September 2017

Tier 1B Grant Implementation Study Planning

The Teen Pregnancy Prevention (TPP) Tier 1B grant program of the Office of Adolescent Health (OAH) funds grant projects focused on scaling up evidence-based teen pregnancy prevention programs in multiple settings using inclusive and trauma-informed practices. OAH Tier 1B grantees are encouraged to use a holistic approach for their implementation and scale up of TPP programming, to address goals across a variety of key activities. This holistic approach includes the following grant activities that are implemented concurrently: (1) community mobilization; (2) engagement of youth and families; (3) evidence-based program (EBP) implementation in multiple settings to scale; (4) project delivery in safe and supportive environments; (5) project implementation using trauma-informed approaches, inclusive of lesbian, gay, bisexual, and transgender (LGBT) youth, and uses a positive youth development approach; and (6) establishment and maintenance of linkages and referrals to youth-friendly health care services. Tier 1B grantees are required to conduct an implementation study to evaluate the planning, implementation, and lessons learned for the grant activities listed above, but may also choose to evaluate additional components of the grant project, such as the selected dissemination strategy or sustainability efforts.

The implementation studies will identify strategies that support quality implementation of the Tier 1B grant project that can be used to improve current and future programmatic efforts. For example, these studies can improve future program delivery by identifying key strategies for applying positive youth development practices, or providing information on how best to engage stakeholders and community partners.

This brief will guide grantees through the initial steps for designing an implementation study that meets OAH requirements and will provide useful formative information to implement grant programs. It first discusses how to identify, prioritize, and select meaningful research questions for an implementation study. Next, it describes how to align research questions with data sources. Finally, it discusses how to develop a timeline to guide implementation study activities.

Identifying and prioritizing research questions

Research questions for implementation studies have two essential roles at study startup: (1) they guide study planning and (2) they structure and organize study activities. In the context of the Tier 1B grant project, research questions should set the stage for understanding the implementation experiences for the full array of activities conducted as part of the Tier 1B grant project.

To begin identifying research questions, the first step is to define the implementation study's goals. Clearly stated goals will define the focus and scope of the implementation study. Possible goals include: (1) documenting the grant project design and how grantees planned to address the expected activities of the holistic approach; (2) describing the extent to which each element of the grant project was successfully implemented; (3) assessing fidelity and quality of grant project implementation; and (4) describing challenges, successes, and lessons learned through grant project implementation. It is also important that study goals—and the resulting research questions—are useful and appropriate for the target audience, such as program staff or community stakeholders. Grantees can use several strategies to align the study's goals with agency and stakeholder interests.

An **implementation study** is a scientifically valid analysis of how providers implement programs and how youth receive them. It can assess successes, challenges, and lessons learned from implementation, which can be used to identify facilitators of and barriers to program delivery. For example, an implementation study can measure the degree to which staff established linkages with youth friendly services, as well as the extent that a grantee built partner capacity to scale-up EBPs in the community. Implementation studies typically focus on the process of implementation and lessons learned rather than outcomes such as behavior change (Werner 2004).

Two approaches, which can be used independently or in tandem, are backward mapping and logic model review.

- **Backward mapping.** Backward mapping is a technique used to identify the most valuable research questions for an evaluation. It begins with key stakeholders discussing what they hope to learn from the implementation study and how that information will be used. For example, program staff might want to know whether using community and youth advisory groups was beneficial in the planning process. On the other hand, community members might want to know whether youth were receptive to programming. Using stakeholder input as a guide, evaluators can design study goals and research questions that are relevant for each intended audience and ensure the implementation study findings will address the primary areas of interest. Backward mapping also aligns well with the grant project's expectation for community mobilization by engaging adult and youth advisory teams to learn what they would like to learn from the implementation study and how they plan to use study findings (Rossi et al. 2004).

- **Logic model review.** Reviewing logic models can help grantees identify areas in the implementation process that would be beneficial to evaluate (see Figure 1). Implementation studies that build off a logic model typically evaluate whether a program's intended activities resulted in the intended outputs. For example, the study could assess whether facilitators were able to conduct the expected number of workshops (activity) or whether the target number of youth attended EBP programming (output). Notably, given the complexity of scaling up and replicating multiple EBPs, it may be necessesary to review multiple logic models, including a model specifying all of the efforts taking place under the Tier 1B grant or models for specific EBPs to identify goals for the evaluation.

