NIH Peer Review: “Live” Mock Study Section with Extended Q&A

Session Transcript: 2022-2023 NIH Grants Conference

Megan Columbus: All right. So thank you for joining today's mock study section. This can be an extremely illuminating session for some. I know we've had a whole lot of fun putting it on for you. My name is Megan Columbus, and I'm just kicking off this session. Joining us today to lead the mock study section is a Senior Scientific Review Officer from the National Institute of Diabetes and Digestive and Kidney Diseases. Please welcome Dr. Peter Kozel. Before turning the mic over to Peter and his whole cast of panelists, just note that we have a team of people who are answering questions in the chat as we go along. These are heads of scientific review branches at different institutes and have a wealth of knowledge about the review process. We also will have NIH's Acting Review Policy Officer, Brian Hoshaw. He'll be moderating questions at the end of this session. With that, have fun, and over to you, Peter. Peter, you're on mute.

Dr. Peter Kozel: thank you.

Megan Columbus: Sure.

Dr. Peter Kozel: Good afternoon. My name is Peter Kozel. I'm Chief of the Training and Metric Research section at NIDDK's Scientific Review branch, and I'm going to be serving as the master of ceremonies for this afternoon's mock review. I'm going to be posing some questions to y'all. We'll be highlighting some key points. In today's mock study section, we're going to pull back the curtain on peer review to give you a perspective on the nature of discussions that happen in peer review meetings to illustrate some key principles of NIH peer review and to identify some situations you may encounter in real peer review meetings. Most R01 applications are reviewed in standing study sections at the Center for Scientific Review, or CSR. Other applications are reviewed in Special Emphasis Panels, or SEPs, either at CSR or by Scientific Review Officers in the Institutes or Center-based review shops. Unlike standing panels, which have a rotating roster of permanent members recruited before applications come in, reviewers are recruited to serve on SEPs after the member applications arrive. Regardless of the type of meeting, whether it's a SEP or a standing panel, or the locus of review, all NIH peer review meetings are organized and managed according to the same set of laws and policies. I'd like to point out that today's session is not a reviewer training session. It is an abbreviated example of a peer review meeting. There are many aspects of a peer review meeting, which we are not going to be addressed today due to time constraints. Let's get started with our mock review. I'd like to introduce our SRO for this meeting, Dr. Latarsha Carithers. Dr. Carithers?

Dr. Latarsha Carithers: Greetings, everyone. My name is Latarsha Carithers, and I am the designated federal official for this meeting. Most of my work is done before the meeting, like arranging the logistics and recruiting and preparing reviewers. At the meeting, I make sure that NIH regulations and procedures are followed, and I take notes for the final summary statement. Let's get started with introductions. Please tell us your name, institution and a brief description of your area of expertise. And we'll get started with our chair, Birgit.

Dr. Birgit Neuhuber: Good afternoon, everybody. My name is Birgit Neuhuber. I'm a Professor of Neurobiology at Drexel University, and I will be the chair for this meeting. My job is to guide the discussion and ensure that everything stays on topic. I will introduce each of the applications and the assigned reviewers, and then direct the committee when it's time to discuss specific topics such as budget or to gave final scores.

Dr. Latarsha Carithers: Okay, reviewer one?

Dr. Fungai Chanetsa: My name is Fungai Chanetsa, Professor of Pharmacology at the University of Zimbabwe.

Dr. Latarsha Carithers: Thank you. Reviewer two?

Leroy Worth: Hi. I'm Leroy Worth. I'm in the Department of Pharmacology and Biochemistry at the University of Virginia.

Dr. Latarsha Carithers: Thank you. Reviewer three?

Elaine Sierra-Rivera: Hi. I'm Elaine Sierra-Rivera. I'm a behavioral neuroscientist by training, and I'm currently at The Ohio State University.

Dr. Latarsha Carithers: Thank you. Reviewer four? I think you're muted.

Dr. Luis Espinoza: My name is Luis Espinoza. I'm an Associate Professor at the Department of Chemistry at Georgetown University.

Dr. Latarsha Carithers: Thank you. Reviewer five?

Dr. Brian Hoshaw: Yes, I am Brian Hoshaw, Temple University. I'm in the Department of Biology, and my expertise is alternative medicine.

Dr. Latarsha Carithers: Thank you. Reviewer six?

Elise Shelker: Hello. My name is Elise Shelker. I'm a professor in the Department of Psychiatry at the University of California San Diego, and my research focuses on opioid addiction and pharmacogenomics to reduce it.

Dr. Latarsha Carithers: Great. Reviewer seven?

Marcy Sidmore: Hi. My name is Marcy Sidmore. I'm at Cornell University, and my area of expertise is in psychiatry and mental health.

Dr. Latarsha Carithers: Thank you. Reviewer eight?

Person #1: Hi. My name is [Indistinct]. I am at the University at Buffalo. My expertise is biostatistics with a focus on clinical trials.

Dr. Latarsha Carithers: Thank you, and reviewer nine?

Person #2: Hi. I am [Indistinct]. I am a professor at the Department of Internal Medicine in Medical College of Georgia. My research focuses on addiction treatment and clinical trials.

Dr. Latarsha Carithers: All right. Thank you all. We also have another NIH employee observing the meeting, and I ask that he introduce himself now.

Nisan Bhattacharyya: Hi. My name is Nisan Bhattacharyya, and I am a Program Officer from the National Institute of Drug Abuse, or NIDA. I wrote the requests for applicants, or RAP, that you will be reviewing today. Before the discussion starts, [Indistinct] has agreed to allow me to give you a description of this RAP and answer any general questions. However, my main role at this meeting will be to observe and take note on the discussion, and I will be available for the duration of the meeting to address any questions about this RAP if there is [Indistinct]. Thanks for taking your time reviewing these applications. Thank you.

