

Core Components Analysis

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Webinar Transcript

Russell Cole

Thanks so much, Lexi. All right. So thanks, all, for coming. We're excited to talk again with everyone here—all the TPP [Teen Pregnancy Prevention] Innovation and Impact Grantees. It's been about a month since our Systems Change webinar, and we're all looking forward to the office hours, with the Systems Change webinar in a couple weeks. Sorry with the snafu with scheduling that, but again, we're happy to be in front of all of you again.

Let me start with a moment on housekeeping. Everyone was muted on entry, and we're hoping to keep the lines muted today to minimize any issues with feedback and echoes. If you do have a question, please submit it into the chat at the bottom of the WebEx screen. We do have team members that are watching that, and we'll also have a Q&A session at the end, so we'll try to address any tech issues immediately via the chat, and we'll save the substantive questions about content until the end. That's when you'll be allowed to submit your questions, and we'll answer them. Again, please do stay muted throughout the presentation to eliminate any of those tech interruptions. Thanks again, Lexi, for recording the meeting. With that, I think we should begin. Next slide, please.

All right, here is a high-level presentation of what we're going to try to do today. In a moment, I'm going to spend a couple of minutes doing introductions and then we'll get to the main content. We'll spend some time defining what components are and how we should think about them specifically in the TPP context, since there's a lot of different content areas that have different definitions and different thoughts about how to define components of this program.

We're going to preview a tool that we've been working on with OPA [Office of Population Affairs] to enable program developers, including developers of innovative programs like yourselves, to disaggregate programs into individual components. This can really be useful for reporting on presentation purposes. This components checklist will be available for you to use for your grants in the future if you'd like. We'll also showcase some ways to collect data on components of programs and analytic approaches to link components to outcomes. And as I mentioned earlier, please submit any questions you have during the presentation and

we'll address those at the end. We'll follow up with some links to the slides and the recording of the presentation in the future. Next slide, please.

Here is who is presenting today. You can see us on video as well. Emily LoBraico is a researcher at Mathematica. She's a member of our TPP Eval TA Team. She's also a TA liaison for several of the grantees here. She's got deep experience using component analyses to identify the drivers of substance use prevention programs. We're going to have a site for one of her articles at the end of this presentation, and she's leading our team, developing a series of resources for describing components of TPP programs, including the checklist with instructions that we'll talk about today.

I'm Russ Cole. That was a younger picture of me, pre-glasses. I'm the PI on the project, doing eval TA for over a decade with OPA TPP grantees. I've been working with Emily on the program components work for OPA, and I've developed some of the earlier versions of the work that's going to be shown in some TA briefs that we'll include links to as resources. Let's go to the next slide.

Why are we here today? You're working to develop innovative interventions as part of your grants to address the needs and gaps of the populations you're working with. And the hope is that these programs might improve youth outcomes. And, ideally, over the course of this grant or future grants, you might rigorously evaluate these innovative interventions to show the evidence of their effectiveness. That's really good. There's already an existing body of evidence about effective TPP programs, and more evidence about effective programs is always welcome.

That being said, there's much less known about what the drivers of effectiveness are within these programs. What's the secret sauce that makes some programs work so well and others not so much? Is it the content? Is it the mode of facilitation? Is it that the program needs to be a certain length? Is it a combination of multiple things? The National Academy of Sciences completed a recent report, where they investigated the research about components of effective programs for improving optimal health, and one of the things that they highlighted is that there isn't a lot of research here and that more research into the components of TPP programs is warranted. So, OPA has asked Mathematica to help develop its research agenda on components of TPP programs to address this gap.

One of the first things that OPA is hoping to see is more systematic documentation of the components of TPP programs so that there is more

information about the ingredients of programs. To support this work, we worked to develop a components checklist to standardize the process of documenting components, and we'll talk about that as something that you might want to use as part of your final reporting later on today. Next slide, please.

Like the last webinar we did on systems change evaluation, we want to make sure that we're clear about expectations and requirements up front. As you know, the purpose of the IIN (Intervention and Impact Network) grants is about cultivating innovative interventions with networks of partners. That's a key grant expectation. You have to produce innovative interventions, and you have to show some information about them. What we're going to talk about today is really about ways to: one, present details about the components—the ingredients of the interventions, really—for folks who want to look under the hood; and, two, to begin to show some information about which components of your intervention might be the most promising ones.