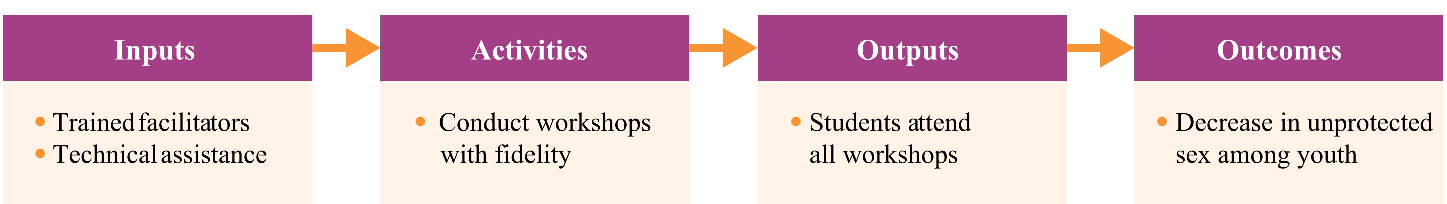
Once defined, study goals serve as a guide for developing research questions. For example, if a goal of the study is to describe the design of the grant project, grantees could ask questions such as, "How was the grant project designed to engage and mobilize local stakeholders?" or "How did the grant project intend to provide a safe and supportive environment for youth in each setting?"

Research questions should be specific and concrete, reasonable for the implementation study to answer using data that can be collected and analyzed, and likely to produce findings to improve program quality or identify lessons learned. For example, a research question that assesses how a grant project incorporated community mobilization could include, "How did the grant project recruit and engage adult and youth leadership teams to plan and coordinate community-wide TPP efforts?" This question focuses on a particular aspect of community mobilization, in this case recruiting and engaging community members. This is also a practical question for the study team to examine with data that are likely readily available, and the findings will be useful to assess the success of community mobilization strategies. On the other hand, a research question such as "Was community mobilization successful?" is not specific nor likely to identify lessons learned and thus should be avoided.

Figure 1. Logic model overview

A **logic model** is an illustration of the relationship between a program's inputs and activities (the planned work), and its intended results. Logic models can be depicted in multiple ways, but the common components include:

- **Inputs.** Human, financial, organizational, and community resources that support programming.
- **Activities.** Processes, tools, events, technology, and actions that are an intentional part of the program.
- **Outputs.** Result of program activities; may specify types, levels, and targets for program delivery.
- **Outcomes.** Short- and long-term changes in participants' behavior, knowledge, or attitudes as a result of program participation.



For more information, please see W.K. Kellogg Foundation (2004).

The following are additional examples of appropriate research questions for each grant activity that is part of the holistic approach for a hypothetical "Program Y".

1. **Assessing community mobilization efforts.** What was the process for establishing the Youth Leadership Council (YLC) and Community Advisory Group (CAG)?
2. **Understanding the level of engagement of youth and families.** What strategies did Program Y use to engage youth and families in the planning, implementation, and evaluation of the grant project?
3. **Implementing evidence-based TPP programming to scale with fidelity and quality in at least three settings.** What were the key successes and challenges that staff and program facilitators experienced with scaling-up EBPs in their community?
4. **Delivering the grant project in a safe and supportive environment for youth and their families.** What approaches did Program Y use to create a safe and supportive environment for grant project implementation?
5. **Implementing a grant project that is trauma-informed, LGBT inclusive, and uses positive youth development approaches.** What training was provided to staff on trauma informed approaches? What adaptations to grant project content, delivery, or organizational policies were necessary for Program Y to make the grant project LGBT inclusive? What were the key positive youth development approaches used during project implementation?
6. **Establishing and maintaining linkages and referrals to youth-friendly health care services.** How was the youth-friendliness of services assessed?

After developing an initial list of research questions, it may be necessary to prioritize questions, if there are too many to address within the scope of the study. Ideally, the questions that are examined in the implementation study will yield useful information for grantee agencies, OAH, and key stakeholders. For example, some research questions could be interesting but might only be of interest to a specific stakeholder. In such situations, grantees will need to assess whether they have enough resources to include this question in the implementation study, especially if other questions provide more information to a broader audience. Grantees will also need to prioritize questions based on the remaining time in their grant period. With the shortened grant period due to the funding truncation there may not be sufficient time left to answer all questions of interest. Other prioritization considerations include deciding which questions will provide the most useful information for program improvement and which are most feasible to answer. The data sources needed to answer a research question also will affect whether the research question is feasible to answer, which we discuss in detail in the next section.

