

Contract Final Report

An Organizational Guide to Building Health Services Research Capacity



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An Organizational Guide to Building Health Services Research Capacity

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Contents

Introduction

- Health Services Research: A Definition
- Background and Purpose of the Guide
- Intended Audience
- Organization of the Guide

Step 1: Assessing Your Organization's Needs and Capabilities

- Health Services Seed and Fertilizer Organizations
 - Contracts/Grants Infrastructure
 - Research Staff Expertise and Experience
 - Research Facilities and Equipment
 - Organizational Research Culture
 - Partnerships
- Preparing to Evaluate Your Project
- Conducting and Using Your Assessment
- Maximizing Success

Step 2: Fostering a Research Culture

- Maximizing Success

Step 3: Planning the Infrastructure Support

- Creating a Research Center
 - Developing a Thematic Focus
 - Selecting a Principal Investigator or Research Director
 - Acquiring Research Support Staff
 - Developing Management Support Staff
 - Attaining Research Facilities and Equipment
 - Maximizing Success
- Building Research Skills
 - Providing Training and Educational Opportunities
 - Mentoring
 - Developing and Supporting Individual Research Projects
 - Maximizing Success
- Establishing and Sustaining Partnerships
 - Challenges to Maintaining Partnerships
 - Keys to Sustaining Partnerships
 - Maximizing Success
- Assembling an Advisory Group
 - Maximizing Success

Step 4: Communicating and Reporting

- Communicating with a Funding Agency
 - Project Progress
 - Budget
 - Methods for Communicating
 - Frequency

Other Communication Options
Communicating with Health Services Research Professionals
Sharing Findings with the Community
Maximizing Success

Step 5: Evaluating the Infrastructure Support Initiative

Purpose of Evaluation
Planning for Evaluation
Types of Evaluation
Creating an Evaluation Plan
What information will be collected?
When will data collection occur?
Who will do the evaluation?
Maximizing Success

Step 6: Planning for Sustainability

Importance of Sustainability
Creating a Sustainability Plan
Five Components of a Sustainability Plan
Elements of a Sustainability Plan
Implementing the Plan and Monitoring Progress
Maximizing Success

References

Appendix: Evaluation Items

Introduction

Geographic, racial, and ethnic disparities in health and health care and the need for health care systems to accommodate increasingly diverse patient populations are a matter of national importance. As solutions are sought, it becomes more important to involve the areas and groups most affected by the disparities. They need to be empowered and equipped with the skills, tools, and funding to contribute to the development of research-based solutions. The Agency for Healthcare Research and Quality (AHRQ) sponsored the development of this guide to help research organizations and institutions improve their health services research capacity and competitiveness for grant and contract funding.

Health Services Research: A Definition

Health services research is a “multidisciplinary field of scientific investigation that studies how social factors, financing systems, organizational structures and processes, health technologies, and personal behaviors affect access to health care, the quality and cost of health care, and ultimately, our health and well-being.”ⁱ

Applied health services research provides data, evidence, and tools to make health care affordable, safe, effective, equitable, accessible, and patient-centered. For example, products stemming from health services research serve to enable providers and patients to make better decisions. They also can be used to design health care benefits and inform policy.

Health services researchers come from a variety of disciplinary backgrounds. The workforce includes an array of professionals and disciplinary perspectives, including fields such as:

- Medicine, nursing, dentistry, pharmacy, and allied health.
- Social and behavioral sciences.
- Epidemiology and biostatistics.
- Engineering.
- Health care policy, research, administration, and management.

Background and Purpose of the Guide

AHRQ’s mission is to improve the quality, safety, efficiency, and effectiveness of health care for all Americans.^a AHRQ achieves this mission by supporting the conduct, dissemination, and use of high-quality health services research and by supporting the development of researchers and research infrastructure.

^a For more information about the Agency for Healthcare Research and Quality, visit the Agency’s Web site at www.ahrq.gov.

AHRQ has supported health services research infrastructure development through two programs – the Minority Research Infrastructure Support Program (MRISP) and the Building Research Infrastructure and Capacity (BRIC) Program. These programs focus on improving the research capacity and competitiveness of institutions that predominantly serve racial/ethnic minorities or are located in geographic areas that have had historically low levels of AHRQ funding. Both programs were launched in FY 2001.

In 2006, AHRQ funded an evaluation of the programs by the American Institutes for Research (AIR). The evaluation was conducted to determine the extent to which, and ways in which, program grantees had strengthened their institutional research infrastructures and enhanced the capabilities of their individual faculty and staff members in relation to their ability to undertake health services research. After completing this research, AHRQ and AIR developed this guide to synthesize and share what has been learned. Our intent is to help organizations and institutions develop and enhance their ability to plan and conduct health services research and obtain funding for their research.

Intended Audience

This guide is intended to meet the needs of a variety of organizations and institutions seeking to build their health services research capacity, including both public- and private-sector institutions. It can serve as a resource for organizations with limited experience conducting health services research and organizations that have some experience in the field but are seeking to further develop or strengthen their infrastructure. In particular, this guide may serve as a resource for:

- Administrators and directors of organizations that would like to develop or expand their organization's health services research program.
- Department leaders and program directors with limited research experience interested in creating or expanding a health services research program for their students or staff.
- Individual researchers seeking to create a program or collaborative group of health services researchers.

Organization of the Guide

This guide provides a user-friendly, step-by-step approach to planning, implementing, and sustaining a health services research infrastructure. These steps do not have to be taken in sequential order.

The guide describes six steps for establishing an effective, sustainable research infrastructure (Figure 1).

1. Conduct an assessment.
2. Cultivate a supportive research culture.

3. Plan for infrastructure support.
4. Communicate with funding agencies and other researchers and share findings.
5. Evaluate the infrastructure.
6. Plan for sustainability.

Figure 1. Layout of the guide

Step	Detail
Step 1 Assessing Your Organization's Needs and Capabilities	Identifying your organization's existing capacity and resources helps to determine your strengths and areas for improvement. This can help you set goals and target your resources.
Step 2 Fostering a Research Culture	Moving an organization toward a culture of research requires dedicated leadership and support of other staff throughout the entire organization.
Step 3 Planning the Infrastructure Support	Step 3 comprises four activities for developing and expanding a research infrastructure: Creating a research center with a thematic focus, research director or principal investigator, technical support, management support, and facilities and equipment. Building research skills through training, mentoring, and individual research projects. Establishing and sustaining partnerships within and outside of your organization. Assembling an advisory group to provide technical guidance and feedback.
Step 4 Communicating and Reporting	Reporting your work to the funding agency and disseminating your work to research professionals and the community can strengthen relationships and support longevity.
Step 5 Evaluating the Infrastructure Support Initiative	Monitoring, evaluating, and updating your approach to building infrastructure can help to ensure success.
Step 6 Planning for Sustainability	Planning for the long-term is essential to maintaining the infrastructure.

Each step concludes with a section entitled "Maximizing Success." This section describes strategies for overcoming those challenges that organizations faced when implementing that step.

Step 1: Assessing Your Organization's Needs and Capabilities

The first step in determining needs is to identify the current status of your organization's overall research infrastructure. This section will provide specific issues that you will want to examine to determine your organization's needs and capabilities.

The process of assessment will depend on the availability of resources – time, staff, and data. Data may come from existing documents and databases at your organization; population data from a national online resource; surveys of staff, faculty and/or students; interviews with faculty and administrators; and even from informal conversations with others.

Health Services Seed and Fertilizer Organizations

Assessment is important for setting up a successful initiative. In order to set achievable goals, it is vital that those goals are based on current information that shows where your organization is in relationship to where you want to be in developing a health services research infrastructure.