Importantly, this detailed reporting of the components of your intervention is not a grant requirement, nor is the idea about collecting data on components and doing analyses to link them to outcomes. However, if you're interested in doing something deeper with your disseminations, or pointing out how the components of your program show promise, this might be something to consider, especially given that OPA is hoping that this becomes something more commonplace in the future.

In addition, this might be useful for folks trying to test and refine components of your intervention as part of your CQI [continuous quality improvement] with your program this year. So this really is something that is feasible to do during this third year of your grant. Like the systems change webinar, we're going to try to present some big-picture stuff rather than getting too in the weeds on the how-to piece. The idea is to try to get you interested, and we'll have some resources you can turn to. And of course, your TA liaisons can be of great help with this moving forward. This also might be something for you to be thinking about for future grants.

With that, I'm going to pass this to Emily to do some introductory work about components to help set the frame.

Emily LoBraico

Yeah, thank you, Russ. Before we jump into the later piece of the webinar, where we're going to talk about specific types of component analysis and the research questions that they can help answer, we're going to more generally explain what component analysis is and different ways to define components.

Component analysis offers us something very different from a traditional impact evaluation. A traditional impact evaluation assesses the effects of the whole program on short-term and long-term outcomes. For instance, in this little made-up logic model, we have a TPP program and we think that it's related to a series of short-term and longer-term, or proximal and distal, outcomes. But a component analysis actually looks inside of that program to look at all of the different pieces that make it up and try to figure out if those little pieces or the components are related to those short-term and long-term outcomes, and which ones might be driving certain impacts.

Importantly, as Russ just said, component analyses aren't something you have to wait to do, like way long term down the road after a program is perfectly figured out. They can be a really useful tool in the shorter term, doing CQI-type stuff while you're refining your programs, making decisions about which components you might want to keep or prioritize in your program, and we hope that you can think about this as something that you can do, like Russ said, closer to now than later.

But before you conduct a component analysis, first you need to know what program components are and how you want to think about the components of your program. This is actually a little bit more complex than it might seem. But generally, components are the ingredients of a program—they're the pieces that make up the program as a whole, and they're usually defined somewhere in a program manual or some kind of documentation. But, of course, as you're developing a program, they might not be totally worked out in a way that a fully formed program might be. It's not mandatory that these are in a manual and be considered a program component. And people have come up with many different ways to break their programs down into their components.

A common way to think about program components is to think about the different structures of your program. Some programs might be broken down into classroom sessions, coaching, and text messages, for example, and that might be the way that they think about their program in component terms. Another program might think about the different populations that they're serving with their program. Let's say your key priority area is expanding access to sexual and reproductive health for teens; you might have a component that's for the clinic staff, one that's for youth, and one that's for parents. And you might think of your components that way, as broken down by the population being served.

Another common way to think about program components is to think about the content that you're offering, and bucket it that way. Your program might cover sexual risk avoidance content and/or comprehensive sex ed and positive youth development content, and that's a really

common way to think about breaking down your program. All these are valid—totally fine if that’s the way that you think about your program components. And some people mash these up and think about their program three different ways across different lessons.

But we were wondering if you might share with us the ways that you think about program components in your program or innovation, so we set up a poll on slido.com, and you can either go to the website in a browser and enter in the meeting number or you can use your smartphone to use this QR code to get to the poll. Once you get there, you’ll enter in a pass code, which is also on the slide, and you’ll answer this question of what is an example of a component from your program or innovation. And there are no wrong answers at all. We’re just interested in learning about the way that you think about program components. Let me know if you have any trouble.

Okay, you can see that people are thinking about this in a very comprehensive way, so there’s the way that the content is getting delivered, like slides and videos and workshops. There are the actual activities that people are doing; mentoring, provider training.

Russell Cole

There’s definitely a lot of focus on the method by which the material is offered to folks, and that’s great.

Emily LoBraico

Cool. I think it’s slowing down. I can’t tell. All right. Well, thank you all for sharing. I think we’re going to move on. But this highlights one of the challenges with program components work, right? People define their programs in so many different ways, and there’s a lack of uniformity in the way that this is done, and that really limits our ability to compare programs and components across programs. So let me just give a little example of what I mean.