Dr. Latarsha Carithers: Okay, thank you, Nisan. Before I turn the meeting over to our chair, I would like to go over some legal issues. First is confidentiality. The discussion of the applications is confidential. Anything we discuss here should not leave the room. Please dispose of all printed and electronic meeting materials once you've submitted your final critiques. Next is conflict of interest. Thank you all for identifying your conflicts before the meeting. If you are in conflict with an application, we'll put you in a waiting room so that you can't hear the discussion, and we'll bring you back once it's over. At the conclusion of the meeting, we will also ask that you sign a post-meeting conflict of interest form, just to certify that you didn't participate in the review of any applications you're in conflict with. And finally, we have scientific misconduct. If you suspect scientific misconduct defined as plagiarism, falsification or fabrication of data regarding an application, please do not bring it up during the meeting, because this could jeopardize the ability to have a fair review if any accusations have not yet been fully vetted. Instead, I ask that you contact me privately to discuss any concerns you may have. In terms of review format for the meeting, the chair will introduce the application to reviewers. Then, the assigned reviewers will give their preliminary scores before reviewer one gives a brief overview of the application. Each reviewer will then state the main score-driving issues for the application, focusing on the major strengths and weaknesses of the main review criteria. You do not have to repeat what has already been said by a previous reviewer. Next, the discussion will be open to the entire panel. You can participate in the discussion of any application for which you're not in conflict. After the discussion, the reviewers will go over the additional review criteria, which do impact the overall score. These include protection of human subjects, inclusion of women, minorities and individuals across a life span or use of vertebrate animals if applicable. After a brief summary of the discussion from the chair, the assigned reviewers will give their final scores, which sets the range of scores for the rest of the panel to vote within. After final scoring, we will discuss the additional review considerations, which do not impact the final scores. These include the budget, resource-sharing plans or authentication of key biological and chemical resources. Any questions before we begin?

Person #3: Yes, so I have a question. I have a question about scoring. So what's the cutoff for funding? What I mean is, can you tell me what score I should give an application if I want it to be funded?

Dr. Peter Kozel: Let's pause here and ask all of our participants. Should the SRO let the reviewers know what score to give if they want the application to be funded? We should have a poll question just coming up now. And this is not going to be open for very long. Peer review meetings happen quickly. Ah, so the answer is no. A majority, 89 percent of you, said no. Okay. Let's return to our mock review and see. Observe what happens.

Dr. Latarsha Carithers: Thank you for your question. In review meetings, we do not discuss the F word: funding. Here, we are here to assess and score the scientific and technical merit of the applications, and we actually do not make funding decisions. At the second level of review, which is our National Advisory Council, they will consider our recommendations and scores in light of our institute's goals and priorities. The two stages of review are a cornerstone of our NIH peer review system. Okay, so now I would like to ask the program officer to briefly discuss the purpose and goals of the RFA.

Nisan Bhattacharyya: All right. Thank you, Latarsha. So we will be reviewing applications from an RFA from NIDA named Discovery of Novel Treatments for Opioid Use Disorder. This RFA is meant to support research on novel therapies that have not been approved for clinical use. The applications can focus on pharmacological, behavioral or alternative treatments. At NIDA, we decided to allow a broad range of applications, so the RFA is clinical trial-optional. That means that the RFA will accept the applications that involve or do not involve clinical trials. Thank you.

Dr. Latarsha Carithers: Thank you for the summary, Nisan. I would like to remind everyone that there are separate review criteria listed in the RFA for clinical trials. So for these applications, please be sure to address the correct review criteria during the discussion. And I will now turn the meeting over to our chair, Birgit.

Dr. Birgit Neuhuber: Thank you so much, Latarsha. So before we start the discussion, I just want to remind everyone to really focus on the review criteria that are listed in the RFA, and please focus your discussions on the score-driving issues you identified when you were looking at your assigned applications. All right. Let's get started. Our first application is from Jane Johnson. She's an early-stage investigator. The title of the application is "IGF1 as a Potential Treatment for Opioid Use Disorders," and I believe you have we have a conflict. Dr. Sidmore is in conflict, so she will be placed in a waiting room during the discussion. All right. So the assigned reviewers are Drs. Chanetsa, Worth and Rivera. Can I please get your preliminary scores?

Dr. Fungai Chanetsa: Two.

Leroy Worth: Three.

Elaine Sierra-Rivera: I give it a five, but I did read the preliminary critiques posted by the other reviewers, and I will most likely be adjusting my score based on the comments from the other reviewers.

Dr. Birgit Neuhuber: Thank you very much. Dr. Chanetsa, please go ahead with your review.

Dr. Fungai Chanetsa: Thank you. This application proposes to leverage some recent and exciting discoveries with insulin-like growth factor to see if it can be used as a treatment for opioid use disorder. The first two aims entail biochemistry and pharmacology-based experiments to develop IGF1 as a therapeutic agent. And the third aim will examine the effect of IGF1 in preclinical studies. I'm really excited about this application and its potential impact. The scientific rigor is solid, and the application clearly outlines strengths and weaknesses of the published research, and therefore, it really lays a very solid justification and foundation for the proposed work. The approach certainly is detailed and clearly articulates the approach to each of the aims and experiments proposed. And this is further strengthened by the proposal to use male and female rodents in animal models in aim three. Overall, this application is very innovative, and the environment is stellar. I had, however, some minor concerns with the design with one of the aims, but this really does not detract from te overall merit of the application. The PI is an early-stage investigator. I didn't give much weight to the publication record, and it seems she's on a .. . The PI is on a very strong trajectory to be a successful investigator in the field. That's it for my initial review.

Leroy Worth: So, me, reviewer two, I, as instructed by the SRO, I want to just say I agree with the first reviewer comments, so I will not repeat all the strengths she listed. I just want to add that I'm really impressed that all the expertise required for the proposed aims that's specifically biochemistry and pharmacology because that's my area of expertise and looking at ITF and variance of uncertain significance, all this is well represented on the research team. And as a function of that, I just want to state that this really increases my confidence that the PI and the team will be able to accomplish the aims that is proposed. Thanks.

Elaine Sierra-Rivera: So my focus was primarily on the preclinical behavioral parts that were proposed in aim three, and this aspect of the application does have some flaws. I personally do not agree with the controls the PI shows for this, especially for this particular aim. However, upon hearing the comments from the other reviewers, especially on the potential impact of the overall project, I will adjust my scores so that it reflects the full application and not the experiments that I focused on.

Dr. Birgit Neuhuber: Thank you. So we've heard from the assigned reviewers, and at this point, I would like to open the discussion to the rest of the committee.

Dr. Luis Espinoza: I have a question about the pharmacology expertise. Does the application have expertise working with this specific growth factor? Because it can be tricky to work with.

Nisan Bhattacharyya: Wait a minute. Hold on. I think I can help. Can I address this issue, since I have been advising this PI on this application?

Dr. Peter Kozel: Let's pause here again. Can a program officer jump into the conversation and answer this question? This is our second poll question. Vote now. Vote quickly. Let's see the results. Huh, interesting. About 31 percent of you say yes. Sixty-nine percent say no. Let's see how .. . Let's turn to the review and see what happens.

Dr. Latarsha Carithers: Thank you for asking, Nisan, but, no. This would not be appropriate. A program staffer here to observe the discussion, and you can answer general questions about the RFA if I, as the SRO, find it appropriate. But program staff should not be involved in the discussion of specific application. It's important that we keep the two levels of peer review separate.

