TRANSCRIPT

Webinar: NIH Research Enhancement Awards (R15)…What You Need to Know!

Event Date: Thursday, June 22, 2023

Time: 2:30 – 3:30 PM

>> Charles Anson, Ph.D: All right. Thank you for joining this presentation and discussion of the R15 NIH Research Enhancement Award. My name is Charles Anson. I am a program director at the National Institute of General Medical Sciences, NIGMS, and one of two NIH-wide contacts for R15. However, I do want to note that every participating NIH Institute and Center also has an R15 rep that you can contact. In addition, I'll be serving as your moderator for this one-hour event. So the R15 NIH Research Enhancement Award is comprised of two programs: the Academic Research Enhancement Award, AREA, for primarily undergraduate school, and the Research Enhancement Award, REAP, for health, professional, and graduate schools. Today, our presenters will be sharing an overview of these programs, as well as some application guidance, before they are joined by additional R15 program staff for a live Q and A to help get your questions answered. At this time, I'd like to introduce your presenters, Dr. Anne Gershenson and Dr. Liz Perruccio. Anne and Liz, if you could say a couple of introductory words about yourselves and kick us off, that would be great.

>> Anne Gershenson, Ph.D: Thank you for coming. I'm Anne Gershenson. I'm also a program director in the National Institute of General Medical Sciences, and along with Patrick ... with Charles, I am the co-contact for NIH R15s.

>> Liz Perruccio, Ph.D: Hi, everybody. My name is Liz Perruccio. I'm one of the program officers at the National Institute of Nursing Research, and I am the NINR rep for the R15 program. And so, we can get started. So, is that right, Charles? I go? Okay.

>> Charles Anson, Ph.D: Yes, please go ahead.

>> Liz Perruccio, Ph.D: Okay. Thank you so much, Charles. And again, welcome, everybody. And let's get started by looking at what you will learn today during our session, you'll learn about what the R15 program is about, how the R15 differs from the R01, for example, and the specifics of the R15 NOFOs, or Notices of Funding Opportunities. In case you're wondering, NOFO is the new term for FOA. We'll also learn how to determine eligibility for the R15. And then, the differences for each of the two R15 programs. That is the AREA and the REAP. Finally, we'll also review some best practices for when you submit your application. So, the goals of the R15 are three-fold and are equally important. The R15 supports meritorious research with small scale research projects at institutions that do not necessarily have substantial NIH funding. It provides an opportunity to expose students to research, and it aims to strengthen the research environment at the institution. This slide illustrates the overall landscape of the R15 at NIH. You will note that most of the institutes and centers, that is 23 out of the 27, participate in

this program, which is great news for applicants. So, most likely, you will find a fit for your research at one of the participating institutes or centers, or ICs as we refer to them. Currently, there are over 1,100 active R15 awards, and with the National Institute of General Medical Sciences administrating 33 percent of these, while the other ICs collectively oversee 67 percent of the awards. So, how does one distinguish an R15 from an R01, for example? Both are research project grants, or RPGs. In terms of overall impact, well, it's going to differ when you take into consideration that the R15 is for smaller scale research projects that could be limited in scope, due to the limitations of personnel and facilities at the institution. The R15 also requires that you describe opportunities for students in how the award will strengthen the environment at your institution. Finally, for the R15, foreign institutions are not eligible, although foreign components are allowed. So, some key features of the program are shown here, and what is first and foremost to remember is that the R15 is a research grant. It is not a training grant. Therefore, a key assessment is that it should make an important scientific contribution to the research field involved. The award provides up to $300,000 in direct cost to be spent over the 3-year project period. Like the R01, the research strategy is 12 pages, and the same scored review criteria are used, except the R15 has added emphasis on student engagement. A multiple PI structure is allowed if all the PIs are eligible for the same NOFO. Another feature of the R15 is that the grant is renewable. Currently, there are four R15 NOFOs open. There are two AREA opportunities and two REAP opportunities. Each programmed part gets a different pool of faculty. AREA targets undergraduate-Focused Schools that are not health, professional, or graduate schools. In contrast, the REAP targets faculty at health professional and graduate schools. Each of these opportunities are offered as a clinical trial required or Clinical Trail not allowed versions. Some institutions may be eligible for both the AREA and the REAP. However, individual faculty would not be eligible for both programs, and we'll review this again as we move through the slides. So, let's now define what is meant by the different types of schools for the purposes of the R15. Undergraduate-focused schools are those that confer baccalaureate degrees in biomedically relevant research areas, such as the life sciences, including biology, biophysics, biochemistry, etc. An undergraduate-focused institution or a component is one in which the undergraduate enrollment is greater than the graduate enrollment. Health professional schools and colleges are accredited institutions that provide education and training, leading to a health professional degree. And so, these include schools of dentistry, nursing, osteopathy, pharmacy, physical therapy to name a few. And the degrees conferred are noted here and in the NOFO, as well. Please note that accreditation must be provided by a body approved for such purpose by the Secretary of Education. Now, let's go over eligibility criteria for each of the programs. You will also find this information in section three of the NOFO. To be REAP eligible, the applicant cannot be the PI of another NIH research grant at the time of award, including another R15 grant but can be key personnel on an active NIH grant held by another PI. The applicant for REAP should have a primary appointment in the health professional school or graduate school, such as schools of nursing, public health, dentistry and others as we mentioned. In terms of institutional eligibility, NIH funding for the institution as a whole, that is all the components, cannot exceed 6 million per year in 4 of the last 7 years. And the $6 million cap includes both direct and indirect costs. We have included a link to a helpful decision tool on this and the next slide, which should be helpful for you to figure out how you qualify ... which program you qualify for. Similarly for AREA, the applicant cannot be the PI of another NIH research grant at the time of award, including another R15 grant. But, can be key personnel on an active NIH grant held by another PI. And note for the AREA, the applicant's primary appointment is not in a health professional or graduate school. And also note that the R15 eligible institutions offering degrees in biomedical engineering are eligible under AREA. The