Let’s say we have a program that considers itself to be classroom-based lessons about accessing sexual health care, and we have another program that describes itself as a comprehensive sex ed program. When we just hear these two definitions, we don’t really know if there’s overlap or if they’re completely different programs from each other. But if we compare the programs on the exact same set of components in the same way, we learn that they both have fixed lessons. They’re both facilitated in a lecture format. They’re both meant to happen in a school. They both share three of the same pieces of content, but program B has a fourth unique piece. Program B also has a requirement for facilitators—that they are trained by the developer.

When you break down these programs in the exact same way, following the same guidance, you more clearly see that there's quite a bit of overlap, but you also see these key differences, and those key differences could be things that really appeal to a group who wants to implement the program, or they could be a deterrent for someone. So, for example, if there's some sort of reason that an organization can't get their facilitator trained or they really don't want that fourth piece of content, it's going to help them to learn that without already being involved with the program at that point.

In order to be more systematic, we have to use the same language and strategy when we're defining program components, so we are going to outline the seven different types of program components that make up OPA's new approach to defining the programs. And we definitely—I know Russ already said this, but I just want to highlight that this isn't something that just made up out of the blue. This is something that a lot of people have worked on for a very long time, and we leaned particularly heavily on the National Academy of Science report, which dove into this topic, and we pulled seven types of program components and made them more relevant to TPP.

I'm going to go through each of the types and provide an example that's relevant to the types of prevention. The first type, and one that I think gets a lot of attention, is the content components, and these are the intended subject matter of a program. One example of a content component would be information about condoms. And typically, there's lots and lots of these components within a program.

Delivery mechanisms are the principles and practices by which the content is provided, and this could be something like a lecture. The format is the structure and organization of that content being delivered, and this could be something like an in-person format or a virtual format. The staffing is the training and characteristics of the individuals delivering the content, and this can include things that are preexisting, like the content is meant to be delivered by a teacher, or it can be something that's very specific to the program, like my earlier example that the staff need to be trained by the developer.

The dosage includes the duration, frequency, and intensity of the program, and this could be as specific as an activity length—an activity is supposed to be 25 minutes long, or it can be about the entire program, so this could be a seven-session program, and each session is meant to be two hours.

The environment is the intended setting or location where a program occurs; for example, a classroom is a common environment. And then the intended population characteristics are what they sound like—they're the characteristics of the intended population receiving the program. For

example, high school students might be the intended population. Together, all seven of these components combine to produce what is meant to be the intended experience of youth participating in a program.

I'm going to go back on what I just said. Even though we can separate out the components, it's actually the combination of the program components that describe how it's meant to be implemented. What I mean by that is if you think about a single activity from a multisession TPP program, you can actually break it down into its separate components, but it has to be all together, right? A 20-minute small-group activity with high school students during health class featuring a discussion about communication and healthy relationships—we can pull out the dosage, the format, the intended population, the environment, the delivery mechanism, and the content from that activity, but it's meant to occur all together.

Developers and implementers might have an idea about these six components being more or less important than each other. A developer, for example, might feel really strongly that this is a small-group activity, but they don't mind if it takes longer than 20 minutes. What I just described is this idea of core components. The core components are a subset of the larger group of program components that make up a program, and they are the pieces of the components that are hypothesized to be driving program effects, and they might be thought of as more important or more critical to the program's implementation. And there doesn't need to be any evidence to prove that the program components are driving. It could actually be considered a core component. But it's usually based on something more like theory, the logic model, or even the experience delivering the program and seeing how youth respond to it.

We could technically do rigorous effectiveness evaluation to test these hypotheses about core components, but we also don't really have to, because we can start working in this lane now. We can disaggregate programs into their components and do smaller, more immediate tests and produce preliminary evidence that builds up this idea of core components and can help you understand how your programs might be working, or ways to make them work a little bit better.

We're going to talk a bit about the new tool that we have to describe program components, but we wanted to first touch on the benefits of doing this kind of work, because it's definitely a little bit of work to do. The first is one that we've already touched on a bit, and that's having a consistent and efficient way to describe programs [that] is going to be helpful for everyone, right? Instead of having to page through a manual, you can have this kind of comprehensive and universal way to understand what's going on in a program.

For developers, having this tool will help them communicate which components are core, and also provide adaptation guidance. If there are things that could be useful to be adapted in certain settings, this will provide a way to communicate that to implementers so that they have a way to make the programs fit a little bit better for their scenario.

