NORC at the University of Chicago

Choosing Data for Your Evaluation

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Learning Objectives

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

- Understand key questions to consider prior to selecting a data collection method
- Understand the importance of selecting appropriate data collection methods
- Describe some of the advantages and disadvantages of different data collection methods
- Understand the differences between quantitative and qualitative methods and their roles in process and outcome evaluations

PART 1:
Key Questions to Consider Prior to Selecting
an Appropriate Data Collection Method

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Key Questions

- Q1: What is the purpose/objective of the evaluation?
- Q2: What are the research questions?
- Q3: What is the type of evaluation design?
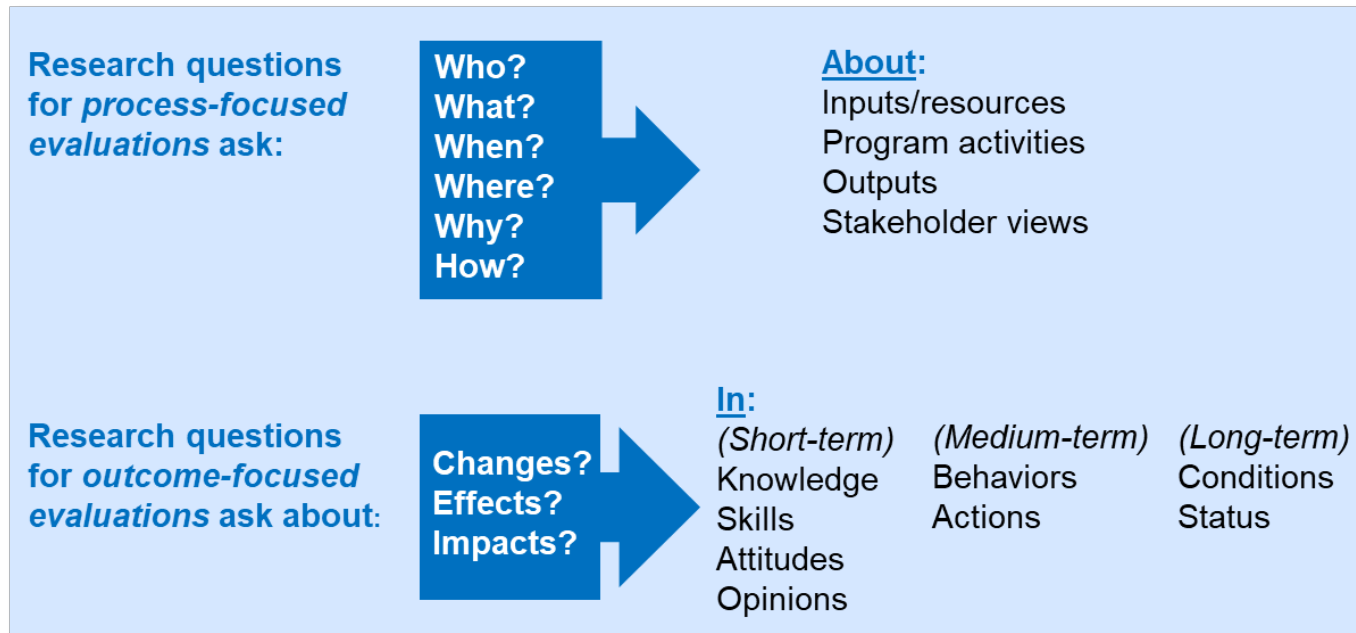- Q4: What resources are available for the evaluation?

Q1. What is the purpose of the evaluation?

- The stated purpose/objective of the evaluation drives the expectations and sets boundaries for what the evaluation is to deliver.
- The data that are collected should provide the information stakeholders need or hope to gain from the evaluation.
- Examples:
  - Produce evidence that the program is meeting its intended outcomes
  - Understand how to operate the program more efficiently or identify barriers to implementation

Q2. What are the research questions?

- Research questions narrow the purpose of your evaluation into a specific area you will study.
- Different research questions for process and outcome evaluations

Research questions for *process-focused* evaluations ask:

Who?
What?
When?
Where?
Why?
How?

About:
Inputs/resources
Program activities
Outputs
Stakeholder views

Research questions for *outcome-focused* evaluations ask about:

Changes?
Effects?
Impacts?

In:

(Short-term)	(Medium-term)	(Long-term)
Knowledge	Behaviors	Conditions
Skills	Actions	Status
Attitudes		
Opinions		

Q3. What is the type of evaluation design?

Process Evaluation	Outcome/Impact Evaluation
• **Examines the extent to which a program is operating as intended** by assessing ongoing program operations and determining whether the target population is being served • Results may be **used to determine what changes and/or improvements** should be made to the program's operations	• **Measures changes** in knowledge, attitude(s), behavior(s) and/or condition(s) that may be associated with or caused by the program • Results may **demonstrate what the program has achieved** and/or its outcome or impact on beneficiaries or other stakeholder groups

Q3. What is the type of evaluation design?

