Design Your Own Impact Evaluation

Impact Evaluation Workshop
Kigali, Rwanda
Structure

1. When to Start?
2. How to Evaluate?
3. Who to Sample?
4. How Big is Big Enough?
5. Which Questions to Ask?
1. The steps of an impact evaluation

1. Identify the problem
2. Create a new or target an ongoing program
3. Design an evaluation
4. Do Initial Survey
5. Randomize the program
6. Conduct follow-up survey
7. Crunch the numbers
8. Announce the result
Example – Mother Education Program in Sierra Leone
1. How to Evaluate?

Compare knowledge and practice of those who enrolled to the program with those who did not enrolled?
How to Evaluate?

ENROLLED

NOT ENROLLED

Problem: these people are very different
How to Evaluate?

Find mothers who are very similar who did not sign up to the program?
How to Evaluate?

Find mothers who are very similar who did not sign up to the program?

Problem: Might be different in ways you cannot measure?
If more signed up than you can serve, randomly assign *individuals* to attend the program.

**Problem: Spillovers**
If more signed up than you can serve, randomly assign *individuals* to attend the program.

**Problem: Cannot WITHOLD help**
With spillovers over/under-estimate impact
**Question:** Is there risk of spillovers in the following programs?

- Example 1: *Teacher training program (individual-level randomization)*
Question: Is there risk of spillovers in the following programs?

- Example 1: Teacher training program (school-level randomization), where district official provides oversight
  - Positive spillovers: new practices applied in treatment schools
  - Negative spillovers: less monitoring in control schools
How to Evaluate?

How overcome problems of spillovers?

Randomly choose *communities* to receive the program.
Individual-level randomization
Group-level Randomization
How to Evaluate?

Randomly choose *communities* to receive the program.

Problem: Government wants to go to ALL communities
Randomly vary *when* to receive program

Before | During | After
---|---|---

Time

evaluation period
Sierra Leone - Public Lottery
How to Evaluate?

Randomly choose *communities* to receive the program.

**Problem:** Government is already operating in ALL communities
3. Who to Sample?
Population
Target Population (Beneficiaries)

- You will target among your population and have a census of all eligible
(Random) Sample of target population

Collect baseline (pre-intervention) data on all these potential beneficiaries.
Random Assignment

• Then you have to assign treatment and control
Example – Target Districts in Sierra Leone
Treatment and Control Communities
Who to Survey?

Back to our example

Survey mothers who attended the program?

Problem: Who are these mothers in the control group?
Who to Survey?

Random Assignment

- Treatment group
- Control group

Random Sampling?

Survey respondents
4. How Big is Big Enough?
How Big is Big Enough?

Statistical Power

“..the probability of detecting a statistically significant impact if it is truly there”

Power calculations can help you determine optimal sample size
Three Principles

1. If expect smaller impact of program, need larger sample to detect it.
2. Need a larger sample when randomize at a cluster (e.g. school, community) level.
3. To increase power, need to increase number of clusters.
How Big is Big Enough?

Statistical Power

• Rough rule of thumb:
  – Individual level: at least 200 treatment individuals.
  – School/Community level: at least 40 treatment schools

Example of Mozambique
5. Which Questions to Ask?

Develop your theory of change *before* you start your survey.

• What are the final outcomes?

• What are the intermediate outcomes?

• Will the impact vary by gender, poverty level, etc?
How not to design a survey
Key Take-Aways

• Plan your evaluation in advance of the program implementation
• Look for opportunities to randomize
  – Phased
  – Vary Strength
  – Randomize at community level
• Have a clear results framework before you design your survey.
4. Electronic Data Collection
3. What is electronic data collection?

Preparation is key!

- Design questions and prepare deployment
- Test, pilot and refine design
- Train and run interviews
5. Resources for electronic data collection

- solutions.worldbank.org
5. Resources for electronic data collection

- SurveyCTO (ODK) www.surveycto.com