In this guide, we classify organizations in two ways: seed organizations and fertilizer organizations. A seed organization is one that may have established research capabilities but limited health services infrastructure support. Such an organization will want to initiate the development of a health services support infrastructure. For example, seed organizations may want to acquire access to health services research journals for their libraries or establish procedures for arranging release time for staff to conduct health services research. Fertilizer organizations, on the other hand, are organizations that have an infrastructure in place for conducting health services research, but there may be little support for it. A fertilizer organization might choose to retain consultants with specific research expertise to complement the skills of existing staff or to identify colleagues to review strategic plans or provide training.

To obtain perspective on where your organization is, we suggest five areas for assessment:

1. Contracts/grants infrastructure.
2. Research staff expertise and experience.
3. Research facilities and equipment.
4. Organizational research culture.
5. Partnerships within and outside the organization.

Contracts/Grants Infrastructure

It is important to review the resources available for both writing proposals and administering grants and contracts. Be sure to think about this information on both a departmental level and on an overall organizational level. In review of your contracts and grants infrastructure, you should consider the following questions:

1. Do you have an office that manages your department's or organization's proposals, grants and contracts?
2. Are staff available to:
 - Identify and disseminate information about funding opportunities.
 - Provide access to previous proposals.

- Prepare budgets for grants and contracts.
- Review proposals.
- Review budgets for grants and contracts.
- Legally commit the organization to perform the proposed work.
- Coordinate grant and contract activities within the organization.
- Keep track of funded project expenses and produce monthly expense reports .
- Prepare invoices for funded projects.

Research Staff Expertise and Experience

It is invaluable to identify individuals at your organization who have the skills and interest to support the initiative. You should identify faculty and staff with the appropriate skills and abilities to help support the proposal or grant preparation process, and you should review information on faculty, staff, and students at your organization who can and will support your efforts.

1. How many faculty, staff, and students are at your organization?
2. What degrees are held by the faculty and staff?
3. What types of research staff (administrative/secretarial support, student workers, and graduate research assistants) are available? How many?

Review CVs, résumés and biographies of faculty and staff to find out about:

4. Current level of Federal research funding.
5. Amount of Federal research funding in the past 5 years.
6. Availability (release time) for conducting future research.
7. Area(s) of expertise – look at both research topics and methodologies.
8. Experience serving in the role of principal investigator.

Contact others at your institution to find out about:

9. Interest in getting involved with health services research (for both writing grants and proposals and also for conducting research).
10. Health services researchers with whom they have existing relationships.

Research Facilities and Equipment

In addition to staff, you will also need to consider the facilities and equipment available to conduct the work. Consider:

1. Office space.
 - a. Do you have enough space to conduct your research?
 - b. Is the space conducive to teamwork? Are all staff members able to be in the same area?
2. Information technology.
 - a. Do you have the software for conducting data analyses and creating presentations and publications?
 - b. Do you have the hardware—such as servers, computers, and printers—needed to conduct health services research?

- c. Are there existing data security protections and procedures to ensure privacy and prevent corruption? If not, what is necessary to develop and implement such procedures?
 - d. Do you have means to access databases you need for your research? What about access to populations you plan to study?
3. Library facilities and relevant literature.
- a. Do you have access to online databases for literature searches?
 - b. Does staff have the expertise to conduct these searches?
 - c. Do you have access to the medical journals likely to be identified in these searches?

In the early stages of an initiative at a seed organization, the facilities and equipment currently available may limit the kinds of research that you pursue.

Organizational Research Culture

In assessing your needs and capabilities, it is important to address these additional aspects of your organizational culture. Consider the following questions when thinking about the research culture at your organization:

1. Research centers consist of a group of investigators who collaborate on research in a common topic area, operate as a formal entity within the structure of the organization, and generally share physical space. Do you have any research centers? How many? What is the focus of each center?
 - a. Is there a potential for developing a synergy within an existing center to address health services research questions? Is it possible to form a new center to address health services/policy research questions?
2. What research focusing on or related to health services research has been funded at your organization in the last 5 years?
 - a. From where was funding obtained? (Sources of funding including Federal, State, and local governments; foundations; your organization itself.)
 - b. How much research funding did the organization receive?
3. How easily can staff access technical support in biostatistics, health services research methodologies (such as secondary data analyses, survey research, retrospective and prospective quasi-experimental observational studies, and qualitative methods), and research proposal and manuscript review within your organization? Outside of the organization?
4. How easily can staff obtain concrete support from the organization (staff labor or time, funding) to apply for and conduct health services research?

Institutional Policies

5. Does your organization have any formal documents (such as mission statements and strategic plans) or policies and practices that explicitly support or encourage research?
6. Does your organization have its own Institutional Review Board (IRB) or a formal agreement to use another organization's IRB?

7. Does your organization have staff or committees (such as a staff research council or vice president [VP] of research) that explicitly support or encourage research?
8. How supportive are your organization's leaders of research? How supportive is fellow staff?
9. What weight does obtaining support for, conducting, and disseminating research have in performance evaluations? What weight does research have on decisions about raises, promotions and tenure?

Personnel Policies

10. How difficult is it to get release time to conduct research (for example, a sabbatical, reduction in teaching responsibilities, or permission to consult)?
11. How much verbal support and encouragement does staff get from supervisors for conducting research?
12. What kind of tangible support does staff receive from supervisors for conducting research?

Partnerships

Existing partnerships can serve as important resources for helping to find out about potential funding opportunities, guiding and mentoring research activities, and providing access to research data. Examine what kind of relationships and partnerships exist within your organization and with other organizations. One of the most common and effective strategies we found in our research was developing partnerships with top-tier academic institutions and senior researchers. Consider developing partnerships with groups and organizations that will support your goals and activities. There are different types of partners listed below; please note that these categories are not mutually exclusive.

- Academic institutions or individuals (such as an experienced researcher at a university).
- Non-academic research partners (such as foundations, think tanks, associations, and not-for-profit organizations).
- Government partners (such as a State or local department of health).
- Community and clinical partners (such as a health care delivery system or a school).

As part of your assessment make a list of your current partners.

1. What partnerships do you already have in place?
 - a. For each partner ask:
 - What type of organization is the partnership with? (Use the categories above.)
 - How long has the partnership been in place?
 - What has the partnership already accomplished?
 - How does your organization benefit from the partnership?
 - How does your partner benefit from working with your organization?

Preparing to Evaluate Your Project

It is important to monitor, evaluate, and update your organizational assessment on an ongoing basis. In this way, you will be able to revise your plans appropriately. It may be important to consider the following overall questions:

- What are the challenges or barriers to assessing your organization's infrastructure needs? How might you overcome these challenges?
- How will you define the "success" of an initiative? What data or information will you use to show that your strategies are moving you along the path to your goals?
- What information can be reassessed at a later time as part of an evaluation of your organization's infrastructure capacity-building?

For more details on designing and conducting evaluation activities, see Step 5 (Evaluating the Infrastructure Support Initiative).

Conducting and Using Your Assessment

Now that you have finished reading about assessing your needs and capabilities, prepare to conduct the assessment.

1. Create a variables list.
2. Construct data collection tools and storage for data.
3. Draft a summary of findings.
4. Incorporate findings in goal-setting exercises, proposals, and promotional activities.

Create a list of variables (things you wish to measure) in your assessment. Use the numbered questions in Step 1 as a guide. Include information on potential sources for the data. Figure 2 provides an example of a variables list.

