



Feasibility Study Report

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Purpose of the Report

The Science Education Partnership Award (SEPA) program of the National Center for Research Resources (NCRR) provides five-year grants for K–12 educational projects, science centers, and museum exhibits to increase career opportunities in science, deliver topical and interactive information about medical research funded by the National Institutes of Health (NIH), and cultivate an understanding about healthy living habits among the general public. The program was founded in 1991 in response to the six National Education Goals set forth by former President George H. W. Bush. These goals challenged educators to improve the quality of education in the United States based on the philosophy that every child can learn and that learning is a lifelong process (Swanson, 1991). In July 2009, Westat was awarded a contract to conduct a feasibility study for developing an evaluation design for the program.

Basis for Feasibility Study Recommendations

The work of the feasibility study has involved a number of interrelated activities:

- Meeting with program officials to learn about the program, its history, and its relationship to other NCRR efforts;
- Working with NCRR staff to develop a family of logic models¹ to describe the overall SEPA program and its separate activity streams;
- Working with NCRR staff to develop an initial set of implementation and outcome questions that might be covered by the evaluation;
- Conducting a literature review focused on examining approaches to program evaluation, as well as an overview of evaluation approaches used to assess both formal and informal education activities similar to those funded by SEPA;

¹ A logic model is a visual depiction of a program's Theory of Change. It shows relationships between inputs, activities, outputs, and short- and longer-term outcomes.

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Introduction

- Interviewing grantees, recognized experts in the field at the national and federal levels, and evaluation experts to receive advice on 1) evaluation questions that would provide information of use to them and 2) an assessment of the initial evaluation questions developed by Westat and NCCR staff; and
- Conducting a preliminary examination of project evaluations to assess the feasibility of a meta-analysis of existing data.

Based on these activities, Westat has concluded that conducting an evaluation of the SEPA program is feasible and would be extremely valuable for both the program and the field. That said, it must be recognized that the evaluation will be challenging because of the range of projects funded and the diversity of audiences and outcomes the program is designed to serve.

In the remainder of this document, we present our proposed plan for the program evaluation. We delineate our assumptions, the evaluation questions, designs for addressing these questions, and our proposed schedule for carrying out the work. Appendix A provides construct maps for the document reviews, surveys, and case study interviews.

Overview of the Evaluation

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Overview of the Evaluation and Questions to Be Addressed

The proposed SEPA evaluation is guided by the assumptions detailed below.

- The evaluation should be designed to provide information for both program improvement and assessment of program impacts.
- SEPA should be examined at multiple levels: the program as a whole, the program as it relates to its various potential target populations, and the program's subcomponents (defined as the various formal and informal activities that it supports).
- The evaluation should examine the program within the context of the overall work of the NCCR, NIH, and other federal funding for science, technology, engineering, and mathematics (STEM) educational programs.
- The evaluation should draw on a variety of data sources, both primary and secondary.
- The evaluation should be designed to keep the burden on respondents as low as possible.

The proposed evaluation addresses four issues: the program as implemented, the partnerships that have emerged, the evidence base that is accruing, and the impacts of the program activities on its target groups. We are recommending that the evaluation cover the approximately 181 projects funded between 2000 and 2010. Using this time frame affords the opportunity to adequately address issues related to sustainability, while putting an emphasis on more recent funding cycles.

Specifically, the four questions are as follows:

- Is the SEPA portfolio aligned with the program's overall goals?
- Has the SEPA program contributed to the creation and/or enrichment of beneficial and productive partnerships?
- Is the SEPA program generating a rigorous evidence-based system that provides high-quality evaluations to inform the knowledge base?

- Has the SEPA program been successful in achieving its goals?

The importance of each of these is discussed below.

Q1. Is the SEPA portfolio aligned with the program's overall goals?

The first question is descriptive and to a large extent provides a foundation for the rest of the analyses. Having developed logic models that describe the program in theory, it is important to then describe the program as implemented. Thus, the portfolio analysis will examine the grants made by the program considering a range of features including the types of activities, populations, and outcomes addressed. Conducting such a portfolio analysis was seen as important and fundamental by the national experts and evaluators. The literature review also identified portfolio analysis as an important component of evaluation, especially when the work of foundations is to be examined.

Q2. Has the SEPA program contributed to the creation and/or enrichment of beneficial and productive partnerships?

One key feature of the SEPA program is the extent to which it encourages partnerships that engage stakeholders from the formal education, informal education, and biomedical worlds. Indeed, SEPA program management encourages and strongly supports such partnerships, especially those that draw on work conducted by other NCR/NIH programs. An important issue is what the contribution is and has been of these partnership arrangements. Do such partnerships add value, or are they more a matter of preference? Are partners able to leverage additional funds from other sources as a result of their involvement in SEPA? Are partnerships sustained over time and how do they evolve? Examination of the operation and impacts of partnerships was highlighted by grantees and external experts as being of strong interest.

Q3. Is the SEPA program generating a rigorous evidence-based system that provides high-quality evaluations to inform the knowledge base?

The importance of obtaining solid evidence on the impacts of SEPA-funded projects is highlighted in the solicitation, the proposal review process, and the logic model that describes the theory of change underlying the program. SEPA does not stand alone in requesting rigorous, evidence-based evaluations. Increasingly, the need for rigorous evaluation—not anecdotes or descriptions—has been emphasized by both foundations and federal agencies. Interviews with stakeholders also supported the value of looking at the quality of the evaluations. The third question to be addressed in the evaluation focuses on this issue of evaluation and examines the extent to which project evaluations have become more rigorous over time, taking into account the type of project being evaluated.

Q4. Has the SEPA program been successful in achieving its goals?

The final question addresses the extent to which the program is reaching its stated goals in terms of the impacts of the projects that it funds. It examines the results of SEPA grants with regard to outcomes for 1) students, teachers, parents, and the general community, 2) formal and informal education investments, and 3) underrepresented populations. Information from the portfolio and evaluation analyses will be critical to addressing this question. The findings regarding which outcomes have been rigorously evaluated are likely to delimit what can be examined.

A Closer Look at the Evaluation Questions

This section provides information about the methods that we are proposing be used to examine the four questions we have identified for the SEPA evaluation. These methods include both analyses of existing data and the collection of new data. Specifically:

- **Document review.** We are proposing that at the outset of the evaluation, existing documents (e.g., proposals, final reports, summative evaluations) be reviewed for all SEPA projects funded between 2000 and 2010. The purpose would be to document available information about the characteristics, activities, and outcomes of these SEPA projects; to obtain data for meta-analysis purposes; and to obtain ideas for

developing instruments to collect additional data. As part of this effort, we are proposing that program-level materials (e.g., solicitations, technical assistance materials) be reviewed to document the type of guidance provided to SEPA grantees since 2000. We suggest that the document review be completed in the first three months of the evaluation study.

- **PI survey.** Surveys are particularly effective in gathering information from large groups where standardization is important. Therefore, we are proposing that once the document review has been completed, a principal investigator (PI) survey be administered for all SEPA projects funded between 2000 and 2010. The purpose would be to obtain information about the four evaluation questions not covered by existing documentation. The survey, to be administered online, would primarily comprise close-ended items, although we suggest that some open-ended items be included to give respondents the opportunity to provide more detailed information for selected topics. We would propose that work on the PI survey begin in the third month of the project—i.e., as soon as the document review is complete. Programming the online version of the survey will require approximately three months and will be completed by the time OMB clearance has been obtained. The administration of the online PI survey should be completed by the end of the study's 12th month.
- **Partner survey.** In addition to the PI survey, we are proposing that the evaluation include a survey of all partners associated with a sample of SEPA projects. The purpose would be to obtain partners' perspectives on their SEPA experiences and contributions. Like the PI survey, this protocol would be administered via the web and completed by the end of the study's 12th month.
- **Interviews.** We are proposing that interviews be conducted with NCCR program directors, as well as experts from the Office of Science Education, the National Science Foundation (NSF), Howard Hughes Medical Institute, the Association of Science Technology Centers, and the National Association of Biology Teachers, to obtain their perspectives on the SEPA program. These interviews will have a special emphasis on partnerships and issues related to evaluation. The NCCR interviews would be completed in the first two months of the study.
- **Case studies.** We are proposing that project-specific case studies be used to obtain more detailed information on partnerships, rigorous study designs, or outcomes. The criteria used to select projects would depend on the component to be studied. Where possible, projects that satisfy multiple criteria will be selected (e.g., a project with an effective partnership component that had a rigorous study design). However, we expect that many of the projects included in the case study component will only satisfy the criterion for one study component. Information for these case studies would be collected through telephone interviews and, in the case of partnerships and outcomes, site visits during the second year of the evaluation. The site visits will be extremely valuable as they will allow gathering of information from a broader population of stakeholders than those addressed through the surveys. We recommend that the case studies include interviews with a variety of project staff (including

partner staff), as well as program participants/beneficiaries and, as relevant, leaders in the community.

As shown in Exhibit 1, we are proposing that multiple data collection strategies be used to address several of the evaluation questions. The remainder of this section presents greater detail on our recommended approaches for using these data collection strategies to address the four major evaluation questions.

Exhibit 1. SEPA evaluation questions and data collection approaches

Question	Data collection approach				
	Document review	PI survey	Partner survey	Interviews	Case studies
1. Is the SEPA portfolio aligned with the program's overall goals?					
a. Does the balance of projects reflect the SEPA program's overall mission and goals?	X				
b. Does the balance of projects adequately target the SEPA program's intended public audiences and stakeholders?	X				
c. Have the composition, balance, and focus of the SEPA portfolio of projects changed over time? If yes, has there been any impact on the portfolio's alignment with the SEPA program's overall mission and goals?	X				
d. Are the goals of individual projects aligned with the overall goals of the SEPA program? If yes, are there any program goals that are not adequately addressed by the sum total of SEPA projects?	X				
2. Has the SEPA program contributed to the creation and/or enrichment of beneficial and productive partnerships?					
a. What are the characteristics of the organizations that assume partnership roles on SEPA projects? Have these characteristics changed over time?	X	X			
b. What types of partnerships are forged among project participants? For example, are they primarily formed among organizations that have worked together on previous initiatives?	X	X	X		
c. What roles do partners assume on SEPA projects?	X	X	X		X
d. Are the outcomes that organizations are able to accomplish through their SEPA partnership different from what they would have accomplished on their own?			X		X
e. What are the characteristics of the most successful partnerships? What facilitated the success of these partnerships?				X	X
f. What are the challenges that partnerships present?					X
g. Does the SEPA program provide sufficient supports to help projects create and enrich meaningful and sustainable partnerships among their project partners?				X	X
h. Have projects sustained their SEPA-supported activities and impacts after their grant awards have expired? Have the institutional partnerships created or enriched by the SEPA program been sustained after grant awards have expired?			X		X
i. What lessons do project partners learn that might be of value to future SEPA projects?			X		X

Exhibit 1. SEPA evaluation questions and data collection approaches—Continued

Question	Data collection approach				
	Document review	PI survey	Partner survey	Interviews	Case studies
3. Is the SEPA program generating a rigorous evidence-based system that provides high-quality evaluations to inform the knowledge base?					
a. Are project-level evaluation studies of sufficient scope, quality, and length to adequately assess their intended impacts? To make recommendations aimed at improving the implementation and impact of future SEPA projects?	X				X
b. What percentage of funding is allocated to evaluation?	X				x
c. Are different project types (e.g., exhibits, films) able to design and implement rigorous evidence-based approaches to assessing their impacts?	X				X
d. Has the rigor of project-level evaluations increased over time? If yes, what factors account for this increased rigor?	X			X	X
e. Did the SEPA program provide clear guidance through solicitations and/or adequate support through technical assistance to strengthen projects' evaluation capacities?		X			X
f. What are the lessons learned in designing and implementing evaluations for SEPA projects?	X	X			X