On the other side, for providers and implementers, this will give them a way to communicate how the program implementation actually happened and also to document which adaptations they made and whether, and hopefully they were, OPA approved. For researchers, this will provide a whole new kind of data set to use to answer research questions far beyond effectiveness—learning really about what are the pieces of a certain program or group of programs that are very important. Or like Russ said, they might be the secret sauce. And for consumers, or people who are trying to choose between a bunch of different programs to implement in their community, they'll have a way to digest program content and make program selection decisions that they will really be informed about within a program without, like I said, having to page through the manual. And then for OPA, and the field more generally, having the ability to compare programs and their components to each other will ultimately lead to stronger evidence and informed program improvement, which is, I think, very exciting.

So we've talked a little bit about the tool. This is the tool. This is a bit of a short screenshot of the actual tool, so it's just the very top of it. But this is really just a glorified checklist. There's a place on the checklist that indicates which piece of content or which piece of the program are components we are documenting. For this first one, it's the content. But if you scroll down, you would see there are the other six types of program components, as well as the list of actual examples and definitions. There's a place to document whether the component is present in the program, where within the program, so you could say it's on Page 42, it's in Lesson 7, et cetera; whether or not the components are core; and if there is a specific allowable or unallowable adaptation to communicate to the implementers.

If you were to fill out this checklist for your program, in the end, we imagine that there would be a way to describe programs that look something like this, where it's super short, succinct, and just very direct—what is in this program, which type of components, and what are they.

So, we have another poll—you're going to go back to Slido, however you got there the first time, and share up to three core components from one of your innovations. Again, no wrong answers, but work through what you think of [as] the most important pieces of your program that are central to having impacts on your population. That's a good one. Remember, it can

be like the staffing. It could be the content. It could be the type of activity, who's delivering it. Participants, it looks like.

Russell Cole

There [are] structural elements here, like apps. There [are] aspects of the intended population. This is great. Curriculum is often a critical component of the multistructure intervention. This is great.

Emily LoBraico

It looks like you all think about this and have a pretty strong sense of what might be core. Cool. Another app. Well, thanks. Thank you for sharing all of this. I think you'll find this kind of activity useful as you continue thinking about core component analysis, as Russ is going to dig into now. I'm going to turn it to you, Russ, if that's okay.

Russell Cole

That's great. Thank you so much. Emily, can you bring back the slide show? Is that possible? Perfect. Thank you. So thanks again, Emily, for laying out a way for everyone to think about the program components and core components, and introducing the checklist that can help operationalize this work, and how it can help with clearly disseminating the ingredient(s) of a program.

I'm going to switch gears for the next 15 or so minutes and talk about the application of this work at a high level. In this section, we're going to quickly get into ways to understand which components of a program are the ones that appear to be influencing outcomes. And just to say this, to go back to what Emily was saying earlier, some folks do this type of analysis, this type of design work in a very rigorous way. They randomize folks to get different component experiences.

I'm going to present this in a simpler manner, building off some of the work that you're probably already doing as part of your typical program implementation—typical CQI types of activities. The idea here is to try to show you something that you could probably do as part of your test-and-refine activity this year. Next slide.

All right, so here is, at a high level, the four steps that you're going to need to take on if you're interested in going down this path. I'm going to talk about each of them over the next few slides, but here's a sequence at a high level. First, you're going to need to know the core components of your intervention. Then you're going to need to have a pathway diagram that shows how individual components are related to outcomes of interest. Then you're going to need to do some measurement, both on how folks are receiving the components that you're interested in, and also the outcomes that are going to be in your pathway diagram. And finally, you or your researchers, your evaluators, are going to do some analyses to link variation and implementation experiences of components to variation in

outcomes. This is going to help you to tell a story about promising components. Let's dig in with the next slide.

The first step here is all about defining the core components of your intervention, which you started to do in that Slido poll. There are a couple of ways you can do this. First off, the checklist that Emily was talking about is a pretty straightforward way for folks to do this. It helps you to lay out all of your program components and the subset of them that are core. That's one way. But some folks might want to skip this step. You probably already have some preconceptions about what the key ingredients of your program are.

Maybe during your intervention—innovation development—you knew you needed to design a program to have three structural elements to address a new need for your population, and here is the example: a personal safety and consent discussion, condom demonstration, and an STI lecture. If this is where you are, you already know this, you're done. You know what your core components are, and you can move on.

