

Building Stronger Early Childhood Systems for the PDG B-5 SMART Grant

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Full Transcript

Jennifer Tschantz:

Good afternoon and welcome. I am Jennifer Tschantz and I am part of the SRI Education Team. I'm a principal senior early childhood researcher and technical assistance specialist. We are thrilled that you have taken an hour out of your very busy schedule to join us and we hope to make the time worth it. Wanted to share just a few quick housekeeping notes before we get started. We are recording this webinar and we'll be posting the slide deck to our website. We also will be referencing many resources throughout the presentation and just want you to know, don't worry about worrying about how you can find those resources. We're making it easy for you. And we have set up a PDG B-5 SMART Grant webpage that we will be sharing with you at the end of the webinar so you can have access to all of the resources and more that we will be referencing.

If you have any questions or comments throughout the presentation, please feel free to use the chat. We will do our best to respond to you in the chat with any needed clarifications, but we can also follow up with you individually if your questions aren't answered. Next slide please.

So I am thrilled to be joined with three of my SRI Education colleagues who are all expert early childhood technical assistance specialists, researchers and evaluators that bring years of experience and expertise to working with and supporting states in the field of early care and education. In the name of saving time, rather than walking you through each of our areas of expertise, I invite you to check out our bios, our full bios on our website. If you go to sri.com, there is a search feature right at the top and you can plug in our names and our individual bios will come up and you can learn about our rich experience that we bring to the field. Next slide.

So just a little bit about our education division at SRI. And these are big pictures and big areas of work that we do that we thought you might be most interested in as you're thinking about developing a PDG B-5 SMART proposal. So one area of work that we have spent a good bit of time in supporting states is on planning. We have many experts beyond just the four of us presenting today who have done work in needs assessment and strategic planning using logic models to develop proposals. We have helped many states and localities and other entities with that kind of work. We also bring a lot of expertise around measurement, evaluation, data analytics, creating really user-friendly dashboards and using data and information for performance measurement. We also have many experts who do work around implementation at all levels of the system, so thinking about classroom implementation of evidence-based practices to implementation of systems-based reforms. We have years and years, I would say decades of experience utilizing many effective technical assistance approaches such as communities of practice, learning communities, coaching, how to use data for continuous improvement.

So even though there are just four of us today and we are only going to be targeting a couple of topics, we didn't want you to walk away thinking that that's all that SRI does. Our whole education team is made up of experts across technical assistance, research and evaluation with lots of content expertise in different areas. And it's one of the reasons I was so attracted to come to SRI originally is the diversity of the expertise of our team really generates a lot of innovative thinking and approaches to solving complex issues. Next slide.

So what we hope to do today is given the funding forecast that the US Department of Health and Human Services put out around wanting to fund Preschool Development Birth through Five SMART Grants, when we first read that funding forecast, we were super excited because many of the areas that were highlighted are areas that we've been working with states on for many years. So what we hope to do in

the next hour and what we hope you will walk away with is what we've learned from working with states and come up with some really practical ways that you can use data and technology to improve systems, programs, and decision making. We also hope you walk away understanding that SRI is available and we have years of experience with technical assistance that might be able to help enhance some of your capacities. Next slide.

So how we're going to do this in the next hour, I'm going to kick us off by sharing a framework we've used and have developed and evolved over the years that really helps ground states in building the foundation for data-informed decision making. Then I'm going to pass it over to Betsy, who's going to walk you through some of what we've learned about supporting states on improving individual program data systems. Now we know that PDG B-5 is really focused on the cross system and integrated data systems, but we really believe that states need to ensure that you have high quality individual program data to be able to leverage and use and talk about the early childhood integrated data systems, or the ECIDS.

So Betsy will then pass it off to Howard to talk about those ECIDS and some of the work we've been doing, and Howard is also going to share number three here, some examples of work we've done to help states in connecting data and operations across program, and the specific example he's going to share is around work we've been doing with coordinated eligibility and enrollment, or CEE. And then he will pass it off to Nicholas who is going to share some of the work we've been doing around creating actionable analytics and data visualizations. So just because you have data doesn't automatically mean that data are going to be used, and this is a really critical component is being sure that you have the capabilities for creating really usable and meaningful data visualizations. And then Howard and I will round things out by summarizing hopefully what we've covered and talking about some next steps. Great, next slide.