Exhibit 1. SEPA evaluation questions and data collection approaches—Continued

Question	Data collection approach				
	Document review	PI survey	Partner survey	Interviews	Case studies
4. Has the SEPA program been successful in achieving its goals?					
a. Is the SEPA program enhancing the capacity of project participants to develop materials (e.g., curriculum, exhibits) and disseminate information about science, bioscience, health, and medical-related topics?	X	X			X
b. Is the SEPA program enhancing K–12 teachers' capacity to understand and disseminate information about science, bioscience, health, and medical-related topics?	X	X			X
c. Is the SEPA program enhancing K–12 students' interest in pursuing careers in science, bioscience, health, and medical research?	X	X			X
d. Is the SEPA program increasing public* knowledge and understanding of (and skills in) topics pertaining to science, bioscience, health, and medicine? Of how these topics relate to everyday life?	X	X			X
e. Is the SEPA program creating a greater public understanding about the role and benefits of science, bioscience, health, and medical research?	X	X			X
f. Is the SEPA program changing the public's behavior toward healthier living and healthier life styles?	X	X			X
g. Is the SEPA program contributing to a more educated and diverse workforce in the science, bioscience, health, and medical fields?	X	X			X
h. Is the SEPA program enhancing the capacity (e.g., professional status, research skills, dissemination skills) of lead/partner organizations and/or participating STEM/SEPA professionals?	X	X			X
i. Is the SEPA program enhancing public and stakeholder (e.g., policy and decision makers) awareness, trust, and confidence in the work of NCRR?	X	X			X
j. Which strategies and/or activities have been most successful in achieving the goals of the SEPA program?	X	X			X

*For the purpose of the SEPA evaluation questions, the public includes K–12 students, parents, teachers, the community at large, and populations traditionally underrepresented in the bioscience and medical areas.

Q1. Is the SEPA portfolio aligned with the program's overall goals?

The SEPA solicitations outline specific requirements that applicants are encouraged to address in their proposals. These requirements are designed to ensure that project strategies and activities are aligned with the overall goals of the program. As such, understanding the portfolio of a program is important to establishing clear records, documentation, and/or a database of what has been done, by whom, and when. To provide a comprehensive perspective of the SEPA portfolio and how SEPA projects align with the program's overall goals, we recommend that the evaluation focus on answering the following sub-questions:

- Does the balance of projects (e.g., number of awards, level of resources, range of activities and strategies) reflect the SEPA program's overall mission and goals?
- Does the balance of projects adequately target the SEPA program's intended public audiences and stakeholders—including K–12 students, parents, teachers, the community at large, populations traditionally underrepresented in the bioscience and medical areas, and science, technology, engineering, and mathematics (STEM)/SEPA professionals?
- Have the composition, balance, and focus of the SEPA portfolio of projects changed over time? If yes, have these changes resulted in projects that more closely reflect the SEPA program's overall mission and goals?
- Are the goals of individual projects aligned with the overall goals of the SEPA program? If yes, are there any program goals that are not adequately addressed by the sum total of SEPA projects?

To answer these questions, we recommend a two-step data collection and analysis process. The first step is reviewing available program- and project-specific documents (e.g., final reports, proposals)² and documenting what is found. This will produce a comprehensive description of the portfolio. The second step is applying a metric or rubric to assess the alignment of individual projects and the program as a whole with what the SEPA program is trying to achieve. In conducting an analysis of alignment several factors will need to be considered. These include type of project, duration of treatment, targeted audiences, when in the life cycle of the SEPA program the project was funded.

² Project websites may also be worth exploring.

Document review. We recommend beginning the data collection process with a review of both program- and project-level documents. Given that SEPA is a mature and established program with 20 years of funding experience, we recommend narrowing this review to projects that have been funded within the last 10 years (i.e., 2000–10). The review will include all versions of program solicitations, proposals from funded projects, and final project reports or the last annual report from grants that are still underway. Documents will be coded and analyzed using a structured protocol. Compiled information will provide a description of the range of project activities (e.g., developing curricula, professional development for teachers, outreach efforts, etc.), populations (e.g., K–12 students, families, the general public, and STEM professionals), and outcomes addressed.

Metric portfolio analysis. We recommend using information from the document review to inform the completion of a metric portfolio analysis. A metric portfolio analysis is a system of scoring applied to the portfolio to assess its contents against a clearly defined set of criteria. Critical to such an assessment is working with the program staff to develop indicators against which the status of alignment will be examined. The indicators will provide benchmarks for dimensions of importance—such as the coverage of populations, the extent of focus on traditionally underrepresented groups, and components of the evaluation. Such a scoring system, or rubric, will allow a program to assess portfolio coverage for specific program requirements in the aggregate (Schmitz and Schillo, 2005).

We suggest approaching the analysis of portfolio alignment from two perspectives: (1) the portfolio’s intended or planned alignment and (2) the portfolio’s actual alignment to program goals and other requirements. For example, information gathered from the review of funded project *proposals* will provide a sense of the program’s intended level of alignment. We recommend designing the rubric for this analysis to rate projects along a continuum from complete alignment to limited alignment. In a similar manner, we recommend that data from the document review of final reports be rated on the extent to which activities were implemented, target populations were reached, evaluations were conducted, and goals were actually met.

The challenge of this analysis activity will be to identify appropriate indicators and value judgments to assess whether or not balance has been reached. This task may be easy for certain characteristics of the portfolio (e.g., balance of audience types or content area coverage). However, professional judgments from program officers and staff may be needed to assess the

balance of other portfolio characteristics (e.g., level of resources, range of activities and strategies). In addition, we suggest using the findings from the review of SEPA solicitations to provide a contextual understanding of portfolio analysis findings.

Q2. Has the SEPA program contributed to the creation and/or enrichment of beneficial and productive partnerships

According to the most recent SEPA solicitation (September 2006), the program “supports the creation of innovative partnerships between biomedical and clinical researchers and K–12 teachers and schools, museum and science center educators, media experts, and other interested educational organizations.” The guidance provided in the solicitation further states that applicants should explain the nature and extent of the educational and scientific partnerships and collaborations that will be developed, as well as provide plans for monitoring their effectiveness and avoiding duplication of effort. Within this framework, the examination of the partnership component of the SEPA program will focus on nine sub-questions:

- What are the characteristics of the organizations that assume partnership roles on SEPA projects? Have these characteristics changed over time?
- What types of partnerships are forged among project participants? For example, are they primarily formed among organizations that have worked together on previous initiatives?
- What roles do partners assume on SEPA projects?
- Are the outcomes that organizations are able to accomplish through their SEPA partnership different from what they would have accomplished on their own?
- What are the characteristics of the most successful partnerships? What facilitated the success of these partnerships?
- What are the challenges that partnerships present?
- Does the SEPA program provide sufficient supports to help projects create and enrich meaningful and sustainable partnerships among their project partners?
- Have projects sustained their SEPA-supported activities and impacts after their grant awards have expired? Have the institutional partnerships created or enriched by the SEPA program been sustained after grant awards have expired?

- What lessons do project partners learn that might be of value to future SEPA projects?

We are proposing that several of the data collection strategies be used to address these evaluation questions including (1) the review of existing documentation, (2) the PI survey, (3) a survey of all partners in a stratified sample of SEPA projects, (4) case studies in a purposeful sample of SEPA projects, and (5) telephone interviews with NCCR staff. The collection of new data will be necessary, since much of the information required to address the partnership evaluation questions will likely not be provided by projects in their annual or closeout reports.

Document review. We are proposing that the document review be used to describe the characteristics of organizational partners associated with individual projects, as well as the role those partners assumed on the project. The documents to be reviewed for each project will include the original proposal, the final report, and the summative evaluation (or the latest annual reports for projects still in progress).

The document review will also be used to develop a preliminary assessment of the extent to which the partnership activities undertaken by projects were aligned with the specific requirements for partnerships delineated in the corresponding SEPA solicitation. Finally, for projects that have closed, the review of final reports and summative evaluations will be examined to capture any information about the extent to which these partnerships were beneficial and contributed to the scope and impact of project-related activities.

PI survey. The PI survey will provide an opportunity to obtain information on (1) the characteristics of the organizations that assume partnership roles on the projects; (2) the reasons the partnerships were formed—and whether partners had a prior working relationship with the lead organization (or with one another); (3) the characteristics of the partnerships—e.g., number of organizations that form partnerships (and whether the average number of partners differs by audience or deliverable type), steps taken by the lead organizations to maximize the contributions and sense of ownership among project partners, and whether the partnerships represent new collaborations or an enhancement of an existing relationships; (4) how partners contributed to the design, development, implementation, and outcomes of the project; (5) the extent to which partner organizations benefited from their participation in SEPA; and (6) lessons learned that can be shared with other SEPA projects regarding the attributes of successful partnerships.³ We also recommend that the survey be used to obtain respondents' assessments of

³ If possible, the names of project partners (obtained through the portfolio analysis) should be included on the PI survey so that respondents are able to provide information on the role and contributions of each of their partners.

whether the support and guidance provided by the SEPA program was sufficient to help projects maximize the contributions of their partners. Finally, PIs from projects that are no longer being supported by SEPA should be asked whether the partnerships created or enriched as a result of the project were sustained beyond the life of the SEPA grant (and, if so, in what form).

Partner survey. Using a stratified sample⁴ of 30 projects funded between 2000 and 2010, the evaluation should include a survey of all partners associated with a particular SEPA grant. This includes both those partners who were originally part of the proposal and those who may have joined the project at a later date. The purpose would be to obtain partners' descriptions of their participation in the SEPA project. Examples of topics that might be explored include (1) how they became a partner on the SEPA project; (2) the types of activities respondents conducted; (3) the types of individuals—within and outside of the formal project partnership structure—that respondents collaborated with; (4) the purpose and benefits of those collaborations; (5) whether respondents felt they had sufficient guidance from the lead organization as to their role on the project; (6) whether respondents felt they had sufficient opportunities to contribute to the design, development, and implementation of the project; (7) respondents' description of their most significant contributions to the project, including any leveraging of funds that might have resulted from their participation; (8) respondents' assessment of how they benefited from their participation in the SEPA project; (9) lessons learned regarding the development and maintenance of partnerships that might be of use to other SEPA projects; and (10) whether collaborations have been sustained after the grant ended.. They survey will also ask whether the partners worked with organizations associated with other initiatives funded by NCRR, NIH, and/or other federal/nonfederal sources.

Case studies. We are proposing that in year 2 (after data from the PI and partner surveys have been analyzed), site visits be conducted in eight projects that established successful and productive partnerships. The purpose would be to identify potentially promising partnership practices and lessons learned that might be adapted by future SEPA projects. The on-site interviews would also provide an opportunity to obtain more detailed descriptions of partners' contributions, as well as the ways in which they benefited from their participation in SEPA.