individual school with the ... within the parent umbrella institution has a greater undergraduate than graduate student enrollment. In terms of institutional eligibility, NIH funding for all of the non-health professional components of the institution cannot exceed 6 million per year in 4 of the last 7 years. So, to assist in determining organization funding levels for R15 eligibility, please visit the NIH report website. And from there, you can launch the Awards by Location tool to figure out your institution's financial eligibility. You will also find other helpful tools there, such as NIH RePORTER and matchmaker. If you are interested in compiling data for each component of your institution, for example, follow instructions at the link in the sub-bullet above, which will describe detailed steps for how to do that. For institutions with multiple campuses, eligibility can be considered for each campus only if the Unique Entity Identifier and NIH Institutional Profile File number are established for each campus. For institutions that use one Unique Entity Identifier or NIH IPF number for all campuses, eligibility is determined for the ... all campuses together. Please remember that a signed letter from the Provost or similar institutional official verifying the eligibility of the applicant institution is required. This letter is uploaded as a PDF file in the other attachments section. And please note, that for multiple PI applications, a signed Provost letter is required from each involved institution. Please review the NOFO for detailed instructions on what to include in the letter. You can also find sample Provost letters on the NIH R15 website, and use the link provided in the text bullet above, as well. If the Provost letter is missing, the application will be withdrawn without review. So, please remember to include this important document that verifies institution eligibility. Okay. In the next two slides, we'll conduct hopefully a fun exercise about eligibility. Here were are at Painted Desert University, and this umbrella institution includes five different academic components as shown. And various facility applicants are depicted at each of these schools and colleges. Let's think about institutional eligibility as I walk through this slide. After that, I will ask the audience to respond to a poll question. At the top left, we find Lisa who is a ... who is faculty at the College of Arts & Sciences where undergraduate enrollment is greater than graduate enrollment, and there is $1 million in NIH funding. Thomas, at the School of Public Health, has 200,000 in NIH funding, and where graduate enrollment is greater. Marcus is faculty at the College of Engineering & Applied sciences, where they enjoy $200,000 in NIH funds and undergrads outnumber grads. David is at the College of Nursing with 600,000 in NIH funding, and with a greater number of undergraduates. Then we find Cara at the School of Medicine where they enjoy 5 million of NIH funding, and only graduate students are enrolled. I will now ask our tech lead, Mr. Duran Turner, to please post the poll question. Okay. So, assuming the Painted Desert University received the same NIH funding as shown on this slide for the past 7 years, at the institution level, Painted Desert University would be eligible for A, both the AREA and REAP R15 programs; B, only the AREA program; C, only the REAP program; or D, neither R15 program. So, I will give you a moment to respond to the poll, and I'll try to read the question again for you. Again, we're answering the question assuming the Painted Desert University ... Oh, okay. We have the results already. You guys are fast. So, we have several answers here. And so, I will go onto the next slide and provide the correct answer. So, the correct answer is B, Painted Desert University is eligible for AREA, but not REAP. And remember, for this example, we assumed that the funding was steady over the last 7 years. The reason the Painted Desert University is eligible for AREA and not REAP are that in calculating AREA eligibility, all the non-health professional components of the institution factor into the calculation. So, in this case, the College of Arts & Sciences and Engineering school, with their combined 1.3 million in NIH funding means the institution is AREA eligible. Because all of the schools and colleges, all the components under the umbrella institution factor into determining REAP eligibility, this means that in this example, the institution is not REAP eligible, because of all the components have 7.1 million

