

**NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
NATIONAL FIREFIGHTER REGISTRY SUBCOMMITTEE (NFRS)
July 14, 2020**

**THE US DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION**

**NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
BOARD OF SCIENTIFIC COUNSELORS (BSC)**

SECOND MEETING

NATIONAL FIREFIGHTER REGISTRY SUBCOMMITTEE (NFRS) MEETING

July 14, 2020

**The verbatim transcript of the
Meeting of the National Firefighter Registry
Subcommittee Meeting held on
July 14, 2020, 01.00 p.m.**

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PARTICIPANTS

(alphabetically)

SHAWN BRIMHALL - MEMBER
CHUCK BUSHEY - MEMBER
DENNIS DEAPEN, DrPH – MEMBER
BRYAN FRIEDERS - MEMBER
SARA JAHNKE, PhD - MEMBER
BETSY KOHLER - MEMBER
GRACE LEMASTERS, PhD - COCHAIR
BARBARA MATERNA, PhD - MEMBER
PAUL J. MIDDENDORF, PhD - DESIGNATED FEDERAL OFFICIAL
RICHARD MILLER - MEMBER
PAT MORRISON - COCHAIR
VIRGINIA WEAVER, MD - MEMBER
REGINA WILSON – MEMBER

KENNY FENT, PhD
EMILY NOVICKI

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INTRODUCTION, MEETING LOGISTICS

DR. MIDDENDORF: Good morning or afternoon, depending on where you are. I'm Paul Middendorf, and I'm the designated federal official for the National Firefighter Registry Subcommittee of the National Board of Scientific Counselors. I do want to extend a warm welcome to all the Subcommittee members and all the members of the public who have joined us. I have to go through a number of administrative issues on the front end. So we'll handle that. At first, wherever you are I hope you're staying safe and I'll ask you to make sure you know how to exit safely from wherever you are in case of an emergency. As I just mentioned this is a subcommittee of the NIOSH Board of Scientific Counselors. And as such, it's subject to all of the rules and regulations of the Federal Advisory Committee Act. So we will be following those for this meeting.

As part of those procedures we have to develop minutes of our meetings, and for this meeting we want to make sure everyone is aware that the meeting is being recorded and a verbatim transcript will be developed and put on the Subcommittee's website for this meeting. So everyone is forewarned. I do want to point out that this program is very interested in hearing from the public. If they have any information or comments on the proposal or the report. However, FACA rules are fairly formal in how comments can be received from the public. Members of the public will not be invited to provide comments during the time the Subcommittee is deliberating. That time is set aside for the members alone, but there are two ways for the public to provide comments. One way is for members of the public to send in their comments by snail mail to the NIOSH docket, and the address for that is in the Federal Register Notice for this meeting. It's also on the Subcommittee's website which is located under the meeting information. The other way is to sign up to present at the meeting during the designated time for public comments. And looking at our agenda we have public comments scheduled to begin at 1:30. That's this afternoon and Eastern Time. However, no one has signed up to provide public comments, but I do want to give members of the public who are here an opportunity to provide comments if they want. So if you want to provide comments, verbally, to the program and/or to the Subcommittee, please type a message saying that you want to provide comments and your name in the chat box. We have three 5-minute slots available. So it's a first-come first-served situation. If no one requests to provide comments we'll move directly into the discussion of the draft report and recommendations at that time.

So the next thing I need to do is a roll call and under FACA rules we're required to do a roll call at the beginning of the meeting, and we'll repeat that after each of our breaks to ensure we have a quorum. When I call your name, please indicate

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your presence for the record. For this first roll call I also need you to state whether there have been any changes that would change your conflict of interest status since you filled out the OGE 450 form a couple of months ago. That might include things like a change in employer or being awarded a grant relevant to the firefighter registry.

Members, if you have to leave at any point make sure you let me know. You can just type something in the chat box, if you'd like, but also let me know when you return. The quorum for the NFRS is eight members. So we need to always have eight members present. At our last meeting we asked each of our members to briefly introduce themselves. Bryan Frieders, I'm putting you on notice that since you weren't able to attend that meeting we didn't get a chance to meet you. What we'd like to do after this roll call is ask you to do a brief three- or four-sentence introduction so we have a chance to learn something about you, just as we did all the other members.

So next thing I need to do is to actually do the roll call, and if you would just indicate your presence by saying aye and also whether or not there's been any change in your conflict of interest when I call your name, I would appreciate it. So we'll start with Shawn Brimhall. Shawn, if you're on, I'm not hearing anything. Also I'll ask folks on the line I'm hearing a little bit of background noise. If you're not speaking, please put your phone on mute. So one last time, Shawn Brimhall. Okay. Charles Bushey.