Okay, so where do you get started? How do you get started in thinking about the potential opportunities for these SMART Grant applications? So building the foundation for data-informed decisions, that is one area we would really recommend a good place to get started. So how can states strategically invest in technology, data infrastructure, and capacity to generate actionable information for decision making? More specifically, how can you leverage this one-year grant opportunity? And we all, I know our brows get a little sweaty around the one year. We know that that can be really challenging for many states, but how can you use a one-year grant opportunity to make meaningful progress while supporting your long-term vision and goals for your state? Next slide.

So we wanted to set the stage for today by sharing a framework that we have developed in our work with states. And in full transparency, this framework was initially developed through a center that we run, the DaSy Center, which is funded by the US Department of Education's Office of Special Ed Programs. And we've had this center for many years and it is really focused on supporting state early intervention and early childhood special education programs, so the early childhood programs under IDEA with their data responsibilities. So we support states in collecting and using and building high quality data systems. And although we developed this framework specifically for those programs, we've used it and believe that it is applicable across the early care and education system. I think many of us would also argue that it is a great framework that could be used in the K-12 space as well.

But for a state SMART Grant investment in data technology and analytics, in order for that to result in improved outcomes for children and families, so the box on the far right... Which is our ultimate goal, that's why we are all in this field in the first place, we want to improve outcomes for children and families. But for a SMART Grant that's really focused on data technology and analytics to do that, a state really must attend to building multiple capacities shown in the wheel on the left. The SMART Grants are a unique opportunity to fund, and that's the little green piece of the pie there on the bottom... Which we know many states often don't have this level of funding to be able to invest in technology and data,

but the SMART Grant creates that opportunity. But in order for that to happen, and thinking about the development or enhancement of your data infrastructure, which is in that top-right part of the yellow, we really want to encourage you to think about the whole wheel.

And when we're talking about data infrastructure, a couple of examples that resonate with us are thinking about things like building an integrated early childhood data system or building a data dashboard, or simply improving a data system for an individual program that really may... Or a workforce registry, for example. You're going to hear some more details about these examples around data infrastructure in a few minutes, but the message we hope you can get from this framework is that data infrastructure alone is never enough to improve systems and programs. Program improvement requires effective use of data, technology, and analytics, and it requires all segments of this whole wheel be in place.

So of course, it is more complicated than simply just buying a new technology, which I know it's not rocket science. We knew it would be more complicated than that. But while you are investing in a new technology or a new data system, you also need to build the data leaders and the skilled users who are operating in a culture of data use. So those things over there on the left-hand side in the orange, the human elements. So as you plan for the development of your SMART Grant, we really encourage you to plan for the full range of what you will need to ensure that you can meet that ultimate goal there on the right-hand side, that your investments will ultimately result in better outcomes for children and families. And so with that, I think I'm going to pass it off to Betsy who's going to share a little bit more about how you go about improving program data systems.

Betsy Davies-Mercier:

Thank you, Jennifer, and thank you all for being with us this afternoon. Let's start with our first potential area for improving data technology and analytics, which is improving program data systems. So this could refer to your workforce registry, licensing, QRIS, or any other system that houses program-level data, and you might choose to strengthen a program data system to have more actionable information about your early childhood workforce or about children and families served in your state. Investing in high quality program-level data is also essential if the ultimate goal is to have a meaningful and useful early childhood integrated data system, which Jennifer referenced and we'll talk more about in a minute. But first let's talk about some of the challenges states have with their program data systems and the types of investments that could produce some quick gains and lay a foundation for future enhancements. Go to the next slide please, Howard. Thank you.

Here at SRI, we have partnered with many states over the years on issues related to their program data, and while we know that every state is unique, we have seen some common challenges and we've highlighted a few here. First, we know that some program data systems are outdated and this limits their usefulness and their efficiency. Legacy systems, old technology can mean security risks, slower performance, make it difficult to adopt and integrate new tools and applications. So modernizing existing data systems could be a really good first step toward building a powerful statewide system.