Aligning research questions and data sources

The next step in the planning process is to identify data sources that are available for the implementation study and to cross-walk the research question(s) with each data source to ensure appropriate and relevant data are being collected. The process of selecting research questions and mapping data sources is iterative and grantees should approach it with flexibility. For example, grantees may need to revise a research question to align it with available data or drop a research question if the data sources are unavailable or too expensive to pursue.

Data sources fall under two broad categories: quantitative and qualitative. The two types of data complement each other and can provide a fuller picture of implementation when used together in a mixed-method approach. Each data source has advantages and disadvantages, and these must be weighed against the evaluation's goals. (Note: Tier 1B grantees are already collecting some of these data elements for other purposes, such as data collected for performance measures).

Quantitative data sources provide information that can be measured, such as summaries of program dosage, number of implementation settings, or number of partner organizations. Quantitative data can be important to understand the extent that programming is implemented with fidelity and the reach of programming; however, it cannot provide context for the findings or lessons learned from implementation.

Quantitative data sources include, but are not limited to:

- **OAH performance measures.** Tier 1B grantees are required to submit measures of reach, dosage, fidelity, quality, etc. to OAH on an ongoing basis. These data are valuable to understand the extent and usage of grant project services. A benefit of these data is that they are already being collected as part of this grant, and therefore this does not require any additional grant resources; however, grantees will likely need to supplement performance measure data to answer research questions on all the components of the holistic approach.
- **Surveys.** Surveys of program staff, youth participants, partners, advisory group members, and other key stakeholders can provide a systematic assessment of perceptions of grant project implementation, quality, training, and administration. Surveys conducted for implementation research are different in purpose from outcome evaluation surveys, as they focus on respondents' perceptions of implementation rather than knowledge, attitudinal, or behavioral outcomes. The level of effort for survey administration is largely determined by the number of respondents and survey length. Therefore, if larger

samples are a concern due to resources or logistics, it may be feasible to systematically select a subset of youth or to conduct brief surveys with staff rather than youth.

- **Fidelity logs.** Fidelity logs are an EBP-specific account of whether facilitators implemented core program components as intended by the developer. They provide useful data on EBP content coverage, quality of implementation, adaptations, dosage, and youth engagement. Facilitators should be completing fidelity logs as part of the Tier 1B fidelity monitoring plans. Some limitations of fidelity log data are the potential for self-report bias when facilitators complete the logs and possible inconsistencies over time. To minimize this issue, provide early and ongoing training to facilitators and occasionally check the data quality (for example, have an observer code the same data and compare).
- **Other administrative data.** Other administrative data sources such as school attendance data or data from partners on youth service utilization might be beneficial to collect. These data can be used to provide insight into program attendance and dosage of programming received. However, accessing these data may require a data use agreement or school research board review.

Qualitative data sources provide information on the quality of programming and context of implementation. For example, focus groups with youth provide insights into their responsiveness to the holistic approach, such as assessing healthcare linkages, community mobilization, or efforts to ensure safe and supportive environments during project implementation. Discussions with staff can deepen understanding of staff perceptions of the success of programming. To collect qualitative data, grantees should work with an independent evaluator or staff not involved in direct program activities to ensure objective data collection and analysis. Staff conducting qualitative research should have experience developing protocols, conducting interviews or focus groups, and analyzing qualitative data. If a grantee agency do not have staff with these skills, they might need to contract with experienced staff to do the work.

Qualitative data sources can include:

