 studies and things like that, because we didn't really...

3 **MR. STALLARD:** Okay. Since you are all on this CAP, is
4 there another way that in the interest of transparency
5 and full disclosure that communications now between
6 members can be made more available? In other words, if
7 you send something to them, that the whole panel knows;
8 that kind of thing. I don't know if you don't do that
9 now. I'm just suggesting it.

10 **MS. RUCKART:** Yeah, the main way that we've been
11 communicating is by e-mail, and I know that everyone here
12 has e-mail. Some people might check it more frequently
13 than others, but when I send a message that needs to be
14 seen by everybody, I send it to the entire group. The
15 only thing that I send individually is about a specific
16 person's travel, which isn't relevant to the whole group.
17 But I just want to make sure everyone does get those
18 e-mails, that's an effective way to --

19 **DR. RENNIX:** Is this a group distribution list that you
20 send it to?

21 **MS. RUCKART:** Uh-huh.

22 **MS. BRIDGES:** I haven't gotten anything except about that
23 woman from Illinois that wanted some information, and
24 then about sending my stuff in.

25 **MS. RUCKART:** We need to check your e-mail. I mean,

1 we've sent them.

2 **MS. BRIDGES:** The four together, I got that. I'm sorry.

3 **MS. RUCKART:** Yeah, that's what I'm talking about.

4 **MR. STALLARD:** Okay. But what I'm trying to do is to see
5 where the solution is because Terry was just asking for
6 the personal commitment of people to be more proactive in
7 their responses and less bureaucratic and to pick up the
8 phone. So I'm trying to see where in the middle is it
9 institutionalized in our relationships with each other as
10 opposed to goodwill.

11 **MS. RUCKART:** Right. I think she was talking about the
12 interactions between ATSDR and DOD on some of these
13 formal agreements that we have and the lag time.

14 **DR. RENNIX:** And there's another level of that
15 interaction which is the DOD liaison and the ATSDR
16 liaison that we don't have any influence over. It gets
17 up in that realm and they play their stuff before it gets
18 back down to us.

19 **MR. TOWNSEND (by telephone):** Chris?

20 **MR. STALLARD:** Yes, Tom?

21 **MR. TOWNSEND (by telephone):** Chris, how are you?

22 **MR. STALLARD:** Yeah we're here. How are you?

23 **MR. TOWNSEND (by telephone):** I had to leave for a few
24 minutes. The picture is very good and as far as
25 communicating goes with the federal government, it seems

1 to work better over the past several years I thought it
2 worked much better to use a fax to them and that way I've
3 got a confirmation when it goes right on through because
4 everything that goes to Washington, D.C. is going to a
5 screening process for the Anthrax still.

6 I'm certainly going to take -- I would like to hear
7 from people on the e-mail. My address is wrong and I can
8 have that corrected. I can't type back. I can't answer
9 yes or no, but I'd be glad to call you on the telephone
10 and talk to you about anything. And as they say, if you
11 deal with the federal government it's a hell of a lot
12 better to use the fax as opposed to mail or use the
13 telephone and call people and that gives you a good point
14 of contact. That's been my experience for the last five
15 or six years.

16 **MR. STALLARD:** Thank you, Tom. It's that paper trail.

17 **MR. TOWNSEND (by telephone):** It does help.

18 **MR. STALLARD:** Indeed. Okay. Lastly, the budget. The
19 issue came out about budget. I'm going to put something
20 out here for you all to respond to in some fashion.
21 You've asked to see, you know, what is the budget, how
22 much money, this, that, and the other. It's been
23 explained that there is a fiscal year, how that works,
24 and the submissions and the deadlines and the this and
25 the that, and is it enough money or this, that, and the

1 other.

2 **MR. ENSMINGER:** The lady that's in charge of the budget
3 just stopped me on the way back from the restroom and
4 she's got all the information on that. And if you let
5 her speak she can fill us all in on about that.

6 **MR. STALLARD:** Okay. Who would that be and would she
7 like to speak?

8 **MR. ENSMINGER:** Come on down.

9 **MS. DYER:** Come on up here.

10 **MR. STALLARD:** The point is that there are avenues.
11 We've said DOD. There's ATSDR. There's also Congress
12 who seems to have your interests at heart where it
13 doesn't -- you said the fox guarding the henhouse or
14 something, right? In other words, we should be looking
15 at all options available in terms of budget.