And then beyond the technology itself, we see often that data systems are missing critical data elements that could help answer some key policy questions. So this means that state staff may need to make important decisions with inadequate information or lack the ability to make connections between program implementation and quality and outcomes for kids and families. And also there's the issue of data quality. So having data we know is not the same thing as having data that we can trust to be complete and accurate, and some state teams need support identifying and then fixing gaps and errors in their data. And finally, to tie back to that human capacity part of the framework that Jennifer just shared, we often see that state staff lack the capacity to analyze and use the data that are available for

reporting and evaluation. So thinking about targeted investments to address some of these challenges at the program data system level could be a feasible and effective way to start to get better information for decision making in your state.

And we know from our technical assistance work that states collect and have access to lots and lots of data. So it's not usually a shortage of data that's an issue, but it can be very challenging to translate so much raw data into meaningful action. In our work, we've found that high-performing data systems always start with a question and not with technology. So before a state invests in a new or upgraded program data system, we encourage them to ask, what do we actually need to know from these data? And once you ground your plans in these critical questions, you can direct your funding where it will have the most impact and ensure that you have the critical data elements that your state needs. So on this slide, you'll see some of the key critical questions that states may have. Depending on your state's goals and context, your critical questions might focus on the children's families you serve, on workforce characteristics or on information about local programs. It's very state-dependent.

Through our work with early childhood data systems, we've developed a list of critical questions that a high quality data system should be able to answer, and the link to that resource is on the slide and also on a resource page that we will share with you at the end of the webinar. I'll say that these critical questions that we developed were for an IDEA project and some are IDEA-specific, but we believe that those critical questions, many of them really apply across the early childhood space. So want to encourage you to take a look at those critical questions and think about which ones are important to you and which ones you have the capacity to answer.

So we want to have program-level data systems that can answer critical questions. This slide shows the data system framework that we use in one of our early childhood IDEA projects, and it demonstrates that multiple areas together contribute to a high quality data system. So each petal in the flower represents a component of a high quality system, and depending on where your state is in terms of its program data, any and all of these petals are areas for potential investment.

For example, funding could be used to convene stakeholders to develop a clearly stated purpose and vision to guide system development and enhancement. The data governance and management petal refers to articulating responsibility for the data and policies and procedures. System design and development refers to the technical infrastructure of the system, and data analysis and use, of course, refers to making sure that your team has the capacity to use the data for decision making. And finally, you may want to think about sustainability or ensuring that the systems you're investing in now can meet the program's evolving needs over time. So feel free to use this framework in your planning and decision making. There's a link to the full resource on the slide with much more information on each of those components, and it will also be on our resource page.

And here we want to share some possible ideas for investing in your state's program data systems, keeping in mind those petals from the data system framework. As we discussed, you could choose to update or modernize outdated data systems or identify specific data system improvements and analytic use cases. Smartphones could also be used to strengthen data governance and improve data quality and expand reporting capabilities. All of these activities could contribute to improving available data and capacity for database decision making. And as I said earlier, if a goal is to work toward an integrated data system, these kind of investments in single program data systems are a great foundation to start with. Next slide.

This slide gives you an idea of how here at SRI we've supported states over many years in developing and enhancing their program data. We've worked with states on improvements in all of those petals that we just saw on the data system framework. This has included engaging stakeholders to develop the vision and purpose of a data system, supporting the development of requests for proposals for new or

updated data systems and all the nuance involved in developing those RFPs, helping states develop data dictionaries. So there's a central reference document with information about your data system. We help states to examine their data to improve its quality, and we have tools to support that. And we've helped states develop and implement policies around data governance, privacy and confidentiality. And we've also support state teams to develop and implement their data management practices.

So all of this work has been in the interest of helping states to have and use high quality data and to make good decisions to support children and families in states. So those are some ideas we have about individual program data systems, and we'll move on now to considerations about integrating your data across multiple programs. So I'm going to hand it off now to Howard.