in NIH funding, which exceeds the $6 million cap. Okay. We hope this exercise was helpful. If you have any questions about eligibility, please reach out to one of the program officers listed in the NOFO, and we're happy to help. And now, I'll pass it over to my colleague, Dr. Anne Gershenson, who will talk about how to put your application together. Thank you.

>> Anne Gershenson, Ph.D: Thank you, Liz. And so, we've ... you've understood eligibility, and hopefully figured out which R15 NOFO is appropriate for you to apply for, and you're ready to put everything together. So, the first thing you want to do is read the NOFO carefully. There's a lot of information there. Then, think about what science you want to do, because this is really the important thing. Sketch out some specific aims. Just write a paragraph. Take that text. And there's this really nice tool that NIH has called Matchmaker. You paste your text into Matchmaker. The relevant NIH Institutions and Centers come up. And then, you want to go back to the NOFO. Does the Institute or Center that ... or Centers that match my research interest actually participate in the NOFO? Assuming that they do, go to the bottom of the NOFO, find the program officer that's the program ... or scientific contact for the R15 program listed in the NOFO, and send them the text. Send them your specific aim so you can talk about the research that you want to do. When you're thinking about what kind of science you want to do, it should be important. It should be compelling. A reviewer should be able to tell why you want to do it and why it's important. So, you need a clear hypothesis. It should be well justified. Your goal is is to get publishable data and to publish with your students. You want to make the plan feasible with the limited resources that you have as an R15 PI, in terms of effort. You may spend a lot of your time teaching students, undergraduates, health professionals, graduate students and the environment. Also, remember that the R15 is for 3 years, and so, you want to make sure that the research you propose will actually fit within that 3-year timeline. Again, go back to the NOFO. Read the review criteria and the goals of the program. You really need to address those in your research strategy. Those are what the reviewers are specifically asked to comment on. And so, that's what ... a lot of what they're thinking about when they're reading their application. But also remember that you want to make your application easy to read. When I started at NIH, one of the people training me said that reviewers are reading applications and research strategies when they're on their treadmill, taking care of their kids, and eating dinner. So you want to make it easy for people to figure out what's going on in your application. If you have preliminary data ... And it doesn't have to be preliminary data from where you are at the moment. It could be preliminary data you got as a graduate student or as a post-doc. And it supports your hypothesis, put in the preliminary data. It shows the reviewers that you can do the work. But R15s do not require preliminary data, so you can back up your hypothesis using data from literature if you don't have preliminary data. And describe how students will be involved. I'll get into that more in the next slides. Those of you who are doing human subjects research may be doing research that is actually a clinical trial. If you're not sure, the link that will go in the chat, and at the bottom of the slide has a link to poll where you can figure out if you're doing a clinical trial or not. R15s are obviously kind of small scale. So clinical trails supported by R15 should be small, mechanistic, and/or minimal risk. Obviously, anyone, including these students who is doing research on a clinical trial needs to be trained by something like CITI. And the students may participate in all aspects of the research, whether it's for clinical trials or for non-clinical trials, but that includes experimental design, collecting and analyzing data, given presentations, writing publications, participating in lab and research meetings, whether it be on the local level or the national level. Again, student involvement in all R15s should be meaningful. You

