Genomic Data Sharing and Other Sharing Policies

Session Transcript: 2022-2023 NIH Grants Conference

Megan Columbus: My name is Megan Columbus. I'm the Communications Director at NIH's Office of Extramural Research, and I'll be your moderator for this session. Our presenters today are both experts in sharing policies from the NIH Office of Extramural Research. Our first presenter will be Dr. Nonye Harvey followed by J.P. Kim. With us as well in the background are going to be sharing policy co-leads, Dr. Julia Slutsman and .. . Actually it's just Dr. Julia Slutsman who's going to be answering questions in the chat in the Q and A box as we go along, and then she'll join us on screen for questions at the end. I would like to know a little bit about who you are before we get started and what kind of experience you've had. So if we could get the poll running. All right. Can you tell me if you're a researcher, a research administrator or if you hold another position? And what we're most interested in really is how much you've been involved with the sharing of genomic data, which is the focus of this session, and research tools, model organisms or if you've never been involved in any of those things. Let me give you just a minute to respond. All right. Sylvia, could we see the responses, please. Okay. Interesting, right? So it's a little surprising that we have more research administrators here than researchers. That's great to know. I love that. And it does look like folks have been involved in genomic data sharing before, but it looks like there's lots, 62 percent, who never have. And so you've got a lot to learn in this session, and so hopefully it will be illuminating for you. With that, let me turn it over to Dr. Nonye Harvey.