The selection of projects to be visited would be driven by the questions being addressed under the partnership component. Data from the document review and PI and partner surveys should be used to select projects that (1) made extensive use of their partners in an innovative and

⁴ The sample would be stratified by type of partner.

effective manner; (2) included partners that working on other SEPA/NCRR/NIH/and other federal education/health-related initiatives; and (3) reported that their partners made significant contributions to the design, development, and/or implementation of their project. In addition, because of the likelihood that project staff and partners will be more difficult to locate in projects that have been closed for an extended period of time, we suggest limiting the site visits to projects funded since 2005.

We suggest that prior to the visits, the evaluator contact project staff to identify any documents pertaining to both the overall project and the partnership component that can be used to prepare for the on-site interviews. Interviews would be conducted with the PI and relevant project staff, as well as with all project partners. The interviews will be semi-structured, ensuring the uniformity of questions as well as the opportunity to seek free and open responses.

Interviews. We are recommending that the evaluation be used to conduct interviews with NCRR staff, as well as appropriate respondents from organizations such the Office of Science Education, NSF, the Howard Hughes Medical Institute, the Association of Science Technology Centers, and the National Association of Biology Teachers. These interviews will assess their views on partnerships, why they are important to formal and informal education programs, and what they see as the contribution of the SEPA program in this area.

Q3. Is the SEPA program generating a rigorous evidence-based system that provides high-quality evaluations to inform the knowledge base?

Over time, the SEPA program has emphasized the need for projects to use rigorous evaluation methods to examine the impact of their activities. To examine the extent to which the SEPA program has generated a rigorous evidence-based system that is capable of contributing to the knowledge base, we recommend that the evaluation focus on the subquestions outlined:

- Are project-level evaluation studies of sufficient scope, quality, and length to adequately assess their intended impacts? To make recommendations aimed at improving the implementation and impact of future SEPA projects?
- What is the percentage of funding allocated to evaluation?

- Are different project types (e.g., exhibits, films) able to design and implement rigorous evidence-based approaches to assessing their impacts?
- Has the rigor of project-level evaluations increased over time? If yes, what factors account for this increased rigor?
- Did the SEPA program provide clear guidance through solicitations and/or adequate support through technical assistance to strengthen projects' evaluation capacities?
- What are the lessons learned in designing and implementing evaluations for SEPA projects?

We propose using four types of data collection to address this question: (1) the document review of SEPA program solicitations, guidelines, and technical assistance, (2) a meta-analysis of project evaluation reports, (3) interviews with NCRRE staff and other respondents, (4) the PI survey, and (5) case studies. The first two rely on secondary data, and the latter three are primary data collection. Triangulating evidence from these sources will allow the evaluation both to gain insights from different stakeholders

(e.g., program, projects) and to obtain different perspectives (e.g., objective assessment of documents and reports vs. perception from respondents).

Document reviews of program solicitations, guidelines, and technical assistance. We are proposing that the review of documentation (i.e., proposals, final annual reports, summative evaluation reports) be used to obtain information about the methods used to conduct projects' evaluation studies. In addition, we recommend that program materials pertaining to projects funded between 2000 and 2010 be reviewed to document program requirements and the type of guidance from the SEPA program on generating a rigorous, evidence-based system. Potential documents include SEPA program solicitations, guidelines, and documentation regarding the technical assistance support (i.e., conference sessions, training, and technical assistance activities) provided to projects by the program. Document reviews will allow the evaluators to collect evidence about the programmatic and policy changes related to evidence-based system "from the top." Additionally, we suggest that the evaluation also look at other evaluation-related documents or events that might be contributing to changes in how evaluation is viewed. External documents that have important ramifications, such as the American Competitiveness Council (ACC) guideline, will serve as the contextual information.

Meta-analysis of project evaluation reports. We propose conducting a meta-analysis of the final evaluation reports from all SEPA projects (or the latest annual reports for the projects yet to

be completed) funded over the past 10 years. Meta-analysis has increasingly been recognized as a systematic and effective way to provide a quantitative summary of a large number of empirical research studies on a related subject. It connotes a much more rigorous alternative to causal, narrative review of research studies because more studies can be analyzed with statistical methods than in an impressionistic literature review. Because it relies on secondary data, meta-analysis is also a much more cost-effective alternative than evaluations involving primary data collection. The analysis will gather “bottom-up” evidence about how projects have attended to the requirement for an evidence-based evaluation system.

The primary foci of the meta-analysis related to this task are two-fold. First, the evaluation will look more closely at the extent to which project evaluations are aligned with the requirements in the program solicitations and the changes that have occurred over time. Second, it will examine the quality and rigor of the summative evaluation designs used to provide evidence about project impacts. Areas to be addressed include evaluation questions, research design, instrumentation, sample and sampling strategies, data collection, data analysis, and reporting in order to assess the quality of overall design as well as that of these specific areas, taking into account the type of project being evaluated.

Interviews. We are recommending that the interviews with NCRR staff, as well as appropriate respondents from organizations such as the Office of Science Education, NSF, the Howard Hughes Medical Institute, the Association of Science Technology Centers, and the National Association of Biology Teachers to assess their views on evaluation, the importance placed on evaluation and how this may have changed over time, and what they see as the contribution of the SEPA program in this area.

PI survey. The PI survey will include questions about evaluation to gain perspectives and insights from the project leadership. Specifically, the survey will obtain information on (1) the clarity of program requirements, (2) perceived adequacy of support for evaluation, (3) the extent and types of efforts from the projects to strengthen their evidence-based capacities, (4) perceived impacts of program and project efforts on the rigor of evaluation, (5) trade-offs between resources devoted to evaluation and project interventions, (6) the extent to which the evidence-based system was sustained after the completion of the projects, and (7) challenges, lessons learned, and recommendations for other projects.

Case studies of projects by evaluation features. Building on evidence from the PI survey and meta-analysis, we propose that the evaluation include case studies of six purposefully sampled projects to examine projects that have particularly strong evaluations and/or aspects of new and promising evaluation approaches. Factors such as nature of the intervention (i.e., formal versus informal science) and consultation with SEPA program officers will also be considered in case selection.

Case studies will involve (1) document reviews that examine project documents (e.g., proposals, annual and final reports) to gain a deep understanding of the design and implementation of evaluation in the context of project intervention, and (2) in-depth telephone interviews with relevant personnel such as PIs and evaluators to gain insights about the design and implementation of the evaluations and about lessons learned. We recommend that the interviews be semi-structured to ensure the uniformity of questions as well as the opportunity to seek free and open responses. For this set of case studies, site visits are not recommended as we believe the necessary information can be gathered via telephone.

Q4. Has the SEPA program been successful in achieving its goals?

The stated goals for the SEPA program are comprehensive and ambitious. We have developed 10 sub-questions to provide a thorough examination of the extent to which the program has achieved each one of these goals.

- Is the SEPA program enhancing the capacity of project participants to develop materials (e.g., curriculum, exhibits) and disseminate information about science, bioscience, health, and medical-related topics?
- Is the SEPA program enhancing K–12 teachers’ capacity to understand and disseminate information about science, bioscience, health, and medical-related topics?
- Is the SEPA program enhancing K–12 students’ interest in pursuing careers in science, bioscience, health, and medical research?

- Is the SEPA program increasing public⁵ knowledge and understanding of (and skills in) topics pertaining to science, bioscience, health, and medicine? Of how these topics relate to everyday life?
- Is the SEPA program creating a greater public understanding about the role and benefits of science, bioscience, health, and medical research?
- Is the SEPA program changing the public's behavior toward healthier living and healthier life styles?
- Is the SEPA program contributing to a more educated and diverse workforce in the science, bioscience, health, and medical fields?
- Is the SEPA program enhancing the capacity (e.g., professional status, research skills, dissemination skills) of lead/partner organizations and/or participating STEM/SEPA professionals?
- Is the SEPA program enhancing public and stakeholder (e.g., policy and decision makers) awareness, trust, and confidence in the work of NCRR?
- Which strategies and/or activities have been most successful in achieving the goals of the SEPA program?

Collectively, these evaluation questions will be addressed by three type of data collection, namely (1) meta-analysis of project evaluation reports, (2) the PI survey, and (3) case studies. Triangulating evidence from these sources should provide evidence that is broad-based (e.g., meta-analysis, PI survey) and in-depth (i.e., site visits), balancing objective data (i.e., meta-analysis) and self-perception (e.g., survey, site visits).

Meta-analysis of project evaluation reports. Another major objective of the meta-analysis of the final evaluation reports from all SEPA projects (or latest annual reports for the projects yet to be completed) funded over the past 10 years will be to provide empirical evidence about the programs' impacts on selected outcomes.

Meta-analysis of project evaluations for impact evidence will build on the meta-analysis for evidence-based system described in the previous section. While the latter will include all project evaluations, the former will only look at evaluations that pass the criteria for methodological

⁵ For the purpose of the SEPA evaluation questions, the public includes K–12 students, parents, teachers, the community at large, and populations traditionally underrepresented in the bioscience and medical areas.

rigor. Based on the preliminary examination in the feasibility study, we believe that outcomes addressing teacher confidence, knowledge, and practices and student attitudes, knowledge, and career interest are most likely to be addressed by meta-analysis.

PI survey. The PI survey will include questions about the perceived impacts of the SEPA projects on all of the outcomes, especially those that cannot be included in the meta-analysis because of data issues. For example, for each of the broad outcomes on the SEPA logic model (i.e., participant capacity in development and disseminating materials, K–12 teachers’ ability to teach the related subjects, K–12 students’ career interest, public knowledge and understanding of the subject areas, the public’s behavior toward healthy living, impacts on the workforce, impacts on participating organizations, and public awareness of NCRR work), multiple items will be developed to flesh out different aspects of the intended constructs and to query the PIs about their perceived impacts from the SEPA projects, as well as evidence to support the claims. The surveys should also ask the PIs whether there were any outcomes mentioned in their proposals that were not addressed in their evaluation reports to determine if their absence is due to the difficulties in providing the interventions or difficulties in evaluating them.

Case studies. Building on evidence from the PI survey and meta-analysis, we propose that the evaluation include case studies of selected projects to examine why certain projects are successful as defined from the evidence on various outcomes. Success is defined as large positive effect sizes for outcomes that have sufficient evidence from the meta-analysis. For outcomes that lack evidence from meta-analysis, we propose using other measures including findings from project evaluations or self-reported responses from the PI survey. Case studies will allow the evaluation to explore contextual conditions and provide a rich and engaging exploration of the issues. Criteria for identify projects to include in the case studies will be somewhat different than those used for questions 2 and 3, although it is possible that some overlap in the projects selected will occur. For the case studies that address question 4, we recommend sampling eight SEPA projects. In consultation with SEPA program officers, factors such as nature of the intervention (i.e., formal vs. informal science) and type of outcomes will also be considered in case selection.

Case studies will include (1) review of a wide variety of the project documents (e.g., proposals, annual and final reports, websites, and announcements) to gain a deep understanding of the project design and implementation, and (2) in-depth interviews with relevant personnel such as PIs, partners, evaluators, and project participants to gain insights into factors contributing to the

observed outcomes. The focus of the interviews will be to explore the “how,” “why,” and “perceived impacts” from various respondents. The interviews will be semi-structured, ensuring the uniformity of questions as well as an opportunity to seek free and open responses. Case study data will be coded and triangulated among respondents and across sites to generate potential patterns and provide illustrative examples.

Multiple types of qualitative and quantitative data will be collected and analyzed for the SEPA evaluation. This section describes how these data can be analyzed. The data are grouped by sources (i.e., document and portfolio reviews), surveys (PI and partner), interviews, case studies, and meta-analysis.

