

**American Evaluation Association
Professional Development Pre-Session
Impact Evaluation on a Shoestring**

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Session 5

The Shoestring Evaluation Toolkit:

Six Ways to improve evaluations under budget, time and data constraints

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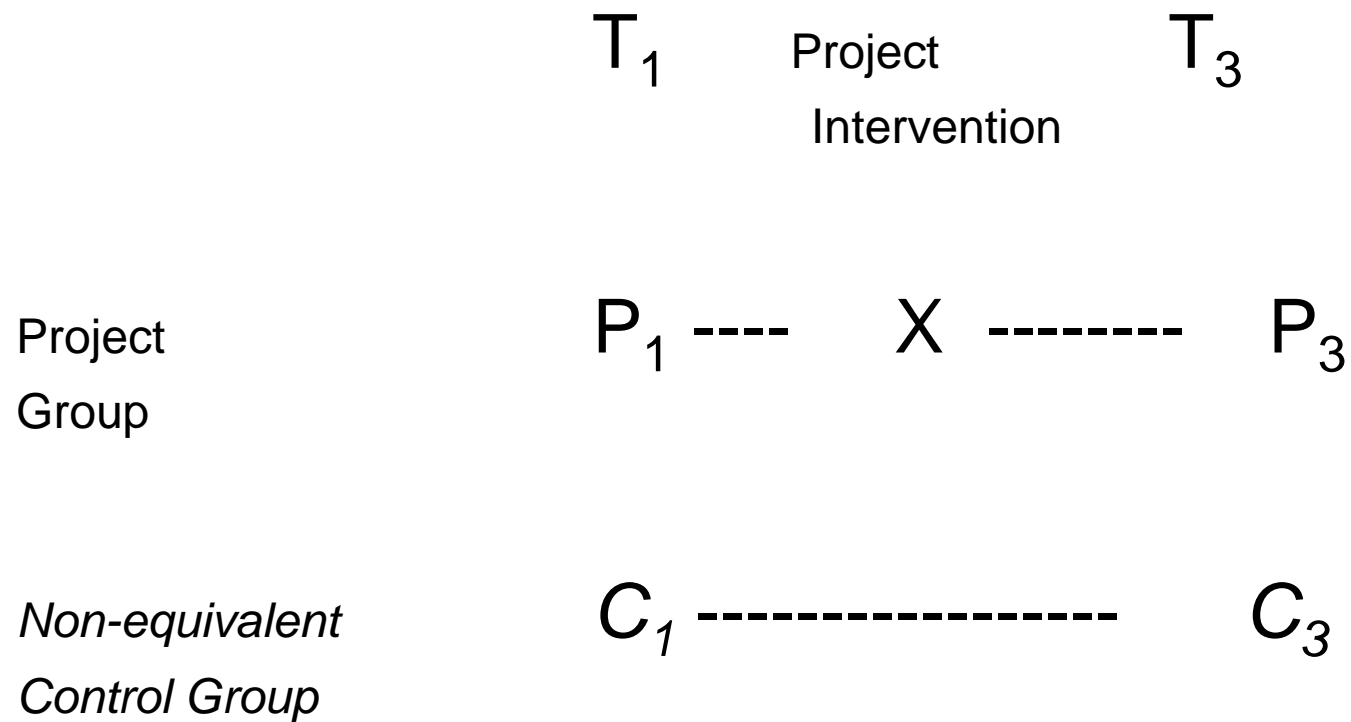
Road Map

- Rapid review of quasi-experimental designs
- Six options for strengthening evaluation designs under resource, time and data constraints**
1. Reducing costs and time of data collection
 - 2: Reconstructing baseline conditions and control groups
 - 3: Identifying threats to validity
 - 4: Addressing and correcting threats to validity
 - 5: Three ways to strengthen quasi-experimental designs
 - 6: Preparing for a possible future evaluation: building baseline data into project design



1. Rapid review of quasi-experimental designs [QED]

Model 1: The strongest general purpose QED



The shoestring approach: 6 ways to strengthen evaluation designs

- 1: Reducing costs and time of data collection
- 2: Reconstructing baseline conditions and control groups
- 3: Identifying threats to validity
- 4: Addressing and correcting threats to validity
- 5: Three ways to strengthen quasi-experimental designs
- 6: Preparing for a possible future evaluation: building baseline data into project design

Option 1: Reducing cost and time of data collection

1. Simplifying the evaluation design
2. Clarifying client information needs
3. Reducing sample size
4. Reducing costs of data collection and analysis

Option 1-1: Simplifying the evaluation design

Most rigorous QED:

- Model 1: Pre-test post-test with control group

Less rigorous but adequate for many purposes

- Model 2: No pre-test control group
- Model 4: No baseline data

Weakest models – only useful for limited purposes

- Model 3: No control group
- Model 5: Post-test project group only

There is a trade-off for cost and time-saving.