Figure 2. Example variables list

Variables	Potential sources		
	Web site	Phone call/email	Other
Past research funded at the organization	<ul style="list-style-type: none"> • National Center for Educational Statistics • National Science Foundation • Organization's web site 	<ul style="list-style-type: none"> • University administrators, grants management • Dean, department chairs 	
Organizational support of research	<ul style="list-style-type: none"> • Organization's web site 	<ul style="list-style-type: none"> • Dean, department chair • Other faculty and staff 	<ul style="list-style-type: none"> • Announcements and press releases • Policy memos, vision/mission statements
Institutional Review Board (IRB)	<ul style="list-style-type: none"> • Organization's web site 	<ul style="list-style-type: none"> • University administrators • Dean, department chair • Other faculty and staff 	

Take a closer look at your list of variables and think about the costs – time, labor, and materials – to conduct this assessment. Revise your list of variables based on the resources and time you have available. Refine the variables on the list by prioritizing the five assessment area(s), selecting key variables in each of the five areas, or eliminating variables that are too costly to measure.

Once you've finalized your variables list, begin creating data collection tools and establish methods for storing the data. After completing the data collection, create a thorough, accessible summary of your findings. This summary can be used as a reference point for tracking your progress and as a resource in procuring support and funding. Figure 3 provides a framework and example for summarizing findings.

Figure 3. Example of a summary

Health Services Research Infrastructure Assessment

Research Culture

Past research funded at the organization. In the last 5 years, we have conducted research in biology, justice, and medicine. Funding stemmed from various sources, including Federal agencies, local government, private foundations, and the organization's own overhead. On average, we received \$35M/year in research funding.

Organizational support of research. Our organization is "somewhat" supportive of research. The department recently revised their strategic plan, which now includes seeking research funding. However, there are no staff positions or committees currently supporting this effort. To a limited extent, conducting and disseminating research are considered in performance evaluations.

Institutional Review Board (IRB). Our organization has a formal agreement with ABC's IRB. The IRB conducts reviews of all our federally funded research projects that involve human subjects. They charge \$1,500 per review.

Contracts/Grants Infrastructure
Research Staff Expertise and Experience
Research Facilities and Equipment
Partnerships

Use this summary to highlight your organization's strengths and areas for improvement. Consider this to be a starting point for enhancing your current capabilities in health services research. Set goals and plan activities that will help you improve in weaker areas. The data can be used in proposals, marketing, and other reports.

Maximizing Success

Assessment is a key component to infrastructure capacity development. It provides baseline information to track your progress. Further, it identifies opportunities for improvement that can be used to set achievable goals.

1. Create a list of variables that includes the potential source(s) of information.
2. Next, develop data collection questions for each variable and identify ways to collect these data. Use what is most readily available to you to collect data: publicly available web sites, discussions or emails with faculty and staff, email or online surveys, interviews, existing documents, and databases at your organization.
3. Once you've identified the variables, questions, and data collection strategies, consider involving other staff, such as a research assistant, to collect the data.

Step 2: Fostering a Research Culture

In Step 1, you assessed your organization’s current needs and capabilities. In Step 2, you will learn about fostering a culture of health services research by:

- Obtaining departmental and institutional leadership support.
- Establishing formal documents and policies in support of health services research.

A wide variety of indicators demonstrate improvements or shifts in organizational research culture. Organizational culture is defined by formal documents and policies, as well as informal traditions and attitudes. Examples of indicators we found in our research are shown in Figure 4.

Figure 4. Indicators of a shift in research culture

Types of Indicators	
<ul style="list-style-type: none"> • Changed performance evaluation system to recognize the importance of collaborative health services research • Increased institutional support of health services research through <ul style="list-style-type: none"> ○ Supervisor support ○ Release time ○ Incentives and rewards for research participation ○ Institutional funds to support a health services research center, program, or core office 	<ul style="list-style-type: none"> • Established internal partnerships to conduct health services research • Increased staff/faculty skills and involvement in health services research • Held regular meetings (for project and other interested faculty/staff/students) to discuss health services research topics • Established new educational curricula related to health services research • Established a central research oversight committee

Obtaining departmental and institutional leadership support for your capacity-building project and its activities will facilitate future initiatives. When seeking internal or external funding, inform the organizational leadership about your activities. For external funding, include a letter of support from an administrative leader to illustrate organizational commitment to your project. Keep administrators involved by providing updates on your progress and engaging them in the infrastructure-building process. This may facilitate support that is conducive to health services research. Support may include physical space, institutional funding of infrastructure, additional release time for conducting research, and changes to organizational policies and practices.

Creating a culture of research can be difficult and often takes time. One of the key approaches to creating a shift in culture is through policy and leadership. Significant policy changes that can affect culture include:

- Formal documents such as mission statements and strategic plans at departmental or institutional levels to support health services research.
- Committees or staff positions that explicitly support research (such as a staff research council or VP of research).
- Policies and practices regarding release time for conducting and preparing proposals and completing research projects.

- Recognition or reward for impact in the community (policy changes, improved health care delivery systems).
- Performance evaluations and rewards (raises, promotions, and/or tenure) that place value on obtaining outside research funding, conducting research, and disseminating research in the community and through scientific journals.

Maximizing Success

There are common challenges that arise when developing an organizational culture that encourages health services research. They include:

- Lack of organizational knowledge – Provide an engaging summary of what was found in your assessment to organizational leadership.
- Skepticism about health services research – Provide information to show how the department or organization’s existing experiences can be used to leverage and build an interdisciplinary team in the field of health services research. Share current articles from prominent journals. A list of the leading health services research journals can be found in the sidebar.
- Problems related to a teaching university becoming more research oriented – Examples of problems include needing to work out research release time issues and needing to educate senior administrators about the appropriate use of research funds. Use monies from research to leverage release time and share the budget and work plan with administrators. Set a schedule for research and non-research activities in advance and work hard to stick to it.

You should begin to think about how you can overcome these barriers in your own organization. One step you can take is to share articles from top health services research journals with leadership.

Step 3: Planning the Infrastructure Support

Cookeⁱⁱ suggested six principles that must be in place for research capacity-building to be effective. These six principles have been incorporated into the Guide to ensure that the activities you plan to implement are successful. Figure 5 maps the crosswalk between Cooke’s six principles and the associated steps in this Guide. We have included additional steps in this Guide that we believe are of comparable importance.

As previously discussed, it’s important to tailor activities for your organization. The goals you set out for developing infrastructure support will help identify activities to prioritize in planning the expansion of your health services infrastructure capacity. However, your goals may need to be modified to fit the requirements of a specific funding announcement.

When setting out goals be sure that they are:

- Achievable and realistic, given your assessment of your organization and planned activities.
- Observable and measurable.
- Meaningful to your organization.

Figure 5. Crosswalk of effective research capacity-building principles and steps described in the guide

Cooke's Six Principles ⁱⁱ	Coverage in the Guide
1. Investment in infrastructure	<ul style="list-style-type: none"> • Step 3–Planning the Infrastructure Support, Creating a Research Center
2. Building skills and confidence	<ul style="list-style-type: none"> • Step 3–Planning the Infrastructure Support, Building Research Skills • Step 3–Planning the Infrastructure Support, Assembling an Advisory Group
3. Developing linkages and partnerships	<ul style="list-style-type: none"> • Step 3–Planning the Infrastructure Support, Establishing and Sustaining Partnerships • Step 3–Planning the Infrastructure Support, Assembling an Advisory Group
4. Ensuring research is applicable and “close to practice”	<ul style="list-style-type: none"> • Step 1–Assessing Your Organization’s Needs and Capabilities • Step 3–Planning the Infrastructure Support, Building Research Skills: Developing and Supporting Individual Research Projects • Step 5–Evaluating the Infrastructure Support Initiative
5. Developing appropriate dissemination of research	<ul style="list-style-type: none"> • Step 4–Communicating and Reporting
6. Building elements of sustainability and continuity	<ul style="list-style-type: none"> • Step 6–Planning for Sustainability

Based on a review of the literature, our research on two AHRQ programs and interviews with staff from Federal research capacity-building programs, we suggest engagement in each of the following four activities:

1. Creating a research center.
 - a. Developing a thematic focus.
 - b. Selecting a principal investigator or research director.
 - c. Acquiring research support staff.
 - d. Developing management support staff.
 - e. Attaining research facilities and equipment.