MR. BUSHEY:	Present. No changes.
DR. MIDDENDORF:	Thank you. Dennis Deapen.
DR. DEAPEN:	Present. No changes.
DR. MIDDENDORF:	Thank you. Bryan Frieders.
MR. FRIEDERS:	Aye. Present. No changes.
DR. MIDDENDORF:	Sara Jahnke.
DR. JAHNKE:	Present. No changes.
DR. MIDDENDORF:	Thank you. Betsy Kohler.
MS. KOHLER:	Present. No changes.
DR. MIDDENDORF:	Grace LeMasters.
MS. LEMASTERS:	Present. No changes.
DR. MIDDENDORF:	Barbara Materna. Okay. Brian McQueen. Okay. Richard miller.
MR. MILLER:	Present. No changes.
DR. MIDDENDORF:	Thank you. Pat Morrison.
MR. MORRISON:	Present. No changes.
DR. MIDDENDORF:	Okay. Virginia Weaver.
DR. WEAVER:	Present. No changes.
DR. MIDDENDORF:	And Regina Wilson.
MS. WILSON:	Present. No changes.

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- DR. MIDDENDORF: Okay. Thank you. One, two, three, four, five, six, seven, eight, nine. Okay, that's 10 members. So we have a quorum. Okay. As I promised, Bryan, we're going to jump back to you and if you wouldn't mind giving us a brief introduction of yourself, we would appreciate it.
- MR. FRIEDERS: Sure. My name is Bryan Frieders, and I am the interim fire chief for the Pasadena, California Fire Department, and I also serve as the president of the Firefighter Cancer Support Network. I've been intimately involved in cancer and firefighters for 15 years since the advent of the cancer network across the country. I'm very appreciative of the group of people that are on this call, many of whom I know and have worked with in the recent past. It's just a high quality group of individuals that I'm really looking forward to seeing success as a result of our collaboration here. So I'm retiring on December 31st of this year. So if you want to come see anything in Pasadena, get a hold of me before December 31st. And that's about it. I have a pretty boring life, so that's about it for me.
- DR. MIDDENDORF: Thank you very much, Bryan. I also want to point out that we do have members from the NIOSH program team in attendance as well as, I think, we have the ad hoc consultants for the program that the program team has invited. And if the Subcommittee has any questions they can certainly address them to the program team or the consultants if you need something from them. So thank you, everyone, and welcome. At this point I will turn it over to our co-chairs, Dr. Grace LeMasters and Mr. Pat Morrison.
- DR. LEMASTERS: Well, let me say welcome to you all for being here reconvening for our second meeting. I think we've made a lot of progress which we will be talking about soon. We appreciate all of your input and help throughout this. Pat, would you like to say something?
- MR. MORRISON: Yes, I just would also like to welcome everyone and thank you for being on this meeting today. I think we all know the importance of the project that we're working on. And I really want to thank your input in the last meeting. That was an excellent meeting. You brought so much to the table, all of you, and it always makes the project better when we have input from the field, from the end users, from people out there. So I appreciate that. So and then I know that Grace is going to be leading the first part of this meeting here, but, again, welcome to all of you.
- DR. MIDDENDORF: And if I can jump in for a second, Grace. I just noticed that Barbara Materna sent us a note that she's on. Just so we have it on record we'll jump back to that part of the roll call, and I'll ask Barbara Materna.
- DR. MATERNA: Yes, I'm here now. Can you hear me?
- DR. MIDDENDORF: Yes, we can hear you. Thank you very much. Back to you, Grace.
- DR. MATERNA: Sorry I was late.
- DR. LEMASTERS: Okay. Thank you, again, everybody. And I second everything that Pat said. I think

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the first order of business that we need to do is to vote on the minutes of the of last meeting, the meeting of May 6th, I think. No, what was it? March—when did we meet? May...

DR. MIDDENDORF: It was May 15th.

DR. LEMASTERS: May 15th, yes. May 15th meeting. Minutes of that meeting was a verbatim 94-page transcript. So I think you all received that list of congress minutes. I think it's the longest minutes that I've ever received. But we need to vote with an aye or a nay of approval. All of those who approve the minutes of the last meeting on May 15th say aye.

[Ayes.]

DR. LEMASTERS: Anyone disapproving of those minutes? Okay. The minutes stand as approved. Thank you, all. Again, we'd like to remind you that if you have a question, please raise your hand. You have a little hand at the top of your computer which you can click on. And, Pat, if you'll help me to keep track of those hands if they go up. And that would be the preferred way we would like you to raise your hand for a question. But the other way would be to just do a write-in at the write-in box. So there are those two methods. And I, again, would like to remind everybody that all this is going to be, again, a verbatim transcript of our meeting.