Evaluation Study Designs	Meet Requirements	
	Large Grantees (annual funds of >= $500k)	Small Grantees/ EAP Programs (annual funds < $500k)
Process Design (Non-Experimental Design Studies)	No	Yes
Outcome Design (Non-Experimental Design Studies)	No	Yes
Outcome (Impact) Design (Quasi-Experimental* or Experimental Design Studies)	Yes	Yes

*Fulfills AmeriCorps evaluation design requirement for large, recompete grantees if a reasonable comparison group is identified and appropriate matching/propensity scoring is used in the analysis.

Q4. What resources are available for the evaluation?

Questions to consider:

- How much of your evaluation budget can be allocated for data collection?

- Are staff members available to assist in the data collection for the evaluation? What are their areas of expertise?

- Will you hire an external evaluator?

Q4. What resources are available for the evaluation?

Questions to consider (continued):

- What data are you already collecting as part of routine program operations?

- How can you continue building on your data collection efforts?

For an overview of budgeting and managing an evaluation, AmeriCorps grantees can refer to the module, "Budgeting for Evaluation" and "Managing an External Evaluation" located on the Evidence Readiness Resources.

Questions?

PART 2:
Data Collection Methods

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Data Collection

What type of data meets your evaluation needs?

- Existing data (i.e., secondary data)
  - Internal program data (e.g., participant records, program logs, performance measurement data)
  - External datasets / administrative data (e.g., student records, test scores, medical records, test scores, Census data, unemployment insurance claims)
- New data (i.e., primary data)
  - Data from surveys, assessments, interviews, and observations

Data collection

- **Quantitative data**
  - Numerical information that can be counted, quantified, and mathematically analyzed (e.g., test scores, ratings)
  - Quantitative data are systematically collected, recorded, and analyzed

- **Qualitative data**
  - Narrative information that describes the study subject(s) and context (e.g., transcripts of interviews and focus groups, field notes from observation of certain activities)
  - Qualitative data are systematically collected, recorded, and analyzed
  - Individual anecdotes and testimonials are not qualitative data unless systematically collected, recorded, and analyzed

Data collection

	Quantitative Methods	Qualitative Methods
Scope	Less in-depth data across a larger number of study subjects	More in-depth data on fewer study subjects
Data collection	Standardized instruments with mainly closed-ended questions (i.e., questions with pre-defined response options) such as surveys and multiple choice assessments/tests	Standardized instruments and semi-structured interview guides mainly with open-ended questions (i.e., questions with no pre-defined response options) and can be used for interview, focus group, and observation protocols
Data format	Numeric	Narrative
Data analysis	Statistical approaches are used to summarize the data (frequencies, means, crosstabs, regression)	Content analysis is often used in which themes/patterns in the data are identified, categorized, coded, and summarized
Results	Results can be compared, and generalized to a larger population; May provide statistical evidence of program impact	Results provide meaning, illustrative explanation, and views of study subject(s); NOT able to provide statistical evidence of program impact

Common quantitative data collection methods

Surveys

- Standardized instruments that collect data from a targeted group

- Generally comprised of well-specified, closed-ended questions

- Administered via mail, email/online, in-person, or by telephone

Common quantitative data collection methods

Assessments/tests

- Instruments used to assess knowledge, skill, or performance
- May be administered on paper, electronically, or via observation
- Some are commercially available or have been independently validated for accuracy at measuring the concept, topic or subject of interest (e.g., math achievement)
- Programs may choose to develop their own internal assessments/tests that are tailored to their program model.

Common qualitative data collection methods

Qualitative Interviews

- Collect information by talking with and listening to people

- Performed either face to-face or over the telephone

- Rely on open-ended questions

Common qualitative data collection methods

Focus groups

- Collect information through a guided small-group discussion
- Discussion centers around a small number of topics directed by a facilitator
- Often used to collect information on topic(s) that benefit from group discussion

Common qualitative data collection methods

Participant observation/field notes

- Observe study participants in their "natural" settings

- May be structured or unstructured

- Involve the researcher taking lengthy and descriptive notes of what is occurring

Common qualitative data collection methods

Document review

- Uses content analysis and other techniques to analyze and summarize printed material and existing written information

- Examples: Meeting minutes, program logs, training materials/manuals, annual performance reports, etc.

Questions?

Quantitative data: Advantages and disadvantages

Method	Advantages	Disadvantages
Surveys	• Quick and efficient • Can cover a wide range of topics • Obtain responses from large number of people • Can be completed anonymously • Easy to compare and analyze	• High response rates are important but may be difficult to achieve • May lack in-depth information on a topic/subject • Bias responses/misunderstanding questions
Assessments /Tests	• Provides objective information on knowledge and skills of participants • Easy to compare and analyze	• May be oversimplified • May be biased against some groups of test takers

Quantitative data: Advantages and disadvantages

Method	Advantages	Disadvantages
Qualitative Interviews	• Ability to explore a range and depth of topics • Yields rich data • Opportunity for interviewer to explain or clarify questions	• May be difficult to analyze and compare data • Requires trained interviewers • Potential desire of respondents to respond favorably
Focus groups	• Ability to efficiently obtain varying opinions and perspectives in a short time • Respondents build off of each others ideas	• Requires a skilled facilitator • Time consuming to transcribe and analyze responses • May be difficult to schedule meeting with many respondents