16 **LINNET GRIFFITHS:** I'm so glad you caught me because when
17 Tom mentioned that I had not given any plan of work to
18 them, it apparently did not get to the CAP members
19 although I submitted it some months ago. But it is
20 forthcoming in the next day or so.

21 **MR. ENSMINGER:** Did you hear that Tom?

22 **MR. TOWNSEND (by telephone):** Yes, I did. Thank you.

23 **LINNET GRIFFITHS:** But there is a process in place as to
24 how we request funding from DOD. It is a law. It's in
25 CERCLA that we have to go to DOD to request the funding

1 for any NPL superfund site. So this is a process that's
2 been in place since the establishment of CERCLA. We
3 have to have a MOU with DOD on how we would work
4 together, how we would communicate and so forth. So this
5 is an established process. But I can say since we have
6 started this study, there's not been a request that I put
7 forth the DOD that has been denied for Camp Lejeune.

8 **MS. McCALL:** Thank you.

9 **MR. STALLARD:** Okay. Thank you. The more we know, the
10 more we know.

11 **MR. TENCATE:** If I may, just on the budget. I know that
12 Congress has directly funded some other efforts. I was
13 told the Iowa Army Ammunition Plant response was funded
14 directly by Congress, too. So there are other avenues to
15 explore.

16 **MR. STALLARD:** Okay. Are we in the position to talk
17 about dates for the next meeting?

18 **MS. DYER:** Now why would we want to meet before the water
19 modeling is completed? Just one more time because we got
20 a lot done today and they've got a lot of work to do, and
21 I don't want to stop them from doing everything they need
22 to do. I don't want to waste money coming here for
23 updates if they can't give updates -- do you understand
24 what I'm saying?

25 **MR. STALLARD:** Please wait. All right. The question --

1 **MS. BRIDGES:** I think a lot's taken place today. I think
2 we've gotten along a lot better. I mean the last meeting
3 was really hot and heavy, but today we're getting along.
4 No one's lost their temper.

5 **MS. DYER:** Yeah, see, because you've got September for
6 the water modeling to be done in Tarawa Terrace and
7 you've got the GAO report that most likely should be
8 coming out in September.

9 **MR. STALLARD:** Do you want to wait until September to get
10 together?

11 **MS. DYER:** I mean, I want to be realistic about this. I
12 don't want to come and waste people's time if all we're
13 just going to do is the same old thing. But we've got
14 some things that they can go ahead and start on. I just
15 don't want to -- if we can get, you know, kind of what's
16 going on. They can give it to us -- come up with a
17 little report, send it to us, but I don't know -- Is it
18 necessary you all to meet again, you know, until after
19 the water modeling is done?

20 **DR. BOVE:** And the question is how do feel about it? If
21 you feel that we don't need to meet this summer, there
22 are a lot of things that need to get done, but you don't
23 necessarily have to meet and we can actually call each
24 other up. Like we were saying, there are other
25 technologies besides face-to-face meetings, then that's

1 fine with me, too.

2 **MS. DYER:** I'm just say that in September when we come
3 back here, there needs to be a lot that we see. If we
4 give you guys off this summer then we better see
5 something coming.

6 **MS. RUCKART:** Let's say October.

7 **DR. RENNIX:** October's worse because we may not have any
8 money, okay, because of continuing resolutions. So in
9 September, which means we have to commit to having that
10 money set aside or it will disappear. So that's the risk
11 there. And then October, we didn't get the money for the
12 continuing resolution until February of this year. So we
13 were basically unable to travel, to do anything until
14 February, except for emergencies. Now, this is
15 important.

16 **MS. DYER:** So when do you think? What do you recommend?

17 **DR. RENNIX:** Maybe if Morris is on a fast track, maybe
18 late August.

19 **MS. DYER:** Boy, he jumped up quick with that.

20 **MR. STALLARD:** Morris, your name was used --

21 **MR. MASLIA:** I'm always on a fast track.

22 **MS. DYER:** August?

23 **MR. MASLIA:** To do what?

24 **MS. DYER:** You'll have everything done by August.

25 **MR. MASLIA:** You mean for Tarawa Terrace?

1 **MS. DYER:** Yes.

2 **MR. STALLARD:** Yes.