PRESENTATION OF DRAFT SUBCOMMITTEE REPORT AND RECOMMENDATIONS

DR. LEMASTERS: So with that, I think we're ready to begin going over the report of the National Firefighter Registry Subcommittee, and I'd like to go to Slide 1 first before we start. Emily, can you give us Slide 1. Yes. So just a quick review of where we've been and where we are, and where we're going. March 20th, the draft protocol was sent to all of us to review. Then all of us who had comments on the draft protocol, these were due back to the DFO on May 6th. Then on May 8th, Paul compiled all the comments and provided them to the Subcommittee, and that was part of what we used during our May 15th meeting to discuss the protocol we have been given. Then on June 4th Pat and I drafted a report for our recommendations by our Subcommittee, and that was sent to Paul who then sent the draft report on to you on June 19th. Then he compiled all the Subcommittee comments and gave them back to Pat and I June 21st. And then on June 25th you received this revised draft report. It was sent to all the members and, hopefully, we addressed your comments to your satisfaction. If not, we can fix that. Today we're having, then, our meeting to approve the report for the BSC deliberations, and we can make changes. And then on August 4th Pat and I will present our final report to the BSC and a special meeting that has been called just for that purpose to review the report, so that we can keep the NIOSH team moving ahead as quickly as possible. Are there any questions regarding that

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timeline by anybody, per chance?

Okay. Not hearing anything, we'll go, then, next to the report and, hopefully, you all have the report in front of you, what we're looking for here, you will see that as this report is written there are comments made such as suggestions, advice, concerns, questions that we had. Those do not need to be voted on. The only items that we'll be voting on today are our three recommendations, for the recommendations as we put them together if we make any changes. But, so that's why in the protocol you'll see things in this report, things mentioned as it was suggested, we suggested, we advise, and so forth. But the very key element is what we had made into the recommendations. For today we really want to hear only sort of major issues that you might have in this report, not minor editorial changes, but really substantive issues that you have with the report. And, of course, if you see a typo or something like that, we need to know about this because after this report goes to the BSC, then it goes to Dr. John Howard. So we don't want any typos going to anybody else.

And this report, as you have in front of you, started out with a very brief history, a meeting overview and follow-up, and the progress of the NFR, and the overall study approach. Are there any comments from anybody or thoughts regarding that first portion of our report?

Okay. Not hearing any let's then move to where the section is entitled Department eligibility requirements, communicating to targeted fire departments, overcoming participation barriers and increasing enrollment. I will say that with that it was invaluable going through that 94-page minutes of our meeting in order to condense all the good comments down into this report. You will note in that first paragraph that we mentioned the Family Education Rights Protection Act that NIOSH needs to be aware of. We also discussed the issues that have been the firefighters move from one department to another. There may be changes in what is required of the firefighters, and that should be kept in mind. And on the first paragraph under where it says department you'll read, "It is suggested," and that doesn't have to be voted on because it's a suggestion, "that the NIOSH team explore the restrictions that may be applied to their request to anticipate the degree of resistance and non-compliance," and that word "they" should be changed to "that", Paul. That is a typo.

DR. MIDDENDORF: Okay. I'll get that.

DR. LEMASTERS: And then went on to discuss issues related to identifying key opinion leaders in each department, how important that would be. We also suggested a webinar for the targeted department, and these individuals could, then, encourage their department to participate. In the next paragraph where we state two issues that are of paramount concern for participation by both fire departments and firefighters are data security and confidentiality. And there was some question

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about what the AOC will provide, and we tried to provide a little more information about that, but that's still being worked out by NIOSH. The AOC, but it, essentially, says that the data can only be used for what the purpose of the study is. I mean, an example is if we were collecting biological specimens like urine samples or blood samples, we could only use it for the purpose that we said we were using that urine sample. For example, if we were using it to look at exposures of certain things in the urine, well, we would not be allowed or NIOSH would not be allowed to use it to measure who are smokers and non-smokers unless they state in their informed consent that they are going to look at that as an issue. So it can't be used by somebody else. The data can be used by other people unless it is stated in the assurance of confidentiality. Is there a comment? I heard something. Okay. No comment.

Then moving on to page 3 we come to our first recommendation. I guess, Paul, we should go through all the recommendations before we vote on any of the recommendations, correct? Paul?

DR. MIDDENDORF: Yes, that's fine. It just takes me a second to unmute.