should include thoughts in how you're going to recruit a diverse group of students, be they undergraduates, graduate students, health professional students. For the AREA program, which focuses on undergraduate researchers, the number of undergraduate researchers should be greater than the number of other researchers. For the REAP, you want to think about what type of student researchers are involved. Are there going to be undergrads, health professionals students, graduate students? But most importantly, in the research strategy, you don't want to just say "Oh, I'll sort of put in some students. I'm not quite sure what they'll do." You want to be really specific. How will your students be trained? Are the experiments appropriate for their level of knowledge? Student involvement should be really meaningful. In the best possible scenario, you'll end up with students, be they undergraduates or graduate students or health professional students, being co-authors on the publications that results from your research. Now a lot of PIs just think about the science for the application and then scramble at the last minute to get the other things done. I want to point out that another place to convince reviewers that you are a really good researcher is in your biosketch. In your biosketch, the R15 requires that you include information on mentoring students in your personal statement which is part A of the biosketch, and also that for all the publications, you indicate the student authors. Another part of the application is the facilities and resources. For the R15, there are a number of R15-specific things that go in documents, so please read that part carefully. An example is the plan for recruiting students from diverse backgrounds. As many of you know, in January 2023, NIH started requiring the data management and sharing plan for all research project grants. There's a great website, sharing.nih.gov, that has a huge amount of information on the data management and sharing plans. Just remember that we don't just mean data but also metadata. So data is useless if you don't tell me what kind of data it is, how was it collected. What other information do I need to know? I should mention, if you're really worried about this, that there are a number of really nice sample DMS plans on the sharing.nih.gov website. And if you have other questions, you can talk to a program officer, both about the plan and about how much you might put in your budget under the DMS line. Just because there's a DMS, data management and sharing plan, does not mean that you don't have to put in a resource sharing plan. So if you're developing computer software, plasmid antibodies, you also need to include a resource sharing plan. Again, read the NOFO for general and R15-specific directions. You need to put the budget together. R15 is a multi-year funded award, which means you get all the funds in the first year, so there's only one year of budget. For those of you who are used to NSF awards, I want you to pay attention to the fact that the 300,000 direct cost limit for the R15 is a direct cost limit. So indirect and F&A goes on top of that. And all the sorts of research expenses that you would normally think about, supplies, maybe computer time, student compensation, collaborators, or subawards, the data management and sharing costs, and travel, all of those are allowed in your budget. It's really important that students be compensated for their effort. Now for undergraduates, in particular during the academic year, that might be that they do independent research and get credit for that. But particularly for the summer, and for graduate students, students should be paid. And I want to say a little bit about how this payment works. NIH does not allow undergraduates to pay ... be paid a stipend. A stipend is where you say "Okay, I'll pay an undergraduate $5,000 for the whole summer." They actually have to be paid an hourly wage, and that hourly wage has to be at least the Federal minimum wage. It may be higher than that, because it's a state minimum wage, and it may be higher than that, because you have to compete with targets so that you students will actually stay in the lab through the summer. And this really helps you keep and support students. Now you've got all your application together, the science and all the other pieces, and now you think "Okay. Who's going to review this application?" R15s are

either clustered within standing study sections. And in that case, the scientific review officers are great at explaining the special review criteria for the R15, or they're an R15 Special Emphasis Panels. If you're interested in requesting a specific study section, you can use the optional assignment request form. Now the other thing that the Optional Assignment Request form allows you to do is say "These ... This is the kind of scientific expertise I need in order for my application to be reviewed well." And so, I really suggest that you put down scientific areas of expertise. You can also request a preferred study section. In order to find a preferred study section, you could use the Center for Scientific Review Assisted Referral Tool, or ART tool. In that case, you put in your title and your specific aims, and it suggests possible study sections. Go and look at those study sections. Just because ART suggests them does not mean that they're actually appropriate for your research. Look at the study sections. Look at who's on them. Is this a good choice? And if it is, then you can put it into the Optional Assignment Request from. But just remember that this is just a request, and the Center for Scientific Review makes the final call on application assignments. So, just in terms of writing in general, help your reviewers by writing a great application. Lay things out logically. Make it easy for them to read. Write for a broad audience. Do not assume that people have specific scientific expertise. Organize the page, proofread. Give it to other to read. Know what the reviewers are looking for and give it to them. So I know that many of you are at institutions that don't have a lot of resources for grant writing or even for your sponsored programs people. So I'm going to list three other resources. And there also ... will also be two additional slides in the slide deck of other resources and funding opportunities. The first resource is the National Research Mentoring Network, which many of you may be familiar with, because it does mentor training. It also has webinars on grant writing. It has a virtual mentoring. It has social networking. Go onto their website and take a look at what they offer. Some of you may also be aware of the NIH Support for Research Excellence, or SuRE, or R16 program. If your institution is R16-eligible, you are also eligible for the recent SuRE Resource Center that just opened at the University of Kentucky. It provides help and support for both faculty, but also for sponsored programs people. So again, go to that if you institution is R16-eligible. Go to the SuRE Resource Center and see what's offered there and take advantage of their resources. And finally, I want to mention one new NIH program. And I should mention that this program has a yearly deadline, and the first deadline is July 3rd, 2023. So it's just coming up. It's the instrumentation grant program for resource-limited institutions or the RLI-S10. It's for institutions in which at least 35 percent of the enrolled undergraduates are supported by Pell Grants or are historically Black colleges or universities or tribal colleges and universities. And it provides $25,000 to $250,000 for buying equipment for research or for education, for classes, or for some combination of the two. Please contact Dr. Dorothy Beckett if you're interested in that opportunity. So final thoughts on the R15. Visit the general R15 website. Read the NOFOs, and talk to a relevant program officer. And now, I'll hand it back to Charles.