Each successive model becomes weaker and more vulnerable to wrong interpretations of project impacts.

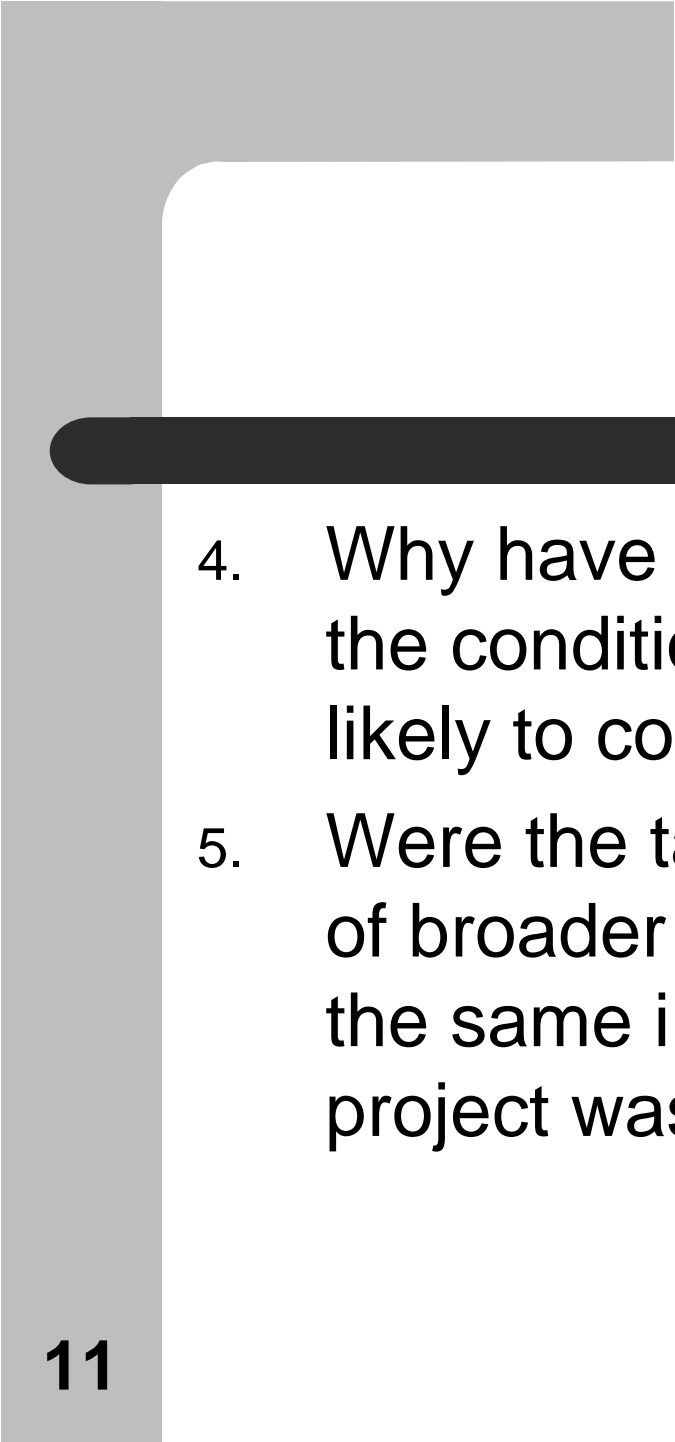



Option 1-2: Redefining information needs

What do decision-makers need to know? Most questions require simple but reliable answers