DR. LEMASTERS: Okay. So our first recommendation is because of the importance of obtaining Social Security numbers for the National Death Index and the cancer registries, it is recommended that NIOSH should pilot test with several individuals to learn the most compelling approach for explaining the purpose of both the assurance of confidentiality and the rationale for requesting the Social Security number. Also NIOSH may want to explore exactly what will be lost if only the last four digits are gathered, especially when they have other identifiers such as date of birth. Now, is there any discussion on this first recommendation? I'd like to turn it over to our committee. Okay. I don't see any hands up or anything below. All righty. Then the Subcommittee went on to discuss methods for increasing enrollment by using all forms of social media, especially Instagram and Facebook. It was suggested that we also outreach to affinity organizations such as Women in Fire, International Association of Black Professional Firefighters, and the National Association of Hispanic Firefighters as an example, to gain their support and as stakeholders for the NFR. It was suggested by the committee that officers of the affinity groups and members of the NFR committee could assist with some boilerplate language. Some of you volunteered to do that which we are appreciative of. It should be conveyed that it's everyone's responsibility to do their part in encouraging participation.

Then we went on to our discussion about linking with cancer registries. And we have two cancer registry specialists on the committee. The NIOSH team had actually requested assistance, and one of their questions and, I quote, "Are any crucial details missing from the protocol and consent form that would be needed for linking with population-based (state and territorial) cancer registries? How

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soon after initial enrollment should NIOSH seek to conduct registry linkages nationally?" Well, then you all provided some very interesting information that the entire nation has been covered by a state-based cancer registry since 1995, that the North American Association of Central Cancer Registry has created a virtual national cancer registry called the Virtual Pool Registry. To date 38 states have agreed to a single point access where a data file can be submitted with identifiers which is a big help, I am sure, to have that point of contact for 38 of the states. And then we went on to say that NIOSH can negotiate with the states to receive patient identifiers which are needed for data analysis. So regarding all of this issues with linkage with state cancer registries, we recommended for our second recommendation that currently changes are underway with the NAACCR to facilitate and streamline linkage between research groups and state cancer registry via the National Pooled Registry. And we made a recommendation here that NIOSH should begin the groundwork for establishing the framework for linking the firefighter cancer information, both past and ongoing, to facilitate future easy access to this state cancer registry data. In regard to Recommendation 2, are there any comments?

DR. MIDDENDORF: Grace, this is Paul. I just want to note for the record that this is about the time we would normally start public comments, but no one signed up ahead of time, as I indicated earlier, and no one took me up on my offer to type something in the chat box to sign up for them. So the committee is free to continue on.

DR. LEMASTERS: Okay. Thank you, Paul. Pat is going to cover the next portion of this, Estimating lifetime exposure and Recommendation 3. And then I can pop back anytime you want me to, Pat. But you want to go ahead now?

MR. MORRISON: Yes, I will do that and go to Recommendation 3, and then you can kind of close off that subject. But, really, there was a lot of talk, and I think this is probably one of the most important things that we discussed, was estimating the lifetime exposures and the use of protective equipment, PPE equipment. During that conversation that we had at the last meeting, we really talked about trying to, as collecting on the enrollment questionnaire, and that's going to be really the start of this whole project is when somebody does enroll in that. Trying to balance the amount of time necessary to complete that with obtaining sufficient data to estimate the lifetime exposures. And what we do know, and for all of us, is that the exposures and cancers that will be reported in the next 10 years are really related to what has occurred for that firefighter 15 to 20 years previously. All those exposures, everything. So we're kind of having to go back retro to get all that information. And, really, that is going to be a critical, critical piece for researchers in the future to take that exposure cancers, and then come out with the documentation on that. So we really looked at a lot of those questions here. We really kind of had great discussion on here. But there were a couple other

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really concerns and a couple things that were found that, I think, are really, really important had to deal with some of the questions in that survey. What is it going to be to best get the runs per shift? What is the frequency of smoke exposure? The other big, big issue here was the frequency of wearing PPE. If we go back 20 years, what was provided and what you provided, and what we really kind of suggested was what was it 20 years ago when somebody came in or just started to start their career? What was actually in play? Was the PPE a mandatory issue? Was it mandatory during overhaul, which many of us here on the phone know that that wasn't the case? We had a lot of unnecessary exposures to firefighters because we just really were not focused on eliminating those. And we didn't have the clear picture of cancer, and where that cancer risk was coming. So NIOSH really needed some help with that. They really wanted this questionnaire. So all of this is kind of building up to basically the change of the PPE and what should we actually put when the interview is enrolling in this, and do we have any recall bias? It's going to be difficult for someone to go back and take a look, and try to estimate exactly what their exposures were. So we actually did speak of trying to correct some of that moving on, which is going to be important because I think this registry can be here for many, many decades. And really putting in an exposure app that a firefighter can track their own exposures. A firefighter can actually track that over a period of time. They can develop and tie it to an incident report in a lot of ways, trying to tie it to the exposures, their daily exposures which is tracked to an incident. So that was a very, not only practical, but I think a suggestion that I think is going to be strongly pushed to NIOSH that we need to do this for the future.