3 **MR. MASLIA:** I cannot speak for the Agency clearance
4 process, okay. We are drafting reports. Some of them
5 are in external peer review. Pending what comments come
6 back depending how long -- once it's cleared by the
7 Agency, then, yes, things can be made available. I
8 cannot commit the Agency to a clearance that I have no
9 authority over.

10 **DR. BOVE:** Why are we pinning to when you're going to be
11 done clearance on Tarawa Terrace? I don't understand
12 that. I understand the issue of continuing resolutions
13 and that issue. I understand that very well. August is
14 a very bad month, both for me and for probably a lot of
15 you. September might be a better time. So you may want
16 to just wait until then; about the middle of the month,
17 maybe.

18 **MS. BRIDGES:** What can we do between now and June?

19 **MS. RUCKART:** No, seriously, we need to look at September
20 and think about the dates.

21 **MS. McCALL:** Right.

22 **MS. RUCKART:** We can start talking about that, maybe, in
23 June and really nail it down.

24 **DR. BOVE:** Right. Okay.

25 **MS. BRIDGES:** So we're not going to get together in two

1 months like we have been?

2 **DR. BOVE:** Not unless you want to.

3 **MR. MARTIN:** We're talking about being a month-and-a-half
4 away, really. We're at the end of April now and I don't
5 see really how anybody's going to accomplish a whole lot
6 in 45 days.

7 **MR. BYRON:** My only fear of this is is that as time
8 lapses people are going to forget what we've done here
9 and the next thing is it's budgetary. Are they going to
10 be willing to have us come back six months from now
11 versus two months where maybe we can get the commitment
12 today? I don't know. That's what we need to hear.

13 **DR. RENNIX:** What about a teleconference in July, update
14 teleconference?

15 **MR. BYRON:** That would be very good.

16 **MS. DYER:** So you can set that up?

17 **MR. BYRON:** That's feasible.

18 **MS. DYER:** Let's do that.

19 **MR. STALLARD:** Okay. So we're talking about to keep the
20 momentum going a teleconference in July and a commitment
21 for a next in-person meeting in September.

22 **MS. DYER:** Mid September.

23 **MR. STALLARD:** Mid September.

24 **MS. RUCKART:** When we meet in July we'll need to finalize
25 the date of the September meeting, but prior to that we

1 can throw out some dates that might work and have
2 everybody be thinking about the date. And in the next
3 week or so I can send out an e-mail to start selecting
4 the date for the July teleconference.

5 **MR. STALLARD:** Anything else? Well, remember that when
6 you do plan your trip for September to plan it carefully
7 because we know changes to your TDY are difficult in this
8 bureaucracy. See, I got it in twice, Perri.

9 **DR. BOVE:** And encourage them to speak with each other in
10 between meetings.

11 **MR. STALLARD:** Yes, absolutely, in between meetings. I
12 mean, Richard has offered himself. Frank, many of you
13 have extended -- Dr. Fisher. So please reach out to the
14 resources available to you and to each other.

15 **MR. ENSMINGER:** Yeah, I was just talking to Terry about
16 this. I disagree with not having this CAP meeting
17 because this is not just for this group of people. This
18 is for all the other people that we represent that can't
19 be here and we have a closed teleconference with just us
20 those people are cut out.

21 **MS. RUCKART:** Jerry, we could have a teleconference in
22 such a way that it would be broadcast on the Internet. I
23 don't see why the people that are in ATSDR couldn't come
24 here, have the phone the way it is now, and still be
25 broadcasting it with audio on the Internet.

1 **MR. ENSMINGER:** Okay.

2 **MS. RUCKART:** So then, you know, the audience -- they
3 won't have the call-in numbers so they can't participate,
4 but they could hear and could see ATSDR personnel.

5 **MR. MARTIN:** And we'll have, you know, was these reports
6 and everything -- for the last few meetings or get
7 togethers are really I've heard since June or July of
8 last year was we're waiting on the water model, you know,
9 we're waiting on this, and that's one of the critical
10 issues. So we'll be a lot closer. I think today gave
11 all of us a closer understanding of what the water
12 modeling is going to entail. And then as that
13 progresses, hopefully in September we'll have some
14 definite ground to stand on.

15 **MS. DYER:** And we had talked at one time, Jerry, about
16 the possibility of doing a teleconference with the
17 doctors as a CAP.

18 **MR. ENSMINGER:** Yeah.