Nonye Harvey, Dr. Ph, MPH: Thank you, Megan. Can you hear me? Just wanted to do a sound check. Yes? Okay, great. Well, welcome, everyone. I'm Nonye Harvey, and I am pleased to be co-presenting with my colleague, J.P. Kim, this morning. Or it might be afternoon or evening depending on what part of the world you're dialing in from. So we'll be talking briefly on the overview of the genomic data sharing policy. It's good to know from the poll that a lot of you are familiar with this policy. So, and for those that are not, we hope that it will be informative. And we will also touch on very few other NIH data sharing policies. Okay. So here is the outline for our talk this morning. But before I do that, I just wanted to let you all know that .. . or acknowledge that we have been getting a lot of questions on budgets and cost related to the data management and sharing policy, And OER has been developing those FAQs, and there are new ones now that are up on the sharing.nih.gov website. So do want to encourage you all to frequent that site as we're developing new resources. We will be posting those over on the website. Okay? So again, I will just touch very briefly on the data management and sharing policy. There was an extensive presentation by our colleagues yesterday. The recording, as Megan mentioned, will be available in 7 business days. So you can go there and learn more about DMS policy. And then these are the other sharing policies that we will be covering, and we will end this session with a question and answer. All right. Okay. So NIH has a long-standing history and commitment to data sharing, as you can tell from his milestone .. . the time line here, right? So it's got lots of data sharing initiatives and milestones that we are not covering all of them, so no worries there by it. We will definitely touch on the research tools policy that dates as far back as 1999 and are fastforwarding to today, almost, or 20 years later, right? Where here now with the DMS, the Data Management and Sharing Policy, that went into effect just last week. So I hope that this give you sort of an appreciation of NIH's commitment of fostering and promoting data sharing, sort of beyond scientific research. So now just really quickly on the DMS policy, there are only two requirements for this policy. So one is .. . The first requirement is the submission of data management and sharing plan with the application. And that is to describe the what type of data type, the when, the where and how the data will be shared. And the second requirement is compliance with the approved plan by the funding NIH institute, center and office. And this may affect future funding as well. The DMS policy applies to all NIH research that is generating scientific data. And what do we mean by scientific data? So under the DMS policy, scientific data refers to reported factual material of sufficient quality to validate and replicate research findings regardless of whether that data are used to support scholarly publications. It does not include lab notebooks, preliminary analyses, peer reviews and physical objects. So in terms of timing for when to share data, there are two time points, whichever one comes first. So either by no later than the publication date in a peer review journal or by the end of the award for unpublished data. So whichever of those two time points come first. And the DMS policy does not specify how long data should be shared, but certainly encourages applicants to consider other relevant requirements and expectations. For example, that can be found through journal policies or repository policies. So that's all I'm going to say about the Data Management and Sharing Policy, and I will talk about the GDS policy now, the Genomic Data Sharing Policy, which many of you are familiar with. So that's great. So purpose of this policy is to set expectations and responsibilities for investigators and institutions to ensure a broad, responsible and timely sharing of genomic research data. And the Genomic Data Sharing Policy applies to all NIH-funded research generating large-scale human and nonhuman genetic data as well as secondary research using these data. And it applies to all funding mechanisms, regardless of cost. All right. So for grants, contracts and intramural research projects. And this policy went into effect for competitive grants in January, January 25th, 2015, and for the intramural, August 31st of the same year. So there are two ways to access human genomic data, and under the GDS policy, one is through unrestricted access, and those data are data that are publicly available to anyone, right? And the other way is through controlled access, and in this case investigators have to obtain approval from NIH data access committees in order to use the data from NIH-designated data repositories, such as dbGaP. So to ensure that the appropriate and responsible use of genomic data, protection for research participants have been built into the process for submitting and accessing human genomic data. So for human genomic data to be submitted in an NIH data.. . NIH-designated data repository, and institutional certification needs to be provided. So this is signed off by an investigator and the signing official are assuring the appropriateness of the data submission, and also needs to include any applicable data use limitations on this. And so the data gets submitted to.. . in the repository as either unrestricted access data or controlled access data, depending on the repository and the data type. And in terms of access, investigators must submit a data access request. And this is where they have to describe their intended use of the data. And this is cosigned by the institution and an agreement to terms of use and the data use certification. So the PI also agrees to the code of conduct. This data access request us approved. It's reviewed and approved by the Data Access Committee. So they review it for appropriateness, and also verify the PI