So in the Recommendation 3 it's recommended that one of two approaches be used to characterize exposures. One approach could be the use of strategic questions regarding the approximate year that the individual firefighter started using each protective action such as self-contained breathing apparatus, like I stated earlier, other respiratory protection during overhaul, types of turn-out gear used, storage and cleaning of turn out gear, showering. And, basically, those are the protective issues that we're seeing today take place.

The second approach would be to ask questions, and these are the questions that we had, question 25, 28-29, 30-35 for each job held. And that would give us some more information. Further, it is suggested that both approaches be assessed in a pilot study to determine how much time is added for the total time collecting the information for the enrollment questionnaire. Several of you, Subcommittee members, felt that 30 minutes or less may be ideal for completing the enrollment questionnaire, but that this exposure/protection information was vital for the success of the study. Hence, it is recommended that a different version of the questionnaire be pilot tested to have a better understanding of

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which approach is reliable, valid, and acceptable to the participants. And I think in here that recommendation basically is twofold that we came down, is how long will a firefighter sit in front of a screen to get this information and to enroll in this process? How much information do we actually have to have in there that will be useful for us down the road? We do not want to eliminate anything that we should have been capturing because I think—and Grace has always reminded me—that this is some of the most important work we're doing because once you put this out there it's out there, and we really want to make sure that we're asking the right questions. We don't want these questions to be asked later, 10 years, why didn't they ask this? Why didn't they use that approach? So that is Recommendation number 3 that we will push forward to the next step the next meeting.

Grace, I think that's it for me unless you want me to go all the way down to the end of the report. Well, let me just go over a couple other things here, too. Grace, we both wanted to go through the recommendations. But a couple of the other things that were here that we didn't know about, and this was interesting. The Fire Department Identification. What we wanted to know is that—and what we did hear that every fire department has that unique identification number, and the fire service has changed and it will continue to evolve and change over time where we have now firefighters that will be moving from fire department to fire department. And so which way is it best for the NIOSH team to—how to incorporate that Fire Department Identification number and understand that the individual firefighters may not know that number. So it's a balance of when you get to a question and someone's asking you to put in an FDID number and you don't even know what the hell that is, what does that do? So we are exploring back on that.

And, Grace, I'll turn it back to you. I think that that's it.

DR. LEMASTERS:

Yes. I was on mute. So that's why I didn't answer you a minute ago. The next issue we discussed in our report is assessing cancer outcomes and identifying risk factors. And the NIOSH team specifically asked our committee to address, quote, "What other important variables related to cancer risk should be collected as part of the enrollment process and what should be included in follow-up surveys?" We thought as a committee that the key risk factors have been well-identified, but in particular with the use of tobacco products, that cigars, one person on the committee mentioned they have humidors in some of the firehouses, chewing tobacco and snuff should be also included. Alcohol use and exercise, strength training, use of indoor tanning devices and having annual medicals is already in there. Now we're assuming, the committee assumed that like strength training is primarily for positive health, looking at their exercise, who's engaging in prevention measures, and that indoor tanning devices was

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related to potential skin cancer. And so we felt that that's important, and who's having annual medicals.

But then we write here, and this a suggestion, it was suggested that some type of measure of the amount of use for tobacco products should be added for calculating things like past years of smoking. So not only did they do it, yes or no, but how can we—and, of course, with lung cancer past years of smoking, cigar use, chewing tobacco, snuff is a critical exposure that they may be having that could, if you will, potentiate the other exposures that they're having in the workplace, the combined exposures to both smoking and being exposed to smoke on the job. So that was our suggestion.

The Subcommittee also felt that for the follow-up questionnaires, questions on sleep and stress might be added. We also advised that the questions be asked in order from lower sensitivity to those of greater sensitivity. For example, start with exercise first, how much are you exercising, and then ask the alcohol questions at the end. And we thought that these risk factors should be updated maybe briefly, but updated during the follow-up evaluations, and that was another question I have to read from our NIOSH team.

And dropping down to the end of the last sentence in that paragraph, I just want to note that one person in our group mentioned asking if any of their children had developed cancer, which would be related or could be related to bringing workplace exposures to the home or possible chromogenic effects as well as genetic risk. So that was an item that was mentioned that had not been brought forth by our NIOSH research team.

And then under communicating findings to participants, that the committee felt strongly that additional considerations should be given to communicating the startup of the study as well as ongoing communication of the findings. For example, at time of sign-up through the web portal the individual could request to receive regular updates at that time where they automatically go to how many people have asked for regular updates, how many people want to know how many people have signed up, and what region of the country is signing up the most. And at least every 6-12 months participants might receive a summary of how many have registered. There could be an on-going visual on trying to get to that 200,000 mark with getting people involved in reaching that goal, making it a whole firefighter goal. I think we said thermometer, but it could be something more fire-related like putting out the house fire or whatever. But, anyway, we felt communication was essential, it should be done often, and with as much information that can be shared, even if it's just the number of people so far, males females, Latinos, African-Americans, in order to keep people informed and see where we need to push harder. And that the firefighting team can be very resourceful in helping NIOSH reach that 200,000 goal, we felt, with

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encouragement.