>> Charles Anson, Ph.D: Okay. So thank you, Anne and Liz for that presentation. I also want to thank you all again for joining us for the presentation part for this webinar. It's great to have you all with us. I also want to acknowledge the NIH staff who helped make this presentation possible, including members of the NIH Program Advisory Committee and the NIH Grants Events Team and the NIH Office of Extramural Research. Now if you have questions about the presentation after the event, please feel free to reach out to the contacts that are listed on this slide. So now, we will transition to the Q and A portion of this event. We have received a number of questions in advance of today's webinar, in addition to those that

have been coming in during the presentation. We'll go through as many questions as we can with the time available. For the questions we do not get to, we will follow up with an e-mail communication that addresses those questions. So joining us for the Q and A portion this event, I'd like to also introduce Dr. Carmen Bertoni, who is a scientific review officer at the NIH Center for Scientific Review; Dr. Jeanette Marketon who is the receipt and referral officer of the National Institute of Drug Abuse, National Institute on Drug Abuse; and Dr. Mahua Mukhopadhyay who is a program director at the Eunice Kennedy Shriver National Institute of Child Health and Human Development. Okay. So I will kick off this round of questions, and I will call on the panelists that we have provided with the question, and they will provide the answer to the audience. All right. So the first question that we're going to go over is to Jeanette. The questions reads "Can the signed letter from the Provost include statements supporting the proposed project, or is the letter purely for verifying the institution's eligibility?"

>> Jeanette Marketon, Ph.D: So the purpose of the Provost letter is to verify the eligibility of the applicant's institution at the time of the application submission. And that's of course according to the R15 eligibility criteria. Applications that do not contain this signed letter will be withdrawn and will not go to review. And for multiple PI applications, a Provost letter certifying that eligibility is required for each of the PIs. An institutional letter of support is different from that eligibility letter, and is welcome, but is not required, but could be written by a designated official at the appropriate institution. For example, the Provost or Dean or departmental chair, and should be submitted according to the SF424 instructions.

>> Charles Anson, Ph.D: All right. Thank you, Jeanette. The second question we have is to Mahua. "How much funding can be used for student salary? Can we pay students as much as we want, or is this regulated by the divestee? For instance, I would like to be able to compete with Target at the very least at $16 an hour."

>> Mahua Mukhopadhyay, Ph.D: Okay. So although there is no set salary for undergraduates, students within the institution should be treated equitably, so undergraduate students who are compensated from the R15 grants or other institutional funds should receive at least the national minimum wage and compensation through course credit hours towards graduation is also welcome, but must be justified.

>> Charles Anson, Ph.D: Thank you, Mahua. The next question we have is to Liz. And the question is "For clinical trials, are intervention-focused studies accepted?"

>> Liz Perruccio, Ph.D: Yes. Clinical trails proposing mechanistic and/or low, minimal risk studies are accepted.

>> Charles Anson, Ph.D: All right. Thank you, Liz. The next question we received from the audience is to Anne. And it's kind of ... It's a question about opportunities and exposure to grant-writing skills. And the question I presume is "What is the best pathway or program or prep for the person asking the questions R15 ... on R15?"

>> Anne Gershenson, Ph.D: So I'm not sure I'm going to tell you the best way, but as I said earlier, the National Research Mentoring Network has a number of resources for grant writing. I should also add, and it's in the extra slides in the slide deck that you'll get, that the NI ... The National Institute of General Medical Sciences in the fall actually did a three-part grant writing webinar, and everything associated with that webinar is online. The other thing I would say about writing grants is sometimes your colleagues are your best resources. Even if they don't know your science, you can give them your application to read and see if they can understand it, and what comments they have. And often, that is one of the easier things for you to do, and of course, as a good community member, you will read their applications as well.

>> Charles Anson, Ph.D: Thank you, Anne. The next question we have is to Carmen. And the question is "How do I find the study groups that will be reviewing grants? Will R15 applications be treated separately in comparison to R01 by the reviewers?"

