How to Develop the Right Research Questions for Program Evaluation
Learning objectives

By the end of this presentation, you will be able to:

• Understand the importance of research questions
• Understand the four basic steps for developing research questions
• Write research questions for different types of evaluation designs (i.e., process evaluation and outcome evaluation)
Why are research questions important?

- Foundation of a successful evaluation
- Define the topics the evaluation will investigate
- Guide the evaluation planning process
- Provide structure to evaluation activities
Steps for developing research questions

• Step 1: Develop a logic model to clarify program design and theory of change
• Step 2: Define the evaluation’s purpose and scope
• Step 3: Determine the type of evaluation design: process or outcome
• Step 4: Draft and finalize evaluation’s research questions
Step 1: Develop a logic model to clarify the program design

• A logic model is a graphic “snapshot” of how a program works (its theory of change); it communicates the intended relationships among program components.
  – Inputs, activities, and outputs on the left side of the logic model depict a program’s processes/implementation
  – Changes that are expected to result from these processes are called outcomes and are depicted on the right side of the logic model

• Research questions should test some aspect of the program’s theory of change as depicted in a logic model.
## Example logic model for health literacy program

<table>
<thead>
<tr>
<th>INPUTS</th>
<th>ACTIVITIES</th>
<th>OUTPUTS</th>
<th>Short-Term</th>
<th>Medium-Term</th>
<th>Long-Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>What we invest</td>
<td>What we do</td>
<td>Direct products from program activities</td>
<td>Changes in knowledge, skills, attitudes, opinions</td>
<td>Changes in behavior or action that result from participants’ new knowledge</td>
<td>Meaningful changes, often in their condition or status in life</td>
</tr>
<tr>
<td>Funding</td>
<td>Develop and disseminate accurate, accessible, and actionable health and safety information</td>
<td>500 health and safety education materials disseminated</td>
<td>Increase in residents’ understanding of prevention and self-management of conditions</td>
<td>Increase in residents’ adoption of healthy behaviors and recommendations of the program (such as getting necessary medical tests)</td>
<td>Improved health and wellness status and quality of life for residents in the area</td>
</tr>
<tr>
<td>4 FT staff</td>
<td>Conduct health literacy workshops</td>
<td>4 half-day workshop sessions (at least 20 residents per session; 80 total)</td>
<td>Increase in residents’ motivation to adopt good health practices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100 AmeriCorps members serve as health care advisors</td>
<td>Provide individualized health literacy sessions</td>
<td>100 individual and small group health literacy sessions (60 mins each) serving 300 people</td>
<td>Increase in residents’ ability to search for and use health information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 partnerships with community-based organizations</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Member training</td>
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</tbody>
</table>
Step 2: Define the evaluation’s purpose and scope

As you define the evaluation’s purpose and scope, the following questions should be considered:

- Why is the evaluation being done? What information do stakeholders need or hope to gain from the evaluation?
- What requirements does the evaluation need to fulfill?
- Which components of the program are the strongest candidates for evaluation?
- How does the evaluation align with the long-term research agenda for your program?
- What resources (budget, staff, time) are available for the evaluation?
Step 2: Define the evaluation’s purpose and scope

• Why is the evaluation being done? What information do stakeholders need or hope to gain from the evaluation?
  – Each evaluation should have a primary purpose

• What requirements does the evaluation need to fulfill?
  – Funders may have specific expectations

• Which components of the program are the strongest candidates for evaluation?
  – You do not need to evaluate your whole program at once
Step 2: Define the evaluation’s purpose and scope

- How does the evaluation align with the long-term research agenda for your program?
  - What do you want to know in 5 or 10 years?