So that's our report, committee. Any final questions or concerns? Then, I guess, we're ready to start voting. Right, Paul?

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DR. MIDDENDORF: Yes. Grace, could I ask the committee to think about one thing? And that's whether or not there is anything else in the report that should be considered to be important enough that it should be a recommendation rather than just a suggestion.

MS. NOVICKI: Paul, it looks like one of our committee members, Dennis, has his hand raised.

DR. DEAPEN: Hi, this is Dennis. Going back to the beginning of this discussion, I just wanted to ask the question in that section of where the report talks about enhanced communication techniques, do we want to reference the fact that we're also going to have targeted recruitment? Because I don't think it's there, and if it's not there it might be misunderstood that all of this is going to be recruited through social media. Just a question for us to think about in terms of future use of this report.

DR. LEMASTERS: To answer your question, the only place that we talk about how the firefighters are going to be recruited is in the overall study approach. We state there, if you go to page 2, at the top of the page, the second sentence, "The targeted cohort is a prospective cohort with continuous enrollment obtained from two sampling frames. The sampling frames are either specific firefighter departments or state firefighter certificate databases. The open cohort involves a non-probability sampling design and is open to active, former, or retired firefighters who have ever been an active firefighter. The open cohort is designed to recruit large representation from sub-specialties." So that's the only place that's mentioned. Do you have a sentence you would like to add in communicating?

DR. DEAPEN: No, I think what you just read, that's well-documented. I just wanted to be sure that that was clearly documented, and it is.

DR. LEMASTERS: Any other comments or questions from our committee?

DR. WEAVER: This is Virginia Weaver. In regards to Paul's question about suggested versus recommendations. The third recommendation suggests that pilot testing be used to determine how much time is added. If it's within a recommendation does that get included as a recommendation? Because I think pilot testing is pretty important.

DR. LEMASTERS: Virginia, is that you?

DR. WEAVER: Yes.

DR. LEMASTERS: It's good to hear from you. Yes, I mean, I think it does. Let's look at that again. Let's see, where do we talk about pilot testing. Here we go.

DR. MIDDENDORF: That's on the top of page 5.

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MR. MORRISON: Recommendation 3.

DR. LEMASTERS: Yes. "Further, it is suggested that both approaches be assessed in a pilot study to determine how much time is added to the total time for collecting information for the enrollment questionnaire." Virginia, does that address your issue?

DR. WEAVER: I guess, what I'm suggesting or recommending is that pilot testing is really important. And in my experience with research often times the questionnaire sounds great, and then when you actually start using it you realize that there are issues that could be modified. So what I'm wondering is whether we need to strengthen the text about the pilot testing or whether the fact that it's included in a recommendation means that it would be assumed as we're recommending that it would be pilot tested.

DR. MIDDENDORF: Can I suggest that you change the word "it is suggested" to "it is recommended." Would that satisfy what you're looking for?

DR. LEMASTERS: Where are you? What sentence, Paul?

DR. MIDDENDORF: It's the top of page 5, fourth line down. "Further, it is suggested that both approaches be assessed in a pilot study."

DR. LEMASTERS: I see it. Yes. That's a great idea.

DR. MIDDENDORF: Change that "suggested" to "recommended."

DR. LEMASTERS: Good idea, Virginia and Paul. It is recommended. And then we go on, if you notice the last sentence, "Hence, it is recommended that different versions of the questionnaire be pilot tested to have a better understanding of which approach is more reliable, valid, and acceptable to the participants." So Virginia, does that satisfy you if we put recommended in all three places?

DR. WEAVER: I think that's perfect.

DR. LEMASTERS: Okay. Okay. We'll make that change. That's a good catch.

DR. WEAVER: Thank you.

DR. LEMASTERS: Any other comments? Well, are any other hands up? It's hard for me to go through this. No hands are up. Okay. Let's see, then, Paul, can we vote on all three recommendations at once or do you want us to do each one individually? You tell us.

DR. MIDDENDORF: I think you should entertain motions from the committee, and if somebody wants to make a motion to accept the report and recommendations as modified during our discussion, that could be done. Emily, if you can give me control.

MR. MORRISON: Hey, Paul, this is Pat. Do we need a second on these motions, also?

DR. MIDDENDORF: Yes. Someone will need to make a motion and there will need to be a second, yes.

MR. MORRISON: Okay. Thank you.

DR. LEMASTERS: Okay. If I can repeat exactly what you said, Paul, Pat and I would like to entertain a motion that the report and recommendations are accepted with the modified changes made today. And do I hear a motion?