credentials, and review for any potential for group harm, such as stigmatization. And so that's just in a nutshell the process for submitting and accessing data. And I wanted to point out also that the genomic program administrators who are NIH program staff that support the study registration and study submission process. Their contacts are available on the sharing website, and NIH Data Access Committee for the different institutes are also there. Their information are available on the sharing website if you have any questions. Okay. And just really quickly, the terms and conditions I had mentioned that the PI has to agree to in the Data Use Certification, so that we're ensuring that they're responsibly accessing and using data, just pointing out a couple of things here that the investors have to share the data only with individuals that are listed in the data access request. They need to report any violations under the GDS policy to the appropriate NIH Data Access Committee and provide annual updates to NIH on the research. So these are just a few of the terms and conditions in the Data Use Certification that can be also found on the website. Okay. So that was a brief, brief, brief overview of the GDS policy. So knowing what you know about the GDS policy and what you already know about the DMS policy, hopefully, I will now go over sort of how both policies interact with each other because, again, research that is subject to the GDS policy, and also the DMS policy, have to meet expectations of those policies, right? So I will talk a little bit about that. So to reduce the administrative burden for applicants whose research is subject to both the GDS policy and the DMS policy, again, this is something that NIH heard from the community. NIH has gone ahead and harmonized certain aspects of the GDS policy with the DMS policy, and one of the main areas of harmonization is the support for a single data sharing plan. So no longer accepting a separate genomic data sharing plan, but just a single data sharing plan. And the NIH also published a request for information on some of the implementation changes for Genomic Data Sharing fans. So this is a guide notice for that, and these are the links to what I just talked about. I'm not going to go into that in depth, but before I talk about .. . or as I talk about some of the areas or touch on some of the areas of harmonization between the two policies, what is not changing for the Genomic Data Sharing or research that is subject to the Genomic Data Sharing policy? So GDS policy consent expectations for sharing human participant data is not changing. That will not be affected by the DMS policy. Similarly, the timing for when to submit institutional certification, which should happen at the Just-in-Time, that is also not changing. That remains the same. And the GDS time lines for data submission and release will not be affected by the policy. However, the latest possible time to submit data will be at the end of the award performance period. Also not changing, or not affected by the DMS policy, is the GDS expectations for the type of data to share and the amount of data to share. And indicating if a study should be designated as sensitive for the purposes of access to Genomic Summary Results - that also will not be changing. So what is changing? Yeah. So submission of a single plan. We will not longer be accepting a separate Genomic Data Sharing plan, but rather a single DMS plan that addresses both the GDS and the DMS policies. And this plan will be reviewed by program staff, not by peer reviewers. Any limitations on sharing genomic data should be described in the DMS plan. We will no longer be requesting an alternative data sharing plan for genomic data. And in terms of budget considerations, a detailed budget includes allowable costs, including different data types, and genomic data should be included as part of the plan. And compliance for awards that are subject to the Genomic Data Sharing Policy will be handled in accordance with the compliance and enforcement terms of the DMS policy. So again, just reiterating that just a single plan, right, for research that is subject to both the DMS and the GDS policy. And just pointing out here, this is a screenshot from our website where we have provided instructions for how to include additional expectations for genomic data in the data management and sharing plan. So we have call-outs for those specific expeditional genomic data expectations on the website, so you can see this and other examples on the sharing.nih.gov website. And in terms of compliance, the approved DMS plan becomes a term and conditions of award. And grantees will need to report progress on implementation of this approved plan in their Research Performance Progress Report. Just a note that we are on the process of updating the RPPR, so stay tuned on that. If any additional details are needed, it's important that that gets communicated with the NIH staff to help resolve issues early on with the DMS plan. And this can occur to the JIT process and also provide an opportunity to potentially revise the DMS plan, but communication with the staff is very important. And finally, NIH reviews compliance annually, and failure to comply may result in an enforcement action and may affect future decisions as well. So here are two recent DMS policy supplemental notices, and the first one provides considerations for researchers as they plan human subject research and develop informed consent materials, right? So while this supplemental information provides the basic framework for considering how to protect privacy when sharing human participant data, it is not intended to replace the consent expectations of the GDS policy. And then the second one has to do with the supplemental information is about responsible management and sharing of American Indian and Alaska Native participant data. So on this note, I will pass the ball to J.P. to talk about the research tools policy. Thank you.