2. Building research skills.
 - a. Providing training and educational opportunities.
 - b. Mentoring.
 - c. Developing and supporting individual research projects.
3. Establishing and sustaining partnerships.
4. Assembling an advisory group.

It will be important to monitor progress and periodically conduct goals- and process-based evaluations to identify any needed adjustments or changes to goals or activities. Monthly internal monitoring via meetings and annual reports to the funding agency are the most common means of monitoring progress.

Creating a Research Center

A research center is defined as a group of investigators who collaborate on research in a common topic area, operate as a formal entity within the structure of the organization, and generally share physical space. A research center may be a less formal or decentralized collaborative of investigators. It is the infrastructure support that a research center or collaborative offers that is fundamental to the success of a health services research program. The research center houses both administrative and technical support that can serve multiple projects.

In developing your research center, there are five basic areas to consider:

1. Thematic focus.
2. Principal investigator or research director.
3. Research support staff.
4. Management support staff.
5. Research facilities and equipment.

Developing a Thematic Focus

Ideally, a health services research center will have a thematic focus: the research should feature a specific topic area, population, or research method. A thematic focus allows you to develop a critical mass of staff with expertise in similar content and methods. Further, commonality allows you to target training opportunities that can serve everyone and mentors that can serve multiple mentees.

Selecting a Principal Investigator or Research Director

If this initiative or project is sponsored by an outside funding institution, that institution will set the requirements for a principal investigator (PI). Funding agencies require that the PI have appropriate credentials to demonstrate that they have the requisite knowledge, skills, and abilities to carry out the proposed work.

It may be beneficial to select an experienced PI because experienced PIs have the most success at garnering additional funding, publications, and presentations. An experienced PI can be someone at mid-to-senior level of his or her career, with 5 to 30 years of experience in research. It is not necessary that their field of expertise be within

a specific area, but it is important that the PI have experience leading projects and have a modest rate of publications. Less experienced staff can work towards becoming a PI. Consider structuring the initiative to be supported by a senior PI and a more junior Co-PI.

Another particularly important aspect to consider when selecting a PI is to choose someone who intends to stay with the funded project throughout its entirety. While other project staff turnover has minimal effect on the success of a capacity-building project or initiative, PI turnover can cause great turbulence and has a much greater impact on the success of a project.

Acquiring Research Support Staff

Research support staff may include biostatisticians, research assistants, graduate students, and technical writers. Biostatistical support is one of the most critical factors to the success of a project designed to build health services research capacity. Typically, organizations hire a new staff member or use project funding to support an existing staff member's time. The biostatistician may provide input on study design and training or assist in managing electronic data, conducting analyses, and writing results. It's beneficial to have a biostatistician who is skilled in the craft and can effectively communicate complex ideas to fellow researchers. Further, since research is project-based, the biostatistician should be team-oriented.

Research assistant and graduate student support is generally provided by part-time help that is hired or by existing staff and whose time is supported by project funding. This support is important because it creates a broader interest in health services research. The research assistants and graduate students gain new knowledge and skills. The researchers and the center reap the benefits of affordable, skilled labor. In many cases, research support staff members go on to build expertise and help cement a foundation of health services research at the organization.

Technical writing support can facilitate dissemination of research findings and development of proposals and grants. Technical writing support can come in the form of a science writer, grant writer, or editor. If a designated writer is unavailable, identify someone to serve in this role on a case-by-case basis. Consider experienced faculty with an extensive publication history or a consultant with similar capabilities. The technical writer may: help develop a hypothesis, assist in outlining the document, review the document, edit the document, write grant applications, and pull together sections of a report, article, or proposal.

Developing Management Support Staff

Staff within the organization should have explicit responsibilities to help manage the research center and program. Staff support is needed to assist in management of funding efforts, project performance, and finances.

Managing Funding Efforts

Management staff should identify funding opportunities and disseminate information about these opportunities throughout the organization or center. Staff should also be available to assist with all aspects of the grant/proposal preparation process.

Preparation includes a number of activities.

- Creating boilerplate. Boilerplate is text that can be reused in new contexts or applications without the need for substantial change from the original. For example, a useful piece of boilerplate might include background information on your organization and its capabilities.
- Accessing past proposals and grant applications. Management staff should develop a system to facilitate access to sections of past proposals and grants that might be useful in subsequent attempts at funding. Consider developing a database that will help identify relevant sections from your ongoing funding efforts. Relevant sections can include sections discussing specific research methodologies or content areas.
- To facilitate access, all proposals and grants should be electronically accessible by project staff.
- Managing the proposal/grant process:
 1. Arrange release time for staff to participate in proposal development.
 2. Clarify roles of proposal staff and create a staffing plan:
 - Who will lead the proposal?
 - Who will manage the proposal?
 - Who will be responsible for reviewing the proposal?
 - Who else is on the proposal team: writers, editors, production team, accounting team?
 3. Create a proposal timeline. Set deadlines for drafting materials, formatting, review, production, and delivery. Use a Gantt chart, list, or calendar format. Assign specific staff to each activity.
 4. Notify all staff of upcoming efforts. Notify writers, reviewers, and staff included in the proposal, budget staff, editors, production staff and any other staff responsible for preparing or approving the final proposal about key dates in the timeline.
 5. Contact the funding agency for answers to questions and to obtain input on your proposal development before beginning to write, if possible.
 6. Share a proposal outline and writing assignments with staff. As appropriate, include page limits for each section.
 7. Coordinate subcontractors and partners. Provide details and examples of what materials are needed. Set deadlines in advance of internal organizational deadlines.
 8. Gather material for references, biosketches, résumés, CV's, and other appendixes. Collect, appropriately format, and reference all appendixes in the proposal.
 9. Draft the proposal sections. When final editing is complete, the proposal should read as if it is the work of a single author.
 10. Prepare the budget. Format the budget as requested in the procurement.
 11. Arrange for review of the proposal. Address any issues that come up in the review process and finalize the proposal.

12. Print and assemble the proposal. Gather all materials (binding materials, etc.) and prepare labels for the delivery boxes. Be sure to double-check everything.
13. Clarify deadlines, submission method, and submission details. Plan for contingencies and obtain a record of submission.

Project and Performance Monitoring

Management staff and systems are necessary to help keep projects running effectively. Management staff will use tools such as timelines, organizational charts, and work plans to achieve their goals. In particular, staff must be able to manage:

- Organizing meetings and training. Schedule and handle the logistics such as advertising training sessions, acquiring space, setting up for training sessions, and paying trainers.
- Serving as coordinator of staff communications to ensure flow of activities.
- Monitoring progress of individual research projects and the overall research center program, including the gathering of information about progress and challenges. This can be done informally through staff meetings or more formally by requiring submission of regular status reports.
- Setting deadlines. Some deadlines will be set in advance as determined by your organization's management or the funding agency. However, it may be important to set intermediate deadlines.
- Ensuring that reporting requirements are being met.
- Managing finances. Systems may need to be put in place to ensure that:
 - Invoices are sent with the timing and format required.
 - Payment is addressed to and received by the proper office.
 - Payments received are timely and in the correct amount.
 - Invoicing does not exceed project funding.
 - Staff are appropriately billing their time.