Howard A. Morrison:

Great. Thanks so much, Betsy. So we've just discussed strengthening individual program data systems. I want to zoom out a little bit and consider what states need when their questions extend across multiple programs and agencies. This area is closely connected to my own work. In my former state role, I led the program development of our state's early childhood data systems in partnership with our technical team and led our integrated data efforts at our state agency as well. In my current role, I have supported states through intensive technical assistance, developing and implementing use cases, and facilitating cross-agency work groups, communities of practice as they plan, develop, and strengthen the early childhood integrated data systems. In this section, I'll highlight some of the challenges states face and focus investments that can create near-term progress while supporting long-term direction.

So states often begin this work with data that are distributed across multiple agencies and programs. These include childcare, pre-kindergarten, Head Start, early intervention, early childhood special education, home visiting, and many other early childhood programs, and each collect valuable information, but the data is often housed at respective agencies and respective individual data systems. So that fragmentation makes it difficult to understand access needs, participation, and quality across the broader early childhood system. So the challenge is not only that systems are disconnected, agencies may use different definitions and standards, rely on legacy technology or lack of documentation about what their data contain and how they are maintained. Even when technical linkage is possible, states still need the governance structures and agreements, staff capacity and resources to support it. So some states may need to begin with a landscape analysis to understand what data exists, where it resides, and how ready it is for integration and where the gaps are. So these challenges are closely connected. It is why integrated data works should begin with a clearly defined need before a technology solution can be implemented.

So the value of integrated data becomes clearer when we start with a question states cannot answer through one program data system alone. So a program may know how many children it serves, but it may not know how many distinct children are served across the state's early childhood programs. A state may also want to understand how many children participate in multiple programs or whether eligible families are connected to the related health and social services available to them. Other questions require combining program participation data with information about geography, family characteristics, program quality, or later outcomes. States do not need to address all these questions at once. An effective approach is to identify one or two priority questions or use cases. These have to establish clear value and are feasible with available time and data. So those use cases can help determine which partners need to participate, which data must be connected, what governance decisions are required, and what technical approach is appropriate. So in other words, the question really should drive the system design.

So an early childhood integrated data system, or ECIDS, collects, integrates, maintains, stores, and reports early childhood information from a variety of programs and agencies, and the intent really is to provide integrated cross-program data that informs policy decisions about programs, services, and some of those policy questions that I mentioned on the previous slide. So sometimes an ECIDS is a standalone and sometimes it's connected to a broader statewide longitudinal data system, or SLDS. So this visual illustrates why developing or expanding an ECIDS is not simply an information technology project.

Purpose and vision come first. States need agreement about why they're integrating data, who will use the information, and what decisions the ECIDS is intended to support. Planning and data management, data governance and systems design then develop together. Planning defines the scope, responsibilities, milestones, and resources. Governance establishes how participating agencies make decisions about data access, quality, privacy, and use. That systems design piece translates the policy and business needs into an appropriate technical approach.

The next component is data use. And ECIDS demonstrates value when people can use this information to improve policies, programs, and services, not simply just linking data for the sake of linking data. It's all about the actual use and actions because of having that data. Sustainability is shown at the end, but it should be considered and discussed and planned for early on. States need to understand the ongoing staffing, governance, maintenance, and sustainable funding needed to support an ECIDS. Partner engagement also spans every component. Participating agencies, program staff, technical teams, data users, and family community representatives may each bring different needs and expertise that informs the design and use. Outside support can help states facilitate these conversations, manage the work across agencies, and bridge policy, program, analytic, and technical perspectives.

The opportunities on this slide can be viewed as a menu rather than as requirement to undertake everything at once. For a state early in the process, a meaningful investment might establish a shared purpose, engage partners, assess existing data, prioritize use case, and develop a roadmap. A state with more groundwork in place might formalize governance, establish data sharing mechanisms, or implement an initial analytic use case. A more advanced state might enhance an existing ECIDS, expand the programs or add new data, develop new analytics, and make that integrated information more useful to its users. In each of these options, states could develop or enhance individual program dashboards or analytics as they work towards or expanding integrated data across programs. Building an evaluation can help a state understand whether the work is meeting the user needs and helps identify what should be improved or expanded next.