J.P. Kim, JD, MBA, MPP, MSc, MA: Thank you, Nonye. Appreciate it. Hey, everyone. How you doing? I'm J.P. Kim with the NIH. I'm the NIH Extramural Data Sharing Policy Officer, and I'm going to talk with you about some of the older sharing policies. We're starting with the Research Tools Policy. So by the way, so if you don't know, actually sharing of research resources has been a long-time thing with the NIH. It's actually even before 1976 where we actually had policies. So these are all expansions upon the basic policy. So with respect to the Research Tools Policy, we call it the Research Tools Policy, basically it came out in 1999. And so what happens is it actually consists of four principles. Basically we want you to ensure academic freedom in publication, ensure appropriate implementation of the Bayh-Dole Act, which is with you have inventions and the like. We want to minimize administrative impediments to academic research, so that basically the flow of research tools can actually go amongst the community and ensure the dissemination of research resources developed with NIH funds. Which is basically what I said before about research tools for the research community. Now, in addition to the principles in this Research Tools Policy, there were actually guidelines. In other words, there were ways to share because people were like, "Oh, these principles are wonderful because they tell us how." And so the guidelines actually were added to the principles to make the entirety of the Research Tools Policy. Okay. Now, although we didn't touch on it, what happened was in 2003 was the first NIH Data Sharing Policy, but on the heels of that came the Models Organism Sharing Policy in 2004. And basically what happened was it's for any .. . So this policy applies for any applications proposals that produced unique model organism research resources. So what happens in this policy, similar to what we're doing now, is that you needed to include a sharing plan for distributing these research resources and, or provide a justification as to why distribution is restricted or not possible. It applied to all extramural investigators funded by NIH grants, cooperative agreements and contracts, and even for SBIR and STTR awards. And just so you know, even though the old policy had a 500K threshold, the Model Organisms Policy did not have a 500K threshold. It was just for any applications that produced unique model organisms. Now, there's some people ask what they are, but there are the nonhuman mammalian model organisms, which we all know the rat and the mouse, and then there are other things, such as budding yeast, zebrafish, frogs, fruit flies and the like, nonmammalian organisms, and basically since it applied to model organisms and resources, resources included materials and data necessary for production and understanding the model organism, such as, as you can see here, genetically modified organisms, mutant organisms, sperm, embryos, vectors, et cetera, established cell lines. And genetically modified organisms are those where mutations have been induced. So that's generally what the policy defined as the model organisms. Now, I like to say, "Many of you are wondering why," but you're probably not, but we're going to tell you anyway where a lot of these policies eventually come from. Well, as I noted, NIH has actually had quite a bit of stuff from even before 1976, and it's been growing. We have a vast array of policies of sharing. But there was basically a government-wide movement, basically, for access of federally funded research results. And basically what happens is here, as you can see in this table that is actually provided by one of our colleagues, the National Library of Medicine, in 2013, there was a memo, a public access memo, that came out from the White House's Office of Science and Technology Policy, and this past year in August the Office of Scientific .. . I'm sorry, of Science Technology Policy actually came out with the equitable access memo. So let me tell you basically how they differ. So what happened was that 2003 it applied to all federal departments and agencies with an R&D budget of over $100 million. Now, the new memo, however, now applies to all federal agencies regardless of amount. So again, earlier developed that we needed to develop and implement public access plans and policies for publications and data. This was what the agencies needed to do, and under the new policy they need to develop new or update those policies and to move forward, and here's a very significant difference. Whereas under the 2013 memo there was up to a 12-month embargo before publications become publicly accessible. Now publications resulting from federally funded research are made freely available and without an embargo. Again, previously, maximize access to a digitally formatted scientific data, and it was requiring data management plans for intramural and extramural research. And under the current policy scientific data, as you can see, underlying publications should be made accessible at the time of publication and need to develop approaches for sharing scientific data not underlying publications. And finally, the new memo actually talks about outlying policies to establish researcher responsibilities on data management and sharing. So it's great that you all are attending .. . that a lot of research administrators are attending today because it actually .. . You're the ones who the PIs are going to go to as the point of contact for basically how to do these plans and the like that are going to be required under NIH policies. But these particular public access memos from the White House actually help sort of set a stage, not just at NIH but across the federal government. Let me see. Now, with respect to the NIH, we actually have a website called sharing.nih.gov, which very easy to remember we'd hope. And basically because we have so many different policies, you might actually be wondering, which policies apply to my research? So basically what happens is, as I said, this policy decision tool will allow you to help choose which policies actually do apply. As you can see in this particular screen, we've listed the Genomic Data Sharing Policy. We do have the 2003 Data Sharing Policy for older applications. The new DMS policy, as my colleague Nonye had mentioned, took effect last week on the 25th. And the Model Organism Policy and the Research Tools Policy. So using this tool can actually explain to you how things .. . which policies apply, and note that sometimes multiple policies could apply for your particular research. So this is actually a very good thing for you to actually look at, both the research administrator and the PI as well, be familiar with. So here's some key points I wanted to note to you. So basically what happens is, with respect to data, although I will tell you that as a recovering IP attorney, using the word own and data, I would be chastised by my colleagues. However, to make things easier, here are three important points. One, grantees do own the data they develop with federal funds. That's under our Grants Policy Statement. Two, basically the Public Access Policy, you know, requires the final peer review manuscripts upon acceptance of publication must be published at PubMed Central. That's actually an NIH policy you need to follow. And finally, the third one is regarding the Research Tools Policy. It requires the sharing of unique research materials and biological materials with the research community so that it will continue to advance research. So those are some key points, as I said, to note. Okay. Let's see. I'm sorry. There we go. Now, for more information. We have various websites that can help you. As I noted, the NIH Scientific Data Sharing website. That's sharing.nih.gov. We actually have FAQs, for example, the DMS Policy FAQs, as my colleague Nonye had noted and I believe Megan had noted. They have been .. . They're continuously updated. So you might want to check those if you have any questions about DMS policy, and we have other Q and As there as well for other policies. Finally there is an e-mail box. Actually, very easy to remember. You can e-mail questions about all the policies at sharing@nih.gov. And there are actually webinar series we've been putting out basically with respect to DMS policy implementation, so keep an eye out for those as well. And they'll help you to understand and how to address the needs and such under the policies. Now, okay, don't be alarmed by the long lists. Basically here when it comes to resources, I'm going to actually show them to you, and basically they're great references, and when you have your .. . What is it? You have to your .. . You'll be able to get the slides sent. You can actually go to these. So the first one here is the final DMS policy. When the DMS policy was announced in October of 2020, as I said, it's effective as of January 25th of this year, that was the first one here. Okay, we need to highlight that. The next policy .. . I'm sorry. Go ahead.