Let's go to the next step, which is about creating a pathway diagram to link components to outcomes. This is really an intersection of our understanding of the general program model or general program logic model for how we think our program is going to affect outcomes, with more fine-grained thinking about these individual core components. You probably already have a sense of which outcomes your program as a whole is going to affect, based on your development of a program logic model or program data change.

What we're going to try to do here is go one layer deeper and think about which of the individual core components of the program might affect each of the outcomes that you're interested in. We're going to be thinking about both proximal outcomes—these are outcomes that are really well aligned, the content and the activities of a program, as well as more distal outcome, things that are downstream from the proximal outcomes. Things that are more policy relevant—behavioral outcomes, for example.

Proximal outcomes are typically things like attitudes about sex, intentions to have sex, feelings of self-efficacy. We can also have measures of process, like satisfaction or engagement. Again, the more distal outcomes are more typically things that are behavioral, like initiation or sex without a condom or pregnancy. Just to say—sometimes folks think about proximal and distal as like short term versus long term. We're going to show a diagram that shows this visually, where core components influence intermediate or proximate outcomes, which ultimately influence longer-term distal outcomes. Let's go to the next slide to show what this looks like, building on the example that we showed before.

Again, we've got our three core components, shown as jigsaw pieces. The personal safety and consent discussion, the condom demonstration, and the STI lecture, and maybe we've got two proximal or intermediary outcomes that these core components are expected to affect: attitudes about sex and knowledge about pregnancy and STIs.

Now here is the interesting thing—it might not be the case that we believe that each core component is going to affect all of these proximal outcomes. For example, maybe we think that the personal safety and consent discussion will affect attitudes about sex, but it won't actually contain any content to affect knowledge about pregnancy and STIs. That's why there's only a single arrow from this first component to only one of the proximal outcomes. We can make these types of hypotheses about each of our components and test them later on through the process. Going to the right-hand side, you might assume that through the improvements and the proximal outcomes, you would eventually see the improvement or the delays in the distal outcomes.

In sum, the idea here is to try to come up with an articulation of the outcomes that the intervention might be affecting, but at a very fine-grade level. Specifically, which outcomes are likely to be affected by each of the individual core components? Next slide, please.

The first step, or the first part of this third step, is thinking about the means or the mechanisms by which program participants receive the intended core components of the program, or to think about it from a more negative perspective—what are the potential barriers that might impede program participants from receiving the intended core components? For example, and this is illustrative, definitely not exhaustive features that you might be thinking about. First, we've got like attendance or dosage. If youth aren't attending program sessions, it's going to be impossible for them to experience the core components.

Engagement: if you aren't paying attention or are only superficially engaged, the components aren't going to affect them; therefore, outcomes aren't going to be expected to improve. Quality delivery: maybe youth are attending and are attempting to be engaged, but the material is being delivered in a very terrible manner. In that situation, then the content is going to be presented in an inadequate way that can affect folks and have their outcomes be changed.

In sum, the idea here is let's try to identify those avenues, those barriers that are going to either help or hinder participants from receiving the core components. It's really listing all of the features of implementation that matter. Then you need to actually collect data for the things that are

feasible for you to do and the things that you think are going to matter the most for each of these components. The idea is that you want to have data to help you see whether youth are having different component experiences by virtue of having different levels of attendance or different levels of quality or different rates of engagement. These are exactly the kinds of data that we're going to need to have for a component analysis. Next slide, please.

The second part of step three is to collect data on the outcomes—the outcomes that were in your pathway diagram—potentially through surveys or maybe other follow-up data sources. But the key idea is that we want to measure, for example, a survey item or a series of items of all of the constructs that are in your pathway diagram. Why do we want this? Well, if we've done all of this work, we have the necessary ingredients to explore the extent of variation in component experiences, again based on things like variation in attendance, variation in quality, variation in engagement. You want to understand how different types of experiences are associated with different types of outcomes based on what we hypothesized in our logic model—in our pathway diagram, excuse me.

Just to say this, while outcome data are required for this type of analysis, having baseline measures of these outcomes really helps the storytelling and the credibility of these types of analyses. I can unpack that a little more in the Q&A. I just don't want to get too in the weeds here. What you're going to need to do is link the implementation data that you've got to the outcome data. We want to know how student X, what their implementation experiences were in terms of their attendance, in terms of their quality, in terms of their engagement, and we want to link that data to their survey data to be able to do these types of analysis that I'm going to talk about in a moment.