Document and portfolio data. Several types of documents, program solicitations, program technical assistance documents, projects' initial proposals, and projects' final reports (or latest annual reports for projects still in progress) will be reviewed, coded, and analyzed by researchers using structured protocols to address evaluation questions 1–3. The data may involve counts, coded categories, and illustrated examples in text.

Quantitative data will be reported descriptively using frequencies or standard deviation. Qualitative data will be analyzed using content analysis and pattern matching. Examples will be included for illustrative purposes.

The data should be presented for the overall population (i.e., for all SEPA projects funded over the last 10 years) as well as by different subgroups. Depending on the question being addressed, the level and type of disaggregation of data might be expected to vary. These subgroups can be defined by project type (e.g., formal vs. informal science), and funded cohort (e.g., pre-2005 cohorts vs. post-2005 cohorts).

Survey data. Data should be analyzed using descriptive statistics to address evaluation questions 2–4. The descriptive data will include statistics for the overall population as well as disaggregation by project type and funded cohort. In addition, the evaluation may consider using factor analysis to build composite measures of important constructs from item-level data. The composite scales (e.g., clarity of program requirements, level of project efforts, perceived impacts) will provide more holistic and reliable measures of the intended constructs. Finally, open-ended responses from the survey should be coded and analyzed descriptively. The data should be presented for the overall population (i.e., for all SEPA projects funded over the last 10

years) as well as by different subgroups. Depending on the question being addressed, the level and type of disaggregation of data might be expected to vary.

Interview data. Data from interviews should be summarized thematically. Similarities and differences across respondents should be noted.

Case study data. Evaluation questions 2–4 involve case studies of multiple sites. The data analysis will follow an iterative process: (1) developing preliminary coding categories from the research questions, and confirming or modifying those categories as information is gathered, (2) reducing the data to manageable chunks of information for identifying themes or patterns of response, and (3) drawing conclusions by comparing within-case and across-case themes and patterns. Essentially, the evaluation will use two forms of triangulation. Within each project, evidence will be triangulated from interviews, observations, and document reviews. Across projects, evidence will be compared and contrasted in the context of each project.

Meta-analytical data. Reports will be coded and rated by researchers using a structured protocol to address evaluation questions 3–4. The coding manual (see Lipsey and Wilson, 2001) includes study-level coding (i.e., evaluation reference, sample descriptors, research design descriptors, nature of treatment descriptors) and effect-size-level coding (i.e., dependent measure descriptors, effect size data). For question 3, information will be summarized and presented using descriptive statistics and cross-tabulation by overall population as well as by subgroups, such as project type and funded cohort.

Reports that passed the rigor criteria should be analyzed statistically to address question 4. Statistical analysis should report and estimate the effect sizes and the combined significance with respect to outcomes (e.g., teacher confidence, knowledge, practices, and student attitudes, as well as career interest), allowing us to understand the magnitude of the impacts observed. The results will be presented by type of outcomes as it relates to the type of intervention (e.g., curriculum, teacher professional development, direct service to students, media, etc.).

Proposed Schedule

4

Presented below is a proposed schedule for the evaluation of the SEPA programs. We are proposing a two-year timeline.

1. Portfolio review: months 1–3, report in month 3
2. Meta-analysis: months 1–6
3. NCRR interviews: month 2
4. PI and partner surveys: months 3–15, reports in month 15
 - Develop surveys: months 3–6
 - OMB clearance: months 7–10
 - Develop online versions: months 8–10
 - Administer survey: months 11 and 12
 - Survey reports: month 15
5. Partnership case studies: months 17–21
 - Select sample: month 16
 - Collect data: months 17–19
 - Write up findings: months 21 and 22
6. Evaluation case studies: months 17–21
 - Select sample: month 16
 - Collect data: months 17–19
 - Write up findings: months 21 and 22
7. Outcomes case studies: months 17–21
 - Select sample: month 16
 - Collect data: months 17–19
 - Write up findings: months 21 and 22
8. Reports
 - Draft report: month 23
 - Final report: month 24

References

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Schmitz, C. C., and Schillo, B. A. (2005). Report Carding: A Model for Foundation Portfolio Assessment. *American Journal of Evaluation*, 25 (4), 518-531.

Swanson, B. B. (1991). *An Overview of the Six National Education Goals*. ERIC Digest.

Appendix: Construct Maps

- **Qs 1–4**
 - Construct Map for Document Review
 - Construct Map for PI Survey
- **Q2**
 - Construct Map for Partnership Survey
 - Construct Maps for Partnership Case Studies
- **Q3**
 - Construct Maps for Evaluation Case Studies
- **Q4**
 - Construct Maps for Outcome Case Studies

Construct Map for Document Review

Proposals

Construct	Item	Comments
Principal Investigator (grantee) characteristics	<p>Position</p> <p>Race</p> <p>Gender</p> <p>Highest level of education</p> <p>Research or instructional discipline</p> <p>Previous grants related to STEM education (yes, no)</p> <p style="padding-left: 40px;">If yes, sources (select all that apply)</p> <ul style="list-style-type: none"> • SEPA • NSF • Howard Hughes • Other (specify) <p>Grantee institute type (select only one)</p> <ul style="list-style-type: none"> • CTSA • RCMI • IDEA • INBRE or COBRE • Other NCRR-funded • Other NIH-funded • Indian or Native American tribal governments or designated organizations • Community or faith-based • Public school/school district • Private school • Charter school • IHE • Science center or museum • Media (radio, television, film) • Other (specify) <p>To which solicitation is this proposal responding? (indicate solicitation number)</p>	

Proposals—continued

Construct	Item	Comments
<p>Project characteristics</p>	<p>What year was this project initially funded?</p> <ul style="list-style-type: none"> • (2000–2010) <p>What was the funding level of this award?</p> <p>What was the length of funded period?</p> <ul style="list-style-type: none"> • More than 3 years • 3 years • 2 years • Less than 1 year <p>In what settings does the project operate? (select only one)</p> <ul style="list-style-type: none"> • Informal • Formal • Both <p>What is the target audience? (select all that apply)</p> <ul style="list-style-type: none"> • Children, pre-school to kindergarten • Children, elementary school (G1–5) • Children, middle school (G6–8) • Children, high school (G9–12) • Young adults in college • Adults in graduate or professional programs • Adults (ages 19–54) • Seniors (ages 55 and over) • Families (e.g., parents interacting with their children) • Educators • Medical or STEM professionals • Communities • General public • Other (specify) <p><i>For each target population group selected</i></p> <ul style="list-style-type: none"> • Are they targeted as underrepresented populations? (yes, no) • What is the intended number of individuals targeted? <p>In what type of communities are program activities delivered? (select all that apply)</p> <ul style="list-style-type: none"> • Rural • Urban • Suburban 	<p>Construct map is intended to be used with both project proposals and final reports separately</p> <ul style="list-style-type: none"> • Information gathered from project proposals will provide a description of “planned project characteristics” • Information gathered from project final reports will provide a description of “actual project characteristics”

Proposals—continued

Construct	Item	Comments
<p>Project characteristics—continued</p>	<p>What is the grantee type? (select all that apply)</p> <ul style="list-style-type: none"> • IHE • Science centers/museums • Federal, state, or local government agency • Non-profit organization • Indian or Native American tribal governments and designated organization • Faith-based or community-based organization • Media organization (e.g., TV/radio station/film producer) • Other (specify) <p>In which primary activity(ies) is this project engaged? (select all that apply)</p> <ul style="list-style-type: none"> • Develop curricula/modules • Provide supplemental educational experiences • Develop professional development/workshops • Develop exhibits/films • Develop other communication materials • Develop outreach <p>What content areas are addressed? (select all that apply)</p> <ul style="list-style-type: none"> • Obesity prevention • Diabetes prevention or management • Improving eating habits/nutrition • Increase physical activity • Cardiovascular disease prevention • Other (specify) <p>Where is the setting(s) of the intervention? (select all that apply)</p> <ul style="list-style-type: none"> • In school • After school/science clubs • Summer program/camp • Science museum • Science cafes or pub forums • Teacher institutes • Community settings • Clinical setting • Open air • Personal space • Other (specify) 	<p>Content area list is not exhaustive</p>

Proposals—continued

Construct	Item	Comments
<p>Project characteristics—continued</p>	<p>What is the evidence base suggesting that the treatment/activity is effective? (select all that apply)</p> <ul style="list-style-type: none"> • Builds on previous work of grantee • Research literature • Use of logic model • Needs assessment • Feasibility assessment 	
<p>Partnerships characteristics</p>	<p>With whom is SEPA project partnering? (select all that apply)</p> <ul style="list-style-type: none"> • CTSA • RCMI • IDEA • INBRE or COBRE • Other NCRF-funded • Other NIH-funded • Indian or Native American tribal governments or designated organizations • Community or faith-based organization • Public school/school district • Private school • Charter school • IHE • Science center or museum • Media organization (e.g., radio/television/film producer) • Educational materials developer • Web/software designer • Other (specify) <p>What is the role of the partner(s)? (select all that apply)</p> <ul style="list-style-type: none"> • Design • Development • Implementation • Analysis • Reporting • Dissemination of findings <p><i>For each activity selected, what was the level of the partner’s responsibility during the collaboration?</i></p> <ul style="list-style-type: none"> • Primary • Secondary • Equal <p><i>For each activity selected, what was the duration of the partnership?</i></p> <ul style="list-style-type: none"> • Entire funding period • Less than 3 years • Less than 2 years • Less than 1 year 	<p>Construct map is intended to be used with both project proposals and final reports separately</p> <ul style="list-style-type: none"> • Information gathered from project proposals will provide a description of “planned partnership characteristics” • Information gathered from project final reports will provide a description of “actual project characteristics”

Proposals—continued

Construct	Item	Comments
<p>Evidence-based evaluation characteristics</p>	<p>What is type of evaluation? (select all that apply)</p> <ul style="list-style-type: none"> • Informal evaluation • Remedial evaluation • Process/formative evaluation • Outcome/impact evaluation <p>Is the evaluator internal or external? (select only one)</p> <ul style="list-style-type: none"> • Internal • External <p>What are the data sources? (select all that apply)</p> <ul style="list-style-type: none"> • Questionnaire/survey • Interviews • Focus group • Observation • Physiological measures • Student academic achievement scores • Document review • Records maintained by participants (journaling, diaries, blogs) • Other (specify) <p>What is the data collection schedule? (select all that apply)</p> <ul style="list-style-type: none"> • Before treatment • During treatment • After treatment <p>What is the evaluation design? (select all that apply)</p> <ul style="list-style-type: none"> • Experimental • Quasi-experimental • Descriptive • Longitudinal • Cross-sectional <p>Who is in the study population? (select all that apply)</p> <ul style="list-style-type: none"> • Children, pre-school to kindergarten • Children, elementary school (G1–5) • Children, middle school (G6–8) • Children, high school (G9–12) • Young adults in college • Adults (ages 19–54) • Seniors (ages 55 and over) • Families (e.g., parents interacting with their children) • Educators • Communities • General public • Other (specify) 	<p>Information will be compared against evaluation requirements presented in the SEPA solicitation</p> <p>Construct map is intended to be used with both project proposals and final reports separately</p> <ul style="list-style-type: none"> • Information gathered from project proposals will provide a description of “planned evidence-based evaluation characteristics” • Information gathered from project final reports will provide a description of “actual evidence-based evaluation characteristics”