Leroy Worth: I would just like to respond. There is a co-investigator on the application that works with IGF1, so that particular area is covered, and there are no concerns.

Dr. Birgit Neuhuber: Okay. If there is no more discussion, I have a few other things that I wanted to get comments on. The application involves vertebrate animals. Since this is a scorable issue, we will discuss this before final scoring. Could the assigned reviewers please address that?

Elaine Sierra-Rivera: The PI actually adequately addressed all the questions relating to the use of vertebrate animals, so I have no concerns.

Dr. Fungai Chanetsa: I agree.

Leroy Worth: Yeah, I agree, too. Thanks.

Dr. Birgit Neuhuber: All right. So let me summarize what I have heard. This application is from an early-stage investigator. The goal of the project is to explore the potential for IGF1 to be used as a therapy for opioid use disorder. The application addresses a clear need in the field, and I believe the reviewers all agreed that the potential impact is high. Both rigor of prior research and scientific rigor have been addressed. There was some concern about controls like for behavioral studies in aim three. But as far as I've heard, that was considered a minor point. Did I miss anything?

Dr. Fungai Chanetsa: I think you covered it all.

Dr. Birgit Neuhuber: Thank you.

Dr. Fungai Chanetsa: Thank you.

Dr. Birgit Neuhuber: So we're ready for final scores, then.

Dr. Fungai Chanetsa: I will say it is solid two.

Leroy Worth: Yes. After discussion, I think I started at a three, and I'm moving to a two.

Elaine Sierra-Rivera: So based on the discussion, the potential significance and impact of the score, I'm going to move up to a three.

Dr. Birgit Neuhuber: Great. Thank you. The range is two to three. All reviewers can now submit their final scores. Are there any budgetary comments?

Leroy Worth: In terms of budget, the budget is appropriate for the proposed work.

Dr. Fungai Chanetsa: I agree.

Elaine Sierra-Rivera: I agree.

Dr. Birgit Neuhuber: What about the resource sharing plan?

Dr. Fungai Chanetsa: Well, the resource sharing is very detailed, and all the appropriate areas have been adequately addressed.

Leroy Worth: Yep. I concur and agree.

Elaine Sierra-Rivera: I agree, go along with that.

Dr. Birgit Neuhuber: Great. Finally, authentication of key biological and chemical resources, has that been addressed?

Elaine Sierra-Rivera: Yeah, the authentication plans for the growth factors that are being proposed is appropriate.

Dr. Fungai Chanetsa: I agree. Thank you.

Leroy Worth: Yes, agree. Yep.

Dr. Birgit Neuhuber: Great. Thank you very much. That completes the review of our first application, if we could please bring Dr. Sidmore back in the room for the next application.

Dr. Peter Kozel: While we're bringing our next conflicted reviewer back into the meeting, I would like to highlight a couple of points. As you saw, at least three reviewers are assigned to each application. In application is a complex combination of science, sometimes more are assigned. In multidisciplinary applications, it may not be possible to identify a sufficient number of reviewers who each have all the necessary expertise to review all aspects of an application. In this case, each reviewer's expertise may be appropriate for only a subset of the aims, but collectively, reviewers have the full range of experience. And this is why the discussion of applications is so important, and discussion is actually a required part of the Federal Advisory Committee Act. At CSR, R01 applications from early-stage investigators, or ESIs, are clustered, meaning that they're discussed together in the same context along with other applications from other ESIs. Reviewers are also instructed to consider the career stage of all applicants. For example, an ESI is likely to have fewer publications or prior funded grants than a department chairperson. There are, in fact, certain times when a program officer can answer a question about an RFA or address issues that are programmatic. But these instances always require the program officer to request approval from the SRO prior to speaking. And let's also remember that review has, in fact, two levels: peer review, as we're modeling here this afternoon, and review by each institute and center's national advisory council. And as a reminder, review panels discuss and score applications. Peer reviewers do not make funding recommendations and especially do not make funding decisions. And as we saw, there are some reviewer criteria that are discussed before the scores are provided, including the standard five review criteria for that particular activity code, vertebrate animals and human subjects and human subjects inclusions. And reviewers should and do consider these issues when scoring applications. On the other hand, issues like the authentication of key biological or chemical resources, budget and training in the responsible conduct of research for fellowship and applications, these are discussed after the scores are provided because, while these issues are very important, they should not influence the application's score. Let's move on to our second application.

Dr. Birgit Neuhuber: All right. So our next application is from Tom Wilson. The title is Novel Alternative Treatments for Opioid Use. We have no conflicts for this application, and the assigned reviewers are Drs. Espinoza, Hoshaw and Shelwicker. Could I please have your preliminary scores?

Dr. Luis Espinoza: I gave this application a score of two.

Dr. Birgit Neuhuber: Thank you. Two?

Dr. Brian Hoshaw: I was very enthusiastic. I gave it a one.

Dr. Birgit Neuhuber: All right. Considering the scores, it looks like there is pretty good agreement on the potential impact of this application. If I may just ask the reviewers to please emphasize the strengths of the application, specifically what factors led to such favorable scores? And, Dr. Espinoza, please start with your review.

Dr. Luis Espinoza: All right. This application proposes to test alternative treatments, specifically plant extracts, as a novel form of treatment for opioid use disorders. The PI is a medical chemist who has experience developing plant-based medications. The rigor of prior research is addressed based on the review of the literature in this field. A weakness is that he does not have access to the plant extracts that they propose to use, and it does not appear they will have an access any time soon. Overall, it [Indistinct] there are numbers of weaknesses with the approach, and the level of innovation is marginal at best, but the PI has such good working knowledge in his field that I am sure he can figure it out, how to solve any potential design flaws and overcome clinical challenge as the study case, either way. Overall, I really like this application.

Elise: I agree that PI is very talented, although he has not published in last few years, decade or so. In addition, I wasn't exactly sure if he has the resources and personnel to conduct the experiments. Another concern is that the novelty of the plant-based medication he proposes in his study is low. They're similar to ones that have already been tested in clinical studies. So the innovation is low. But overall, I agree with the first reviewer, Dr. Espinoza. This is a really good application.

Person #4: I really like this application, but I have another concern, and that's that the approach is going to utilize animal models. But in the application, the PI only states that they're going to be using only male mice. I don't agree with the rationale for excluding female mice in the design. So I have a question for the SRO. Should that affect my score?

Dr. Latarsha Carithers: Yes, so according to the guidelines for rigor and reproducibility, sex as a biological variable should be addressed in the approach section of the application. If the PIs will not be using both sexes, then they need to provide a justification that relates to the goals of the proposed work. This issue can affect the score.