19 **MS. DYER:** I mean, I think we've learned from this that
20 we haven't been in contact with you, I mean, really.
21 None of the CAP members have really --

22 **MR. ENSMINGER:** I've called.

23 **MS. DYER:** The majority of the CAP members have not been
24 in contact with you. And I think that we really need to
25 start doing that because you are our doctors and we need

1 to be able to talk to you and ask you questions and get
2 your help and when Frank starts talking and nobody can
3 understand him, you need to interpret it for us. So, you
4 know, that sort of thing. So I want to encourage the CAP
5 members and myself, you know, to start more of a dialogue
6 between us.

7 **MS. BRIDGES:** Then instead of just it going from you to
8 them, send it to all of us.

9 **MS. DYER:** That's what I'm saying. If we could set up
10 some kind of conference call with the CAP members and the
11 doctors -- I mean, how do we do that? Who does that?

12 **MS. BRIDGES:** When you send an e-mail, send it to
13 everybody.

14 **DR. BOVE:** Well, I think that a conference call works
15 better than an e-mail because you want to have some give
16 and take.

17 **MS. RUCKART:** If you want to set up a conference call
18 between the CAP members and the two independent experts
19 minus ATSDR and DOD, if you work through me I can give
20 you the bridge line like we're using today. We won't
21 dial in, but all of you can use it. You have to set it
22 up with me so that I know that number isn't being used by
23 someone else at that time, but I can give you access to
24 it.

25 **MS. DYER:** Okay. Did y'all hear that? Okay. Yeah, that

1 would be great.

2 **MR. STALLARD:** Is that Tom again? Yes, Tom?

3 **MR. TOWNSEND (by telephone):** Would it possible to get
4 the name and telephone number and things like the data on
5 the DOD representatives that are currently assigned to
6 this panel?

7 **MR. STALLARD:** Yes. You mean like contact information
8 data?

9 **MR. TOWNSEND (by telephone):** I can't hear you too well.

10 **MR. STALLARD:** Like contact information data; is that
11 what you're talking about?

12 **MR. TOWNSEND (by telephone):** Yeah, contact information
13 data.

14 **MR. STALLARD:** Okay. Yes.

15 **MS. DYER:** Just not over streaming video, right?

16 **MR. TOWNSEND (by telephone):** I'm watching the video, but
17 the sound is not great.

18 **MR. STALLARD:** Yeah, we have to talk in the microphones.
19 Yes, you can get that and you will be provided that.
20 There will probably be some sort of minutes after this, I
21 imagine, that will come out of the court reporter and it
22 will be contact numbers for everybody. And actually,
23 Denita is collecting business cards right now.

24 **MS. RUCKART:** Clarification. The transcript will be
25 posted, that's just what we're saying verbally. We can

1 e-mail out the contact information separately and much
2 sooner than the transcript will be available.

3 **MR. STALLARD:** Okay. Great. Well, is there anything
4 else?

5 **MR. ENSMINGER:** Yes. There's one defining question that
6 I've got to ask. Tom?

7 **MR. TOWNSEND (by telephone):** Yes.

8 **MR. ENSMINGER:** Did you get the squirrel?

9 **MR. TOWNSEND (by telephone):** I got the squirrel away
10 from one dog, but the other dog ^

11 **MR. STALLARD:** That's okay. Listen, thank you as a group
12 of you coming together. There is a different energy than
13 the first time. And as we continue to work together, the
14 relationships and the progress will be visible to all,
15 okay. So just believe in the process and we are moving
16 forward. So thank you and have a safe journey. That's
17 it.

18 **MS. McCALL:** I just want to thank Perri, and Shannon, and
19 Dr. Bove, and Dr. Clapp, and Dr. Fisher, and our court
20 reporter, and Mike, and Chris.

21 **MS. DYER:** She loves everybody.

22

23 (Whereupon, the meeting was adjourned at 3:00
24 p.m.)

25

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I, Shane Cox, Certified Court Reporter, do hereby certify that I reported the above and foregoing on the day of April 20, 2006; and it is a true and accurate transcript of the testimony captioned herein.

I further certify that I am neither kin nor counsel to any of the parties herein, nor have any interest in the cause named herein.

WITNESS my hand and official seal this the 8th day of May, 2006.

SHANE COX, CCR**CERTIFIED COURT REPORTER****CERTIFICATE NUMBER: B-2484**