Proposals—continued

Construct	Item	Comments
<p>Evidence-based evaluation—continued</p>	<p>What is the sampling strategy? (select all that apply)</p> <ul style="list-style-type: none"> • Random • Stratified random • Purposive • Opportunistic • None • Not applicable <p>What are the data analysis strategies? (select all that apply)</p> <ul style="list-style-type: none"> • Descriptive statistics • Analysis of variance • Regression analysis • Hierarchical linear modeling • Propensity analysis • Other (specify) 	
<p>Project Impact</p>	<p>What are the project’s products? (select all that apply)</p> <ul style="list-style-type: none"> • Curriculum/modules • Website • Book • Video/DVD/CD • Museum exhibit • Traveling exhibit • Other (specify) <p>What are the program-specific goals?(List)</p> <p>Which long-term program outcome does this project address? (select all that apply)</p> <ul style="list-style-type: none"> • Integrate and disseminate information, products, and discoveries across NCRR programs • Provide broad-based understanding of key topics and issues in the health, medical, and biomedical fields and how they relate to everyday life • Create greater understanding of the role of research and the benefits that can be derived • Disseminate curricula and successful program models for adoption and adaption by K–12 partners • Increase students’ interest and involvement in professions related to the scientific/medical/health fields • Establish a comprehensive evaluation system that provides timely, meaningful, and evidence-based data on the effectiveness of SEPA’s investment 	<p>Construct map is intended to be used with both project proposals and final reports separately</p> <ul style="list-style-type: none"> • Information gathered from project proposals will provide a description of “planned project impact” • Information gathered from project final reports will provide a description of “actual project impact” <p>Response options for program-specific goals will have to be derived from the proposals/final reports</p>

Proposals—continued

Construct	Item	Comments
Project impact—continued	What activity-specific short-term and mid-term outcomes does this project address? (select all that apply)	Response options are derived from activity-specific logic models—list may vary by activity

Construct Map for Document Review

Solicitations

Construct	Item	Comments
Relating to the program as a whole	<p>What is the stated purpose of the SEPA program?</p> <p>What are the research objectives for the SEPA program?</p> <p>What are the requirements for content and form of application submissions?</p> <p>Are there any other submission requirements? (yes, no)</p> <p>If yes, please specify</p> <p>What is the application review process?</p> <p>What are the reporting requirements?</p>	Solicitations will be compared to see if changes have occurred over time
Relating to partnerships	<p>How does the solicitation define partnerships?</p> <p>What requirements does the solicitation have for the partnerships' qualifications?</p> <p>What requirements does the solicitation have for</p> <ul style="list-style-type: none"> • Partnership content areas • Partner organizations (e.g., health centers) <p>What materials or information (e.g., letters of support, resource format page (PHS 398), etc.) does the solicitation request regarding the partnership?</p> <p>How will the proposal review judge the partnership?</p> <ul style="list-style-type: none"> • Plans to monitor effectiveness • Letters of support • Plans to expand or modify existing partnerships <p>What partnership-related programs does the solicitation encourage (e.g., field trips)?</p>	For example, some solicitations require that projects prove partners are qualified

Solicitations—continued

Construct	Item	Comments
<p>Relating to evaluation</p>	<p>What are the solicitation’s requirements for the monetary resources devoted to evaluation?</p> <p>What are the solicitation’s requirements for the evaluator (e.g., must be an external evaluator)?</p> <p>What are the solicitation’s requirements for when the evaluation must be performed (e.g., during all stages of the project, at the end of the project, etc.)?</p> <p>What evaluation components (e.g., evaluation plan, evaluation instruments, results of preliminary studies, etc.) must be submitted as part of the proposal?</p> <ul style="list-style-type: none"> • If applicable, what are the requirements for the evaluation plan (e.g., benchmarks, evaluation instruments, etc.)? • If applicable, how do the evaluation plan requirements vary by project type (i.e., formal vs. informal) <p>What evaluation requirements are specific to either Phase I or Phase II projects?</p> <p>What is the solicitation’s requirement for the rigor of the evaluation?</p> <p>What requirements does the solicitation have for the evaluator’s qualifications?</p> <p>What criteria (e.g., evaluation plan, plans to revisit the evaluation process, etc.) will the review process use to judge the evaluation?</p> <p>What are the reporting requirements for the project evaluation?</p>	<p>Some solicitations judge projects based on whether “the qualifications of the evaluator match the project”</p>

Construct Map for the PI Survey

Construct	Item	Comments
<p style="text-align: center;">PI characteristics</p>	<p>Position</p> <p>Race</p> <p>Gender</p> <p>Highest level of education</p> <p>Research or instructional discipline</p> <p>Previous grants related to STEM education (yes, no)</p> <p style="padding-left: 20px;">If yes, sources (select all that apply):</p> <ul style="list-style-type: none"> • SEPA • NSF • Howard Hughes • Other (specify) 	<p>Will only be included if they cannot be obtained from the existing documentation</p>

Partnerships

Construct	Item	Comments
<p>Establishment of the partnership</p>	<p>Organizations with which grantee partnered for the designated SEPA grant</p> <ul style="list-style-type: none"> • List all partners (series of question asked about each partner) <p>Partner 1</p> <p>Type of organization (select all that apply)</p> <ul style="list-style-type: none"> • CTSA • RCMI • IDEA • INBRE or COBRE • Other NCRF-funded • Other NIH-funded • Indian or Native American tribal governments or designated organizations • Community or faith-based • Public school/school district • Private school • Charter school • IHE • Science center or museum • Media (radio, television, film) • Other (specify) 	<p>To finalize format need to get information on 1) number of grants per awardee in last 10 years; 2) distribution of number of partners per grantee for the last 10 years</p>
<p>Reason for forming the partnership</p>	<p>Whether there was a previous working relationship</p> <ul style="list-style-type: none"> • Previous formal relationship (yes, no) • How long (fill in blank) • Previous informal relationship (yes, no) • How long (fill in blank) <p>Why the particular partner was selected (select all that apply)</p> <ul style="list-style-type: none"> • Provider of biomedical information and/or materials • Access to a particular target population • Access to a particular venue or delivery mechanism • Partner had skills or technical knowledge that enhanced the work 	

Partnerships—continued

Construct	Item	Comments
<p>Role of SEPA program staff in promoting the partnership</p>	<p>Did the SEPA program staff have a role in promoting the establishment of this partnership? (yes, no) If yes, what was that role? (select all that apply)</p> <ul style="list-style-type: none"> • General information on possible partners available to all SEPA awardees • Opportunities provided for networking at a SEPA- or NCRR-sponsored meeting • Specific suggestions for partnering on your grant • Other (specify) 	
<p>Role of the partner in the SEPA grant</p>	<p>What was the role of the partner organization in the SEPA project? (select all that apply)</p> <ul style="list-style-type: none"> • Design • Development • Implementation • Analysis • Reporting • Dissemination of findings <p><i>For each role selected, what was the level of the partner's responsibility during the collaboration?</i></p> <ul style="list-style-type: none"> • Primary • Secondary • Equal 	
<p>Value or benefit of the partnership</p>	<p>To what extent do you feel that this partnership enhanced the success of your project? (scale 4 = substantially, 1 = not at all)</p> <ul style="list-style-type: none"> • (If 4) Please describe the what was accomplished through the partnership that couldn't have been done without it • (If 1) Please describe why you gave this rating 	<p>Asked only of completed grants</p>
<p>Sustaining the partnership</p>	<p>After completion of the SEPA award, have you continued to work with the partner? (yes, no)</p> <ul style="list-style-type: none"> • If yes, please described the nature of the continued relationship (open ended) 	

Evaluation

Construct	Item	Comments
Program requirements regarding your evaluation components	<p>Did the solicitation provide you with a clear and accurate description of the evaluation requirements for your project? (select one)</p> <ul style="list-style-type: none"> • Yes • No • Not familiar with the solicitation <p>If no, what was unclear? (select all that apply)</p> <ul style="list-style-type: none"> • Expectations regarding control or comparison groups • Expectations regarding who could serve as the project's evaluator • Amount of funds that could/should be allocated for evaluation • Availability of technical assistance or support from the program • Need for both formative and summative evaluation • Amount of flexibility in revising evaluation • Other (specify) 	Need a skip option for PI who wasn't part of the team when the proposal was written and therefore wasn't really familiar with the solicitation
Technical assistance provided by the program	<p>Please rate the adequacy of each of the following with regard to assisting you in your project evaluation (scale 4 = more than adequate, 1 = totally inadequate, NA = not applicable)</p> <ul style="list-style-type: none"> • Materials provided on the SEPA website • Advice from SEPA program officer • Technical sessions at annual meetings • Opportunity to dialogue with and learn from SEPA colleagues 	
Areas in which the program could provide additional support	<p>For which evaluation topics would you like to see more help from the program?</p> <ul style="list-style-type: none"> • Designing and implementing experimental and quasi-experimental designs • Identifying instruments • Tracking participants over time • Finding an evaluator • Working with an evaluator • Developing an evaluation budget 	

Evaluation—continued

Construct	Item	Comments
<p style="text-align: center;">Other supports utilized for increasing evaluation skills and knowledge</p>	<p>Aside from technical assistance provided by the SEPA program did you seek help in improving your understanding of evaluation from any other sources? (yes, no)</p> <p>If yes, what sources did you use?</p> <ul style="list-style-type: none"> • Online materials • Text or reference books • Evaluators • Colleagues doing similar work • Other training sessions • Other specify <p>To what extent did these sources meet your need? (scale 4 = to a large extent, 1 = not at all)</p> <p>If not, why not?</p> <ul style="list-style-type: none"> • I felt my understanding was sufficient • I have colleagues on my project who handle evaluation • I didn't have time • I tried but other things interfered • Other (specify) 	
<p style="text-align: center;">Beliefs about evaluation</p>	<p>Please respond to the following questions with regard to your SEPA evaluation work (scale 4 = strongly agree, 1 = strongly disagree)</p> <ul style="list-style-type: none"> • Our evaluation provided information that improved our project • Program requirements led me to allocate money to evaluation that would have been better spent on services • There were areas of importance to my project for which evaluation tools were not available • I would have liked to work more with other projects in developing evaluation plans 	

Evaluation—continued

Construct	Item	Comments
<p>Impacts of the SEPA evaluation experience</p>	<p>Please respond to the following questions with regard to your SEPA evaluation experience (scale 4 = strongly agree, 1 = strongly disagree, NA = not applicable)</p> <p>My SEPA evaluation experience has</p> <ul style="list-style-type: none"> • Increased my understanding of the importance of project evaluation • Provided me with a better understanding of what it means to have a rigorous project evaluation • Frustrated me because of the difficulty in measuring so many important things • Left me with a set of standards and expectations that I will apply to other projects • Decreased my desire to learn more about evaluation • Made me think differently in planning my next project 	