Megan Columbus: I'm just wondering, so people have this slide and all these resources are available on the website. I wonder if we might do better to maybe answer their questions.

J.P. Kim, JD, MBA, MPP, MSc, MA: That would be fine. Let me just .. . Exactly. Let me just quickly just say, and the supplemental information, these were published the same day for those initial questions. These other things are implementation and other slides, as Megan noted, that you can access. And they should provide you with additional clarity on how to move forward when you're actually applying for funding. And these are just some of the general website addresses that would be helpful for you. And I will now say thank you for your time, and we will now open it up for Q and A, as Megan actually had alluded to. So thank you very much, everyone, and hopefully this will be a great session and very helpful for you. Okay? Thank you.

Megan Columbus: Thanks so much, J.P. One of the things we did when we built that sharing.nih. gov website is we tried to take the information that was in those policies and bring it onto the pages so that it's in a way that's digestible and easy for people to find. If you don't find that's the case, please let us know, and we would be happy to adjust things. But let's go ahead and start getting to questions. How much time does the PI .. . Do we have everybody on camera that we need to? Can we add Julia onto camera, please? And we can stop sharing the slides. Sorry. Alright. Great. Okay. So let me ask the panel, how time does a PI have to share unpublished data after the end of the grant?

Julia Slutsman, PhD: I can take that one. So for research subject to the DMS policy, which is research that generates scientific data, the earlier of the following two time period .. . Well, for unpublished data, it's by the end of the period of performance for data the doesn't underly publications. And I want to mention, too, that under the GDS policy there are some earlier time lines in certain cases. This question came up in the Q and A, and we posted a link to some FAQs that we have for GDS that defines those by data type. So that's a good resource as well, as you're thinking through by specific data type.

Megan Columbus: Great. Thank you so much, Julia. Is it NIH .. . We had a couple questions on this. Is it NIH policy to have the PI's home institution maintain a copy of the data even after it's deposited into one of these public repositories?

Julia Slutsman, PhD: I can start with .. .

Nonye Harvey, Dr. Ph, MPH: [Indistinct]

Julia Slutsman, PhD: Okay.

Megan Columbus: Go ahead, Julia. Yeah.

Julia Slutsman, PhD: Oh, thanks, Nonye. I can start, and we can tag team on this one. That's a good question. So that's not a policy expectation in the DMS policy or GDS policy or other sharing policies. However, there may be institutional requirements with regards to data retention, and additionally for human subjects research there may be federal or state requirements that apply to data retention, and there might be additional applicable laws depending on data type. So a lot for PIs to consider when considering what their retention plan will be.

J.P. Kim, JD, MBA, MPP, MSc, MA: Right, and I just wanted to add for example for genomic data, some people might think that you have to deposit it in dbGaP and nowhere else. But basically what happens is with respect to the copy of the data that you're putting in dbGaP, we just ask that there be a copy there, and you can maintain it, and you can share it elsewhere as well. So keeping a copy at your institution, as Julia noted, is probably a very good institutional policy that you should actually ask your administrator about.

Megan Columbus: Thank you, Julie and J.P. Diane is still a little bit confused about the answer. So after the grant ends, for how long must the data be published? Or maintained?

Nonye Harvey, Dr. Ph, MPH: So if it's a DMS policy, there is no specific guidance that would say in the policy that requires how long, or specifies how long, the data should be made available, right? But as I had mentioned that the policy does encourage investigators to consider other relevant and appropriate requirements from other sources, like their journal policies, or wherever they want to deposit the data, or in other repositories, because the repository might have their own specific requirements, right? So it is important to look at those different other policies, but the NIH DMS policy does not specify. So there's a latitude, I would say, flexibility there that should be appreciated. So .. .

Megan Columbus: Thank you so much.

Nonye Harvey, Dr. Ph, MPH: Hope that helps.

Megan Columbus: Thank you, Nonye. All right. So a couple questions about budgeting, our favorite topic. So if there's a subrecipient proposed on the project, are they required to also have a line item for Data Management Sharing description in the budget justification?

J.P. Kim, JD, MBA, MPP, MSc, MA: I would love to take that one. No.

Megan Columbus: All right.

J.P. Kim, JD, MBA, MPP, MSc, MA: Basically no.

Megan Columbus: J.P. is done. Okay.

J.P. Kim, JD, MBA, MPP, MSc, MA: Yeah, there's actually .. . What happens is, remember, there's a single DMS plan actually provided by the prime awardee. So the data management and sharing activities would be actually discussed in that single DMS plan. And actually so as part of the budget basically what happens is the prime puts it in there. So, no, there's no separate one for subawardees.