SRI has partnered with states at different stages of ECIDS planning and implementation, tailoring our support to each state, priorities, context, and capacity. For one state, we conducted a landscape analysis, including document reviews, key informant interviews, and stakeholder engagement, helped confirm its vision and priorities and develop an ECIDS plan and communication materials. For another, we assessed organizational, human, and technical capacity and developed a phase strategic plan, data governance resources, and a stakeholder engagement plan. In other states, we developed ECIDS roadmaps to help leaders understand the value of integrated data, align that ECIDS development with existing state initiatives and priorities, and establish practical next steps and timelines.

Our support has also extended into implementation, including helping agency staff link their IDEA Part C and Part B 619 data within an ECIDS and develop public-facing resources and tools. Across these efforts, we help states translate a vision for integrated data into practical structures and an actionable path forward. So integrated data can help States understand what is. Happening across programs. The next section, I'm going to focus on using data and technology to improve how programs operate together and how families experience the system.

So this is an area I care deeply about. From my prior experiencing leading a state pre-kindergarten program and hearing from parents and families attempting to navigate the system really had an impact on me. And so this has led to a significant part of my work in my current role, exploring and supporting states and supporting communities and facilitating national learning opportunities, working series, and intensive technical assistance. Families do not experience early childhood services as separate funding streams or agency structures. They experience the websites they must search, the applications they must complete, the documentation they must provide, and whether they can find the support for their children they need. Technology can help create a clear path for families, but only when it's paired with coordination across programs. In this section, I'll discuss how coordinated eligibility enrollment can bring data, technology, and program operations together to improve the family experience.

So from the family perspective, information and entry points are often fragmented. Families may need to visit several websites, contact several state offices or local offices, and interpret different descriptions of eligibility and program availability. The underlying processes may also differ. Programs can have separate application documentation requirements, timelines, and eligibility determinations. That creates duplication for families and administrative burden for staff. Disconnected technology also makes coordination more difficult. Systems may not be able to exchange referral or eligibility information, and states may have limited insight into where families encounter those barriers and drop out of the process. So these are not only technology challenges, agencies need shared governance and authority to align policies and resolve operational issues. States also need to account for differences in staffing, infrastructure, and capacity across local communities. Together, these challenges can make a mixed delivery system feel less like a system from the family's point of view.

So coordinated eligibility enrollment, or CEE, is a systems building strategy for addressing these challenges. CEE brings programs together to coordinate the processes through which families learn about, apply for, and enroll in services. It can sit within a broader strategy that also includes policy alignment, coordinated funding, referrals, and integrated data. CEE can produce three important benefits. First, it can improve family access by making program information and entry processes easier to understand and navigate. Second, it can strengthen collaboration by giving programs shared processes in clear roles. And third, it can use public resources more efficiently by reducing duplicative administrative steps in helping programs connect families with appropriate options. So CEE does not mean that every program uses identical eligibility rules or that a state immediately creates one system for everything. The level of coordination should reflect the state's goals, authority, and existing capacity.

So this slide shows two separate choices states and communities make when designing CEE. The first is the scope of coordination. Programs might begin by coordinating outreach and recruitment so families can find information in one place. They might develop a shared intake or application, coordinate eligibility determinations, establish a selection or matching process or connect enrollment itself. So these activities form a continuum, but states do not necessarily have to implement every component. A focused starting point can still meaningfully improve the family experience. The second choice is the implementation approach. CEE may originate locally without state involvement. A state may support voluntary local efforts, establish statewide expectations that communities implement in locally-responsive ways or operate a more centralized state level approach. Neither continuum represents a single correct path. The appropriate design depends on where families encounter the greatest barriers, which programs are ready to participate, and what state and local capacity exists. States can also phase the work, so starting with a manageable set of programs and processes and adding additional programs over time.