>> Carmen Bertoni, Ph.D: Thank you, Charles. As Anne explained in the slide, we have the ART, or your Assisted Referral Tool, that has been developed by the NIH Center for Scientific Review to recommend potentially appropriate study sections. R15 might be reviewed either in a study section that also reviews other mechanists like R01, R21, or R03, or it can be reviewed in a Special Emphasis Panel, what we call SEPs, assembled just for one review meeting. In this case, just for the R15. For each review cycle, CSR, scientific review officers and Integrated Review Group chiefs decide which option will provide the most appropriate expertise for the current group or of R15 applications. If the application is reviewed in a standard study section, application will be classed through separately from other mechanisms, so that the R15 are considered relative only to the other R15 for streamlining, and the R15s are discussed one after the other.

>> Charles Anson, Ph.D: All right. Thank you. The next question we have, and that will be for Jeanette, is "Can these types of grants be applied to enhance an expanse of specific skills and educational training?"

>> Jeanette Marketon, Ph.D: No. Not the R15s. The R15s are a research grant program. They're not a training program. So NIH offers a range of other training programs that can support educational activities such at the R25s. And I'm actually going to post a link in the chat here where you can reach those training programs. So anyone interested can take a look there.

>> Charles Anson, Ph.D: All right. Thank you, Jeanette. The next question we have is on funding and budget, and it's to Mahua. "Are there any restrictions regarding subawards and financials?"

>> Mahua Mukhopadhyay, Ph.D: So subawards are allowed in R15 grant, but it should be well justified. So it's a short answer.

>> Charles Anson, Ph.D: Thank you, Mahua. The next question will be to Liz. "If the proposed research project includes an intervention, must the application include preliminary data of that intervention?"

>> Liz Perruccio, Ph.D: Thank you. This is ... The scientific foundation for the proposed research should be established using preliminary data, if available, and/or published data. Although preliminary data are not required for an R15 application, it may included if available.

>> Charles Anson, Ph.D: Thank you, Liz. The next question on our list from the audience was ... This is to Anne. And it's about writing ... on writing the R15. The questioner wants to know how to better understand how their team's work aligns with the NIH mission for possible funding. The process for applying and identifying program officers to contact, the process for applying, and the process for identifying program officers to contact, where to find previously funded projects and proposals. So quite a loaded question, Anne.

>> Anne Gershenson, Ph.D: Yeah. So a lot of that answer is, and if someone can put this in the chat, the link to Matchmaker in the chat for me, that would be great, is the NIH Matchmaker site. So you can even take let's say an abstract from a paper that you've written or a paragraph of your scientific ideas, put that into the Matchmaker text box. It will search for a while. It will pull up NIH grants related to that. It will actually put up a chart that says "These are the Institutes or Centers that are likely to fund it." Then, you can go back to the R15 Notice of Funding Opportunity, and you can see does the Institutes or Centers that are likely to fund the research that you ... The science that you're interested in or the research that you do, actually participate in the NOFO. If they do participate in the NOFO, you can scroll down to the bottom of the NOFO, find the scientific contact for those Institutes or Centers, and e-mail them. It helps if you e-mail a paragraph about your research, or in the best case scenario, a draft of your specific aims, because that way, the program officer or program director that you're interacting with or the referral person will be able to get an idea for what science you're interested in doing. And I think that covered everything, Charles.

>> Charles Anson, Ph.D: Right. Yes. I think you did. Thanks, Anne. That was a loaded question. The next question we have is to Carmen. It's both a statement and a question. So it says "Recruit reviewers from second and third tier colleges." And I .. that's the statement part I presume. The question part is "Who will be bringing this awareness to the reviewers and the panel?"

>> Carmen Bertoni, Ph.D: Ah, yes. So the study sections are normally composed of reviewers from first tier colleges or universities, as well as R15-eligible institutions, preferably, with active R15 funding or demonstrated ability to secure R15 in recent years. The number of reviewers coming from each type of institution might vary depending on a number of factors. Those include, but are not limited to, the level of expertise needed to evaluate each proposal, high quality scientific accomplishment evident through peer review publication, current or recent history of research supports, honors, awards and so forth. Furthermore, emphasis is placed on ensuring that each panel is diverse in terms of gender, race, ethnicity, geographical distribution and even career stage. Scientific review officers are the designated Federal official managing the review meeting. Our role is to uphold fairness and competency, and ensure that the panel adheres to the NIH policies and procedures throughout different stages of review. They're also responsible for bringing awareness to the reviewers before and during the study section, and to interrupt the discussion of an application if they hear comments that are out of line with the NIH peer review policies.

