Mary Anne Anderson, Kara Conroy, Annalisa Mastri, Amanda Benton, and Gretchen Lehman

TECHNICAL APPENDIX: Research Design Options by Research Topic

This technical appendix contains additional information on research design options by research topic proposed in the issue brief, "Improving the Design, Targeting, and Effectiveness of Training and Technical Assistance: A Learning Agenda."

Research topic 1: Testing the effectiveness of different training and TA approaches

Possible research question 1.1: What training and TA approaches or activities are effective for human services organizations?

Researchers could answer this question using an impact evaluation, such as a randomized controlled trial (RCT). Researchers would identify a single training or TA approach (or activity) to study and randomly assign some recipients to receive the approach (the intervention group) and some to not receive it (the control group). The control group might receive no training or TA at all or could receive a business-as-usual training or TA approach. Researchers would compare the outcomes of the intervention and control groups. Any differences would reveal whether the selected approach had an effect—a change in outcomes related to the recipients' objectives—on those who received it. (Box 2 in the learning agenda provides considerations for defining possible outcomes to study.) If the control group received no training or TA at all, the results would show whether the training or TA was effective at improving key outcomes. If the control group received a different type of training or TA, the results would show the comparative effectiveness of the two approaches—whether one affects outcomes more than the other.

Alternatively, researchers could use a comparison group design. Under this design, researchers would identify two groups of recipients—one that participated in a training or TA approach

Key terms in this learning agenda

- *Providers* are organizations that provide training and TA.
- *Recipients* are organizations that receive training and TA from a provider.
- *Participants* are the individuals and families served by human and social services programs. ◢

(the intervention group) and one that did not (the comparison group). Ideally, the groups would match well on important characteristics, such as the type and size of recipient organization, location, and target population served. Researchers would use administrative data to compare the outcomes of these groups.

Comparison group designs are less rigorous than RCTs because the groups are not randomly assigned. Therefore, possible differences between the groups might drive recipients' decisions to receive the training or TA approach and improvements in their outcomes. For example, recipients with stronger financial positions might invest more into training and TA as well as have better participant outcomes. However, implementing a comparison group design is often more feasible than pursuing an RCT, given time and resource constraints that funders, developers, and recipients might face. In addition, under a comparison group design, recipients can take up any training and TA that might be available to them; under an RCT, recipients might be restricted from taking up training or TA in order to create a control group.

Despite the benefits, conducting a rigorous evaluation of training and TA effectiveness can be challenging. Because recipients differ in many ways, the findings might not be relevant across all recipients. Other changes in the recipients' organizations and environments that could occur at the same time as training and TA can pose challenges to interpreting results. Securing a large sample and using as rigorous a design as possible can address some of these challenges.

Possible research question 1.2: Which conditions within recipient organizations help to ensure successful implementation of training and TA?

Drivers are factors that lead to successful application of the knowledge and skills taught through training and TA. Recipient staff can take steps to ensure that such drivers are present at their organizations, which can help them implement knowledge and skills learned from training and TA. Researchers could conduct an implementation evaluation with a set of sites participating in a similar training and TA approach to assess the presence of drivers and identify which drivers might be most critical for setting the conditions for effective training and TA. This design cannot produce information on impact, but it can reveal valuable information about what drives implementation of lessons from training and TA.

Researchers could draw on frameworks developed in the field of implementation science to help structure an implementation evaluation. For example, one framework proposed by the National Implementation Research Network identifies three drivers that contribute to implementing a change successfully:

1. Competency of and support for the staff responsible for carrying out the change

2. An organizational and administrative setting that is hospitable to change

3. Successful leadership

Researchers conducting an implementation evaluation could use this or other frameworks as a starting point to identify drivers that were and were not in place at various recipient organizations that took up the same training and TA. The presence or absence of these drivers could suggest why some recipients were better able than others to incorporate knowledge and skills learned from training and TA into their organizational practices. Researchers can use a variety of methods to collect data on drivers, including one-on-one and focus group interviews with staff and program participants, observations, staff surveys, and analyses of administrative data.

Understanding which drivers appear to be important for ensuring effective training and TA can help stakeholders identify activities that recipients could take (and that funders could support) to strengthen certain drivers. For example, in the shorter term, recipients might decide to carve out more time for staff to practice skills learned during a recent training. In the longer term, recipients might take steps to enhance organizational leaders' support of training and TA for all levels of staff.

Implementation evaluations can complement impact evaluations. Findings from implementation evaluations can help with understanding and interpreting impact evaluation findings. For example, if an impact evaluation found a specific training or TA approach to be ineffective, knowing about the presence or absence of implementation drivers can help explain why there was no impact.

Possible research question 1.3: Which training and TA approaches are viewed as most effective or useful for human services organizations?