Attaining Research Facilities and Equipment

- In addition to obtaining personnel support for the research center, there are physical needs that must be met.
- Space and facilities are needed for getting together as a team of researchers.
- Computer equipment could include both hardware and software necessary for collecting, storing, and analyzing data.
- Data protections and security policies and procedures must be in place for managing data.
- Literature search capabilities are needed for accessing library databases and journals for literature reviews and environmental scans.

Maximizing Success

Creating a research center can be one of the most difficult activities to fund and sustain.

- Consider applying for funding from foundations to establish a research center.

- Use funds from multiple projects to support the staff and activities of the research center.
- Obtain institutional funding to support the research center.
- Ensure organizational commitment to the program.
- Select a thematic focus for the center.
- When choosing a PI or research director, consider selecting someone who is likely to stay on the project, has previous experience as a senior investigator on research projects, and has established a strong publication track record.
- Ensure that the PI will be provided ample release time to serve the program.

Building Research Skills

To develop a cadre of health services researchers, you will need to build their skills through training and education, mentoring, and experience on research projects.

Providing Training and Educational Opportunities

A key to developing enthusiasm for health services research is to stimulate staff and student interest in the topic through training and educational opportunities. Share opportunities to learn more about health services research widely with others in your organization. You will need to create a training and educational plan. Factors to be considered include:

1. What kind of training is needed and for whom? How will you decide on the topics? Use the assessment to target and tailor training resources to what trainees need. Training can be varied depending on the needs of individuals and can potentially include areas such as:
 - Health services research, the health care delivery system, and policy (background about the field).
 - Content specific areas (e.g., access, cost and financing of care, quality of care, patient safety , health information technology, outcomes of care, comparative effectiveness research).
 - Study design and research methods (e.g., survey design, large-scale database analysis, retrospective and prospective quasi-experimental designs, statistical analysis, qualitative methods).
 - Scientific and grant writing.
 - Research ethics and protection of human subjects.
 - Research software.
 - Managing grants.
2. How will you communicate training opportunities to those in your organization?
3. Who will provide the training (internal experts, advisory group members, mentors, partners)?
4. How will the training be conducted?
 - On-site, on-line, or off-site? Participation in conferences, workshops, short-term training programs?
 - Formal or informal?
 - Didactic or discussion format?

- Classes, seminars, or journal clubs?
5. What is the frequency and duration of the training needed?
 6. How will you evaluate the appropriateness of the training for conveying needed skills and competencies?

Mentoring

Our research, as well as work by Zea and Belgrave,ⁱⁱⁱ found that mentoring was an integral part of successful health services research capacity-building. We recommend that you include mentoring as part of the overall initiative and its component research activities. A mentoring plan should include information about the nature of the mentoring arrangement(s) that will be used. Specifically, a plan should include a description of skills and characteristics you are looking for in a mentor, expectations of mentors/mentees, the setting for meetings (one-on-one, pairs, groups), and the frequency/duration of the meetings.

We found that it was useful for mentees to have access to a day-to-day on-site mentor and an expert scientific mentor. The day-to-day on-site mentor provides guidance on managing the organization-specific culture and administrative issues, helping with time management, and overcoming challenges. The expert scientific mentor, who may be located off-site, provides guidance and instruction on research design and methodologies, dissemination of work via presentations and publications, and opportunities to obtain additional research funding.

Mentoring can occur one-on-one, in pairs, or in groups. One method we observed had individual investigators meet with the PI, another senior advisor, or an outside expert consultant on a one-on-one basis. Other mentoring plans served mentees in pairs or groups. Each mentee was mentored by two or more senior or technical staff (such as the PI, a co-PI, biostatistician, and/or scientific writer). There is a “second level” of mentoring that often occurs on research projects whereby mentees provide mentoring to junior faculty, staff, and students.

Mentoring should not be considered as an incidental activity. It is wise to formally train mentors and to acknowledge their importance. Adequate support for both mentors and mentees, whether paid or in-kind, demonstrates its value and importance to participants. The support can also provide an incentive for prioritizing the activity.

Developing and Supporting Individual Research Projects

The goal of your research infrastructure is to facilitate the development and support of research projects.

Selecting Individual Research Projects

Promote commonality in the content area of the individual research or small team projects and, to the extent required, in the research methods. This allows you to develop a critical mass of staff with expertise and similar interests, which strengthens your team.

Managing Successful Research Projects

The following factors contribute toward the success of individual research projects:

- Instituting specific strategies to promote communication and networking among project staff.
- Increasing individual investigator research capacity rather than developing it anew.
- Developing large secondary databases and expertise in working with these databases.
- Obtaining protected release time.
- Maintaining commonality of content and/or methods across projects.

One of the challenges in managing research teams can be staffing changes. Organizations should be cognizant and plan for contingencies accordingly. Turnover, when properly managed, does not impede success.

Maximizing Success

- Training and educational opportunities:
 - Develop training plans based on the needs of the staff and the financial and human resources available to you.
- Mentoring:
 - Appropriately match the skills and knowledge of mentors and mentees. In our experience, when mentors and mentees were mismatched in terms of their overall experience, seniority levels, or areas of expertise, the success of the project and career development were jeopardized.
 - Structure the mentoring relationship as best fits the personality and organizational culture of those involved. Consider one-on-one, pairs, and group mentoring settings. More structured mechanisms (such as formally scheduled meetings) may ensure project progress.
 - The time commitment for a mentor is often greater than it might seem initially. Take into account the time commitment of mentoring activities and provide financial support to both the mentor and mentee.
- Individual research projects:
 - Provide opportunities for staff to participate in research projects. Exposure to research projects will build practical experience for your staff.
 - Select projects with a thematic focus – either topic area or methods – to reap the advantages of specialization.

Establishing and Sustaining Partnerships

In our research, partnership development was the most frequently occurring project activity and also was viewed as the most important project activity. Multiple partnerships are encouraged. Partnerships can be intra- or inter-organizational. Yanagihara, Chang, and Ernst^{iv} suggested that smaller organizations “form collaborative partnerships with

strong research groups at majority institutions” in order to gain access to the equipment and research personnel necessary for increased capacity.

The support of partners can be effective in the immediate future and in the long-term. For example, without state-of-the-art equipment, emerging institutions struggle to attract senior-level talent. Research shows that “at least three RO1-level funded investigators with expertise and track records in the proposed research are required to demonstrate a genuine need for such equipment.” Partnerships offer the immediate benefit of access to needed equipment. In the long-term, a resource-sharing strategy may strengthen an emerging institution’s ability to attract future research talent, increasing its own capacity for funding.^{IV}

Partners may provide support in different ways:

- Collaborating on the conduct of research and manuscript production.
- Providing training and mentorship.
- Providing access to resources.
- Offering access to data or a study population.
- Offering clinical or technical expertise.
- Serving on advisory groups.

As mentioned in Step 1, there are different types of partners that can fill different needs.

Challenges to Maintaining Partnerships

- Resource-sharing inequities. It is important that PIs closely monitor equitable distribution of funds and tasks among partners.
- Accountability. It is important to set clear expectations for the work products and processes.
- Diverging priorities. Partnering organizations are likely to have different goals, priorities and cultures. For example:

Faculty incentives to perform even similar activities may be quite different at each institution. A teaching-intensive institution may value and reward the number of courses taught, teaching awards, and number of students advised. Research-intensive institutions may value publications, dollar value of grants brought, in and percentage of salary covered by external funds. All faculty wish to develop and succeed, but the criteria for success may differ between institutions.^V

It is important that each organization recognize those goals and priorities at the outset and find ways where all partners can both benefit from the collaboration.