>> Charles Anson, Ph.D: Okay. Thank you for the response, Carmen. The next question we have is to Jeanette. And the question is "Can you apply for an R15 if you have a K award?"

>> Jeanette Marketon, Ph.D: Well, that depends. If you're an independent investigator, and you've met all the other eligibility requirements, then, yes, you are eligible to apply. But you should note the R15 should be scientifically distinct from a K award. You cannot have two overlapping applications at the same time at NIH, under review or a new application overlapping with a previously funded one. If you look at the R15 eligibility guidance, it actually states that a PI may not be the PI of an active NIH research grant at the time of an R15 award. So, research grants are of the R series awards. So, these are your R01s, R21s. The K series awards, as in this case, are research career development awards, so these are excluded from that eligibility phrase.

>> Charles Anson, Ph.D: Okay. Thank you, Jeanette. Moving onto the next question that we have. This is another budget related questions, and we'll have Mahua answer that. The question is "Can infrastructure cost be added to the budget of an R15, such as shelving and drawers for bench space, additional gas lines, etc., to increase lab capacity for undergraduate researchers?"

>> Mahua Mukhopadhyay, Ph.D: Okay. So the short answer is no. R15 is a research project grant, so it's really not meant for infrastructure, such infrastructure like bench, and bench space, gas line, etc.

>> Charles Anson, Ph.D: Okay. All right. Thank you, Mahua, for that response. The next question is for Anne. And the person asking the question wants to know about the importance of preliminary data and some tips for success.

>> Anne Gershenson, Ph.D: So preliminary data, as we mentioned a couple of times, is really helpful, but as I said, the R15 does not require preliminary data. If you put in preliminary data, it should support your hypothesis or support your ideas. But remember, you can also use data from the published literature. In terms of tips for success, you want to be clear and concise. You want to avoid jargon. You want to make your application easy to read, which is another reason to give it to people to read. You want to make sure that the research is actually doable with the R15 resources, and within the 3-year funding timeline. You also want to mention possible pitfalls and alternative approaches. This is something that people sometimes forget. If you're working in a really crowded field, you want to talk about how your research compares to other research that's being done in that field. For the R15, you really want to make the student engagement meaningful. And don't forget to put mentoring experience in your biosketch. Remember, your biosketch is another place to convince reviewers that you're really the right person to do this research.

>> Charles Anson, Ph.D: Okay. Thank you, Anne. The next question we have is on review, and it's for Carmen. The statement ... the question says understand ... I guess they want to under ... what other ... They want to understand what are the important scoring criteria.

>> Carmen Bertoni, Ph.D: Okay. That's ... That's going to be a long answer. But we do know that a reviewer will evaluate the significance, the investigators, the innovation, the approach and the environment in R15 application. And for the significance, the main questions that are asked is whether the prior research that serves as the key support for the proposed project is rigorous, whether the data are publishable, disseminated and important to the field, how would the scientific knowledge, technical capability, and/or clinical practice will be improved. The latter is specific, obviously, to the REAP. Will the student be exposed to research and how and whether this will strengthen the research environment of the institution? In terms of the investigators, the main key questions that will be addressed is whether the program director, the PI or the PIs, or collaborator and other researchers are suited to the projects. Do they have experience in supervising and engaging students in research? Do they have the appropriate scientific experience and training? Please note that early stages investigator might have briefer publication records than experienced investigators. And those are usually evaluated more on appropriate experience and training. In terms of innovation, does the application take advantage of challenge or build on current research concepts and models or research techniques? Or does it propose innovative approaches to engage student in research? In terms of the approach, the reviewers will evaluate the overall strategy, the methodology, the analysis, whether there were reasoned and appropriate to accomplish the specific gains of the project, whether the application address witnesses in rigor or prior research, whether it present potential problems and alternative strategies and whether it's establishing a feasibility throughout a rigorous approach. Most importantly, and just as importantly, sex is a relevant biological variable. It needs to be addressed and considered. How will the students be involved? Are they going to be receiving meaningful involvement and mentoring? Will this stimulate the interest of students, so that they will consider a career in the biomedical sciences? Are there plans to recruit well-qualified students from diverse backgrounds? Finally, in terms of environment, the key consideration include institutional support, equipment, and other physical resources available to the

investigators. And applicants are encouraged to discuss the availability of well-qualified students to participate, as well as the plans that they have to recruit qualified students from diverse background, including underrepresented minority. And this was a long answer, but I hope I was clear enough.