Project Outcomes

Construct	Item	Comments
<p style="text-align: center;">Successful outcomes</p>	<p>Based on the <u>evidence in your evaluation</u>, to what extent is your project successful in meeting the following outcomes? (4 = highly, moderately, slightly, 1 = not at all, NA = not applicable)</p> <ul style="list-style-type: none"> • Enhancing the capacity of project participants to develop materials and disseminate information about bio-medical and science-related topics • Enhancing K–12 teachers’ capacity to understand and disseminate information about biomedical and science-related topics • Enhancing K–12 students’ interest in pursuing careers in biomedical and science-related topics • Increasing public knowledge and understanding of topics related to biomedical and science-related topics • Creating a better public understanding about the role and benefits of biomedical and science-related topics • Changing the public’s behavior toward healthier living and healthier life styles • Contributing to a more educated and diverse workforce in biomedical and science-related fields • Enhancing the capacity/professional status of lead/partner organizations and/or STEM/SEPA professionals • Enhancing public awareness, trust, and confidence in the work of NCRR/NIH • Other (specify) 	

Project Outcomes—continued

Construct	Item	Comments
<p>Successful outcomes—continued</p>	<p>Based on your professional judgment, are there any additional outcome areas in which you feel your project has been highly or moderately successful? (select all that apply)</p> <ul style="list-style-type: none"> • Enhancing the capacity of project participants to develop materials and disseminate information about bio-medical and science-related topics • Enhancing K–12 teachers’ capacity to understand and disseminate information about biomedical and science-related topics • Enhancing K–12 students’ interest in pursuing careers in biomedical and science-related topics • Increasing public knowledge and understanding of topics related to biomedical and science-related topics • Creating a better public understanding about the role and benefits of biomedical and science-related topics • Changing the public’s behavior toward healthier living and healthier life styles • Contributing to a more educated and diverse workforce in biomedical and science-related fields • Enhancing the capacity/professional status of lead/partner organizations and/or STEM/SEPA professionals • Enhancing public awareness, trust, and confidence in the work of NCRR/NIH • Other (specify) <p>For each of the areas selected above, please provide the evidence that you feel supports successful attainment of the outcome (open ended)</p>	

Project Outcomes—continued

Construct	Item	Comments
Reasons for lack of success	<p>Are there outcomes you planned to address in your work where you feel you were unable to achieve success? (yes, no)</p> <p>If yes, please identify the outcomes (select all that apply)</p> <ul style="list-style-type: none"> • Enhancing the capacity of project participants to develop materials and disseminate information about bio-medical and science-related topics • Enhancing K–12 teachers’ capacity to understand and disseminate information about biomedical and science-related topics • Enhancing K–12 students’ interest in pursuing careers in biomedical and science-related topics • Increasing public knowledge and understanding of topics related to biomedical and science-related topics • Creating a better public understanding about the role and benefits of biomedical and science-related topics • Changing the public’s behavior toward healthier living and healthier life styles • Contributing to a more educated and diverse workforce in biomedical and science-related fields • Enhancing the capacity/professional status of lead/partner organizations and/or STEM/SEPA professionals • Enhancing public awareness, trust, and confidence in the work of NCRR/NIH • Other (specify) <p>If yes, for each outcome identified please indicate why do you think this happened (select all that apply)</p> <ul style="list-style-type: none"> • The activities expected to lead to this outcome were never adequately developed • The activities expected to lead to this outcome were adequately developed but not offered • The outcomes couldn’t be examined because the participants showed insufficient interest in participating in the activities • The activities were developed and implemented as planned, but expected outcomes weren’t achieved 	

Construct Map for the Partnership Survey

Construct	Item	Comments
Respondent characteristics	Position Race Gender Highest level of education Research or instructional discipline	Will only be included if they cannot be obtained from the existing documentation

Construct Map for the Partnership Survey—continued

Construct	Item	Comments
<p>Characteristics of partnership organizations</p>	<p>What is the size of organization/department involved in the SEPA grant? (number of professional staff)</p> <p>How many professional staff were involved in the SEPA grant? (number of professional staff)</p> <p>Have you had previous involvement in health-related educational initiatives? (yes, no)</p> <p>Have you had previous involvement in SEPA initiatives? (yes, no)</p> <p><i>(If no previous involvement in SEPA initiatives)</i> Why didn't the organization participate in previous SEPA initiatives? (select all that apply)</p> <ul style="list-style-type: none"> • Lack of awareness of SEPA • Lack of time • Lack of resources • Lack of opportunity • Other (specify) <p><i>(If no previous involvement in SEPA initiatives)</i> What about this grant encouraged or enabled you to participate in the SEPA program? (select all that apply)</p> <ul style="list-style-type: none"> • The focus of the grant • The activities targeted relevant areas of research, interest, or expertise • Preexisting relationship with the lead organization • Encouragement from NCRR • Preexisting relationships with other partners • Other (specify) <p>How did your organization become involved in this SEPA grant? (select all that apply)</p> <ul style="list-style-type: none"> • Was recruited by lead organization • Was recruited by another partner • Prior relationship with lead organization • Was encouraged by NCRR • Prior relationship with another partner 	<p>Similar to previous item—if previous relationship with lead/partner organization</p>

Construct	Item	Comments
	<ul style="list-style-type: none"><li data-bbox="667 226 878 270">• Other (specify)	

Construct Map for the Partnership Survey—continued

Construct	Item	Comments
Characteristics of partnership organizations—continued	<p>Is your organization currently/in the past been involved with any other health education initiatives? (select all that apply)</p> <ul style="list-style-type: none"> • Other SEPA grants • Other NCRR grants (specify—e.g., CTSA, RCMI, IDEA, other) • Other NIH grants (specify) • Other federal initiatives • Other nonfederal initiatives 	
Role of partner organization on the SEPA grant	<p>What is the role of your organization on the SEPA grant ? (select all that apply)</p> <ul style="list-style-type: none"> • Design • Development • Implementation • Analysis • Reporting • Dissemination of findings <p>Provide a brief narrative describing role for each selected item</p>	
Collaboration with other members of the SEPA project team	<p>Did your organization work independently or in collaboration with other members of the SEPA project team?</p> <ul style="list-style-type: none"> • For each activity selected above, respondents will use a customized list (names of other organizations participating in the SEPA grant) to indicate level of collaboration • For each activity selected above, respondents will use a close-ended list to indicate the purpose of these collaborations 	<p>This may be overkill—first bullet refers to an SNA-type activity; would need to come up with a generic set of collaboration-type activities that get at the type of collaboration that occurred (e.g., face-to-face meetings; telephone). Purpose would be to get at the intensity of the collaboration</p>

Construct Map for the Partnership Survey—continued

Construct	Item	Comments
Project management	<p>To what extent did the SEPA project</p> <ul style="list-style-type: none"> • Establish and maintain effective lines of communication among project partners • Define your role and responsibilities on the SEPA project • Make effective use of <u>your</u> skills and background? • Make effective use of the skills and background of <u>other members</u> of the SEPA project • Provide you with sufficient opportunities to contribute to the design, development, and implementation of the SEPA project • Instill a shared sense of responsibility and accountability for attaining the goals and desired outcomes of the SEPA project <p>Is there any information you can provide about any of your responses that might inform the efforts of future SEPA projects? (open-ended item)</p> <p>What factors facilitated or hindered your ability to perform your role on the SEPA project? (open-ended item)</p> <p>What factors facilitated or hindered the success of your SEPA project? (open-ended item)</p>	
Project contributions	<p>Describe your organization’s most significant contribution to the SEPA project (open-ended item)</p> <ul style="list-style-type: none"> • In your answer, indicate (1) what about this contribution makes you consider it “most significant” and (2) how this contribution fits into the overall conduct and impact of the SEPA project 	
Project benefits	<p>Do you feel your organization benefited from participation in the SEPA project?</p> <ul style="list-style-type: none"> • If, yes, describe the benefits you received (open-ended item) • If no, are there any specific factors that precluded your benefiting? Are there things that could have been done to 	

Construct	Item	Comments
	make a difference in this area?	

Construct Map for the Partnership Survey—continued

Construct	Item	Comments
Lessons learned	<p>Would you recommend that organizations similar to yours seek opportunities to partner in a SEPA project? (yes, no)</p> <p>What advice would you provide to other SEPA projects that are looking to build or enhance partnerships across multiple sectors? (open-ended item)</p>	
Sustainability	<p>Did your organization continue to collaborate with other project partners once the SEPA grant (or their role on their SEPA grant) ended? (yes, no)</p> <ul style="list-style-type: none"> • If, yes, describe role/nature of collaboration • If no, why not? 	

Construct Maps for Partnership Case Studies

Interviews With All NCRR Program Directors

Construct	Item	Comments
<p>Background information</p>	<p>How long have you been the program director of the program?</p> <p>Describe your role/position in NCRR.</p> <p>What did you do prior to this?</p> <ul style="list-style-type: none"> • Related to STEM education • Related to NCRR 	<p>All questions should be viewed as open ended due to interview format, but prompts or examples for many questions are provided as bullet points</p> <p>Assume that questions are the same for the SEPA program director and other NCRR program directors unless noted that a question is worded differently, added, or removed</p> <p>Other NCRR: Please briefly describe your program</p>
<p>Defining partnership</p>	<p>How does SEPA define “partnerships” and how does this definition differ from other NIH programs? (prompts)</p> <ul style="list-style-type: none"> • Individual versus organization • Types of activities engaged in • Emphasis on shared goals • Emphasis on shared accountability <p>What do you expect the role of the partner to be with regard to...(prompts)</p> <ul style="list-style-type: none"> • Division of labor • Responsibilities undertaken • Who takes the lead on the project 	<p>Other NCRR: How does your program define partnerships?</p> <p>Other NCRR: What do you expect to be the contribution of your program’s partners?</p>

Interviews With All NCRR Program Directors—continued

Construct	Item	Comments
<p>Importance of partnerships to SEPA program</p>	<p>How important do you think it is to have partnerships form within NIH versus between SEPA grantees and non-NIH organizations?</p> <ul style="list-style-type: none"> • What are the benefits of having an intra-NIH partnership? • What are the drawbacks of having an intra-NIH partnership? <p>Why does SEPA have such a strong focus on partnerships?</p> <ul style="list-style-type: none"> • What are the benefits of projects having partnerships? • What are the drawbacks of projects having partnerships? 	<p>Other NCRR: The SEPA program has a focus on partnerships. Do you agree that forming partnerships should be emphasized? Why or why not?</p>
<p>Role of SEPA program staff in promoting partnerships</p>	<p>How have you encouraged partnerships? (prompts)</p> <ul style="list-style-type: none"> • Solicitation • Discussions with PIs • SEPA conventions/meetings • Other (please describe) 	<p>Other NCRR: Do you encourage partnerships between those in your program and others? If so, how?</p> <p>Other NCRR: Do you encourage partnerships between your program and SEPA? If so, how?</p>
<p>Changing emphasis on partnerships in solicitation</p>	<p>Do you think there is a change in emphasis on partnerships since SEPA began? If so, what is the change?</p> <p>Why does partnership no longer have to be preexisting?</p> <p>Some solicitations include requirements for partners in certain fields (prompts)</p> <ul style="list-style-type: none"> • Why do this/not do this? • How do you choose the fields? 	<p>Cut this section for other NCRR respondents</p>
<p>Sustaining the partnership</p>	<p>What are the factors that make a partnership likely to last?</p> <p>What are the factors that make a partnership unlikely to last?</p> <p>What support does SEPA give to sustain partnerships once they have formed?</p>	<p>Other NCRR: What support does your program give to sustain...(prompts)</p>

Interviews With All NCRP Program Directors—continued

Construct	Item	Comments
<p>Outcomes of collaboration</p>	<p>What is accomplished through collaboration that is not or cannot be accomplished individually?</p> <p>What benefits do you expect other NCRP programs to derive from working with SEPA?</p> <p>What have your projects learned from working with other NCRP programs?</p> <p>How do you think other organizations or the public have benefited from SEPA’s focus on partnerships?</p>	<p>Other NCRP: What benefits do you expect other NCRP programs, including SEPA, to gain from working with your program?</p> <p>Other NCRP:.... specifically working with SEPA?</p>
<p>Lessons learned</p>	<p>What lessons has SEPA learned about partnerships?</p> <p>What are the qualities of the most effective partnerships?</p> <ul style="list-style-type: none"> • What is the most effective strategy to form partnerships? • What is the best division of labor for partnerships? • What are factors that reduce partnerships’ efficacy? 	<p>Other NCRP: What lessons has your program learned about partnerships?</p> <p>Other NCRP: How many projects in your program have partnered with the SEPA program?</p> <ul style="list-style-type: none"> • What were the outcomes of these partnerships? • What were some facilitators to these collaborations? • What were some hindrances to these collaborations?