Megan Columbus: Okay. So that's helpful. I have another question talking about OMB guidelines not allowing expenditures during grant performance period for services or items received after the end of the grants. So with that in mind, how does the long-term data sharing get funded?

Julia Slutsman, PhD: That's a really good question and one that we've received from numerous stakeholders, and are thinking about, and will learn more about through this implementation phase. However, at the current time, all costs have to be included in the application and in the budget during the period of performance. And I think this will evolve, so as different from repositories and service providers in the data sharing space get used to the policy, there's a variety of different kinds of arrangements and payment models for data storage. We realize this is a challenging space.

Megan Columbus: All right. Thank you, Julia. A couple people have been asking about updated RPPR instructions, and I did just go and check in with our policy colleagues to see what the answer was, and they said the instructions are current as they are, but they do expect that within this year some time those instructions will be updated.

Nonye Harvey, Dr. Ph, MPH: Megan, I just wanted to just mention that there is a grants mailbox. I see a lot of budget questions and costs and things like that, but just like we have the sharing@nih.gov mailbox for general questions on DMS, there is the grantspolicy@nih.gov mailbox that our colleagues OPERA, who are experts on all things budget, can help address. So if that helps, you can just send your questions in, and then also there are FAQs that just got released today on the website specific to the budget and cost questions that you may have. So just wanted to mention that.

Megan Columbus: Right. No, great comment, Nonye. Can you explain when a resource sharing plan is still required alongside the data management safety plan?

J.P. Kim, JD, MBA, MPP, MSc, MA: Do you want me to take that one? Okay. There, I got .. . I love the nods. I think it's fantastic, right? So basically what happens is, yes. So there's a resource sharing section, and now there's the other plan section, right? And so basically what happens is a resource sharing plan is still required if the FOA actually asked for it, basically. And when we're talking resource sharing plans, we're talking about model organism sharing plans or some sort of a sharing plan with respect to research tools. So just you need to read the FOA very carefully as to what it says, because we know that basically, you know, you know, some people have been confused by that. Because previously data sharing plan was in that resource sharing section, but now that's moved to the other plans. But yes, so just read the FOA very carefully as to whether it still requires a resource sharing plan for your application. All right?

Megan Columbus: Sounds good. Thank you, J.P. So what does all of this mean for imaging, like digital pathology data, that kind of thing?

J.P. Kim, JD, MBA, MPP, MSc, MA: I can take that if you guys like. Julia, you want to take it?

Julia Slutsman, PhD: I can start. So that's a really good question and one we received about a lot of different data types, including qualitative data as well as different kinds of imaging and pathology data. So for research subject to the DMS policy, research generating scientific data, the definition of scientific includes data that are necessary for reproducability. So that really depends on the field of research. So certainly digital imaging, digital pathology imaging could be in that category. It depends on how.. . on the nature of the research. And on the sharing.nih.gov website we do have a resource with different repositories, and many of those can accommodate different kinds of imaging data.

Megan Columbus: Right. All right. We have time for .. .

J.P. Kim, JD, MBA, MPP, MSc, MA: I was just going to add real quick that there's also listing general repositories and the like, along with what Julia was saying.

Julia Slutsman, PhD: Right.

Megan Columbus: Thank you, Julia and J.P. We have time for one more question. For application mechanisms, such as a P01, with multiple sites, would we submit a separate DMS for each site entry or combine all of the data from each site into a single two-page document?

J.P. Kim, JD, MBA, MPP, MSc, MA: I'll take it. That was actually similar to what we talked about earlier. Basically, no. There's a single DMS plan per grant application. So the prime awardee would include the DMS plan and basically work to coordinate the data management and sharing activities amongst the different sites into that single DMS plan. Nonye and Julia, if you have anything to add, please feel free.

Nonye Harvey, Dr. Ph, MPH: No, that is correct, yeah. That is right. So, yeah.

Megan Columbus: All right. Thanks, Nonye. With that. I'd like to thank you all very much, and have a great conference.

J.P. Kim, JD, MBA, MPP, MSc, MA: Thanks, everyone. Have a great conference. Happy Groundhog Day.

Nonye Harvey, Dr. Ph, MPH: Thank you, everyone.

J.P. Kim, JD, MBA, MPP, MSc, MA: Take care.

Megan Columbus: Bye.

J.P. Kim, JD, MBA, MPP, MSc, MA: Later.