Quantitative data: Advantages and disadvantages

Method	Advantages	Disadvantages
Participant observation/ Field notes	• Opportunity to view program operations in action • Provides direct information about behavior of individuals and groups • Data occurs in a natural setting	• Requires experienced and well-trained observers • Observer's selective perception may influence data • May be difficult to interpret behaviors
Document or review	• Information is easily accessible • Provides program history and development • Opportunity to study historical trends	• Records may be incomplete or difficult to locate/access • Analysis is limited to data previously collected

Mixed Methods Data Collection

- Using multiple forms of data and methods helps validate findings and provide a more thorough assessment of your program (i.e., triangulating)

PART 3:
Considerations in Choosing a
Data Collection Method

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Considerations in choosing a data collection method

- **Research Ethics**
  - Rights of human subjects, including privacy, confidentiality, and respect
  - Primary concern should be the safety of evaluation participants
- **Institutional Review Board (IRB)**
  - A committee that has been formally designated to approve, monitor, and review research involving human subjects.
- **Data Use Agreements**
  - Contractual documents used for the transfer and use of non-public use data

Additional considerations unique to outcome evaluations

- **Reliability**
  - Ability to yield consistent results under the same conditions
  - Determines whether results are reproducible
  - Determines the precision of measurement
- **Validity**
  - Ability to accurately measure the underlying concept

Additional considerations unique to outcome evaluations

**Reliable
Not Valid**

**Low
Reliability
Low Validity**

**Both Reliable
and Valid**

Additional considerations unique to outcome evaluations

Sampling and generalizability
- Selecting a representative subset of individuals from a population
- Important for ensuring findings can be generalized to an entire population

Statistical power
- Likelihood of detecting significant effects when there is a real difference in the population

Additional considerations unique to outcome evaluations

Covariates
- Outside variables that may be related to the outcome under study
- Can affect the findings of a statistical analysis

PART 4:
Examples

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Data for Process and Outcome Evaluations

- **Existing Data (i.e., Secondary Data)**
  - Internal program records (participant records, member logs, performance data, etc.)
  - External datasets (administrative data, etc.)
- **New Data (i.e., Primary Data)**
  - Surveys
  - Assessments/tests
  - Interviews
  - Focus groups
  - Participant observation/field note

Example data collection for a process evaluation: Exercise #1

Process Evaluation of a Homelessness Prevention Program for Low-income Families				
Research question	**Indicators**	**What is collected and how?**	**From whom / data sources?**	**When collected and by whom?**
Is the program's activity – educational workshops - being implemented as designed?	a) Duration of workshops b) Participant workshop attendance rates c) Topics covered by member d) Members delivery of program curriculum during workshops	a, b, and c) Members report details about workshops in logs with pre-defined categories of reporting d) observations of workshops	a, b, and c) Member logs d) Evaluator observes members delivery of curriculum	a, b, and c) Evaluator collects the workshop logs quarterly d) Quarterly observations by the evaluator(s) using structured observation guides

Example data collection for a impact evaluation: Exercise #2

Impact Evaluation of a Homelessness Prevention Program for Low-income Families				
Research question	**Indicators**	**What is collected and how?**	**From whom / data sources?**	**When collected and by whom?**
What impact does the homelessness prevention program have on beneficiaries' ability to hold a stable tenancy relative to a comparison group?	Tenancy status of low-income families at risk of homelessness		1. Treatment group 2. Control/comparison group	

Example data collection for a process evaluation: Exercise #3

Process Evaluation of a Homelessness Prevention Program for Low-income Families				
Research question	**Indicators**	**What is collected and how?**	**From whom / data sources?**	**When collected and by whom?**
What impact does the homelessness prevention program have on beneficiaries' ability to hold a stable tenancy relative to a comparison group?	Tenancy status of low-income families at risk of homelessness	Low-income families' housing stability is measured with a survey.	1. Low-income families participating in the program serve as the treatment group. 2. Low-income families facing an immediate housing crisis that do not participate in a homelessness prevention program serve as the comparison group.	The evaluator administers the survey at two time points: - before the homelessness prevention program begins - 1 year after the homelessness prevention program is implemented

Important points to remember

- The evaluation's purpose, research questions, type of design, and available resources should determine the data collection method(s) that is most appropriate.
  - AmeriCorps has different evaluation requirements for large

    and small recompeting grantees
- There are two general types of data collection methods – quantitative and qualitative – that can be used in any evaluation.

Important points to remember

- Each data collection method has advantages and disadvantages. A mixed methods approach helps to overcome the weaknesses that come from a single method.

- Process and outcome evaluations often demand different types of data collection methods.

Resources

- AmeriCorps Evaluation Resources
  - https://americorps.gov/grantees-sponsors/evaluation-resources
- The American Evaluation Association
  - http://www.eval.org
- The Evaluation Center
  - http://www.wmich.edu/evalctr/
- American Statistical Association
  - http://www.amstat.org/sections/srms/pamphlet.pdf
- National Science Foundation
  - http://www.nsf.gov/pubs/2002/nsf02057/nsf02057_4.pdf

Questions?

Thank you!

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