So this visual brings the family experience into focus. On the left, families must navigate each program separately. Every program may have a different website, application, eligibility process and point of contact. Families are responsible for understanding how all the pieces fit together. On the right,

programs coordinate to provide a clearer starting point. Families can more easily find available programs, understand their options and the required steps, and receive support in making an informed choice in completing enrollment. A shared website could be an important starting point. Simply bring accurate information about multiple programs, eligibility requirements, locations and contacts into one place can make the system easier for families to navigate. States and communities can then build on that foundation over time, adding an eligibility calculator or screener, a coordinated application or intake process, shared eligibility functions, and eventually more connected to enrollment processes. As coordination deepens, the technology will need to be supported by stronger agreements about program information, data sharing, referrals, and staff responsibilities. States do not need to implement every component at once. The measure of success at each stage is whether the change creates a clearer and more useful path for families.

A successful technical solution depends on a set of supporting factors. Programs and agencies need strong working relationships and agreements about what they're trying to coordinate. State and local leaders and champions are needed to resolve barriers and sustain momentum. Family and community engagement helps ensure the process reflects the experiences of the people expected to use it. Clear communication and outreach are equally important. The families and providers need to know that the coordinated process exists and understand how to use it. This is not a build-it-and-they-will-come platform. Strong marketing outreach awareness and trainings are key to success. States also need dedicated staff capacity to lead, implement, and maintain the work along with a plan for sustained funding. The central point is that technology enables coordination but does not create coordination. The relationships, the governance, the operational decisions, staff capacity and funding around the term technology ultimately determines whether it succeeds.

So a SMART Grant investment could support several stages of CEE development. A state might begin with discovery and engagement, learning where families encounter barriers and what state and local partners need from a coordinated process. It could then establish a shared purpose and define a phased approach, determine which programs will participate initially, which enrollment activities will be coordinated and how the work could expand over time. The investment could also support data governance, data management, technology requirements, staffing plans, and implementation structure that clarify state and local responsibilities. And finally, states can identify success indicators and build evaluation into that work. This allows them to assess whether the new process reduces burden, improves access, strengthens referrals, and produces other intended results and to use those findings for continuous improvement.

So a bit about how SRI has supported this work through initial implementation planning. Our work has included engaging communities to understanding family and provider needs, facilitating interviews and focus groups, developing phased timelines and staffing plans and documenting technology specifications and data management options. We have also participated in recurring program and technical meetings, helping partners translate their shared vision into operational and technical decisions. For example, in one community, we combine systems planning, community engagement and technical consultation. That type of support can be particularly valuable when a state or community needs someone who can connect the family experience with a program, governance, data and technology needed to improve their program goals. All right, now I'm going to turn it over to Nicholas.

Nicholas Ortiz:

Thanks, Howard, and hello to you all. So far we've discussed several ways that states can improve their use of data and technology, including strengthening program data systems, connecting data and operations across programs and advancing integrated state data capacity. So let's now consider a few ways you can actually use the data in those systems, namely through analytics and data visualization.

Data analytics and visualization can be incorporated into really any of those efforts or they can be a focus of their own. States can generate useful information from available data while continuing to strengthen and connect their systems. In this section, we're going to look at how states can turn existing data into actionable information, what makes data visualization useful, and how a focused analytic product can also reveal priorities for future data system improvement.

And as you've heard several times from my colleagues, the starting point is not the technology or the dashboard itself, it's the question that states want to answer, who's going to use the information, and what decision or action it should support. Now, assuming you've developed your critical question to guide your analysis, this section is going to reveal a few methods for presenting and analyzing your data.

Let's talk about some common state challenges in this area. One might be that states have data but may lack the means to turn the data into actionable information. It's the common situation. You've got lots of data on hand, but you may not know what to do with it or may not have the capacity to do it, you may have really good intentions but need a partner to help you build your capacity perhaps. Also, staff may need training on how to interpret the data and use the data tools once they're built. Also, we see sometimes that data visualizations have been built without specific audiences in mind, and so the message may get lost in the tool that's developed.