- What resources (budget, staff, time) are available for the evaluation?
  - Evaluation’s scope should align with resources
Building Evidence of Effectiveness

**Evidence Informed**

- Identify and pilot implement a program design
  - Gather evidence that supports program design
  - Develop logic model
  - Pilot implementation

- Ensure effective full implementation

- Assess program’s outcomes

- Obtain evidence of positive program outcomes

**Performance Measures**
- Outputs
  - Process Evaluation

**Outcome Evaluation**

**Impact Evaluation**

**Evidence Based**

- Attain strong evidence of positive program outcomes

Performance Measures – Outcomes Process and/or Outcome Evaluation
Step 3: Determine type of evaluation: process or outcome

<table>
<thead>
<tr>
<th>Process Evaluation</th>
<th>Outcome Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Goal is generally to inform changes or improvements in the program’s operations</td>
<td>• Goal is to identify the results or effects of a program</td>
</tr>
<tr>
<td>• Documents what the program is doing and to what extent and how consistently the program has been implemented as intended</td>
<td>• Measures program beneficiaries' changes in knowledge, attitude(s), behavior(s) and/or condition(s) that result from a program</td>
</tr>
<tr>
<td>• Does not require a comparison group</td>
<td>• May include a comparison group (impact evaluation)</td>
</tr>
<tr>
<td>• Includes qualitative and quantitative data collection</td>
<td>• Typically require quantitative data and advanced statistical methods</td>
</tr>
</tbody>
</table>
Step 4: Draft and finalize evaluation’s research questions

Research questions are a list of questions to be answered at the end of the evaluation.

Research questions should be:

• Clear, specific, and well-defined
• Focus on a program or program component
• Measureable by the evaluation
• Aligned with your logic model
Basic principles in designing research questions

Differences in research questions for process and outcome evaluations

Research questions for **process-focused evaluations** ask:
- Who?
- What?
- When?
- Where?
- Why?
- How?

Research questions for **outcome-focused evaluations** ask about:
- Changes?
- Effects?
- Impacts?

**About:**
- Inputs/resources
- Program activities
- Outputs
- Stakeholder views

**In:**
- **(Short-term)** Knowledge
- Skills
- Attitudes
- Opinions

- **(Medium-term)** Behaviors
- Actions

- **(Long-term)** Conditions
- Status
Basic principles in designing research questions for a process evaluation

Research questions for a process evaluation should:

– Focus on the program or a program component
– Ask who, what, where, when, why, or how?
– Use exploratory verbs, such as report, describe, discover, seek, or explore
Template for developing general research questions: process evaluation

[Who, what, where, when, why, how] is the [program, model, component] for [evaluation purpose]?

Examples:

• How is the program being implemented?
• How do program beneficiaries describe their program experiences?
• What resources are being described as needed for implementing the program?
Examples of research questions for a process evaluation

<table>
<thead>
<tr>
<th>Broad</th>
<th>to</th>
<th>More Specific</th>
</tr>
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<tbody>
<tr>
<td>How is the program</td>
<td>Are staff implementing the program within the same timeframe?</td>
<td></td>
</tr>
<tr>
<td>being implemented?</td>
<td>Are staff implementing the program with the same intended target population?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>What variations in implementation, if any, occur by site? Why are variations occurring?</td>
<td>Are they likely to effect program outcomes?</td>
</tr>
<tr>
<td></td>
<td>Are there unique challenges to implementing the program by site?</td>
<td></td>
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</tbody>
</table>
## Examples of research questions for a process evaluation

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<th>More Specific</th>
</tr>
</thead>
<tbody>
<tr>
<td>How do program beneficiaries describe their program experiences?</td>
<td>What are the benefits for program beneficiaries?</td>
<td>Are there any unintended consequences of program participation?</td>
</tr>
<tr>
<td>What resources are being described as needed for implementing the program?</td>
<td>What recommendations do program staff offer for future program implementers?</td>
<td></td>
</tr>
</tbody>
</table>
Research Questions Checklist

- Clear, specific, and well-defined
- Focus on a program or program component
- Measurable by the evaluation
- Aligned with your logic model
Exercise #1: Assessing potential research questions for a process evaluation

General research question: Is the program being implemented as intended?

Assess whether each of the following is a good sub-question for the process evaluation:

- Are all AmeriCorps members engaged in delivering health literacy activities?
- To what extent are AmeriCorps members receiving the required training and supervision?
- Are program participants more likely to adopt preventive health practices than non-participants?
- To what extent are community partners faithfully replicating the program in other states?
Exercise #1: Suggested answers

- Are all AmeriCorps members engaged in delivering health literacy activities?
  - Too vague
  - Better: To what extent are AmeriCorps members consistently implementing the program with the same target population across all sites?