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DR. DEAPEN: This is Dennis Deapen, I—

MR. FRIEDERS: I move, by Bryan Frieders.

DR. MIDDENDORF: Okay. Can I get the exact wording of the motion, and I'll type it in?

DR. LEMASTERS: From Dennis or who? Who made the motion? I didn't quite get it.

MR. FRIEDERS: So Bryan Frieders will make the motion to accept the report with the modifications as discussed in this meeting.

MR. MORRISON: Thank you, Bryan.

DR. LEMASTERS: To accept the report and recommendations. How about that, Dennis, is that okay?

MR. FRIEDERS: Yes, to accept the report and the recommendations as modified and stipulated during this conversation.

DR. LEMASTERS: Did you get that, Paul?

DR. MIDDENDORF: I'm trying to. Let's call it discussion.

DR. LEMASTERS: Okay. Is there further discussion?

MR. MORRISON: Hey, Grace, just one second here. Let's just put Bryan Frieders down there. He made the motion. And then we had a second, and the second was by who? Dennis, was that you that made the second?

DR. DEAPEN: I didn't hear a second, but I will second that motion.

MR. MORRISON: Okay. Sorry. Okay. I just wanted to make sure we had the—yes. Okay.

DR. LEMASTERS: Well, before the second, is there any further discussion on the motion? Okay. Now, Bryan, do we have a second? Would you like to second the motion?

DR. DEAPEN: This is Dennis.

MR. MORRISON: The other way around. Bryan put the motion forward and Dennis second it. So now we have both. We have a motion put forward and we have a second. So we're ready for open discussion on the motion from everybody.

DR. LEMASTERS: Okay. Do we have discussion after the second motion before we vote, right? Is that what we're doing?

MR. MORRISON: Yes. Normally, what we'll have is somebody makes the motion, and for the motion to move forward we do need a second. So we have a motion and a second to accept the report recommendations as modified and stipulated during this discussion. With that, now that motion can be—if we have any discussion on that motion.

DR. LEMASTERS: Okay. Is there any further discussion by the committee on that motion and second?

DR. MIDDENDORF: Okay. Hearing nothing, let's go into voting. And Shawn Brimhall, are you able to speak into the meeting at this point?

MR. BRIMHALL: I hope so. Aye.

DR. MIDDENDORF: Ah, there you are.

MR. BRIMHALL: I'm an aye.

DR. MIDDENDORF: Okay. And Charles Bushey.

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MR. BUSHEY: Charles Bushey is an aye.

DR. MIDDENDORF: Dennis Deapen.

DR. DEAPEN: Aye.

DR. MIDDENDORF: Bryan Frieders.

MR. FRIEDERS: Aye.

DR. MIDDENDORF: Sara Jahnke.

DR. JAHNKE: Aye.

DR. MIDDENDORF: Betsy Kohler.

MS. KOHLER: Aye.

DR. MIDDENDORF: Grace LeMasters.

DR. LEMASTERS: Aye.

DR. MIDDENDORF: Barbara Materna.

DR. MATERNA: Aye.

DR. MIDDENDORF: Brian McQueen. Okay. Richard Miller.

MR. MILLER: Aye.

DR. MIDDENDORF: Pat Morrison.

MR. MORRISON: Aye.

DR. MIDDENDORF: Virginia Weaver.

DR. WEAVER: Aye.

DR. MIDDENDORF: And Regina Wilson. Regina, if you're trying to tell us something it's not coming through.

DR. LEMASTERS: You may have a mute, Regina.

DR. MIDDENDORF: I saw her on the list before. Regina, we're not hearing anything from you. If you'd like to type something into the chat box, we can take that. Okay. And just to note, Brian McQueen was not at the meeting, so we shouldn't expect a vote from him. Okay. Okay. Okay. Counting the votes. One, two, three, four, five, six, seven, eight, nine, ten, eleven ayes. So the motion carries.

DR. LEMASTERS: Wonderful. Well, very good. Any other comments that the committee would like to make or questions about what happens next? Paul, you might want to tell us. We'll probably have, what, one meeting a year or will it be more often?

DR. MIDDENDORF: Yes, I think that's the intent. I don't know. Kenny Fent, you're on if you'd like to talk about your hopes and expectations for the Subcommittee. This might be the appropriate time.