- **In-depth interviews.** Interviews provide valuable insight on grant project activities such as planning, youth and family engagement, grant project implementation and EBP scale-up, and lessons learned. The information obtained in interviews is more nuanced and often more detailed than what is available through staff surveys. The study team may conduct interviews by telephone or in person in either individual or group settings, and can include program staff, advisory group members, or youth, for example. Group interviews can be beneficial when staff members have similar or complementary roles and can each provide input on interview questions.
- **Focus groups.** A focus group is a facilitator-guided discussion with multiple respondents. Common topics for focus groups are discussions on grant project planning, staff and participant perceptions of particular aspects of the grant project, and lessons learned. Focus groups tend to promote discussion by allowing respondents to react to one another's responses and share personal opinions. However, the group setting can make some respondents less candid due to confidentiality concerns. Most often, focus groups take place in person, but they can be conducted by telephone, videoconferencing, or online approaches.
- **Observations.** Observations can provide an assessment of service delivery including EBP implementation fidelity, the use of programming that is LGBT inclusive and trauma-informed, quality, and youth engagement. OAH requires observation of at least five percent of program sessions during the course of the grant, so these data are readily available provided the protocol covers the elements of interest. It is important to consider the limitations and benefits of observation data, including subjectivity of the observer and the risk that having an observer in the classroom changes the facilitator's and youth's behavior. It is possible to minimize these limitations by observing video-recorded sessions of program delivery.
- **Meeting minutes.** Meeting minutes provide an account of content covered during staff meetings and YLC/CAG meetings such as understanding how the community mobilization and youth leadership processes were planned and implemented. Reviewing minutes can help grantees understand the process of program planning and the reaction of staff and advisory group members to the grant project once it is underway. The consistency of minute-taking and the level of detail contained in the notes will impact how useful they are for the implementation study.
- **Grant project documents.** Grant project documents may include organizational policy documents, curriculum materials, facilitator manuals, program protocols, fliers, and so on. Organizational policy documents can highlight the changes that occurred within organizations involved in the grant project to integrate positive youth development and trauma informed approaches, promote LGBT inclusiveness, or create safe and supportive enviroments. Curriculum materials and facilitator manuals outline how the developer intended the program to be delivered, which is essential to assess fidelity. Outreach materials such as fliers can provide context about how youth were recruited into programming. These materials will not paint a complete picture of actual implementation or outreach but will shed light on what optimal implementation with fidelity might look like.

One strategy to select appropriate data sources for each research question is to create a table. First, grantees can list each research question, ideally organized by grant activity, as a separate row in the table (see Table 1 as an example). Then, use a list of available data sources as columns in the table. Finally, grantees can look across each research question and data source combination and identify whether the data source(s) could help answer each question. If no data source is available to address a research question, it might be necessary to revise the question or drop it from the study.

Most research questions will rely on several data sources. For example, to answer the research question, “What adaptations to grant project content, delivery, or organizational policies did Program Y need to make to make the grant project inclusive?” grantees could use data from the OAH inclusivity review, staff focus groups, classroom observations, grant project documents, and fidelity log data. Using multiple data sources is typical of implementation studies and enables a broad assessment of the research questions being evaluated. Grantees need to identify the best use their resources when deciding which data sources to use in their implementation study.

Table 1. **Tier 1B grant activities, example research questions, and data source mapping**

Tier 1B grant activities and potential implementation study research questions	Potential data sources								
	Quantitative				Qualitative				
	OAH performance measures	Surveys	Fidelity logs	Other administrative data	In-depth interviews	Focus groups	Observations	Meeting minutes	Grant project documents
Assessing community mobilization efforts									
What strategies were most effective in gaining community participation?					✓	✓		✓	✓
What was the process for establishing the Youth Leadership Council (YLC) and Community Advisory Group (CAG)?					✓	✓		✓	
How did the grant project use the YLC and CAG in planning for scale-up in target communities?					✓	✓		✓	
How did the grant program use community members to plan and coordinate community-wide TPP efforts?					✓	✓		✓	✓
What was the extent that the grant project used Advocate for Youth’s “Strategies Guided by Best Practice for Community Mobilization” to guide community mobilization activities?		✓			✓	✓		✓	
Understanding the level of engagement of youth and families									
What strategies did the grant project use to engage youth and families in the planning, implementation, and evaluation of the grant project?					✓	✓			✓
To what extent were youth and families actively engaged in implementing the grant project?		✓	✓		✓	✓	✓	✓	
What were the successes and challenges of engaging youth and families in grant project implementation?		✓			✓	✓			✓

Tier 1B grant activities and potential implementation study research questions	Potential data sources								
	Quantitative				Qualitative				
	OAH performance measures	Surveys	Fidelity logs	Other administrative data	In-depth interviews	Focus groups	Observations	Meeting minutes	Grant project documents
Implementing evidence-based TPP programming to scale with fidelity and quality in at least three settings									
Implementation of individual EBPs									
To what extent were selected EBPs a good fit for the target community?	✓	✓	✓		✓	✓		✓	
What were the key successes and challenges staff and program facilitators experienced with EBP delivery?		✓	✓		✓	✓	✓	✓	✓
To what extent were youth engaged in EBP delivery?	✓	✓	✓	✓	✓	✓	✓		
Scale-up of EBPs									
What were the key successes and challenges the grant project experienced with scale-up of EBPs in the target community?		✓			✓	✓		✓	✓
What were the key strategies the grant project used to assess EBP fit across the community?					✓	✓		✓	✓
To what extent did the grant project build partner capacity to deliver EBPs with quality and fidelity?					✓	✓		✓	✓
Delivering the grant project in a safe and supportive environment for youth and their families									
What approaches did the grant project use to create a safe and supportive environment for grant project implementation?		✓			✓	✓	✓	✓	✓
What positive youth development approaches were integrated into the grant project?		✓	✓		✓	✓	✓	✓	
To what extent did grant project staff and partners implement the grant project using positive youth development approaches?		✓	✓		✓	✓	✓		
Implementing the grant project that is trauma-informed and LGBT inclusive									
What adaptations to grant project's content, delivery, or organizational policies were necessary to make the grant project inclusive?		✓	✓		✓	✓	✓	✓	✓
How were trauma-informed approaches integrated into grant project activities?		✓	✓		✓	✓	✓	✓	✓
To what extent did the community perceive grant project activities to be trauma-informed and LGBT inclusive?		✓			✓	✓	✓	✓	✓