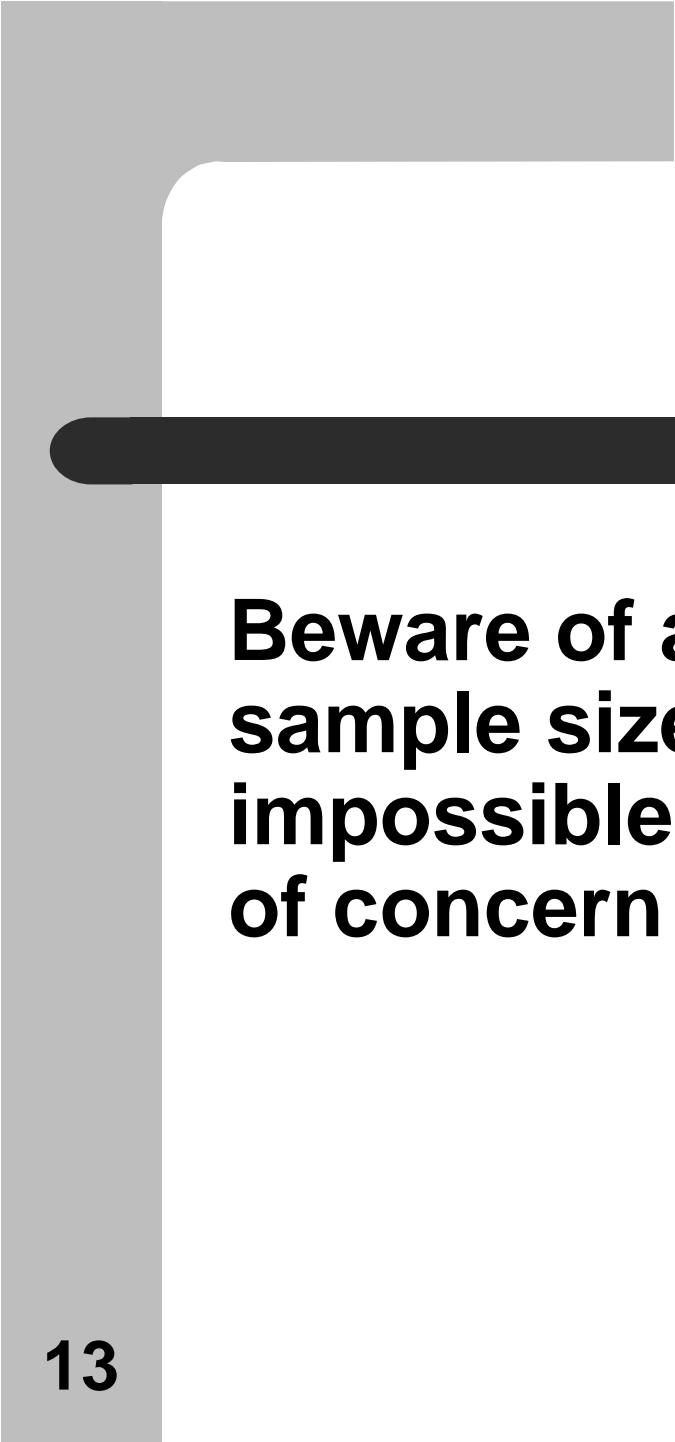
1. Are there significant changes in the target population with respect to the impacts the project is trying to produce?
2. Can we assume changes were due to the project and not to external factors?
3. Is the project reaching all sectors of the target population? Do both women and men benefit?

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4. Why have these changes occurred? Are the conditions which facilitated the changes likely to continue?
 5. Were the target groups reasonably typical of broader population groups and is it likely the same impacts would be achieved if the project was replicated?

Option 1-3: Reducing sample size and simplifying sample design

- Adjust level of sample precision to the information needs of clients.
- Relatively small reductions in precision can significantly reduce sample size.
- Reducing levels of disaggregation significantly reduces sample size.
- Cluster sampling reduces interviewing costs and time – but can produce serious bias.



Beware of arbitrary reductions in sample size which may make it impossible to answer the key questions of concern to clients

Key questions for client to guide decisions on sample size/ design

- Is it necessary to conduct statistical tests of differences between means etc or only to estimate rough orders of magnitude of change?
- Is it necessary to demonstrate that specific numerical targets have been achieved?
- Is it necessary to compare impacts on different groups [regions, men/women etc] or only to estimate the overall project impact?
- Will multivariate analysis be required?