Let's talk about the next slide, where we're going to actually do some analyses. There [are] a lot of different ways to link variation and implementation experiences to variation and outcomes. I'm going to show three different ways that answer three different classes of research questions. The first class of research questions that I'm going to focus on is whether individuals experience a sufficient dose of a core component that's assumed to be critical for achieving participant outcomes. For example, in this lesson, classroom lessons, in such a situation, we'll use a quasi-experimental approach for understanding the effect of the classroom; thus, a core component [is] where youth who experience high attendance [in] classroom lessons are going to be compared against youth who have low or nonattendance in the classroom lessons.

Maybe the intervention that you're focused on is an app, like a phone app—you'll have tons of data on whether folks are taking up different

aspects of programming, for example, like a module on sexual health or a nudge to talk with trusted adults about content. It would be very easy to compare folks with different experiences shown on their apps and link that variation and experiences to outcomes. Next slide, Emily.

The second broad class of research questions attempts to really hit the individual core components in a statistical horse race to understand which components played the largest role in influencing one particular outcome of interest. The idea here is that you can take this correlational approach to understand which core components matter the most for a particular outcome of interest, and for the researchers, the evaluators in the audience, this is done by regressing an outcome of interest on the implementation measures for each of your components. Next slide.

The final class of research questions attempts to fully operationalize the pathway figure in order to better understand how the core components influence all of the proximal and all of the distal outcomes. In this scenario, you would use a structural equation modeling approach, where all of the relationships among the core components and all of the proximal and all of the distal outcomes are estimated and quantified. This approach is really building on the previous one, the correlational approach, by incorporating all of the outcomes and all of the components into a single model. Next slide.

Let's just pretend you opted to do everything that I just talked about. You defined components of interest. You hypothesized a pathway diagram. You measured implementation and could see the different types of components, with the goal of doing some analyses to link components to outcomes. Going back to this working example from before, we have this pathway diagram where a short program was made up of three broad components, and the expectation was that these three different components might have different linkages to outcomes. We proposed to explore naturally occurring variation in component experiences and try to do some analyses with these data. Perhaps in this study, there was variation in attendance of the condom demonstration lesson. Some youth attended; some didn't. Again, this is that middle jigsaw puzzle picture.

If we can convince ourselves that those who attended that condom demonstration aren't terribly different from those who didn't attend, we might be able to explore some hypotheses around what that condom lesson does. Our logic model assumed the condom lesson was likely to influence knowledge about pregnancy and STIs, so we could do that and we could potentially uncover an interesting exploratory finding like the one shown on this slide. Individuals who attended the condom demonstration lesson had scores on the pregnancy and STI knowledge scale that were 11

percentage points higher than those who did not attend the lesson. That's the idea.

You can do some exploratory analyses to capitalize on the variation [in] component experiences and see if your logic model is right—that certain components do appear to play a role in outcomes. There's definitely more to it than what I presented here, but our goal is to try to not get into the weeds but show the premise and hopefully get folks excited about this moving forward. Next slide, please.

At this point, you might be saying, is this type of analysis feasible for me in the third year of the grant? I do think that it is, as long as investing in this type of a study doesn't compromise your other evaluation activities. First off, I'd recommend that you right-size this effort. Only do this type of component analysis in one or two interventions at the most. Second, I'd focus on a very small number of core components that you think are the most compelling or the most important to your program. I'd recommend, at most, three, given where you are with this grant. You need to be thinking about data, starting with the implementation data about components.

Think to yourself, are there any readily available data sources that you can quickly and efficiently leverage for the study? My assumption is that attendance data might be readily available for most of the intervention components, and that might be a really easy way to make some headway into this. And finally, I'd say, given that we don't have a ton of time, my assumption is that you're going to want to be looking at short-term outcomes. If you're doing this type of work, I'd prioritize my focus on the proximal outcomes of your pathway diagram for data analysis, at least as a first step.

Just to say this again, we really presented, or I presented at least, a very high-level overview about this stuff. If you want to get into this type of work, I'd recommend that you, your evaluators, or other researchers review some of the reference materials that we're going to point to in a little bit, and that you talk with your eval TA liaisons on how to do this best for your specific context.