Tier 1B grant activities and potential implementation study research questions	Potential data sources								
	Quantitative				Qualitative				
	OAH performance measures	Surveys	Fidelity logs	Other administrative data	In-depth interviews	Focus groups	Observations	Meeting minutes	Grant project documents
Establishing and maintaining linkages and referrals to youth-friendly health care services									
How were partnerships with youth-friendly health care services established and maintained?		✓			✓	✓		✓	
How were providers assessed to determine whether they were youth friendly?					✓	✓		✓	✓
What partnerships were essential to ensuring linkages to a wide range of youth friendly-services, not just reproductive health services?	✓	✓			✓	✓			

Developing a timeline to guide implementation study activity planning

After identifying research questions and data sources, grantees should develop a timeline for implementation study activities that outlines the timing of data collection, analysis, and reporting. Planning these activities from the outset will help the study stay on track and within budget.

The timing of data collection depends on the types of data included in the study and the ways they will be used. For some data sources, it makes sense to collect data on an ongoing basis, whereas others are best collected at specific points. Ongoing data collection might be useful for quality improvement; grant project monitoring (for example, fidelity, adherence, and participant engagement); and technical assistance. For example, grantees are required to continuously collect performance measure data on the reach and quality of grant project delivery, which might be use to improve implementation in real time. Point-in-time data collection occurs at specific intervals, typically aligned with milestones of grant project implementation. For example, it might make sense to plan interviews with staff for both before and after grant project delivery to collect data on planning and training efforts, community mobilization, key partnerships, early implementation challenges, and the strategies used to address those challenges. Similarly, youth focus groups might take place after youth have had a chance to experience programming but not too long after implementation has ended. Both ongoing and point-in-time data collection give program staff and evaluators a well-rounded assessment of grant project implementation activities and outcomes.

Grantees might be able to conduct interim analyses throughout the grant period; however, in the early phases of planning they are encouraged to consider the time required for data analysis and reporting. This will help them allot adequate time for these activities, as data collection will need to end before analysis begins. In general, grantees should allow nine months for implementation data analysis and reporting at the end of the grant period.

Using these guidelines, grantees can begin to plan the timeline for data collection while considering the level of rigor desired and resource limitations. There are several ways to conduct an implementation study, and grantees will need to balance evaluating the required components of programming with available resources, grantee agency needs and those of the community, and the benefits and constraints of various data collection approaches. Timelines should also factor into the grant's analysis and reporting requirements.

Conclusion

Implementation studies conducted by Tier 1B grantees will provide valuable information on the successes and challenges of implementing all components of the Tier 1B grant project's holistic approach; however, there is no one-size-fits-all approach to implementation study planning. Beginning the planning process by establishing implementation study goals, selecting key research questions, and mapping data sources will guide evaluation activities from the outset and assist in building the framework for later data collection, analysis, and reporting activities. Using this approach, grantees can plan implementation studies that are comprehensive and useful for their agency, stakeholders, and OAH.

References

Rossi, P., M. Lipsey, and E. Howard. *Evaluation: A Systematic Approach, 7th Edition*. Thousand Oaks, CA: Sage, 2004.

Werner, A. *A Guide to Implementation Research*. Washington, DC: The Urban Institute Press, Rowman & Littlefield, 2004.

W.K. Kellogg Foundation. *Logic Model Development Guide*. Battle Creek, MI: W.K. Kellogg Foundation, 2004.

This brief was written by Katie Adamek and Heather Zaveri from Mathematica Policy Research for the HHS Office of Adolescent Health under contract #HHSP233201300416G.