>> Charles Anson, Ph.D: All right. Thank you, Carmen. So, we're quickly running out of time. We have about 9 minutes left for our event, so we'll try and fit in at least four or so more questions. And we've been averaging about 2 minutes per question, so that should work. So the next question is to Jeanette. And the question is "Is it an issue to have multi-PIs from graduate and undergraduate programs?" This is for republication. I assume it also applies to AREA. "Do you suggest having the PI from the graduate program and Co-I from the undergraduate program?

>> Jeanette Marketon, Ph.D: For multi-PI applications, all the PIs must be eligible for the same R15 program. So that means for a REAP application, all the PIs must be REAP-eligible, and similarly for an AREA application, all the PIs must be AREA-eligible. However, the NIH has this ... I can't think of the word. So according to the NIH, current investigators and collaborators are distinct from a PI. So in those cases, the collaborator or a co-investigator has to specify a percentage of time for the project, and is considered senior or key personnel. So the biosketches will also be included. For a co-investigator or a collaborator does not need to even be R15-eligible, let alone to the specific programs. So in this specific case, you would need to decide are you going for a REAP or an AREA application, and have the appropriate PI that has the eligibility for those. But you could have the other investigator or PI take a role as a co-investigator or collaborator. But you're going to want to look at the actual research project and decide which is suitable to take the lead as the lead PI.

>> Charles Anson, Ph.D: All right. Thank you, Jeanette. The next question is to Mahua. And the question is "Are there any templates or examples of R15 budgets and proposals?"

>> Mahua Mukhopadhyay, Ph.D: So the National Institute of Allergy and Infectious Diseases, NIAID, has sample grant applications and summary statements on their sample application and [Indistinct] page. I will provide the link in the chat. Remember to always follow current opportunity announcements instructions because that changed. So the samples may not reflect the latest application format or rules. For example, the data management and sharing costs is a new item in the budget section. And that is not reflected in any sample application yet. However, the budget is not a score ... is a nonscorable part of your criteria. Therefore, applicants will not be penalized for any budget related issues. And, yeah, I will provide a link in the chat.

>> Charles Anson, Ph.D: All right. Thank you, Mahua. So, this question to Liz. "When should we go for clinical trial required versus clinical trial not allowed?"

>> Liz Perruccio, Ph.D: Thank you. So I will put in the chat a link for the web page at NIH where it describes the definition of what a clinical trial is. So there are details on the page that I'll put the link the chat.

>> Charles Anson, Ph.D: All right. Thank you, Liz. Next question and probably one or next to last or the last question we'll have time for, so we can wrap up properly is to Anne. And the question is "What type of student engagement do reviewers want for the award?"

>> Anne Gershenson, Ph.D: The student should be meaningfully engaged. So they can be engaged in all aspects of the research from designing experiments, to doing experiments, to analyzing data, writing publications, giving posters. But you really want the students not to be a dishwasher. They really should be actively involved in the research and learn what it is like to be a real scientist.

>> Charles Anson, Ph.D: We'll push it and do one more with ... the question is what is ... This will be to Carmen. "What is weighed in the proposal and how much?"

>> Carmen Bertoni, Ph.D: Well, an application does not need to be strong in all categories to be judged likely to meet the goals of the R15. For example, a solid and interesting scientific research project that is not by its nature innovative or paradigm-shifting, and includes a good plan to engage undergraduate students in primary research or graduate students in primary research might be considered a strong area or republication. The overall impact score will ultimately determine the quality of an application. This overall impact score is not an average of the five scorable criteria, but rather, this is an overall assessment of the likelihood of the project to make an important scientific contribution to the research field involved or fields, to provide research opportunity to students, and to strengthen the research environment of the institution. Included in the overall impact score are other nonscorable criteria, so do make sure that those are included and well addressed in your application. And those include human subjects, if you're using human subjects. Make sure that the [Indistinct] animal and the biohazard section are well addressed in your proposal. These criteria do not receive a separate score, but issue with this component might affect the overall success of the application. So not just the research strategy is important.

>> Charles Anson, Ph.D: Thank you, Carmen. So we have hit our 2-minute warning, and we'll have to wrap things up. So again, I want to thank you, our presenters, thank our Q and A panel for sharing their expertise on the R15 program, and their guidance to our attendees on the application process. And a big thank you also to all of you for taking time out of our schedule to join us today. Now your feedback is very important to us. So please take a moment to let us know your thoughts on this virtual event by completing the brief survey on your Zoom screen when you exit. And once again, thanks again, and have a great day.