What is Evaluation?

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Course Overview

1. What is evaluation?
2. Measuring impacts (outcomes, indicators)
3. Why randomize?
4. How to randomize?
5. Sampling and sample size
6. Threats and Analysis
7. Scaling Up
8. Project from Start to Finish
What is Evaluation?

- Evaluation
- Program Evaluation
- Impact Evaluation
Program Evaluation

Monitoring

Impact Evaluation

Program Evaluation

Evaluation
Components of Program Evaluation

- Needs Assessment
- Program Theory Assessment
- Process Evaluation
- Impact Evaluation
- Cost Effectiveness

- What is the problem?
- How, in theory, does the program fix the problem?
- Does the program work as planned?
- Were its goals achieved? The magnitude?
- Given magnitude and cost, how does it compare to alternatives?
How can Impact Evaluation Help Us?

• Surprisingly little hard evidence on what works

• Can do more with given budget with better evidence

• If people knew money was going to programs that worked, could help increase pot for anti-poverty programs

• Instead of asking “do social/development programs work?” should be asking:
  ❖ Which work best, why and when?
  ❖ How can we scale up what works?
What do you think is the most cost-effective way to increase immunization rates?

A. Community mobilization campaign
B. Improve healthcare worker attendance
C. Develop new vaccines, such as pneumococcal
D. Hold special ‘immunization camps’
E. Incentivize parents to immunize their children

20%  20%  20%  20%  20%
Programs and their Evaluations: Where do we Start?

**Intervention**
- Start with a problem
- Verify that the problem actually exists
- Generate a theory of why the problem exists
- Design the program
- Think about whether the solution is cost effective

**Program Evaluation**
- Start with a question
- Verify the question hasn’t been answered
- State a hypothesis
- Design the evaluation
- Determine whether the value of the answer is worth the cost of the evaluation
Needs assessment

• Identifying the problem
The Need

- Every year, between 2 and 3 million people die from vaccine-preventable diseases

- Only 54% of 1-2 year olds in India receive the basic package of immunizations

- In rural Rajasthan, this rate falls to 22%
The Problem

• In India, immunizations are offered for free... but the immunization rate remains low

• Average household is within 2 kilometers of the nearest clinic

• High absenteeism at government health facilities – 45% of Auxiliary Nurse Midwives are absent on any given workday
The Goal

- To increase the full immunization rate among children in rural Rajasthan
The Solution(s)
Really the Problem?

- Cultural resistance, distrust in public health institutions—memories of Emergency India

- People don’t value immunizations: short-term cost for long-term (and invisible) benefits

- Limited income: parents can’t afford to take a day off
Alternative Solution(s)?
Devising a Solution

• What is the theory behind your solution?
• How does that map to your theory of the problem?
Program theory assessment

• Blueprint for Change
Program Theory Assessment

- Theory of Change
- Logical Framework (Log Frame)
- Results Framework
- Outcome Mapping
Program Theory Assessment

• How will the program address the needs put forth in your needs assessment?
  – What are the prerequisites to meet the needs?
  – How and why are those prerequisites lacking or failing?
  – How does the program intend to fix those failings?
  – What specific services will be offered?
Theory of Change

Supply-side limits on immunization

Establish regular camps

Parents believe camps are regular

Parents bring children to regular camp

Camps provide immunizations

Increased immunization rates

Parents do not value immunization

Incentives for full course

Parents value incentive

Incentives regularly paid
## Log Frame

<table>
<thead>
<tr>
<th>Needs assessment</th>
<th>Impact evaluation</th>
<th>Process evaluation</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Objectives Hierarchy</th>
<th>Indicators</th>
<th>Sources of Verification</th>
<th>Assumptions / Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Impact</strong> (Goal/ Overall objective)</td>
<td>Increased immunization</td>
<td>Immunization rates</td>
<td>Household survey</td>
</tr>
<tr>
<td><strong>Outcome</strong> (Project Objective)</td>
<td>Parents attend the immunization camps repeatedly</td>
<td>Follow-up attendance</td>
<td>Household survey; Immunization card</td>
</tr>
<tr>
<td><strong>Outputs</strong></td>
<td>Immunization camps are reliably open; Incentives are delivered</td>
<td>Number of kg bags delivered; Camp schedules</td>
<td>Random audits; Camp administrative data</td>
</tr>
<tr>
<td><strong>Inputs</strong> (Activities)</td>
<td>Camps + incentives are established</td>
<td>Camps are built, functional</td>
<td>Random audits of camps</td>
</tr>
</tbody>
</table>

*Image Credit: Abdul Latif Jameel Poverty Action Lab*
Process Evaluation

• Making the program work
Components of Program Evaluation

- Needs Assessment
  - What is the problem?