All right, so let's recap. What's the main takeaway here? First, Emily pointed out ways for you all to think about components and the benefits of documenting the components of your programs. In particular, the checklist tool may be a very useful resource for folks who are interested in doing this work in the future. Second, I tried to present a high-level way to think about how to do some of this data collection—how to do some of these analyses to showcase the potential promise of certain components as those that are driving outcomes. We believe that both of these things are feasible

to do in Year 3 of your grant. You can document the components of your program. You can collect data on implementation and outcomes to help showcase the potential promise of individual components.

But I want to come back to that initial slide. This component work really should be seen as optional. This work can complement your work, showing the promise of your intervention as a whole. It's not required. It's not an expectation. But it certainly can help you with presentation and dissemination. But I just want to say this again, it's not something that you should feel like you're on the hook at this stage of your grants.

All right, so let's go to another Slido poll. We were hoping to get a sense of where folks are at with this. The first question that we were hoping to ask is, how interested are folks in documenting components, potentially building off of the checklist that Emily described earlier? Please indicate your answer on the Slido poll. Again, we're interested. This is really about documenting the components of your program to improve the transparency and present a nice takeaway of what the ingredients of your program are.

We're seeing some interest, and some are very interested in this, so that's really encouraging. I know that this is definitely something that OPA is increasingly interested in seeing more of, and it's great that folks here are interested in this. And your TA liaison is available to help with this.

Emily, let's go to the next Slido poll, if that's possible. The second piece is more of the stuff that I was just presenting on. It would be great if folks could indicate your interest in doing the data collection and analyses that can link component experiences to outcomes to try to understand different folks' experiences: for example, folks who attended a lot versus those who didn't attend a lot of a given component. To what extent is that going to be a key driver of outcomes that you would expect to see in your pathway diagram or logic model?

Wow, again we're seeing a fair amount of interest in this type of exploratory analysis as a way to really improve some of the dissemination activity out of your project. But I just want to mention this: right-size your effort. If you're planning on unpacking this, choose one or two interventions—right-size it. This can get time-consuming and costly.

All right, let's go back to the slides. We'll wrap up real quick. This is a lot of to be getting into in your three-year grant, so if you want to explore component stuff, we're here to help. Please do tap your eval TA liaison. We're here for core component documentation and analyses. They can, or connect you to, someone on our team who can help you with these things

that we've talked about, or other eval TA issues that you've got with your interventions.

Let's talk about resources in the next slide. If you're interested in learning more about this, there are two briefs on this topic that OPA has available on its web page. One is about structural elements of intervention, and one is more about the analytic approaches that I was just presenting on. There is an illustration of exactly what this looks like in practice by our great presenter, Dr. LoBraico here, so please look at this in the substance use context. And please keep your eyes peeled; they're not available yet, but they will be in the near-ish future: a checklist on documenting your components and instructions documenting using that checklist, and a framing brief that provides some definitions and helps situate this work within the broader literature and OPA's broader research goals.

I think the next thing is our contact information, which hopefully you got already. I think at this point, we're ready for some Q&A. If you have any questions, please submit them to the chat. I did get one that came in to me, so give me a second to just pull this one up. Again, please do submit any questions that you have about this process or about anything. But here is an initial question that just came out. I'm guessing this is from an evaluator.

Does the type of analysis that Russ presented provide evidence that my program is effective? That's a good question. If you're going to do one of these types of component analyses to understand whether individual components are influencing outcomes, it's going to provide evidence that—potentially—it's going to provide evidence that one or more of your components is effective, depending on the data that you've got, depending on the analytic approach that you've got. But more often, what this is going to provide is what I would call some foundational findings, some initial results to show potentially promising components. A lot of times, if you're doing these types of analyses, you're going to see some correlational smoke that you can subsequently test in a more rigorous setting to see if there is a causal fire associated with an individual component.

In addition, I think that there's something useful here; that you can construct a story from these types of component analysis. If you can make an argument that your program is made up of effective or promising components, that's something that really helps you to showcase the potential promise of what you're doing. But I think a lot of folks on this call are interested in producing evidence that their intervention, that their innovation, is effective. This type of component analysis is not going to necessarily give you that rigorous test of your program. In order to do that, you're going to need to be doing something that tests the program as a

whole against a counterfactual condition, a group that doesn't actually receive your program as a whole. That might be something you would do in a subsequent grant.