An implementation evaluation can also reveal information on which training and TA approaches appear to be effective. Researchers can use a variety of methods to collect data on perceived effectiveness or usefulness. For example, post-training or TA surveys could be conducted to directly ask recipients how effective they believe the training or TA was, and to what extent they anticipate using the information learned. Researchers could also

analyze administrative data by identifying recipient outcomes that might be affected by training or TA and comparing those outcomes before and after the training or TA to gauge improvement. One-on-one and focus group interviews with staff can also shed light on which approaches recipients considered the most and least effective or useful, and how to possibly improve those approaches perceived as being less effective or useful. This evaluation could result in recommendations to funders, developers, and providers about how they might combine different training and TA approaches to maximize usefulness for recipients.

Possible research question 1.4: What are costs to recipients for participating in a training or TA approach?

Not much is known about typical training and TA participation costs for recipients, and whether training and TA is cost-effective for recipients. A cost study would describe the costs of receiving a specific type of training or TA based on estimates of (1) time costs for participating in the training or TA for recipient staff or volunteers (such as AmeriCorps members); (2) costs of any supplies, materials, and equipment required to take part in training and TA; and (3) overhead costs, such as costs to recipients for travel or facilities where training and TA are delivered. The cost study could include a survey or qualitative component, which would ask recipient staff whether they thought the training and TA was a good investment of their organization's resources. Researchers could estimate costs of participating in the same training or TA from recipients that vary by size, location, and organization type, among other characteristics, to estimate the average cost of receiving a particular training or TA approach. Or, they could estimate costs of similar sites participating in a variety of different training and TA approaches to get a sense of average recipient costs across a spectrum of potential approaches. Under either approach, generalizing cost study findings to many other sites would require enlisting a large number of sites into the study.

Possible research question 1.5: Do the benefits of participating in training and TA exceed the costs?

To understand whether training and TA are cost effective, researchers would combine the results of a cost study with information on training and TA effectiveness, which they would assess using an impact evaluation. Researchers would convert the impact estimates into dollar values to express the benefits of receiving the training and TA. They would then compare the benefits with the costs to recipients. If the benefits exceed the costs, the training and TA is cost effective.

Research topic 2: Designing training and TA that engages recipients

Possible research question 2.1: Which training and TA designs are effective at engaging recipients?

An impact evaluation could be used to address this research question. Using an RCT design, researchers could randomly assign two groups of recipients to receive different training and TA opportunities that cover the same content but vary in their frequency, duration, or mode. For example, a provider could deliver a one-day, in-person training to one group of recipients and a series of four, two-hour-long virtual trainings to the other group. Researchers would compare outcomes across the groups to assess levels of engagement. For example, they might use surveys to ask recipients about their satisfaction with and engagement in training. They could also use data collected from attention trackers for virtual training and TA activities to assess engagement. Given the nature of training and TA interventions and engagement data, the RCT could be structured in a rapid-cycle manner, producing results quickly and allowing for iteration. Additionally, depending on the scale and specific research design, it might be possible to conduct such an evaluation at a lower cost than typical RCTs.

The evaluation could also include a qualitative component. Researchers could conduct interviews with recipients about perceived engagement and

ways to change the training and TA content or format to better engage recipients. Together, these findings would indicate how different formats appear to affect recipients' engagement and offer lessons for how to format training and TA to maximize engagement.

Possible research question 2.2: How can stakeholders improve engagement among training and TA recipients?

Researchers could conduct an outcome evaluation to understand how recipient engagement varies under different training and TA approaches. Providers could implement an aspect of a training and TA approach in two different ways for the same group of recipients. Researchers would assess engagement and satisfaction after the first offering and again after the second. For example, providers might offer a first training session using a mix of lectures and small-group activities, and a second session using only small-group activities. Researchers would conduct surveys after each session to ask recipients about their engagement and satisfaction, as well as questions related to other outcomes, such as knowledge, skills, attitudes, and behaviors. Comparing the outcomes of the same recipients across the two sessions could suggest whether the second session was an improvement over the first. It may be useful to divide participants into groups that receive the two sessions in different orders. Researchers could also interview recipients for additional information on their engagement and to gather recommendations to improve content or format. Although this type of study does not provide broadly generalizable information, it could suggest ways to increase engagement at a lower cost than an impact evaluation.

Possible research question 2.3: To encourage engagement, how might developers and providers incorporate recipients' input into the design of training and TA?

A case study design would help to answer this question by collecting in-depth information on how developers or providers and recipients worked together to develop and implement training and TA. To conduct a case study, researchers would

collect detailed qualitative information on one engagement or a few engagements by interviewing various stakeholders. Interviewing multiple recipients, providers, developers, funders, and possibly even participants would enable researchers to triangulate sources to produce a robust and comprehensive account of the engagement. The case study could result in a brief targeted to funders, developers, and providers that shares practical guidance and steps that stakeholders can take to ensure the voices of recipients contribute to developing and implementing training and TA.