- Program Theory Assessment
  - How, in theory, does the program fix the problem?
  - Does the program work as planned?

- Process Evaluation

- Impact Evaluation

- Cost Effectiveness
Process Evaluation

• Supply Side
  – Logistics
  – Management

• Demand Side
  – Assumptions of response
  – Behavior Change?
Process Evaluation: Logistics

• Establish camp
  – Hiring nurses and administrators
  – Installing temporary camp site
  – Procuring vaccines and other medical supplies

• Organize incentive scheme
  – Identify viable incentive
  – Purchase kilos and dinner plate sets
Process Evaluation: Supply Logistics
Monitoring and Evaluation

Monitoring

Impact Evaluation

Program Evaluation

Evaluation
Process Evaluation: Demand-side

• Do parents visit the camps?
• Do they come back?
Process was okay, so....

- What happened to immunization rates?
Impact evaluation

• Measuring how well it worked
Did we Achieve our Goals?

• Primary outcome (impact): did camps (or camps + incentives) raise the full immunization rates?

• Also distributional questions: what was the impact for households who had come once vs. households who had never come?
What is Impact?

Intervention

Primary outcome

Time

Counterfactual

Impact
How to Measure Impact?

- What would have happened in the absence of the program?

- Take the difference between
  
  what happened (with the program) ...and
  
  - what would have happened (without the program)
  
  = IMPACT of the program
Non-random Treatment and Comparison Groups
Non-random Treatment and Comparison Groups
Constructing the Counterfactual

- Counterfactual is often constructed by selecting a group not affected by the program

- Randomized:
  - Use random assignment of the program to create a control group which mimics the counterfactual.

- Non-randomized:
  - Argue that a certain excluded group mimics the counterfactual.
How Impact differs from Process?

• When we answer a process question, we need to describe what happened.

• When we answer an impact question, we need to compare what happened to what would have happened without the program.
Randomized evaluation

• The “gold standard” for Impact Evaluation
Random Sampling and Random Assignment

Randomly *sample* from area of interest
Randomly sample from area of interest

Randomly assign to treatment and control

Randomly sample from both treatment and control
Immunization Example

Total Population (700+ villages) → Target Population (134) → Not in evaluation (0) → Random Assignment → Camps (30) → Camps + Incentives (30) → Control (74)

Evaluation Sample (134)
Impact

- Control: 6%
- Camps: 17%
- Camps + Lentils: 38%
Making Policy from Evidence

• National scale-up?
  – How representative is rural Rajasthan? (Recall: 22% vs. 44% nationally)
  – Same barriers to immunization?
REs: a long history in social sciences

- experimental psychology (late 19th century)
- education (early 20th century)
- experimental sociology (early 20th century):
- from the mid 60's, a huge and sharp increase of randomized evaluations in the U.S.: according to Baruch (1978), 245 randomized evaluations, some of them ambitious and costly affected different kinds of policies (subsidized work, income maintenance, job search counseling)
- since mid 1990s, rapid surge in experiments, mostly in developing countries but also in Europe (J-PAL)
Cost-effectiveness Analysis

• Evidence-Based Policymaking
Costs per fully Immunized Child

- Immunization Camps: Rs. 2202
- Camps + Incentives: Rs. 372 + Rs. 730
Cost-Effectiveness Diagram
When is a good time to do a Randomized Evaluation?

A. After the program has begun and you are not expanding it elsewhere
B. When a positive impact has been proven using rigorous methodology
C. When you are rolling out a program with the intention of taking it to scale
D. When a program is on a very small scale e.g. one village with treatment and one
When to do a Randomized Evaluation?

- When there is an important question you want/need to know the answer to

- Timing—not too early and not too late

- Program is representative not gold plated
  - Or tests an basic concept you need tested

- Time, expertise, and money to do it right

- Develop an evaluation plan to prioritize
When NOT to do an RE

- When the program is premature and still requires considerable “tinkering” to work well
- When the project is on too small a scale to randomize into two “representative groups”
- If a positive impact has been proven using rigorous methodology and resources are sufficient to cover everyone
- After the program has already begun and you are not expanding elsewhere
Developing an Evaluation Strategy

• Start with a question
• Verify the question hasn’t been answered
• State a hypothesis
• Design the evaluation
• Determine whether the value of the answer is worth the cost of the evaluation
• With key questions answered from impact evaluations, process evaluation can give your overall impact
• A few high quality impact studies are worth more than many poor quality ones
• If you ask the right question, you’re more likely to care