- Data ownership. It is important to assure that all partners have some ownership of the data and that authorship of journal articles is determined in a fair and generous manner.

Keys to Sustaining Partnerships

- Additional funding. Search for funding opportunities where you and your partners can continue your relationship with additional funding.
- Incentives for partnerships. For example, position yourself within partnerships by bringing some expertise, equipment, access to research populations, or materials to the table that is unique to your organization. Promote opportunities for shared journal article authorship.

Maximizing Success

- Keep an inclusive perspective when it comes to issues of data ownership and authorship with partners.
- Establish expectations of partners.
- Encourage future partnerships by:
 - Including your partners in funding applications.
 - Providing a unique skill or capability.

Assembling an Advisory Group

Advisory groups can serve multiple purposes. They are particularly valuable for seed projects and can provide advice and counsel through:

- Providing mentoring and guidance on the development of the overall health services research program.
- Providing mentoring to the PI, research center director, and others.
- Assuring the conduct of rigorous research by providing input on project design,
- Suggesting linkages for partnerships.
- Suggesting opportunities for disseminating findings in publications and at conferences.
- Reviewing publications and conference presentations.
- Recommending relevant funding opportunities
- Reviewing proposals.

Based on our research, we believe that these groups should each consist of 4-8 experts. The Advisory Group should be large enough to provide a variety of perspectives, yet small enough to facilitate meetings. Members should be available to respond to ad hoc inquiries and attend quarterly meetings in person or via teleconference. The members should have expertise in managing research programs, procuring funding, and publishing in leading peer-reviewed journals. The group can include internal and external experts. In addition, members with relevant methodological or subject matter expertise may offer additional mentoring and technical support.

The Advisory Group can be a resource for evaluating the success of the project, through the provision of feedback in the form of systematic, periodic assessments.

Maximizing Success

Advisory groups should be established to provide different types and levels of support. Groups of four to eight experts should meet quarterly to review progress and provide guidance. Ideally, members should:

- Be available to respond to ad hoc inquiries.
- Have expertise managing or developing research programs.
- Have a proven research funding record.
- Have published extensively in top peer-reviewed journals.
- Possess relevant subject matter or research methodology expertise.

Consider using the Advisory Group as a source of feedback about your program's progress.

Step 4: Communicating and Reporting

Step 4 will focus on communicating with and reporting research to three primary stakeholders: funding agencies, health services research professionals, and the community (public). Each is an important stakeholder; each is an important audience for your research findings.

Communicating with a Funding Agency

Communicating with a funding agency is important and can result in:

- Information about research and funding opportunities.
- Information about relevant conferences, webinars.
- Technical input and advice.
- Practical advice about dealing with administrative requirements and reports.
- Guidance and advice about preparing future solicitations.

Project Progress

Regularly provide updates on the progress of your initiative, program, or project. Plan for and collect information for the annual progress report.

- Begin planning at the outset of your initiative on how you will monitor and collect information for the annual report.
- Before the annual report is due, be sure that you are clear on the expectations and format for the annual report.
- Consider asking a colleague or your funding agency to share exemplary progress reports that may serve as a model for your report.

Budget

It is important to be aware of and monitor the status of the budget throughout the project period. Identify and develop a working relationship with the financial/business office at your institution. Keep abreast of the following elements:

- Total amount spent.
- Amount spent by project or task.
- Labor hours and costs expended for each staff member.
- Other direct costs expended, such as consultant fees and supplies, broken down by type.
- Percentage of total budget remaining.
- Percentage of time remaining on the grant or contract.

Methods for Communicating

When possible, funding administrators suggest face-to-face meetings. Plan to have face-to-face meetings with staff when they are going to be at the same conferences or workshops. Although face-to-face meetings are preferred, they often aren't possible because of distance and funding constraints. Use other means to stay in contact, such as video conferences, teleconferences, and email.

Frequency

Scheduling communication should be done to fit the requests and preferred style of the funding agency: Do they prefer to meet on an unscheduled, as-needed basis or to hold meetings by a defined schedule? Adjust the frequency of communication based on needs and the level of activity on the project.

Other Communication Options

If possible, engage in opportunities to communicate during site visits and PI meetings. Site visits consist of project officers visiting funded institutions or States and usually involve interaction with project staff at multiple levels. Meetings with PIs involve gathering all of the currently funded PIs from a particular program to facilitate networking and information exchange. PI meetings can be in-person or by teleconference.

Communicating with Health Services Research Professionals

In research, publications and presentations are a major metric for assessing how successful you and your organization are. Publishing in peer-reviewed journals will bring positive attention to your organization and showcase your staff's research abilities. See Figure 6 for a list of leading health services research publications. Presentations at conferences will allow you the opportunity to get feedback on your research and network with others in your field. Presentations are often the basis of journal articles. Conferences also give you exposure to funding agencies that sponsor the type of work you do.

Engender success by establishing clear expectations for publishing and conference presentations from staff. Given the advanced planning required for getting publications and conference abstracts accepted, it is advantageous to allocate sufficient time and resources to the activity. To maximize success and the quality of presentations and publications, consider using some of the technical research center support staff. Technical writers, biostatisticians, mentors, and advisory group members can all assist in the development of materials for submission.

Figure 6. Leading health services research publications

Leading journals for health services research	
<ul style="list-style-type: none"> • American Journal of Public Health • Health Affairs • Health Policy • Health Services Research • International Journal of Health Sciences • Inquiry • Journal of the American Medical Association 	<ul style="list-style-type: none"> • Journal of Health Economics • Journal of Health Politics, Policy, and Law • Medical Care • Medical Care Research and Review • Milbank Quarterly • New England Journal of Medicine • Social Science and Medicine

Sharing Findings with the Community

Translating your research into practice and policies that benefit the community is the ultimate goal of most health services research. This requires communication to stakeholders, such as providers, patients, and policymakers. Various media sources can be effective, such as web sites, blogs, and social media networks; newspaper articles and editorials; mailings; radio; and television. Presentations at town hall-style meetings also may be appropriate. Sharing your research can garner community support. Communication specialists can provide you with necessary guidance.

Maximizing Success

How you choose to communicate with funding agencies, the research community, and the community as a whole will vary. What is most important is that you are communicating with all of these audiences. Be open to varied methods to reach each audience.

Step 5: Evaluating the Infrastructure Support Initiative

Purpose of Evaluation

Evaluation lets you see where your program stands in relation to the goals you've set. It can help you see if you are where you expected to be and doing the things you

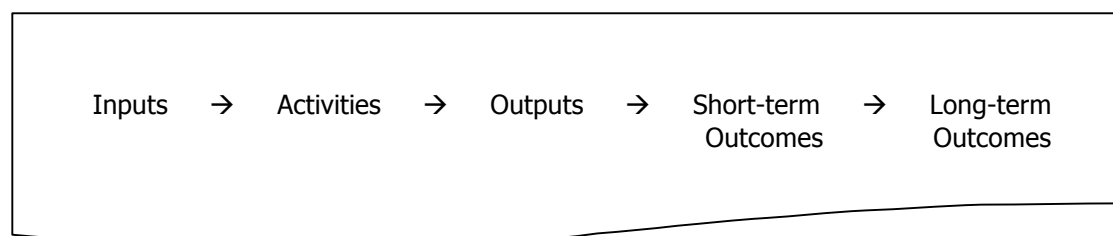
expected to be doing at a given point in your program. It is important, therefore, to plan for the evaluation at the outset of your project or initiative. Evaluation results can be used to:

- Support both short-term and long-term planning.
- Improve strategies and activities.
- Justify allocation of human, physical, and financial resources.
- Provide visibility for your program or research center to the community, funding agencies, in proposals and grants, and to your organization's leadership.
- Guide the development of best practices in your field.