Option 1-4: Reducing the costs of data collection and analysis

Rapid and economical data collection methods

- Reduce sample size and precision.
- Reduce length and complexity of survey.
- Cluster sampling.
- Use focus groups instead of individual interviews.
- Replace surveys with observation.
- Key informants
- Automatic counters.
- Self-administered surveys.
- Secondary data

Participatory approaches

- Group interviews can obtain information more rapidly and cheaply.
- Check representativity of groups and conduct rapid surveys or additional group interviews with underrepresented subjects.

Multimethod approaches

- Integrating quantitative and qualitative methods can reduce sample sizes by comparing independent estimates of key indicators.
- Triangulation for consistency checks – particularly useful for small samples.
- Case studies in different communities can reduce number of communities to be covered by sample surveys.



Option 2: Reconstructing baseline conditions and control groups

Ways to reconstruct baseline conditions

- Use of secondary data.
- Project records.
- Recall
- Key informants
- PRA and other participatory techniques such as timelines, critical incidents to help define critical changes in the community and when they took place.

Issues in baseline reconstruction

- Variations in reliability of recall.
- Memory distortion.
- Secondary data not easy to use
- Secondary data incomplete or unreliable.
- Key informants may distort the past

Reconstructing control groups

In addition to methods used for baseline construction:

- Judgmental matching of communities.
- When phased introduction of project services later beneficiaries can be used as control.
- Internal controls when different subjects receive different combinations and levels of services

Issues in reconstructing control groups

- Project areas selected purposively and difficult to match.
- Econometric methods used to control for differences between project and control groups cannot adjust for initial differences between the groups.

Option 3: Identifying threats to validity

- 1. Threats to statistical conclusion validity why inferences about causality may be incorrect**
- 2. Threats to internal validity why assumptions that the project has caused impacts may be incorrect**
- 3. Threats to construct validity why indicators may not adequately reflect the constructs in the evaluation model**
- 4. Threats to external validity why assumptions about the generalizability of the pilot project may be incorrect**

Option 4: Addressing threats to validity and improving the evaluation design

Some examples

Threat 1.1 Low Statistical Power

Measures to take

- Increase sample size
- Stratify sample to increase number of observations in critical cells
- Define carefully the questions to be addressed and consult sampling expert to ensure size and composition of sample is adequate for study purpose

Threat 1.4 Unreliability of measures

Actions to take

- Allow sufficient time to develop and test data collection instruments
- Multi-method approaches to provide at least 2 independent estimates of key indicators
- Triangulation to check on reliability of measures.

Threat 2.1 Ambiguous temporal precedence

Measures to take

- Define project model: interview project staff to check on planned project temporal sequence
- Conduct rapid studies to clarify temporal precedence
- Consult key informants

Threat 2.2 Selection bias

Measures to take

- Compare participant characteristics with control group
- Multivariate analysis to control for differences in characteristics
- [if no control group] consult key informants on unique characteristics of participants
- Direct observation in focus groups and other settings to assess psychological characteristics of participants such as self-confidence and motivation.

Threat 2.3 Local or national history

Measures to take

- Collect secondary data on market prices, school enrolment etc
- Consult key informants and experts in each area

Threat 2.12 Unreliable respondent memory

Measures to take

- Find and use independent sources [key informants etc] to check reliability of recall.
- Compare individual recall with recall questions in group interviews

Threat 4.6 Policy maker indifference

Measures to take

- If project implemented in different locations – identify attitudes of policy makers in each location [interviews, observation, published material etc] and assess how these differences appear to affect the project.

Option 5: Three ways to improve the quality of QEDs

1. [for designs with control group] multivariate analysis to control for differences in characteristics of project and control groups.
2. Multi-method data collection and triangulation.
3. Constructing a program theory model to control for implementation process and contextual factors [“the setting”]

Option 5-1. Multivariate analysis

$$Y_1 = f(d_1, x_1, x_2, \dots, x_n)$$

Where:

Y_1 = estimate of project impact

d_1 = dummy variable for project and control group.

x_1, x_2, \dots, x_n = household attributes [size, income, educational level etc]