Using clear data visualization is a powerful strategy for overcoming these challenges and conveying insights. You might ask what makes for a clear effective data visualization? Well, in short, it conveys meaning from your raw data. It helps portray data accurately and clearly. It facilitates understanding. It's engaging and attractive. It promotes data use and it's accessible. I did want to mention the link on the bottom-left there, one of the resources that we're sharing today is the data visualization toolkit from the DaSy Center that we mentioned earlier. This has much more information about principles of effective dataviz, a lot of features on different tools that are free or low cost considerations for using modern AI-based software. So take a look at that at your leisure, please.

Let's consider four key principles of effective data visualization. These are not necessarily the only principles, but they rise to the top in our experience. Number one is know your audience and purpose. This is really critical. It's tempting to start getting artsy as soon as you pull up your data, but you risk creating an unuseful tool if it's not tailored to your primary audience. Number two, be intentional about your design. This includes things like making your message clear and considering ways to effectively communicate your story, selecting an appropriate chart type for your data and your audience, labeling chart axes and data points, being intentional about the use of color, using a consistent color scheme and consistent fonts, and considering which specific chart elements are necessary and reducing clutter in your chart to hone in on your key message.

Number three, ensure accessibility for people with disabilities. A few key techniques here would be to use clear language and be mindful of jargon, spell out your acronyms. We all know we have way too many acronyms in our field. Include alt text for all the charts and graphics for the screen readers and making sure there's enough color contrast. Number four, iterate and improve. This is not a linear process as with so many things in the data lifecycle, and experimentation is really part of the process. And in creating your data visuals, you may have questions or find that you need more data to answer those questions. Really use this as an opportunity to engage others in the process and get their feedback to improve both the data visualizations themselves and the use of those data.

Now here are some focused opportunities for you to consider for your SMART Grant when it comes to data visualization. You might consider something like providing state and local staff with professional development on data analytics and data use, or you could add capacity within your organization for sophisticated data visualizations. Maybe you've done some basic stuff among your team, but you're looking for added capacity. This includes things like mapping and what we call network analyses, which

might help you plot points on a map and understand connections and drive time between connections and those things, and this could happen at the state and local levels. You might also develop custom dashboards for focusing resources, training or coaching and understanding how better you might deploy your resources.

I wanted to drill into dashboards a bit for a moment here. Dashboards are really a powerful sustainable data visualization method for explaining and exploring data. The interactivity that it generates gives you more capacity for more data use, more accessibility, more transparency, and ultimately more fun with the data. Don't disregard the ability to have fun in any job or any sector. The more fun we know that people have with any kind of experience, the more they're likely to remember and use it. And when I say more, I mean more in one sense as in greater amounts, but also ongoing, repeated, and in some cases real-time, which depending on the purpose is a huge advantage over one-time analyses.

Also, a quick word on the word accessibility. There's accessibility in the sense of accessibility for people with disabilities, and there's accessibility in terms of just making it easier to reach the data for the lay audience and make it easier to understand in general. I'm talking more about the latter part of that here. And in past years, accessibility for people with disabilities, many of you might know, has been a challenge for data visualization. A lot of the tools on the market weren't necessarily built with that in mind, but in recent years, many of these tools have come a long way, thankfully.

I did want to note the screenshot here you're seeing is kind of a ground-level experience with developing a dashboard in Excel. Many of you might be using Excel as a starting point and that's okay. We've done work within Excel-based dashboards as well as other sort of web-based interfaces. This, you might want to take a look. We have actually a video-based tutorial on a series of modules that we've called the Early Childhood Data University, one of which is around creating basic dashboards in Excel. So take a look at that and maybe try your hand at it yourself. I also wanted to mention another example where SRI helped a state build an interactive early intervention family outcomes dashboard. This included a very detailed process of engaging interested parties, developing use cases, and piloting the dashboard before it was fully deployed, in addition to consulting on the dashboard design itself. So all the things that go into the development from soup to nuts.