Person #4: So in that case, I consider this another weakness with the application.

Dr. Birgit Neuhuber: All right. The floor is now open to the committee for discussion. Does anybody have any questions, any other additions?

Dr. Peter Kozel: Reviewer one .. .

Dr. Latarsha Carithers: Fungai, do you have a comment?

Dr. Fungai Chanetsa: I had a comment. Oops, I missed that. Sorry. I will bring it up as we go. So I just want to point out that I'm hearing a number of weaknesses: lack of access to the compounds, little current work by the PI and failure to address sex as a biological variable, that are not aligned with the assigned reviewer's scores in the high-impact range. Perhaps the assigned reviewers could speak more about how they balanced the weaknesses to arrive at the initial scores, and that can kind of help us to calibrate ourself, at least to help me to calibrate my score.

Leroy Worth: I agree.

Dr. Peter Kozel: So let's pause here. Reviewer one was not one of the assigned reviewers for this particular application, and can this reviewer participate in the discussion even though they are not assigned and may not have even read the application? Let's vote. Here's our third question. Up, here come the results. Ah, 70 percent yes, 30 percent say no. Huh, you're getting a bit more even. Okay. Let's return to the meeting and see how the SRO responds to this question.

Dr. Latarsha Carithers: Okay, yes. Anyone who is not in conflict with an application can participate in a discussion. Since everyone will be submitting final scores, you can also participate in the discussion. And, in fact, we actually encourage it. Did you have another comment, Fungai?

Dr. Fungai Chanetsa: So perhaps the assigned reviewers can sort of help us how they weighted the different strengths and weaknesses to arrive at the initial scores, because I am having trouble reconciling the comments with the scores.

Dr. Birgit Neuhuber: Can I please ask the assigned reviewers to address the questions that were raised by reviewer one?

Dr. Luis Espinoza: Yeah, I have to recognize that you make a valid point. The application does have issues in the research plan, and the PI has not done a good job in discussing potential pitfalls and giving alternative approaches. So after hearing additional weaknesses from the other reviewer, I realize that my scores might not reflect a number of weaknesses. I will adjust my score for it.

Person #5: I agree with Dr. Espinoza. I will adjust my score, as well.

Elise Shelker: So this is my first meeting, so I'm still calibrating my scores. But I see that there are a number of weaknesses, so I'm going to adjust my score.

Dr. Birgit Neuhuber: Great. Any concerns with the use of vertebrate animals, aside of the issues that go with the justification of sex of the subject?

Dr. Luis Espinoza: The subject is acceptable. All points have been addressed by the applicant.

Person #5: I concur.

Elise Shelker: I agree.

Dr. Birgit Neuhuber: All right. So let me summarize. The goal of this application is to develop new plant-based therapies for the treatment of opioid use disorders. The reviewers acknowledge that the PI has in-depth knowledge of the topic, but he hadn't published in almost a decade. There were also some concerns about the availability of resources and personnel to conduct the experiments, about the novelty of the approach. Let me see, the use of only male mice without an adequate justification for excluding female mice, and then with a lack of discussion on potential pitfalls in alternative approaches. Did I capture this right?

Person #6: Mm-hmm.

Dr. Birgit Neuhuber: Okay, great.

Dr. Luis Espinoza: Yes.

Dr. Birgit Neuhuber: So let's move to final scores, please.

Dr. Luis Espinoza: All right. So based on the discussion, I will raise my score to four.

Person #5: I will go up to four, as well.

Elise Shelker: I'm also moving to a four.

Dr. Birgit Neuhuber: All right. So we have a final broad range of four. If everybody could please submit their final scores, any comments on the budget?

Dr. Peter Kozel: Budget is acceptable.

Dr. Luis Espinoza: I agree.

Dr. Birgit Neuhuber: What about authentication of resources?

Dr. Luis Espinoza: This topic has been addressed by the applicant. Also, resource-sharing plan is thorough and acceptable.

Person #5: I agree on those points.

Elise Shelker: I agree with that, as well.

Dr. Peter Kozel: Okay. That's our second application. And I'd like to highlight a couple of points from that discussion. Now, while only assigned reviewers are required to read the applications, all reviewers who are not in conflict can both read the applications and participate in a meeting. Of course, that can't be in conflict with those applications. Unassigned reviewers play very valuable roles, as we saw here today, in identifying and assessing strengths and weaknesses and are very, very helpful for score calibration. As a reminder, all reviewers not in conflict provide both .. . do provide final overall impact scores. In both of these, the first two applications, we saw some discussion of enhancing reproducibility through rigor and transparency. This is an ongoing topic, but good applicants and good reviewers have always addressed these points. I just want to highlight that the following discussion has course-changed quite significantly. This discussion started with the assigned reviewers giving scores between one and two and finishing up with scores around four. A score of four is slightly better than average. It's a medium-impact application, very good application but one that .. . where the strengths are somewhat greater than the weaknesses identified by reviewers. So again, scores change following discussion. They can get better, and they can get worse. So let's proceed now with the discussion of our final application.

Dr. Birgit Neuhuber: Okay, so we've made it to our last application. There are no conflicts for this application. The application is from George McPhee, title is "A Clinical Trial Examining Cognitive Behavioral Therapy for Opioid Use Disorder," and the assigned reviewers are Dr. Skidmore, Song and May. If I could please get your preliminary scores .. .

Marcy Skidmore: Sure. My preliminary score was a three.

Song: Six.

May: Three.

Dr. Birgit Neuhuber: Great. Dr. Skidmore, please lead us off.

Marcy Skidmore: Great, thanks. So this application proposes what I consider to be a highly novel use of cognitive behavioral therapy, or CBT, to treat opioid use disorders. So in the design, CBT, or sham treatment, will be administered to participants at a single clinical site who meet the DSM V criteria for opioid use disorder. So the participants will have follow-up interviews at 6 months and 1 year to assess opioid use. There have been other studies that examine the effects of CBT on opioid use, but this application proposes what I consider to be a novel treatment plan that is based on a recent paper that has some very exciting results. So the paper indicates that longer CBT sessions may have a longer-lasting effect on opioid use. So I think the application is clearly written, and the PI is a leader in the field. All of the review criteria in the RFA that are specific to clinical trials have been addressed, and the study protocol has been included, and it's very clearly written. The study time length is feasible and well justified. Challenges and proposed solutions were adequately discussed. The experiments are sufficiently powered including detection of sex-based differences. So I think my score would have been better, but I have some concerns with the control sham procedure that they'll be using. And I really thought they could have included more information on the training of personnel at the clinical sites.