Planning for Evaluation

It is impossible to evaluate every aspect of your program or initiative. Consider what is most important to get out of the evaluation and how you will use the results. You might consider going back to your goals or your funded proposal to help guide your decision. Develop a logic model^b to help organize your evaluation (Figure 7). A logic model provides a visual showing of the relationships between the resources your program invests, the activities that take place, and the outcomes that result. It can be thought of as a roadmap for your program and for your evaluation.

Figure 7. Basic logic model framework



Types of Evaluation

A process-based or formative evaluation examines how a program works. This type of formative work enables the detection and correction of problems and inefficiencies. This type of evaluation looks at things like:

- How did administrators, faculty, staff, and students become aware of the resources available through the research center?
- What made it easier to implement capacity-building activities?

^b Logic models provide a visual showing the relationships between resources, activities, and outcomes of your program. Additional information about logic models can be found at www.cdc.gov/healthyyouth/evaluation/pdf/brief2.pdf.

- What has made it harder to implement capacity building activities?
- What improvements or changes do administrators, faculty, staff, students, and/or advisory board members recommend?

An outcomes-based or summative evaluation helps you answer questions about the effects your program has had. Outcomes can be thought of as the benefits from the activities your program provides. This information tells how successful your project has been with respect to the attainment of desired outcomes and goals. First, you will want to identify the major outcomes for your program. There are several ways you can do this. For example:

- It may be helpful to think about what activities you are able to implement or are planning to do and then define your outcomes from that perspective, asking yourself “What do I hope to achieve from this activity?”
- Look at your organization’s or department’s mission, vision statement, or strategic plan to identify your major outcomes: What is it that your organization aims to do?
- Refer to your funded proposal for the program or initiative and examine the outcomes you proposed there.

It is not always feasible to evaluate every major outcome you have identified. You may need to prioritize and choose a smaller number of outcomes to examine. To help prioritize which outcomes to evaluate, select those that are: specific, observable, measurable, realistic given your program activities, and meaningful to your stakeholders.

Creating an Evaluation Plan

As you did for the Assessment (Step 1), create an evaluation plan. The evaluation plan should include:

What information will be collected?

Develop a list of variables. The evaluation items in the Appendix may provide you with some assistance in developing/selecting variables and questions. Your variables list should include information on potential sources of the data. In deciding how to collect information, balance the quality of information with the cost-effectiveness of data collection. Methods for collecting data might include: surveys, collecting archival data, getting information from Federal/public databases, discussions with staff, and advisory group feedback. Use the variables list for developing data collection tools such as forms, discussion guides, and surveys.

When will data collection occur?

Evaluation can be a resource-intensive activity. Consider how frequently you will conduct a formal evaluation. Perhaps you will decide to collect some data more frequently than others. For example, you may decide to collect publication and presentation data from staff on an annual basis. However, you may decide to collect information on policies every 3 years, since policies are more static. You will probably

want to collect information early on in your initiative and then on an ongoing basis to look at changes. Formative data are valuable and can inform what program modifications may be necessary. Determine your schedule for collecting data based on how you plan to use the information.

Who will do the evaluation?

Consider what resources you have to conduct the evaluation and who will conduct it.

- An independent evaluator frees up staff time, eliminates potential conflict of interest, and ensures expert analysis of program data.
- Internal staff members are familiar with the organization and the research center, but they may not be familiar with evaluation techniques or they may lack the perspective that an independent evaluator brings.
- An advisory group may be able to provide useful program review, feedback, and guidance, particularly if you are unable to conduct a formal evaluation.

Maximizing Success

- Begin planning for the evaluation at the outset of your initiative. Allot the time, costs, and labor needed to conduct an evaluation. To focus the evaluation, develop a logic model, revisit your goals, or review your funding proposal.
- Develop an evaluation plan and variables list to guide your data collection efforts.
- Share the results of the evaluation widely to promote your work and show how the feedback you got was meaningful.

Step 6: Planning for Sustainability

Importance of Sustainability

Maintaining a health services research program can be an arduous task. While there are many challenges to sustaining a program, the greatest challenge is locating and obtaining subsequent funding.^{ii,vi,vii,viii,ix} You can overcome this challenge by creating a sustainability plan at the outset of a new program.

Creating a Sustainability Plan

Begin by creating your sustainability plan at the start of your program. Implementing a sustainability plan is a five-step process.^x

Five Components of a Sustainability Plan

1. Assessment.
2. Development.
3. Implementation.

4. Evaluation.
5. Reassessment/ modification.

Start by assessing your vision of the program in the next 2, 5, and 10 years. Establish the business case or reason for your program; what makes your program worth the time, expense, and effort? Answer these questions:

- What do you want your program to look like 2, 5, and 10 years in the future?
- What will be the research priorities or research focus for your program?
- What type of staff and equipment will you need to conduct your research?
- Who will be your partners? What type of support will they provide?
- How much money will it take to support this vision? What will be the source(s) of funding?
- What impact will your program have in the research community?
- What will your program's community impact be?

Elements of a Sustainability Plan

Based on the answers to the questions above, develop the following elements to be inserted into the sustainability plan. For each of these elements:

1. Set measurable, quantifiable goals.
2. Discuss the means for achieving these goals.
3. Set timelines for achieving your goals.
4. Set new goals once previous ones are achieved.

One or more of the following elements may make up your program's sustainability plan:

- Short and long-term goals:
 - Short-term goals are those set for 2-5 years. These goals may be process-based, particularly for seed organizations, or outcomes-based for fertilizer organizations. Some examples of short-term goals include: meeting timelines, completing project activities, developing project-related publications, generating research/future funding ideas based on current project work, receiving positive feedback from internal and external stakeholders, and increasing student interest in health services research.
 - Long-term goals are primarily outcomes-based goals and can be accomplished in 5-10 years. Some examples of long-term goals include: retaining a team of 10 doctorate-level health services researchers, creating a health services educational track in a university setting, and obtaining a particular amount of research funding each year.
- Research priorities. Define and limit what your program's thematic focus will be. Although this may seem limiting, it can help you to develop experience and expertise in a specific area or niche. Take into consideration funding opportunities and priorities of current and potential funders.

- Staff retention and recruitment. Attrition is a natural part of any organization's growth. Retain staff by supporting their efforts and recognizing their work via verbal appreciation, awards, promotions, and raises. Recruit new staff with applicable skills and interests in health services research.
- Partnerships. Identify strategies for improving your relationships and the effectiveness of the partnerships. Create opportunities to sustain and strengthen the partnerships. Establish new partners by networking at conferences. Recognize the unique knowledge, skills, and capabilities your organization possesses. Summarize these in a one-page document to distribute to potential partners.
- Funding opportunities. Use your research priorities to identify appropriate funding agencies. Monitor potential funding opportunities released from these sources on a weekly or daily basis. Store the information on the funding opportunities in a searchable database that is accessible to key stakeholders in your organization.
 - Consider ways to expand on your current work that can lead to future funding. Explore whether a current funding agency has additional monies or suggestions about other agencies that may fund related projects.
 - It can be particularly challenging to maintain your desired level of infrastructure or research center support without adequate financial resources. Possible sources of funding include your organization's overhead, individual research project funding, and new infrastructure support funding.
- Publications and presentations. Publications in leading, peer-reviewed health services research journals will bring positive attention to your organization and demonstrate your research abilities. Presentations at conferences will also demonstrate your skills and allow you the opportunity to network with others in your field. Conferences also give you exposure to funding agencies that sponsor the type of work you do. Budget and schedule time for writing, travel, and registration fees.
- Community impact. Positive community impact can make it easier for you to engage participants in the future. Community impact may include: enhancing health care through the research projects, informing government policies with research project findings, or distributing health-related information to the public. Share the results of your research widely. See Step 4 for more information.