So I'd like to share some other examples of how SRI has partnered with states around data visualization, including dashboards and mapping. So firstly, we helped design an interactive dashboard for a statewide preschool special education program specifically for their educational environment data. And the key impact here was that local education agencies were easily able to dig into their data. We also helped map applicants for an early childhood educator benefit pilot project where the key partners could easily comprehend the breadth and representativeness of applicants to assess outreach at just one kind of first glance. It's amazing how much a key visual can help your eyes make quick sense of the data. We also used geospatial analytics to analyze transportation routes between foster family homes and childcare centers. This really helped the state inform their investments in improving early care and education access for children in the foster care system. And finally, we charted and mapped differences in pay parity between Head Start and kindergarten teachers in various regions, which shown a light on the wide disparity of pay within and across states.

Now, here's a bit more about that last example, which focused on pay parity for Head Start teachers. I just pulled out a couple of key highlights from a blog we developed around understanding the pay parity issue. So we took a data set from several different states in urban and rural states generally, and we looked at current job posting data and we plotted those against some of the known data for the K-12 teachers, and we looked at the delta between those two on average, and so we were able to put together a key dumbbell plot on the left that showed some of those disparities, and then we went further to develop an interactive map where you could drill into some of the specific regions and you've

got some flyout details that showed more information about the differences and the data sets behind it. This is available for your viewing on our website and we encourage you to check it out.

And I'm just going to close out this section with the following: Analytics and visualization, data visualization can create media value for you, but they also help states see what needs to come next. The analytic work may reveal gaps in source data, inconsistencies across systems, limitations in data linkage or opportunities to improve program operations, and that's why the four areas we've discussed are connected. States may begin in one area, but their priorities may ultimately require a coordinated combination of system improvement, data integration, and analytic work. All right, and I'll turn it back over to Jennifer.

Jennifer Tschantz:

Great. Thank you, Nicholas. And I hope you all heard Nicholas when he said that dataviz and data analytics is fun. So I think that that is one really important piece to the work we do is that not only can harnessing the power of your data and technology be fun, but it also can really... If you are really strategic in how you use it, can lead to improved programs and improved outcomes for kids and families. So we've just shared a whole lot with you in this past almost hour, and we hope that it has spurred some ideas you've had in thinking about your SMART Grant applications. In short, our time together today, the examples of how data technology and analytics can improve early childhood systems were highlighted.

We've primarily focused on that one piece of the wheel, the data infrastructure piece, but that was mainly in the interest of time. We again want to remind you that realizing the return on investment in technology and data also requires building those human capacities. Systems need strong data and technology leaders who can support staff in becoming skilled data users while also creating a culture of data use. And I think we would really underscore that that culture of data and technology use is really important to pay attention to. Without those human capacities, the technology or the data will sit un or underused. We hope overall that we've helped you see a few ways that you might be thinking about making these critical investments using the PDG B-5 SMART Grants and that ultimately the work that you do will be improving and better coordination across early care and education programs that ultimately leads to improved outcomes for children and families. So with that, I think I'm going to turn it over to Howard to close us out.

Howard A. Morrison:

Great. Thanks, Jennifer. So one, we want to make sure you check out our website. We also have a flyer that highlights how SRI can support PDG B-5 SMART Grant and a plethora of additional resources that we've mentioned throughout this presentation, but also additional ones that align with the SMART Grant activities. So soon we'll be posting the slides and webinar recording to the webinar page. And as a reminder, this will have all the resources that we talked about. So I know we have covered a range of potential investments today, and we recognize that states may need additional expertise to plan and implement this work within a one-year period. SRI can meet states wherever they are, whether that means helping clarify priorities, assess current systems and data, engage partners, develop a roadmap or support implementation and evaluation. Our goal is not only to help complete a specific project, we work alongside state staff to build the individual and organizational capacity to use, to maintain, continue improving work over time.

If any of today's topics align with your state's priorities or if you are still determining where you could have focus investments to get the greatest value, we welcome the opportunity to talk with you. So we do want to wish you good luck with your grant submission, and thank you so much for joining us and

taking time out of your busy day. Please feel free to email me with any questions that you have. My email is on this slide. You can also... If you are using a phone and want to access our webpage through the QR code, please use that. It will take you directly to the PDG webinar page. And again, all of our resources and materials will be housed there. So thanks again. We appreciate your time and I hope you have a great rest of your day.