Song: I agree with most of the strengths and weaknesses stated by Dr. Skidmore. However, I gave a less favorable score, since I believe they have misinterpreted the results from the key paper they cited. My concern deals with the rigor of the prior research. They interpret the research to show that the new treatment has a longer-lasting effect. But I do not agree with this interpretation. This leads to a flawed hypothesis, since I do not think the new treatment procedure will have any added benefit. This was a major score-driving issue for my review.

May: I agree with the reviewer one, and I disagree with the comments of reviewer two. I believe the rigor of the prior research is solid.

Dr. Birgit Neuhuber: Okay, the application is now open for discussion by the committee.

Dr. Fungai Chanetsa: At the risk of always being the contrarian, I did read this application in depth. I agree with Dr. Conway. The intellectual foundation of this application is extraordinarily weak. The PI does not appear to understand the results and the implications of the paper.

Dr. Birgit Neuhuber: Okay, so we have quite a score range here, from three to six, so I would really appreciate if the assigned reviewers could address the issue of rigor in prior research.

May: I saw the comments in the critiques and went back to look at those papers. I think the PI's hypothesis is still based on scientifically rigorous arguments. Even if there are some concerns, this experiments, the PI and the team will be able to address the issues and then move forward based on the pitfalls and the backup strategies.

Song: I respectfully disagree with your assessment.

Dr. Birgit Neuhuber: Okay, so it appears that our reviewers cannot come to a consensus. Latarsha, what do we do? Do we keep going until we can get to consensus, or can we stop?

Dr. Peter Kozel: Let's pause here one more time. Can the chair share end the discussion before consensus is reached? This is our .. . I think our last poll question. Here it is. Again, some of you are commenting that these meetings move quickly. They do. So let's vote. Ah, here come the results. Ah, this is interesting. Forty-two percent of you say yes, the chair can end the meeting, and 58 percent of you say no. That's very interesting. Let's watch and see what happens.

Dr. Latarsha Carithers: Oh, no. The review panel does not have to come to a consensus on the merits of the application. Our goal here is to discuss the strength and weaknesses of the application based on your own expertise. If we do not come to a consensus, that's fine, and all of the reviewers in the room who are not in conflict can submit a score based on the discussion.

Dr. Birgit Neuhuber: Okay, thank you so much for clarifying this. So I think our discussion has gone on for some time, and it appears that there is just a divergence of opinions and will not reach consensus anytime soon, which, now we know is perfectly fine. So let's move on to human subjects. Could the reviewers please comment on protection of human subjects and inclusion criteria?

May: Yes. Treatment .. . Therapies that we will implement, the CBT protocol, and all necessary precautions are in place to ensure the safety of the participants. They plan to recruit an equal number of men and women, and their projected minority recruitment is acceptable. Children will not be included in the study, and the plan to recruit participants from ages 18 to 85 is acceptable.

Dr. Birgit Neuhuber: Okay, thank you. So let me give summarizing this one a shot. So the application aims to study the effects of cognitive behavioral treatment on opioid use disorders. It proposes a randomized clinical trial for participants over the age of 18. All of the clinical trial review criteria have been addressed. The rationale of the study is based on a recent paper that may indicate beneficial effects of a longer therapy session. However, the reviewers did not agree on the interpretation of the results of this paper and how much they really support the hypothesis of the application, so that's why the enthusiasm of the assigned reviewers appears to vary widely for this one. Is that a fair summary?

Song: Yes.

May: Yes.

Dr. Birgit Neuhuber: Great, thank you. So let's move on to final scores.

Marcy Skidmore: So I think I'll still stick with my three.

Song: I still have a major concern with the concept of a flawed hypothesis, in my opinion, and, thus, I am still at six.

May: I will stay at a three.

Dr. Birgit Neuhuber: Okay, so our range for this application is three to six. Considering the differing opinions in this application, reviewers should vote their conscience. Note that you do not have to score the average of the range. Rather, you should really score the application based on your assessment and your weighing of the strengths and weaknesses that were brought up in the discussion. Okay. Any comments on the budget?

Song: Yes. I felt that the budget is excessive for the amount of work proposed. The person effort from the personnel is too high, and they overestimated the costs. Can you lower the budget in the application?

Dr. Latarsha Carithers: We can make recommendations on the budget for NIH staff. Do you have specific recommendations that you would like to make?

Song: I would recommend that the personnel request for one of the technicians be eliminated and then the supply budget be reduced by $50,000 per year.

Dr. Latarsha Carithers: Okay, thank you. Do the other reviewers agree?

May: Yes.

Marcy Skidmore: I do, too.

Dr. Latarsha Carithers: All right. I will make a note of this in the final summary statement, and please make sure that those comments are in your final critiques, as well.

Dr. Birgit Neuhuber: Can I get some comments on authentication of chemical biological resources? Is that addressed?

May: Yeah, this topic is not applicable for this application since there are no biological or chemical resources that need authentication.

Dr. Birgit Neuhuber: Okay, good. Finally, could the reviewers please address the resource-sharing plan?

Song: The application does not address this topic, so it is not acceptable.

Dr. Birgit Neuhuber: Do the others agree with that?

May: Yes. It was not addressed in the application.

Marcy Skidmore: Yes, I agree with the other key reviewers, as well.

Dr. Latarsha Carithers: Okay, so I'll make a note of that in the final summary statement. And again, please be sure that your comments are in the appropriate section of your critique for this topic. All right. So that brings us to the end of our meeting. I just want to thank you all for the great discussions today and really thank our wonderful chair for her guidance. Just a few reminders before you go, please sign your post-meeting conflict of interest form electronically in IAR. Also, very important, if you change any of your opinions or scores based on the discussions today, your written critiques really need to reflect this. So please go back and modify your critiques, and update your criteria scores, so that we can give the best and most accurate feedback to the applicants. And you'll have until Monday at midnight to update everything. All righty. Thank you, again, and take care, everyone.

Dr. Fungai Chanetsa: Thank you.