Implementing the Plan and Monitoring Progress

Build the support systems necessary to implement and achieve your plan. For example, to achieve your publications and presentations goals, budget funds to support attendance at conferences or employ the use of a technical writer to assist with writing and editing publishable articles. Information for building support systems can be found in Steps 2, 3, and 4 of this Guide.

Use the assessment and evaluation plan to ascertain the gap between your current position and the vision for your program. Revisit the plan every 6 months to 2 years to make appropriate modifications to the plan. Monitor your progress by reviewing the results from your assessment and evaluation activities. Be sure to include key measures from the sustainability plan as variables in the evaluation. See Steps 1 and 5 for more information on conducting assessments and evaluations.

Maximizing Success

- Begin planning for the long-term by creating a sustainability plan at the outset of your program.
- Monitor potential funding opportunities closely.
- Encourage and support staff publications development and attendance at conferences. These activities also demonstrate research skills and give your program exposure to funding agencies and potential partners.
- Look for funding for the research center via your organization's overhead, individual research project funding, and new infrastructure support funding.

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Appendix: Evaluation Items

This worksheet can be used as a guide to developing and tracking your program outcomes. The topics and questions listed here are not intended to be prescriptive or inclusive. Instead, they are intended to be items to consider and track before and after implementation of an initiative or program. You may select specific areas in which you are most interested.

Overall

(1) Program goals and objectives

Research Center Support

(1) Do you have :

- Staff/systems to prepare budgets for grants/contracts
- Staff/systems to prepare invoices for funded projects
- Staff/systems to keep track of funded project expenses and produce monthly expense reports
- Staff/systems to identify and disseminate information about funding opportunities
- Staff/systems to provide access to previous proposals
- Staff/systems to review proposals or approve proposals
- Information technology (IT)/computer equipment, software adequate for completing research
- Staff/equipment/systems to facilitate literature searches and access to literature
- Administrative/secretarial support
- Coordinate grant and contract activities within the organization (so that two different groups would not be competing with each other for the same project)
- Graduate or other research assistants to support your work
- Office or laboratory space

PI and Staff Characteristics

(1) PI title

(2) PI role(s) in organization (e.g. program chair, research faculty, academic faculty, clinical)

(3) PI salary

- Has the PI received a raise or promotion [include any increases greater than annual standard-of-living increases (~3-5% per year)]?

(4) Number of PIs' prior projects as a senior investigator (PI, co-PI, co-investigator, project director [PD], or deputy PD)

- Average per year in 5 years before and after initiative

(5) Amount of PI research funding support

- Average per year in 5 years before and after initiative
- Health-services related funding support

(6) Amount of staff funding support

- Average per year in 5 years before and after initiative
- Health-services related funding support
- (7)** Did the PI leave the organization during the program?
 - When did the PI leave the program?
 - What was the reason for the departure?
 - How long before the PI was replaced?
 - Is the former PI currently doing health services research?
- (8)** How many staff or participants left the organization during the program?
 - How long (months or years) was each staff person part of the program?
 - What was the reason for the departure?
 - Was this staff's role filled after the departure?
 - How long before the staff was replaced?
 - Is the former staff person currently doing health services research?
- (9)** PI advancement (list promotions, receipt of tenure, awards)
- (10)** Staff advancement (list promotions, receipt of tenure, awards)

Building Research Skills: Training and Mentoring

- (1)** Did program staff provide any mentoring to individuals?
 - How many staff provided mentoring?
 - What was the structure of the mentoring?
 - How many mentees did the staff support?
- (2)** Did program staff receive any mentoring?
 - How many staff?
 - What was the structure of the mentoring?
- (3)** Did project staff provide any training/education?
 - How many hours/sessions?
 - What were the topics?
- (4)** Did project staff receive any training/education?
 - How many hours/sessions?
 - What were the topics?
 - What was the format for training?
 - Who provided the training?
- (5)** Did the project staff attend any health services related conferences?

Building Research Skills: Individual Research Projects

- (1)** Total number of individual health services research projects
- (2)** Content areas and topics of research projects

- Do the projects cover similar content areas?
None (0%); Some (1-60%) or Most (61-100%).

(3) Research methods of projects

- Do the projects use similar research methodology?
None (0%); Some (1-60%) or Most (61-100%).

(4) Community impacts of research

- Were any health care services rendered as a part of or as a result of your project or program?
- Was any health-related information disseminated to the public?
- Were any government policies (at any level) influenced by findings from your research?
- Did your organization's program have any other community impacts?

Partnerships

(1) List each partner. For each partner, include:

- Current status of partnership (ongoing formal, ongoing informal or ended)
- How successful the partnership has been
- How likely the partnership is to continue in the next 3-5 years

Research Culture

- (1) Prior levels of research funding overall (in 5 yrs before and after initiative).
- Average per year? <http://www.nsf.gov/statistics/>
 - What types of research does your organization receive funding for?
- (2) Are there any "research centers" in your organization?
- Are any of the research centers specifically related to health services research?
- (3)** Are there any formal organizational documents, such as mission or vision statements or strategic plans or policies and practices that explicitly supported or encouraged research?
- (4)** Are there any staff positions or committees that support research? (e.g., VP of Research, Staff Research Council).
- (5)** Does your organization have it have its own Institutional Review Board (IRB) or a formal agreement to use another organization's IRB?
- (6)** To what extent is conducting and disseminating research – that is, getting funding, making professional presentations and publishing in journals – considered by your organization in performance evaluations and decisions about raises, promotions and tenure?
- (7)** How much verbal support and encouragement does staff get from supervisors for conducting research activities?
- (8)** How much tangible support (e.g., financial support, release time, staff to assist) is available from supervisors for conducting research activities?
- (9)** How difficult is it to get the help needed from people within your organization?
- Biostatistics
 - Grant/Proposal writing and review

- Journal article writing and review
- Research methodology issues (e.g., study design, designing a data collection instrument)

(10) How difficult is it to get the help needed from people outside of your organization?

- Biostatistics
- Grant/Proposal writing and review
- Journal article writing and review
- Research methodology issues (e.g., study design, designing a data collection instrument)

(11) How easy or difficult is it to obtain the following:

- Organizational approval to apply for a health services research grant
- Staff labor or time to assist with preparing health services research proposals
- Staff labor or time to support conducting health services research
- Financial support from your organization to write proposals or to conduct health services research
- Time off or release time to write proposals or conduct health services research

(12) What barriers has your program faced; that is, what things have interfered with your ability to conduct health services research? How did you solve the problem?

(13) What has made your project run more smoothly or otherwise made it easier for you to conduct health services research?

<h3>Communicating and Reporting</h3>

(1) PI: Total number of publications

- Average per year in five years before and after initiative?
- Articles in peer-reviewed journals
- First author articles
- Health services research related articles
- Articles in leading health services journals
- Submitted articles

(2) Staff: Total number of publications

- Average per year in five years before and after initiative?
- Articles in peer-reviewed journals
- First author articles
- Health services research related articles
- Articles in leading health services journals
- Submitted articles

(3) PI: Total number of completed posters, papers and presentations made at conferences.

- Average per year in five years before and after initiative?
- First author presentations
- Health services research related presentations

(4) Staff: Total number of completed posters, papers and presentations made at conferences.

- Average per year in five years before and after initiative?
- First author presentations
- Health services research related presentations

(5) Did you share the results of your research with the public? In what format?