Another question that came in—could you speak to the sizes of the samples needed to detect small to medium affects for this. This is a great question. It speaks to what are the kinds of things that we need to be worried about for these types of analyses. When we're doing these types of analyses, or we're linking variation and component experiences to variation and outcomes, we're primarily working solely with our treatment group, hopefully with a group that's receiving these programs, and if you've got—let's just pretend—200 folks who [are] are receiving your program and 100 of them were strong attenders of this key component, and 100 of them were not strong attenders, then it's like you created a quasi-experiment with 200 individuals. You're going to be thinking about this in terms of a power analysis, as a quasi-experiment or analysis, where your treatment group is going to be split, depending on these component experiences.

In general, yes, you're going to have smaller samples for these types of analyses than you would for a large, well-powered, rigorous effectiveness evaluation program, and therefore you might have relatively lower power for the purposes of articulating that a component led to a statistically significant impact. However, that's not the only metric by which you can showcase the promise of a component. The magnitude of the impact can be potentially useful. Also, you can be thinking about inference, not necessarily at a .05 level. Furthermore, there's the opportunity to think about components from a Bayesian perspective; if you had information about the distribution of effects of components from the literature, you can talk about the probability that a component has a favorable effect. That's another way of talking about this.

I didn't fully answer your question, because it's not quite so easy to say what sample size is required for this? It's going to be context-specific. But I think as a general rule that I would argue here is that this is an opportunity for you to manufacture an analysis out of your existing data, and so learn something from the data that you already have in hand, essentially at no cost except for your own cost of doing some analyses, and it's very possible that you're going to uncover something that's going to be very useful to report out. If you do want to do something more prospective, talk to your TA liaison. They can help you with detectable impact calculators and thinking about this from another perspective.

Emily, I apologize, I didn't bring you in for the first question or this one. Do you have any other thoughts about either of these ideas?

Emily LoBraico No. Thank you. You did great.

Russell Cole Sorry. All right. I did get another—I'm getting more private ones. And, Emily, if you're getting any, please chime in. I got another private one. Some of our components have already been identified as effective. Is it more about making the case for effectiveness with a specific geographic location and/or audience of our intervention? I think that a lot of times we have a priori hypotheses about which components of our program are core. I think Emily made the argument that core can have a lot of different flavors. Core can be something that has evidence of effectiveness, that someone may have done a rigorous effectiveness study to show that doing text messaging is critically important for achieving outcomes, or someone might have a hypothesis about what the ingredients are of a program that are critically important for achieving outcomes, and so you build a program to use those things.

I think what we're trying to showcase here is an opportunity for you to further enhance existing evidence of effectiveness or to empirically test the hypotheses that we have about which program components are the things that are driving outcomes by leveraging existing data in a way to showcase the potential promise of components. I hope that's helpful. Again, Emily, please jump in here if there [are] other thoughts that you have about showing how components can be labeled as effective, even if there's prior information that shows their promise.

Emily LoBraico I don't have anything to [add]. But I got a question about if we could share the components table, which I think refers to the screenshot. And the answer is that we should shortly be able to share the full document. But not yet—correct?

Russell Cole I think that's correct. And if anyone [from] OPA wants to chime in on that front, that would be great. But these checklists have been developed and, as Emily mentioned, this has been a long process whereby we worked with OPA, we worked with expert panel members, to test and pilot test these checklists to get them to a place where we think they're ready for the public. And hopefully, they'll be available for folks to be using in the near future.

And thanks, Lauren, for posting. Thanks [for] some of the resources that we were talking about. I think that those are going to be uploaded: the briefs, the core component structure elements brief and the analysis brief, and, we will send a copy of these slides to everyone, as well as a copy of the recording, and you'll be able to access the resources that we mentioned. There's also the illustrative article that Emily has done to

showcase what this looks like in practice, and how you can present the findings about individual components of a program.

And thank you, Tara, for submitting that response to the chat. For folks who aren't seeing the chat, the checklist and materials should be available soon for grantees. We don't have a date today, but we will follow up.

Again, if anyone has any other questions, please do submit them to the chat. Also, feel free to reach out to Emily or me afterwards. We're happy to help. Again, your TA liaisons are going to be a great resource if you want to dig into this work yourself. Thanks, everyone, for attending. As a quick reminder, we are going to have System Evaluation Office Hours in a couple of weeks. Thanks again, everyone, for your understanding about the rescheduling, and we look forward to talking with everyone soon. I think we can stop the recording, Lexi. Thanks.