Dr. Peter Kozel: Thank you, Dr. Carithers. So I want to point out to everybody that this is the end of our mock review, but this is not the end of the session. To begin with, I want to do some commentary about what we observed here. So first of all, what we saw here is that the objective of peer review was not to reach a consensus. It's to identify the major score-driving issues, the major issues, the strengths and weaknesses that were most .. . reviewers thought were most impactful. And each reviewer gets to identify those and balance those strengths and weaknesses to arrive at an overall impact score. And each reviewer gets to do that as they see fit. Conflict of interest is a very important, and it's also a very complex topic. And while some conflicts are really obvious, others are much more subtle. And we seek to avoid even the appearance of a conflict of influence. And see why rules are very strict, and they're consistently enforced across all review panels. However, COI rules regarding some large consortia or publications with many, many authors are sometimes somewhat relaxed. I want to remind everybody that everybody, all reviewers who are not in conflict with an application, provide an overall impact score on that application. As I said before, the rigor of the prior research has always been an important part of the review, as was premise. But this has been brought forward more to the forefront recently. I noticed a couple of people said that this meeting happened rather quickly. I noticed that we did .. . We viewed about three applications in about 40 minutes. And I want to emphasize that, again, this is a condensed review that is intended to illustrate real issues, real things that happen in our review meetings. But for time, we kind of condensed our talks a little bit so that we would have a little bit more opportunity to answer all of your really exciting questions. And I see that you've sent in more than 100 questions. And that's really, really incredible. And we're really glad that you're doing this, and so to answer as many of those questions as possible, I would like to introduce Dr. Brian Hoshaw, who is the acting NIH review policy officer and review chief at the National Eye Institute. Dr. Hoshaw is going to lead us on answering some of these questions. Dr. Hoshaw .. .

Dr. Brian Hoshaw: Ah, yes. Thank you, Peter, and thank you, all of our participants here, all of our reviewers for that study section. We've got a lot of questions. Some of them .. . We had some review chiefs in the background doing our best to answer them. I'm going to go through now and go through a couple that came that were kind of repeated. A couple at the end were commenting on how much work a reviewer is, and do they get paid? And why would they do this? And it is a lot of work. You've no idea of the time they've put in reviewing, assessing, and training, keeping up to date with the policies. But like I say, the reviewers are dedicated. They're the scientists in the field. They want the best science to get reviewed and funded, and they're very dedicated to that mission. They understand how important peer review is, and most of them will say it helps them with their applications, too, when you see how .. . what happens at a review meeting, what the reviewers talk about, how they're focused on section five of the FOA. That helps them on their own. See what else we have here. A number of questions about not discussed, so I'll forward that to the panel. Does anyone want to go over briefly the process to determine how an application is discussed or not discussed? Sure, yes, Peter.

Dr. Peter Kozel: So the way that .. . What we do is, you'll notice that we had preliminary scores. The discussion of each application began with stating preliminary scores by assigned reviewers. Those are scores that the assigned reviewers provide prior to the meeting. SROs and, in fact, all of us who are on this call are working, active scientific review officers. We look over that list prior to the meeting, and we will draw a line at some point. We look at the scores. We look at the distribution of scores for each application. And we'll draw a line to identify applications which are less competitive. And we do that to try to focus the very, very precious review time of our reviewers on the applications which are most competitive. So at the beginning of a meeting, typically at the beginning of the meeting, we will identify the applications that are in that lower portion that are the least competitive, and we ask reviewers, does anybody want to discuss these applications? As a matter of policy, if one person .. . It only takes one person. Any one reviewer says, "I want to discuss the application," and that application is reviewed. There's no discussion about why you want to review it. It's either yes or no. And it only takes one reviewer. So a decision to not discuss an application requires the unanimous consent of all reviewers. It's a group decision. Thanks.

Dr. Brian Hoshaw: Great, thank you. Thank you, Peter. Another question. How do you become a reviewer? What are your qualifications to a reviewer? And someone also asked, can an early investigator be a reviewer? Does anyone want to address that? Yes, Elaine.

Anna: I think all the scientific review officers have their way of looking for reviewers, and we usually search different databases when we receive our assignments and applications. In terms of .. . so we do look for people who have a particular expertise we need. In terms of how advanced has to be in a career, I think it's not a commonly .. . usually on the professorship level, associate professor, also assistant professor and whole professor. But there are definitely exceptions with certain postdocs who have been really active, that have really relevant publications in a small field. Personally, the way I look for reviewers is databases, and, not uncommonly, people who would like to review will reach out to me. More senior investigators will suggest reviewers to me who they would think would be relevant to the panels I'm in charge of and who would like to review.

Dr. Brian Hoshaw: Okay, thank you, Anna. Elaine, did you have something to add?

Elaine Sierra-Rivera: Yes, I just want to highlight, for the people that are early in their career, NIH has a program that you could participate in [Indistinct] early career reviewer. And you apply to the program, and you are vetted. If you meet the requirements, you would be invited to a study section meeting. Your assignment workload will be limited to two applications as reviewer three, but nonetheless, you participate in the whole process. And it allows you to learn how to write your own grant applications so that they can be successful.

Dr. Brian Hoshaw: Thank you, Elaine.

Dr. Fungai Chanetsa: Brian, I'm trying to raise my hand, it's not working.

Dr. Brian Hoshaw: Okay.

Dr. Fungai Chanetsa: I also wanted to add that if you have an interest in reviewing in this specific study section, you think you have expertise you can contribute, too, you are also welcome to contact the SRO and let them know and send them your CV.

Dr. Brian Hoshaw: Great, thank you. There was .. . Thank you, Fungai. There was also a question about an amended application, and can you request .. . Will you get the same reviewers? Can you request the same reviewers? Can you request different reviewers? Elise?

Elise Shelker: So if you're doing a resubmission of a grant application, continuity of the review process is really ensured by new reviewers having access to your prior summary statement. So they all have access to what were the concerns in the prior review. And if you're doing a resubmission, you're also allowed to do a one-page introduction as far as, how are you addressing the prior reviewer's concerns? Those two things will ensure that, again, the continuity of the review process is clear. But again, I'll review assignments so that's a confidential process, so generally it's unclear if there would be the same reviewers or different reviewers assigned. It really just depends on the scope of the review.

Dr. Fungai Chanetsa: And locus of review, as well. Standing study sections, they may have the same reviewers, but a special emphasis panel would have a completely different set of reviewers.

Leroy Worth: That's correct.

Dr. Brian Hoshaw Yes, thank you. Thank you, Fungai. Thank you, Leroy. But, yeah, there is no guarantee, and then those reviewers sometimes are not available, or they're in conflict at the next meeting, as well. There were a couple questions about Zoom versus in-person. Are they all Zoom now? Are review meetings going back to in-person? Who decides that? Elaine, the .. .

Elaine Sierra-Rivera: Well, most recent CSR, most of our meetings continue to be via Zoom. However, a third .. . As of last October, a third of our meetings have taken place face to face. So we're beginning to see that trend. But I want to reassure all of you out there that there's no difference in the quality of review, whether there is a virtual meeting or a face-to-face meeting. Reviewers put on the same amount of effort to duty to a good review.