- To what extent are AmeriCorps members receiving the required training and supervision?
  - Good question, assuming required training and supervision are defined

- Are program participants more likely to adopt preventive health practices than non-participants?
  - This is not appropriate for a process evaluation

- To what extent are community partners faithfully replicating the program in other states?
  - Not aligned with program logic model
  - Better: What variations in community partners’ participation, if any, occur by site?
Basic principles in designing research questions for an outcome evaluation

Research questions for an outcome evaluation should:

- Be direct and specific as to the theory or assumption being tested (i.e., program effectiveness or impact)
- Examine changes, effects, or impacts
- Specify the outcome(s) to be measured
Template for developing research questions: outcome evaluation

Did [model, program, program component] have a [change, effect] on [outcome(s)] for [individuals, groups, or organizations]?

Examples:

- Did program beneficiaries change their (knowledge, attitude, behavior, or condition) after program completion?
- Did all types of program beneficiaries benefit from the program or only specific subgroups?
Template for developing research questions: impact evaluation

Did [model, program, program component] have an [impact] on [outcome(s)] for [individuals, groups, or organizations] relative to a comparison group?

Example:
- Are there differences in outcomes for program participants compared to those not in the program?

<table>
<thead>
<tr>
<th></th>
<th>Pre-test</th>
<th>Treatment</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention Group</td>
<td>0</td>
<td>X</td>
<td>0</td>
</tr>
<tr>
<td>Comparison Group</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Exercise #2: Developing research questions for an outcome or impact evaluation

For this exercise, use the program’s logic model to identify which outcome(s) to include in the evaluation.

Consider the following:

• Which outcome(s) can be achieved within the timeframe of the evaluation (covering at least one year of program activities)?
• Which outcomes are feasible to measure?
• What data are already available?
Exercise #2: Developing research questions for an outcome or impact evaluation

Outcome evaluation:
Did [model, program, program component] have a [change, effect] on [outcome(s)] for [individuals, groups, or organizations]?

Impact evaluation:
Did [model, program, program component] have an [impact] on [outcome(s)] for [individuals, groups, or organizations] relative to a comparison group?
Research Questions Checklist

- Clear, specific, and well-defined
- Focus on a program or program component
- Measurable by the evaluation
- Aligned with your logic model
Exercise #2: Suggested answers

For outcome evaluations that do not include a comparison group:

- Did program participants increase their understanding of prevention after program completion?
- Did program participants feel more confident in the self-management of their pre-existing conditions after program completion?
- Did program participants improve their skills in searching for and using health information after program completion?
- Were program participants more likely to search for and use health information on their own after program completion?

For impact evaluations that include a comparison group:

- Are program participants more likely to adopt healthy behaviors compared to similar individuals who did not participate in the program?
- Are program participants more likely to obtain medical tests and procedures compared to similar individuals who did not participate in the program?
- Does the impact of the program vary by program participants’ age, gender, or pre-existing medical condition?
Step 4: Draft and finalize evaluation’s research questions

Consider the following:

- Do the research question(s) fit with the goals for the evaluation?
- Do the research question(s) align with the program’s logic model and the components of the program that will be evaluated?
- Are these questions aligned with your funder’s requirements?
- What kinds of constraints (costs, time, personnel, etc.) are likely to be encountered in addressing these research question(s)?
- Do the research questions fit into the program’s long-term research agenda?
Important points to remember

• Research questions are the keystone in an evaluation from which all other activities evolve
• Research questions vary depending on whether you will conduct a process vs an outcome evaluation
• Prior to developing research questions, define the evaluation’s purpose and scope and decide the type of evaluation design – process or outcome.
• Research questions should be clear, specific, and well-defined
• Research questions should be developed in consideration of your long-term research agenda
Resources

• CNCS’s Knowledge Network

• The American Evaluation Association
  – http://www.eval.org

• The Evaluation Center
  – http://www.wmich.edu/evalctr/

• The Community Tool Box

• Choosing the Right Research Questions