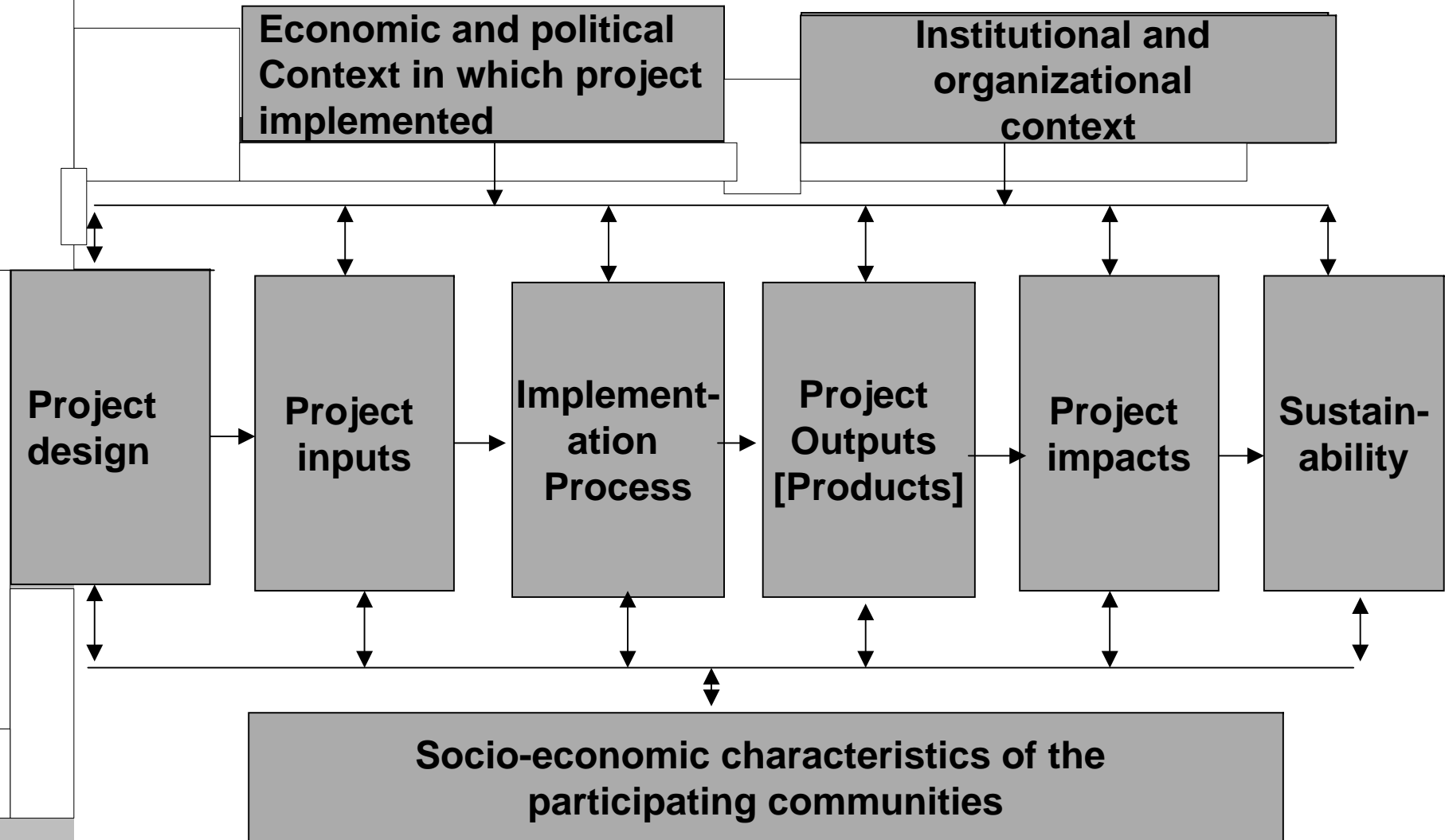
Option 5-2. Multi-method data collection and triangulation

1. Independent estimates of change in impact variables obtained from surveys, observation, focus groups, secondary data etc.
2. Estimates are “triangulated”
3. If estimates consistent greater confidence in findings.
- If estimates inconsistent, follow-up required to determine reasons and make adjustments to estimates.

Option 5-3. Constructing a program theory model

- The influence of the project implementation process on outcomes, impacts and sustainability
- The influence of contextual factors on outcomes, impacts and sustainability

Figure 1: Constructing a Program Theory Model



Option 6: Preparing for a possible future evaluation: building baseline data into project design

- Organize project records to generate baseline data:
 - Organize health center records by family not individual patients
 - Education and credit programs: include indicators on family economic status.
- Retain and fully document records from planning studies.