Anna: I am a scientific review officer with NIAAA, and we give reviewers .. . We choose if the meeting will be in person or not, and it's usually hybrid option. I would like to also confirm that I did not see the difference in quality of the review since they have become virtual. In fact, I feel people are just even more active.

Dr. Brian Hoshaw: Yeah, thank you, Anna, and I agree. I feel we've also .. . There are some reviewers who just don't have time to travel. At National Eye Institute, we do a lot of clinician training, clinician fellowship K Awards. And it's difficult for any .. . a lot of investigators to travel, but when clinicians have clinic time, it's even difficult. So having a Zoom meeting and not have to fly, sometimes you open up a pool of reviewers. Okay. So there was a very important question that's got a number of upvotes. What is NIH doing to prevent bias or address bias in review, whether it's gender minority, status, age? Does anyone want to take a crack at this? I know this is a complicated topic that probably we could spend a lot of time on.

Elaine Sierra-Rivera: All right. I'll take it. So at CSR, we are asking our reviewers to, before arriving at the meeting, take a bias training. And these are situations that could happen in real life, so to make them aware of this situation so when they are reviewing, they're very careful and conscious about it. And it's really interesting because, throughout the discussion, you will hear reviewers saying, "Oh, remember that in the bias training, X, Y and Z was mentioned," so this is one of the things that we are doing at CSR [Indistinct]. But it's a very important issue, and we are very aware of trying to avoid any biases in the review process.

Dr. Brian Hoshaw: Thank you, Elaine. Yes, and I'll just add that we're always .. . We're very careful when we monitor review to make sure to remind reviewers that the investigator is just one of the five criteria, and they're assessing the whole grant, and they're not assessing .. . You're only assessing what's in the grant, as well, not assuming that someone is a well-known reviewer and making comments like that but keeping the focus on the criteria and everything that you're addressing through the application to do our best to make sure all of the applicants are on the same playing field. Yes, Peter?

Dr. Peter Kozel: And I'll just observe that reviewers listen to the training that SROs provide very carefully. And they're very active and do a really good job of speaking up. So .. . And providing commentary and asking questions to make sure the people are focusing really on the things that we want them to be focusing on. Reviewers are very, very active, and as we saw in the mock review today, this is another example of what a unassigned reviewer can play. A role that an unassigned reviewer can play is asking these important questions and confronting and saying, "Hey, did you really mean to say that? What about this? Have you considered the career stage?" And reviewers do a really good job of policing themselves in the discussion.

Anna: And each other.

Dr. Peter Kozel: Yes .. .

Dr. Brian Hoshaw: Yes, absolutely.

Dr. Peter Kozel: .. . themselves and each other.

Dr. Brian Hoshaw: Yes.

Dr. Fungai Chanetsa: I also think that this may not be an obvious thing, but we also try to make sure that we have a good balance of senior, mid-level and more junior people, also geographic representation and gender as well as .. . Yeah. So we make those efforts, and I think that also plays a part in minimizing bias.

Anna: Yes, and definitely representation of minorities is very important for NIAAA panels, and it's always observed.

Dr. Brian Hoshaw: Thank you, Fungai. Thank you, Anna. There was also a question about finding .. . If you wanted, someone had said, reaching out to the SRO for your application might go. So if you're new, and you haven't submitted before, the NIH Reporter, that is a website that you can find lots of really interesting data on all of the .. . everything NIH funds. And there is a tab on there, Matchmaker. Someone can correct me. I think that's the name of it. And basically .. .

May: That's correct.

Anna: Yeah, that's correct.

Dr. Brian Hoshaw: So you copy and paste your abstract in there, and then it will pull up similar projects, and you can see where those were assigned. So that will say, "Oh, epidemiologic cancer, those applications can be [Indistinct] this section." You can pull up that study section. You can see the roster for it to see if the expertise matches. And then you can reach out to the SRO. It can't hurt. They probably get a lot of requests, but saying, "Hey, I'm new. I'm interested in reviewer. Would you consider me?" There's an early career program at CSR, and other ICs have their own programs, but it can't hurt to reach out and say, "Is there any way I can get experience?" They can talk to you about credentials and what's needed and what the role would be. Yes, Elaine?

Anna: I would .. . Oh, go ahead, please.

Elaine Sierra-Rivera: I was just going to say that, as CSR on this main CSR website, you could find a tool that we have provided to applications that is the assistive referral tool. And you go there, and you put your abstract and your specific aims. They will give you indications of some study sections where those areas are, what would be a good home for your application, in other words.

Anna: Before adding to this, I would like to, again, stress that I am a scientific review officer with NIAAA, so it's a small institute. And sometimes institutes may do things a little bit different in a review. So if somebody reaches out to me and asks for help in identifying panels, one of the things I would also suggest the PI to find a relevant project official and actually also talk to them and see if they have additional recommendations not only in terms of the panel but also about the general bird's-eye view proposal, if it's actually something they should put their effort into.

Leroy Worth: Yes, I agree with what Anna just said. I didn't mean to jump in for Peter, but that's what we usually do, at least at NIHS. We .. . Me, personally, I will direct them to the appropriate PO.

Anna: Yeah, I do that, as well.

Leroy Worth: Yeah.

Dr. Brian Hoshaw: Thank you, Leroy. And just real quick, if I could turn to Peter. So in addition to Matchmaker, when you go into NIH Reporter, there's also a tool called PO Finder. So it's the same thing, a different tab from Matchmaker. Enter your abstract, and instead of the study section, it will list program officers from the Institute. And I highly recommend .. . Some people think that after you submit is when you talk to your program officer. But if you can reach out to them ahead of time, they can really give you some help, helping to shepherd you through the process and help you in your application so you don't have to wait until after you submit. Peter?

Dr. Peter Kozel: So, again, I'm at NIDDK, and I've got a couple of points. And I wild like to emphasize, again, it's always really good and really important to talk to your program officer. They are your guides. They are .. . They make funding recommendations, and they can be your advocate. But it's always good when you're submitting an application to or thinking about submitting an application, regardless of your career stage, to talk to your program officer. I also want to touch on a couple of us here. I, and I know Latarsha, are involved in the review of F&K panels. And so if you're a pre-doc, postdoc applying for an individual fellowship application, you're a postdoc, you're a clinical fellow, and you want to apply for a mentored K, your mentor can ask you and can advise you on how best to or what the best panel or most appropriate panel would be. That's another good resource, and actually, that's an example of good mentorship on the part of your reviewer or, excuse me, on the part of your mentor.

Brian Hoshaw: Thank you, Peter. Fungai? Oh, you're muted again.