DR. FENT: Yes, I think that's accurate, Grace. I think the expectation is to have at least one meeting per year with the advisory committee. There will certainly be other issues that come up or questions that we have, and we need expertise from the committee to give us some guidance. Our hope is that within the next year or so or early next calendar year, that we actually launch the NFR. But even as we approach that there may be some questions or even after we launch the NFR and start getting data there's going to be questions on the types of analyses we want

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- to do and things like that. So certainly, expect regular involvement by this committee. And I think once a year meetings make a lot of sense.
- DR. LEMASTERS: Kenny, I'm sure we would all be here for you if you need any input from any one of us for any issues at all. So I hope that you will consider us available either as a committee or as individuals. If you do the pilot test, and so forth, the first year it might be appropriate. I'm not saying I am recommending this, but it might be appropriate to have a meeting before 12 months has passed, before the horse is out of the barn, so to speak. But it's really up to, I guess, you all to decide that.
- DR. MIDDENDORF: Yes, that is a program decision.
- DR. LEMASTERS: Yes.
- DR. FENT: Okay, good.
- DR. LEMASTERS: But we're here as individuals or a group.
- DR. FENT: Absolutely. We appreciate your involvement—everybody's involvement and certainly appreciate that advice, Grace.
- DR. LEMASTERS: Okay. Are we closing this meeting or...?

**SUMMARY & WRAP-UP, FUTURE AGENDA ITEMS, MEETING DATES, CLOSING
REMARKS**

- DR. MIDDENDORF: Okay. Yes, I'll just give everybody a heads-up, what's going to happen next. The report, with its recommendations, will go to the Board of Scientific Counselors. And because it's a Subcommittee the report does not go directly to NIOSH or the program. It goes to the BSC. And what will happen is that Grace and Pat and members of the board will present it for discussion in an open meeting on August 4th, and everyone here is more than welcome to join and listen in on the discussion and what happens. When the board gets it they could do a number of things. They could vote to accept it as presented and send it to Dr. Howard in the program; they could vote to make changes and send that to Dr. Howard in the program; or, if it's possible, they could table it, although, I don't expect that will happen. Once the program gets the report it will review it and determine the path forward. It will have to evaluate each of those recommendations that come to them. Some they may adopt, some may be modified, some may not be able to be accepted. So they will have to go through and they will give it, every one of them, very serious consideration because they do very much value the input. And they will respond formally, and that response will be posted to the docket. So that's what will happen going forward.
- And if there are no further questions or anything, I guess, we will adjourn then, Grace and Pat.
- DR. LEMASTERS: Well, thank you, everybody.
- MR. MORRISON: Thank you.

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- DR. LEMASTERS: Your input has been invaluable, and I think we've all learned a lot in this process, and I think (inaudible @ 01:00:37) hope to make, we hope, enough to make the protocol even stronger now than it was. And really appreciate all the time and commitment of you all. Pat.
- MR. MORRISON: Same thing, Grace. I do appreciate everybody being on this call, getting this done in a very organized manner here, and getting this stuff to the next level. We will keep you all advised as to how this is moving forward, how this is moving on. And if you have anything, if anything does come up, just let us know, also if there's something that you feel that you would like to express, let us know and we can bring that forward. This an effort that's going to take a lot of people to put it together. I know Dr. Fent's team that he has assembled is an incredible team. And I'm just excited about this for the fire service and for the future researchers, taking a look at this information. I think it's going to be extremely helpful, and it's really one of a kind. I know this is not happening anywhere else in the world, especially in the fire service. So thank you, all, very much for your time and your input. Thank you.
- DR. MIDDENDORF: Okay. Thank you very, very much, everyone. Emily, I will ask if we would be able to put up a notice in case somebody tries to join from this point forward since the meeting was scheduled to be able to last until 5. Just put something up indicating that the meeting has concluded.
- MS. NOVICKI: Okay, no problem.
- DR. MIDDENDORF: Okay. Thank you very much. Thank you, everyone.
[Adjourn.]

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G L O S S A R Y

AOHP	Association of Occupational Health Professionals
BSC	Board of Scientific Counselors
CDC	Centers for Disease Control and Prevention
COSH	Conference and Exhibition on Occupational Safety and Health
CRA	Cumulative Risk Assessment
DFO	Designated Federal Officer
DFSE	Division of Field Studies and Engineering
FACA	Federal Advisory Committee Act
FDID	Fire Department Identification
HELD	Health Effects Laboratory Division
HHS	US Department of Health and Human Services
HRSA	Health Resources and Services Administration
IAWF	International Association of Wildland Fire
IOHA	International Occupational Health Organization
IRB	Institutional Review Board
NAACCR	North American Association of Central Cancer Registries
NACOSH	National Advisory Committee on Occupational Safety and Health
NFIRS	National Fire Incident Reporting System
NFPA	National Fire Protection Association
NFR	National Firefighter Registry
NIH	National Institutes of Health
NIOSH	National Institute for Occupational Safety and Health
NORA	National Occupational Research Agenda
NVFC	National Volunteer Fire Council
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration
PPE	Personal protective equipment
SCBA	Self-contained breathing apparatus
USFA	United States Fire Administration