Research topic 3: Incorporating considerations for equitable access to and benefits from training and TA across recipient individuals and organizations

Possible research question 3.1: Are training and TA opportunities designed to be inclusive and equitably accessed by all recipients? Are they inclusive and accessed equitably in practice?

An implementation evaluation could help to answer this question. This would illuminate the extent to which training and TA is inclusive and accessible, and how to improve inclusivity and accessibility. The evaluation could reveal several considerations of equitable access and benefits from the viewpoints of funders, developers, providers, and recipients:

- The evaluation can assess whether funders and developers consider the ability of different groups to become aware of, apply for, and qualify for training and TA. It could examine whether criteria for selecting recipient organizations to participate in training and TA inadvertently exclude certain groups. The evaluation might also look at whether funders and developers specifically seek to engage communities (for example, rural or tribal communities or communities of color) that have faced inequities to accessing training and TA in the past.

- The evaluation would try to understand the extent to which providers incorporate considerations of equitable access and benefits into their content

and the format of their offerings to be responsive to recipients and the populations they serve.

- The evaluation may consider equitable access and benefits at recipient organizations. It could do so by looking at whether recipients are intentional about which staff members have access to the training and TA and consider which staff might be inadvertently excluded.

Data collection for an implementation study could include quantitative and qualitative elements. Researchers can observe and interview funders, developers, providers, and staff from all levels of recipient organizations about ensuring and experiencing inclusivity and accessibility (including physical, virtual, social, and other aspects of accessibility). They could also assess data from providers to understand whether different types of recipients take up similar amounts of training or TA, which staff from the recipient organizations have access to and participate in training and TA, and whether those staff are diverse.

To dive deeper into this research question, the implementation evaluation's findings could inform a formative evaluation of changes to training and TA approaches designed to improve equitable access. Researchers could work with a few training and TA stakeholders to adjust their offerings to increase equitable access, such as recommending that each recipient organization include frontline staff members on monthly TA calls. They would then gather data—such as qualitative interview data or post-training or TA recipient satisfaction surveys—to understand if those adjustments changed recipients' experiences for the better.

While neither of these approaches can shed light on effectiveness, these evaluation types can reveal valuable information about the extent to which training and TA are inclusive and accessible and how they might be changed to increase equitable access.

Possible research question 3.2: How might program participants' experiences inform training and TA that support equitable access to services and equitable outcomes for participants?

To answer this research question, researchers could conduct a formative evaluation to develop and evaluate a participant-informed training and TA approach that strengthens an organization's capacity to provide services equitably across participants (for example, those with children, participants of color, participants who have mental health issues, and others). The formative evaluation would begin with a small number of recipient organizations. The evaluation could collect data from program participants to understand how their experiences with an agency, program, office, or staff member might be inequitable. Specifically, in-depth interviews with and observations of participants might reveal differences in how they engage with a recipient's organization, and how staff interact with diverse participants.

Using a technique called *participant for a day* would enable recipients and providers to experience program services firsthand as if they were participants. Recipients would learn what it is like to engage with different aspects of their program (for example, going through the initial intake process). This can reveal processes or experiences—such as repeated questions from staff or in paperwork, long wait times, or having to visit several different physical locations to accomplish a single task—that the program could change to reduce burden that might disproportionately affect certain community members.

After collecting these data, the TA provider could work with the recipient to develop solutions that aim to address inequities that surface, iteratively adjust organizational processes or procedures accordingly, and study the effects of the adjustments to see whether they lead to more equitable services. This would shed light on whether this participant-informed TA approach might be effective and feasible before implementing it with a broader group of recipient organizations.

If the results of a formative evaluation seem promising, an in-depth case study of one or more organizations would add firsthand accounts to the field. Case studies could include more comprehensive data collection, telling the story of how providers and recipients worked together to address equity issues in recipient organizations. Conducting both of these evaluations with a small number of recipient organizations can help to shed light on training and TA that could be developed and provided to increase equitable access for different types of program participants.

Research topic 4: Developing and conducting training and TA needs assessments

Possible research question 4.1: How do providers typically develop and conduct training and TA needs assessments?

Although this project collected some data on how providers develop and conduct needs assessments on the ground, the sources were fairly limited— a targeted literature review and interviews with 13 providers.[1] An implementation evaluation could more clearly define how providers typically assess recipients' needs in real-world training and TA by collecting data from a larger number of providers. To identify providers, researchers could review records of federal contracts and grants and peer-reviewed and grey literature on training and TA. They could then develop a comprehensive list of federally and philanthropically supported training and TA providers in human and social services (and in other fields).