Evaluation Questions for SEPA Program Director Only

Construct	Item	Comments
<p>Background</p>	<p>Where is the impetus for evaluation coming from?</p> <p>How has the evaluation requirement evolved over time?</p> <p>Have projects' evaluations become more sophisticated over time?</p> <ul style="list-style-type: none"> • If so, how? 	
<p>Evaluation technical assistance</p>	<p>What technical assistance does the SEPA program provide to projects?</p> <p>What technical assistance does the SEPA want to provide but is unable to?</p> <ul style="list-style-type: none"> • What are the barriers to providing this technical assistance? 	
<p>Evaluation quality</p>	<p>What does the SEPA program consider to be high-quality evaluation?</p> <p>What are challenges to achieving this high-quality evaluation?</p> <p>How have projects been able to overcome these challenges?</p>	

Construct Map for Partnership Case Studies

PI Interview

Construct	Item	Comments
Project background	<p>What problem or condition was your SEPA project designed to address?</p> <p>What approach did your project use to address this problem or condition?</p> <ul style="list-style-type: none"> • How was this approach developed? <p>Was this the first time that <i>your</i> organization was involved in an effort to address this problem or condition?</p>	
Selecting project partners	<p>How did you assemble the team of partners that prepared the project approach that you submitted in your SEPA proposal?</p> <ul style="list-style-type: none"> • Had you previously worked with each of these partners? <p>Did you bring on additional partners as your project progressed?</p> <p>If yes,</p> <ul style="list-style-type: none"> • When did you bring these partners on board? • How did you select these partners? • Had you previously worked with these partners? • Did the need for these additional partners emerge as your project progressed? 	
Role of project partners in developing the project approach	<p>What was the role of project partners in conceptualizing and designing your SEPA project?</p> <p>To what extent did your organization take the lead approach in</p> <ul style="list-style-type: none"> • Conceptualizing and developing the approach • Organizing the input from the partner organizations <p>To what extent did you take partners' views into account when developing your project approach?</p> <p>To what extent was the approach that your project adopted informed by/enhanced by the skills and capabilities of your partner organizations—i.e., what would you have <i>not</i> been able to propose if you had not had access to the expertise and experience of your project partners (or, what were you able to propose because you had access to your project partners)?</p>	

PI Interview—continued

Construct	Item	Comments
<p style="text-align: center;">Project structure and communication</p>	<p>How was responsibility for design, development, implementation, management, and communication tasks distributed across the lead organization and the participating partners?</p> <ul style="list-style-type: none"> • What steps did you take to assure that all partners shared a common vision for your SEPA project? Shared a commitment to this common vision? • What lines of communication did you establish between your organization and the individual partner organizations? Across the participating partnership organizations? • How often did you meet/communicate with individual partners? With all partners at once? • Did you take any steps to celebrate shared successes? • Did any project partners attend the annual SEPA conferences? Make presentations on behalf of the SEPA project (e.g., for project outreach or dissemination)? 	
<p style="text-align: center;">Role and contributions of individual/primary partners</p>	<p>How was the partner selected?</p> <ul style="list-style-type: none"> • Had you previously worked with this partner? If yes, on what types of projects/in what roles? • Had this partner previously worked with other organizations affiliated with this project? • Had this partner worked with other SEPA projects? <p>What was the partner’s primary role on the project?</p> <ul style="list-style-type: none"> • Did the partner work in isolation, with the lead organization, and/or with other partner organizations? • What were the partner’s primary contributions to the project? <p>What did you learn by working with this project partner?</p> <p>Have you continued working with this project partner?</p> <ul style="list-style-type: none"> • If yes, on what types of activities? • If no, why not? 	<p>Could either ask of all project partners or of project partners that appeared to have a prominent role on the project (depending on the size and complexity of the project)</p> <p>Would get basic information from the document review/PI survey</p> <p>Some of this information may be duplicative of the other questions contained in this construct</p>

PI Interview—continued

Construct	Item	Comments
<p>Implementation experiences</p>	<p>Did you/this organization have previous experience working with projects of this size and complexity?</p> <ul style="list-style-type: none"> • Working with the type of partners that were associated with this project? • Coordinating the activities of this number and type of partners? <p>What factors/considerations shaped the way in which you selected and/or worked with your project partners?</p> <p>Did your work with the partners proceed as planned?</p> <ul style="list-style-type: none"> • What factors facilitated and/or hindered your efforts to work with your project partners? • What challenges did you encounter in coordinating your work with individual/all partners? Why did these challenges occur and how were they addressed? <p>Did any of these partners leave before the project was over?</p> <ul style="list-style-type: none"> • Why? • Did you need to replace them, or was their work already finished? 	
<p>Contributions of partner organizations</p>	<p>What were you able to accomplish with your project partners that you could not have accomplished alone?</p> <p>What were the most significant accomplishments that resulted from your project? How did your partners contribute to these accomplishments?</p>	
<p>Guidance provided by SEPA</p>	<p>What guidance did you receive from SEPA about the partnership requirements for your project?</p> <ul style="list-style-type: none"> • How useful was this guidance? • Were there specific areas in which you needed additional guidance or support? <p>How important was the SEPA requirement that you have partner organizations in the way you structured your project?</p> <ul style="list-style-type: none"> • Absent this requirement, would you have still worked with project partners in the manner that you did? 	

PI Interview—continued

Construct	Item	Comments
<p style="text-align: center;">Lessons learned</p>	<p>What lessons did you learn about working with project partners that would be of use to other SEPA projects?</p> <p>What advice would you provide to other PIs that are looking to select partners for their SEPA project?</p> <p>What advice would you provide to organizations looking to serve as effective partners on a SEPA project?</p>	

Construct Map for Partnership Case Studies

Partner Interview

Construct	Item	Comments
Partner background	<p>What is the mission of this organization?</p> <p>How long has this organization been in operation?</p> <p>How large is this organization (e.g., number of employees)?</p> <p>How many individuals from this organization were involved in the SEPA project?</p> <p>What is the past experience of your organization as it relates to this SEPA project?</p> <ul style="list-style-type: none"> • Was the first time that <i>your</i> organization was involved in an effort to ameliorate the problems or conditions addressed by the SEPA project? • Was this the first time that your organization performed the roles that were performed on the SEPA project? • Has your organization worked on other SEPA projects? If yes, which ones and in what capacity? • Has your organization worked on other NIH projects? If yes, which ones and in what capacity? • Has your organization worked with projects funded by other federal agencies (e.g., NSF)? If yes, which ones and in what capacity? <p>(If organization has worked on other projects) Was there difference/what was different about serving as a partner on this SEPA project compared to other related projects you have worked on?</p>	
Project structure and role of organization	<p>How was your organization selected to work on the SEPA project?</p> <ul style="list-style-type: none"> • When in the planning process did this occur? <p>What was the role of your organization in conceptualizing and designing the SEPA project?</p> <ul style="list-style-type: none"> • To what extent did the project take your views into account when developing its approach? <p>How was responsibility for design, development, implementation, management, and communication tasks distributed across the lead organization and the participating partners?</p> <p>Did your organization work in isolation, with the lead organization, and/or with other partner organizations?</p>	

Partner Interview—continued

Construct	Item	Comments
Implementation experiences	<p>Did your organization’s work on the project proceed as planned?</p> <ul style="list-style-type: none"> • What factors facilitated and/or hindered your organization’s efforts to perform on the project? • What factors facilitated and/or hindered your organization’s efforts to collaborate with other project partners? Were these factors unique to this project? <p>Did your organization encounter challenges in coordinating your work with the lead organization and/or other project partners?</p> <ul style="list-style-type: none"> • Why did these challenges occur and how were they addressed? • Were these challenges unique to this project? 	
Contributions of partner organization	<p>What were this organization’s primary contributions to the accomplishments of this project?</p> <p>What did members of this organization learn by working with the lead organization?</p> <ul style="list-style-type: none"> • With the other project partners? <p>Did this organization overall benefit from its participation in SEPA?</p> <ul style="list-style-type: none"> • If yes, how? <p>What was the project able to accomplish with your organization’s assistance that it could not have accomplished alone?</p>	
Sustainability	<p>Has this organization continued working with the lead organization? With other project partner?</p> <ul style="list-style-type: none"> • If yes, on what types of activities? • If no, why not? 	
Lessons learned	<p>What lessons did you learn about working as part of a partnership that would be of use to other SEPA projects?</p> <p>What advice would you provide to organizations looking to serve as effective partners on a SEPA project?</p>	

Construct Map for Evaluation Case Studies

Evaluator

Construct	Item	Comments
Evaluator’s background	<p>How many years have you worked as an evaluator?</p> <p>What is your academic background (i.e., discipline)?</p> <p>Have you conducted evaluations of similar intervention and/or scope before?</p> <ul style="list-style-type: none"> • If yes, had you used similar approaches? • If no, why the differences? 	
Evaluator’s involvement in SEPA evaluation	<p>How did you (or your team) become the evaluator for the SEPA project (e.g., open solicitation, previous connections, or referrals)?</p> <p>At what point of the project did you get involved (e.g., beginning, mid-term, end, or throughout)?</p> <p>To what extent did you have influence on the design of the intervention?</p> <p>How would you describe your working relationship with the project?</p>	
SEPA program guidance and TA to evaluators	<p>Did the SEPA program solicitation provide clear and adequate guidance on your evaluation design?</p> <p>During the evaluation, did you feel any need for technical assistance?</p> <ul style="list-style-type: none"> • If yes, what were these needs? <p>Did the SEPA program provide any TA?</p> <ul style="list-style-type: none"> • If so, to what extent did it meet your needs? <p>What challenges did you encounter to balance the requirement of SEPA program and what the project was trying to accomplish?</p>	

Evaluator—continued

Construct	Item	Comments
Views about evaluation design	<p>Can you briefly describe the key features of the evaluation design?</p> <p>What are the major factors/considerations that shaped your evaluation design for this project? (prompts)</p> <ul style="list-style-type: none"> • Project needs • Nature of intervention • Program requirements • Funding • Technical expertise <p>To what extent do you think you were able to develop a design that adequately addressed the project's goals?</p> <ul style="list-style-type: none"> • If the evaluation design had shortcomings, what were they and why did they arise? 	There will be notes based on the document reviews, but this serves a conversation starter and gets at what they consider to be salient
Experience about evaluation implementation	<p>Was the evaluation implemented as designed?</p> <ul style="list-style-type: none"> • If no, what are some of the major changes? • Why did they occur? 	
Unique features (project-specific)	<p>Were there any aspects of the evaluation that you feel were particularly unique? If yes, describe.</p>	
Perceptions about evaluation rigor	<p>How do you define rigorous evaluation?</p> <p>To what extent do you see your evaluation as being rigorous?</p> <p>What do you see as the main strengths and weakness in terms of rigor of your evaluation?</p>	
Lessons learned	<p>What are the lesson learned and challenges involved in conducting the evaluation that you would share with other evaluators?</p> <ul style="list-style-type: none"> • With other PIs • With the director or the SEPA program <p>If you have a chance to conduct this evaluation again, what would you do differently?</p>	