Dr. Fungai Chanetsa: So I wanted to point out that it's important to remember that sometimes RFAs .. . Even if you use all these tools, they are all directed to a very specific study section. So investigator-initiated applications are reviewed [Indistinct] CSR. You are more likely to be able to identify study sections, but with some RFAs and special announcements, they are already channeled into a dedicated review panel. So there is no chance of it going anywhere else other than where it's supposed to be reviewed by design.

Dr. Brian Hoshaw: Great. Thank you, Fungai. A couple minutes left. there are a number of questions about .. . I think people were very curious about how often reviewers who don't read the applications chime in. Are their votes weighted any less? How often do they vote? How often do they guide the discussion? This is something that often shocks people when they first see this mock study section, is that, "I haven't read it. Here's my point," but, Elise, do you want to address that?

Elise Shelker: Yeah, I think one of the great things about peer review is that your critiques that you're going to get, if your application is discussed, are not just .. . You have just the assigned reviewers that are giving their detailed critiques. But everybody's score on the panel is equal. Nobody's score is weighted higher. So it's that entire panel that's really going to .. . All of their feedback is going to be into .. . go into your eventual score that you get. As well, if your application is discussed, that resume of the discussion written by the scientific review officer is not just the thoughts and opinions of the assigned reviewers but all of the discussion that takes place and these score-driving points that are brought up by panelists. And, in fact, some of those discussion points may sway the assigned reviewers to modify their scores. So it's really .. . Again, the goal is not to have consensus but to really have everybody's impressions of the application that are weighted all the same, incorporated into that resume of discussion. So I think it's often the case that you do have discussion on almost every application.

Dr. Brian Hoshaw: Great. Great. Thank you, Elise. And as you saw in the example in the mock study section, sometimes, reviewers are just kind of buried in their review, and it's great, but there's one weakness. And then you hear three reviewers say that, and all the weaknesses are independent. So they kind of don't see that, but then someone listening says, "Well, I'm hearing multiple weaknesses, and this doesn't sound like two or three," and that really .. . That's the importance of discussion. [Indistinct]

Song: Yeah, so SRO, actually, we always encourage reviewers, the panelists, to participate in the discussion. So actually having a lively discussion is one of the key criteria for a successful meeting. And then .. . so it's always important. So for presenters, it will always be very important to justify their arguments. And then the panel members, if they have any clarifying questions, they are always encouraged to ask those questions during the discussion.

Dr. Brian Hoshaw: Sure, great. Thank you, [Indistinct] for that. And then one final one, SRO is scientific review officer. Someone asked that in the chat. Sometimes you throw out those acronyms. I try and say it out, but I think that's all. So I think I'm .. . How are we on time? Should I do the wrap-up now? We're good?

Megan Columbus: Yes. Go ahead and wrap up. You have actually .. . You've got 6 minutes, if you want to use them.

Dr. Brian Hoshaw: Okay. All of the .. . Thank you to our panelists in the background, our review chiefs who were answering all 146 questions, all trying together. One of them was, if the program officer can't help during the discussion, what are they doing at the meeting, and why are they there? I don't know if, Nisan, you wanted to take that as program officer or .. .

Nisan Bhattacharyya: Yeah, sure. As, like I said, the program officer role is to be present at the meeting and take notes about the discussion took place and basically just keep it to themself. Not to disclose and making sure the [Indistinct] has been properly .. . is being administered during the review meeting.

Anna: And also, it helps program officers to work with the PI after summary statements comes out to help to address the critiques, or sometimes they may advise that this particular idea, this particular proposal, may not be warranted. It's helpful because scientific review officer runs all the applications. They don't have intimate knowledge of every grant. So they can capture every single scientific nuance of the discussion. It's very helpful to a project official who will be working with the PI to be there.

Nisan Bhattacharyya: Once again, you probably can just add in here the notes that program officer takes is confidential, and because .. .

Anna: It is.

Nisan Bhattacharyya: It is part of a closed meeting. So he or she should not disclose this to anybody. But he or she as a program officer can guide the applicant which way to go and which way .. . if the summary is not favorable how to address those questions. Just wanted to add that.

Anna: Yeah, I think it's so ingrained with me that it's confidential that I should have highlighted that before, clarifying.

Dr. Brian Hoshaw: Yeah, and then the summary statement, that's why I .. . When you get your score, wait until you get your summary statement before you reach out to your program official because the summary statement is the official record of the review. So they really won't want to talk or be able to talk to you until after you have that, and then they can go through the summary statement with you. Peter, is there something you wanted to add?

Dr. Peter Kozel: Well, I just wanted to add that Program Officers scientific review officers at the NIH and the NIH system have complementary responsibilities. So the peer review is a pure analysis of the scientific merit of the application, and program officers are there to observe, and as Nisan indicated, to take notes and to listen to that discussion so that it can inform what they do next. So after the summary statement has been released, they'll have a discussion with the applicant. The program officer also has to take a panel of applications forward and make recommendations about which applications they thought should be funded. Those go to the second level of review, which was at the National Advisory Council, and that's an instance where the program officer is speaking. The scientific review officer, the SRO, is in the room. We are there if someone asks us a question, but we're not allowed to say anything unless we're prompted. And so it flips everything on its head. In a review meeting, the program officer is there, but they're silent. In a council meeting, the SRO is there, but the are silent. That's because we're not allowed to influence the others' recommendations and opinions.

Dr. Brian Hoshaw: Yeah .. .

Dr. Peter Kozel: I also want to .. .

Dr. Brian Hoshaw: Yeah.

Dr. Peter Kozel: I also want to point out that, at the SRO, it's not allowed to really have any sort of opinion about any application. Our responsibility is to make sure that all applications receive a fair evaluation. So we don't have opinions about them at all.

Dr. Brian Hoshaw: Thank you, Peter. Elaine, with something, to add something .. .

Elaine Sierra-Rivera: Yes, I just want to really emphasize the importance of talking with the Program Officer before you start working on your application because you must make sure that an institute is interested in the project that you're doing. There's nothing so sad, and I have seen it over several times, that an applicant sent in an application assuming that institute X is going to be interested in what .. . in the project, and it turns out to be that they're not, and there's no other institute that will accept it. And that application is sent back to the PI after all the months of work on it. So please talk to a program officer in the institute that you think will be interested. And also, all application will be in response to a program announcement, so very important.

Dr. Brian Hoshaw: Right. Thank you, Elaine. So I think I'm going to wrap up now. I think we're in the last minute. Thank you, everyone, for participating, especially Awaken and Alphonso in the background, answering all the questions, and all of our presenters here.