After identifying the providers, researchers could survey those providers and conduct in-depth interviews. The survey could shed light on which tools providers most often leverage to assess recipients' needs, under what circumstances, and with which types of recipients. Though this evaluation would not reveal whether the tools are effective, the survey could also include questions about tools that providers have tried and found to be effective or

ineffective (in their opinion), and why. Researchers could then use the survey results to inform targeted in-depth interviews that probe on why recipients regard certain tools especially effective or ineffective. The resulting product could be a compendium of tools and guidance on the circumstances under which providers might use these tools.

Possible research question 4.2: How can providers match training and TA to recipients' needs?

This research question could be answered by conducting a literature review and expert consultation. These activities would build on the work started under this project. In the literature on training and TA needs assessments, we found the field does not have a consensus about how to assess recipients' needs. Researchers could review the implementation science literature to construct a framework and set of promising practices for assessing training and TA needs. The framework could include guidance on developing content to align with certain needs. It could delve more deeply into how to design training and TA content to try to change specific capabilities, opportunities, and motivations of recipient staff.[1]

Conducting an expert consultation with a variety of stakeholders, such as designers, funders, providers, recipients, and researchers, would allow the research team to collect feedback on the proposed framework. After drafting an initial, proposed framework, the stakeholders could offer input to develop a revised version. Using a consensus-generating approach such as the Delphi method could enable a group of experts to provide iterative input individually and over the course of several meetings until they reach consensus on the framework.[2] The framework and set of promising practices could help stakeholders gain a common understanding about how to match training and TA to recipients' needs. In taking this approach, researchers may wish to ensure that the experts consulted reflect a diversity of perspectives and approaches to matching TA to recipients' needs.

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[1] Focus group interviews conducted with 32 recipients included questions about needs assessments for training and TA, but this topic was not a central focus of those interviews.
[2] The Delphi method is a structured communication technique used to facilitate a consensus or group opinion among a panel or group of experts.

Research topic 5: Special considerations for training and TA related to cross-sector collaboration

Possible research question 5.1: What training and TA approaches are effective at creating or increasing cross-sector collaboration?

Much like the question noted under the first research topic in the learning agenda, an impact evaluation could answer the question. Researchers could conduct an RCT by randomly assigning recipients to an intervention group that receives one type of training or TA for cross-sector collaboration or a control group that receives a different training or TA approach or no training or TA at all. Researchers could work with sites participating in a single, national initiative that includes collaborating across sectors. Those sites would ideally have similar overarching goals and objectives for the initiative and share key characteristics, such as being all rural or urban. If the control group received no training or TA at all, the results would show whether the training or TA improved key outcomes related to cross-sector collaboration. If the control group received a different type of training or TA than the intervention group, the results would show the comparative effectiveness of the two approaches—whether one affects outcomes more than the other.

Alternatively, researchers could use a comparison group design. This study could compare outcomes of two groups that chose to participate in different types of training and TA while collaborating across sectors. Although the lack of random assignment means comparison group designs are less rigorous than RCTs, implementing this type of study is often more feasible and requires fewer resources.

Stakeholders participating in an impact evaluation might first want to define effectiveness for themselves and identify the specific outcomes they want to study. As noted earlier, assessing training and TA effectiveness is challenging, and might be even more challenging in the context of collaborating across sectors. Not only will recipients across different sectors vary on a number of characteristics, but the specific needs, interests, and priorities of each local cross-sector collaboration might differ. This could make it challenging to find suitable comparison sites and attribute observed changes in outcomes to the effects of the training or TA engagement. Using a random assignment design, which controls for underlying variations across sites, and a large sample size can help to address these challenges.

Possible research question 5.2: How can cross-sector training and TA be improved?

Using a formative evaluation, providers could adjust a cross-sector training or TA engagement for a set of recipients and then study their pre-post satisfaction, engagement, knowledge, skills, attitudes, or behaviors. For example, providers could start an in-person networking component for sites participating in a cross-sector training engagement, and researchers could survey recipients about whether this component was useful and how to improve it. The results would inform how to improve or strengthen the next iteration of the networking component.

Possible research question 5.3: How can cross-sector training and TA be designed to meet recipients' needs and engage them?

A case study design could also help stakeholders understand how to design training and TA to best meet recipients' cross-sector collaboration needs and engage them. Researchers would conduct an in-depth examination of one or a few cross-sector collaboration efforts that included training or TA. A case study would involve interviewing multiple stakeholders to provide a comprehensive and triangulated perspective of a training or TA engagement implemented in the context of collaborating across sectors. It would also explore how to improve training and TA to best engage recipients and meet their needs. Building on the findings from this project, programs could disseminate this information to share practical guidance with stakeholders on how to develop and implement training and TA for collaborating across sectors.

Endnote

[i] Michie et al. 2014; Cane et al. 2012.