Construct Map for Evaluation Case Studies

Project Director

Construct	Item	Comments
PI's involvement in evaluation	<p>To what extent were you involved in evaluation?</p> <p>How did you choose the evaluator for the SEPA project? (prompts)</p> <ul style="list-style-type: none"> • Open solicitation • Previous connections • Referrals <p>At what point of project did the project involve the evaluator? (prompts)</p> <ul style="list-style-type: none"> • Beginning • Mid-term • End • Throughout <p>To what extent did the evaluator have any influence in designing the intervention?</p> <p>How would you describe your working relationship with the evaluator?</p>	
SEPA program guidance and TA to evaluation	<p>Did the program solicitation provide clear and adequate guidance as to what was required in your evaluation design? During the evaluation, did you feel your project any need for technical assistance?</p> <ul style="list-style-type: none"> • If yes, what were these needs? <p>Did the program provide any TA?</p> <ul style="list-style-type: none"> • If so, to what extent did it meet the needs of your project? 	
Views about evaluation design	<p>What are the major factors/considerations that shape your evaluation design for this project? (prompts)</p> <ul style="list-style-type: none"> • Project needs • Nature of intervention • Program requirements • Funding • Technical expertise, etc.) 	

Construct Map for Outcome Case Studies

Interviews for Project PI and Other Staff in the Lead Organization

Construct	Item	Comments
Project background	<p>What problem or condition was your SEPA project designed to address?</p> <p>What approach did your project use to address this problem or condition?</p> <p>How was this approach developed? For example, did you conduct a needs assessment or feasibility study to assess the need for/ practicability of your proposed approach?</p> <p>Was this the first time that <i>your</i> organization was involved in an effort to address this problem or condition?</p>	These are really “warm-up” questions
Implementation experiences	<p>How many individuals were reached by your project? What types of individuals were reached? Was this more/less than expected?</p> <p>Did your work on the activities and deliverables associated with this project proceed as planned?</p> <p>What factors facilitated and/or hindered your efforts to implement your approach?</p> <p>What challenges did you encounter in implementing your project? Why did these challenges occur and how were they addressed?</p>	
Project impacts	<p>What was the project’s most significant accomplishment?</p> <p><i>(If most significant accomplishment was an activity/ deliverable/output)</i> What was the project’s most significant impact on the individuals reached by your project’s deliverables and activities?</p> <ul style="list-style-type: none"> • Was the magnitude of this impact aligned with your initial expectations at the outset of the project? • What evidence—from the summative evaluation or other sources—do you have that this impact occurred? 	

Interviews for Project PI and Other Staff in the Lead Organization— continued

Construct	Item	Comments
<p>Project impacts—continued</p>	<p>What other noteworthy impacts occurred as a result of your project?</p> <ul style="list-style-type: none"> • Was the magnitude of these impacts aligned with your initial expectations at the outset of the project? • What evidence—from the summative evaluation or other sources—do you have that these impacts occurred? <p><i>(For impacts listed on the survey not covered by PIs in their discussion of project impacts) In the PI survey, you identified the following areas as being most successfully addressed by your SEPA project (pull from PI survey).</i></p> <p>What evidence—from the summative evaluation or other sources—do you have that these impacts occurred?</p> <ul style="list-style-type: none"> • Which of these impacts were unanticipated—that is, were not envisioned at the outset of your project? • Did your project have any other unanticipated impacts? • What were the circumstances that led to these unanticipated impacts? <p>Were there any impacts that your project was designed to achieve that were not attained as planned (e.g., impact was not attained, or the actual impact was less than anticipated)?</p> <ul style="list-style-type: none"> • If yes, what factors accounted for these impacts not being attained as planned? <p>Are there any impacts that your project was designed to achieve that you were not able to evaluate? For example, are there other impacts that you believe occurred for which you have no evidence? For each impact that meets this criterion, was an effort made to examine this impact?</p> <ul style="list-style-type: none"> • If yes, why do you think that evidence was not uncovered regarding this impact? • If no, what type of data would have been needed to document this impact? 	

Interviews for Project PI and Other Staff in the Lead Organization— continued

Construct	Item	Comments
Project evaluation	<p>To what extent were you involved in designing the evaluation?</p> <p>To what extent did the evaluator have any influence in designing the intervention?</p> <p>To what extent do you think your project was able to develop an evaluation design that adequately addressed the project’s goals?</p> <p>If the evaluation design had shortcomings, what were they and why did they arise?</p> <p>Was the evaluation implemented as designed? If no, what were some of the major changes? Why did they occur?</p> <p>How did you use the evaluation findings in your project?</p> <p>What aspects of the evaluation were most useful or least useful?</p> <p>What are the lesson learned and challenges involved in conducting the evaluation?</p> <p>If you have a chance to conduct this evaluation again, what would you do differently?</p>	
Lessons learned	<p>What lessons did you learn that would be of use to other SEPA projects? (<i>prompts</i>)</p> <ul style="list-style-type: none"> • The approach your project used to reach your intended audience • The structure of your project • Your use of project partners to implement your approach 	

Construct Map for Outcome Case Studies

Interview With Partner Organizations

Construct	Item	Comments
Partner background	<p>What is the mission of this organization?</p> <p>How long has this organization been in operation?</p> <p>How large is this organization (e.g., number of employees)</p> <p>How many individuals from this organization were involved in the SEPA project?</p> <p>Was this the first time that <i>your</i> organization was involved in an effort to ameliorate the problems or conditions addressed by the SEPA project?</p> <p>Was this the first time that your organization performed the roles that were performed on the SEPA project?</p> <p>Has your organization worked on other SEPA projects? If yes, which ones and in what capacity?</p> <p>Has your organization worked on other NIH projects? If yes, which ones and in what capacity?</p> <p>Has your organization worked with projects funded by other federal agencies (e.g., NSF)? If yes, which ones and in what capacity?</p> <p><i>(If organization has worked on other projects)</i> What was different about serving as a partner on this SEPA project?</p>	
Implementation experiences	<p>Did your organization's work on the project proceed as planned?</p> <p>What factors facilitated and/or hindered your organization's efforts</p> <ul style="list-style-type: none"> • To perform on the project • To collaborate with other project partners <p>Were these factors unique to this project?</p>	
Project impacts	<p>What was the project's most significant accomplishment?</p> <p><i>(If most significant accomplishment was an activity/deliverable/output)</i> What was the project's most significant impact on the individuals reached by your project's deliverables and activities?</p> <ul style="list-style-type: none"> • Was the magnitude of this impact aligned with your initial expectations at the outset of the project? • What evidence do you have that this impact occurred? <p>What other noteworthy impacts occurred as a result of your project?</p> <ul style="list-style-type: none"> • Was the magnitude of these impacts aligned with your initial expectations at the outset of the project? • What evidence do you have that these impacts occurred? 	

Interview With Partner Organizations—continued

Construct	Item	Comments
<p>Project impacts—continued</p>	<p>Were there any impacts that your project was designed to achieve that were not attained as planned (e.g., impact was not attained, or the actual impact was less than anticipated)?</p> <p>If yes, what factors accounted for these impacts not being attained as planned?</p>	
<p>Contributions of partner organization</p>	<p>What were this organization’s primary contributions to the project?</p> <p>What did members of this organization learn by working with the lead organization? With the other project partners?</p> <p>What was the project able to accomplish with your organization’s assistance that it could not have accomplished alone?</p> <p>How did this organization benefit from its participation in SEPA?</p>	
<p>Sustainability</p>	<p>Has this organization continued working with the lead organization? With other project partners? If yes, on what types of activities? If no, why not?</p>	
<p>Lessons learned</p>	<p>What lessons did you learn that would be of use to other SEPA projects?</p> <p>What advice would you provide to other PIs that are looking to maximize the contributions of their project partners?</p> <p>What advice would you provide to organizations looking to serve as effective partners on a SEPA project?</p>	

Construct Map for Outcome Case Studies

Interview With the Summative Evaluator

Construct	Item	Comments
Evaluator's background	<p>How many years have you worked as an evaluator?</p> <p>Have you conducted evaluations of similar intervention and/or scope before? If yes, had you used the similar approaches?</p>	
Conducting the evaluation study	<p>At what point of the project did you get involved (e.g., beginning, mid-term, end, or throughout)?</p> <p>To what extent did you have influence on the design of the intervention?</p> <p>What challenges did you encounter to balance the requirements of the SEPA program and what the project was trying to accomplish?</p> <p>Can you briefly describe the key features of the evaluation design?</p> <p>What are the major factors/considerations that shaped your evaluation design for this project? <i>(prompt)</i></p> <ul style="list-style-type: none"> • Project needs • Nature of intervention • Program requirements • Funding • Technical expertise <p>To what extent do you think you were able to develop a design that adequately addressed the project's goals?</p> <p>If the evaluation design had shortcomings, what were they and why did they arise?</p> <p>Was the evaluation implemented as designed? If no, what are some of the major changes and why did they occur?</p> <p>Were there any aspects of the evaluation that you feel were particularly unique? If yes, describe.</p>	

Interview With the Summative Evaluator—continued

Construct	Item	Comments
<p>Project impacts</p>	<p>What was the project’s most significant accomplishment?</p> <p><i>(If most significant accomplishment was an activity/deliverable/output)</i> What was the project’s most significant impact on the individuals reached by the project’s deliverables and activities? What evidence do you have that this impact occurred?</p> <p>What other noteworthy impacts occurred as a result of the project? What evidence do you have that these impacts occurred?</p> <p><i>(For impacts listed on the survey not covered by PIs in their discussion of project impacts)</i> In the PI survey, the lead organization identified the following areas as being most successfully addressed by the SEPA project (pull from PI survey). Would you agree that these areas were successfully addressed by the SEPA project? What evidence do you have that these impacts occurred?</p> <p>What steps did your evaluation take to identify any impacts that were not anticipated at the outset of the project/study? Did the study uncover any unanticipated impacts? Do you have any suggestions for other SEPA evaluators about steps that might be taken to capture information about unanticipated impacts?</p> <p>Were there any impacts that the project was designed to achieve that were not attained as planned (e.g., impact was not attained, or the actual impact was less than anticipated)? If yes, what factors accounted for these impacts not being attained as planned?</p> <p>Are there any impacts that the project was designed to achieve that you were not able to evaluate? For example, are there other impacts that you believe occurred for which you have no evidence? For each impact that meets this criterion, was an effort made to examine this impact?</p> <ul style="list-style-type: none"> • If yes, why was no evidence uncovered regarding this impact? • If no, what type of data would have been needed to document this impact? 	
<p>Lessons learned</p>	<p>What are the lesson learned and challenges involved in conducting the evaluation that you would share with other evaluators?</p> <ul style="list-style-type: none"> • With other PIs? • With the director or the SEPA program? <p>If you have a chance to conduct this evaluation again, what would you do differently?</p>	

