What is Evaluation?

Marc Shotland
Director of Research & Training
J-PAL
Outline

• Evidence Based Policymaking: Why Evaluate?
• What is Evaluation?
• What makes a good impact evaluation question?
• Components of Program Evaluation
Outline

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How are policies made?

Opinion-based policy making

Evidence-based policy making
How do you think policies are made? (choose 2)

A. Ideology (i.e., of decision makers, parties, constituencies)

B. Experience (i.e., of decision makers, parties, constituencies)

C. Expediency

D. Ideology

E. Financial resources/constraints

F. Implementation capacity

G. Evidence

33% 22% 4% 0% 4% 26% 11% 4% 0%
Evaluation should usually be conducted:

A. Externally and independent from the implementers of the program being evaluated
B. Externally and closely integrated with program implementers
C. Internally
D. Don’t know

\[ \text{A: } 26\% \quad \text{B: } 68\% \quad \text{C: } 5\% \quad \text{D: } 0\% \]
Who is your most important audience for evaluation?

A. Politicians/policymakers
B. Constituents
C. Donor leadership
D. Donor politicians/policymakers/constituents
E. Academics
F. Technocrats/Experts/Think Tanks
G. Implementers
H. Proponents, Skeptics
I. Beneficiaries

J-PAL | WHAT IS EVALUATION
Outline

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What’s the difference between: Monitoring and Evaluation

A. Nothing. They are different words to describe the same activity
B. Monitoring is conducted internally, Evaluation is conducted externally
C. Monitoring is for management, Evaluation is for accountability
D. Don’t know
E. Other

[Bar chart showing the percentage of responses for each option]

A. 6%  B. 17%  C. 50%  D. 0%  E. 28%
What is Impact Evaluation?
What types of questions can you answer with impact evaluation?

- Evaluations of all kinds can be thought to answer three types of questions (Imas and Rist 2009):
  - Descriptive questions
  - Normative questions
  - Cause and effect questions

- Impact Evaluation can only answer cause and effect questions.
Running (Randomized) Evaluations

Evaluation Design

- Theory of Change
- Evaluation Question (Causal Hypothesis)

Intervention
- Target Group
- Outcomes

Random Assignment
- Sample Selection
- Survey Design

Implementation

- Monitoring
- Data Collection
- Data Analysis
- Results

Evaluation Implementation
How should the results from evaluations improve policymaking?

A. Through the evaluation questions
B. Through the theory of change
C. Through the target group
D. Through the outcomes
E. Don’t know

11%  67%  0%  22%  0%
How do we increase school participation (enrollment and attendance)?

A government wants to improve school attendance at primary schools, what interventions would you recommend?
What is the most effective intervention to increase school participation (enrollment and attendance)?

A. Text Books
B. Lunch for free
C. Free school uniforms
D. Treat intestinal worms
E. Merit scholarships
F. Improve curriculum & teaching
G. Provide better materials
H. Increase awareness of returns to education
Impact evaluations can help answer these questions.

![Bar chart showing cost-effectiveness of different interventions.](chart.png)
Outline

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Which one of these would make a good question for an impact evaluation?

A. What share of kids in Tanzania drop out of school before completing primary?

B. Will providing kids with deworming pills or school uniforms do a better job of keeping kids in school?

C. What role does ethnicity play in student results?
Which one of these would make a good question for an impact evaluation?

A. Are agricultural extension agents giving farmers the same information they were trained on?

B. What share of farmers in Kenya currently live on less than $2 a day?

C. Which kind of fertilizer works best for a plot of maize?
Which one of these would make a good question for an impact evaluation?

A. Does a sexual education program or free school uniforms have a bigger effect on teenage pregnancy rates?
B. Do teenage girls have a right to have full information regarding sexual education?
C. Are teachers spreading misinformation when delivering sexual education?

A. 0%  B. 0%  C. 0%
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5 components of program evaluation

1. Needs Assessment
2. Theory of Change
3. Process Evaluation
4. Impact Evaluation
5. Cost Effectiveness Analysis
An Example

WATER, SANITATION & HEALTH
What do you think is the most cost-effective way to reduce diarrhea?

A. Develop piped water infrastructure
B. Improve existing water sources
C. Increase supply of and demand for chlorine
D. Education on sanitation and health
E. Improved cooking stoves for boiling water
F. Improve sanitation infrastructure

J-PAL | WHAT IS EVALUATION
Identifying the problem

NEEDS ASSESSMENT
Needs Assessment
Questions answered by a needs assessment

• Does the problem we proposing to solve actually exist?
  – What is the likely source of the problem?
  – Of the solutions proposed and tried, why are they failing?
  – Who is in most need?
Needs Assessment

• Does the problem exist?
  – Diarrheal disease killed approximately 2.6 million people a year between 1990 and 2000.
  – 20% all child deaths (under 5 years old) are from diarrhea

.....what is the likely source?
The source of the problem?
Blueprint for Change

Theory of Change
Theory of Change
Questions answered by a theory of change

• 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 requirements currently lacking or failing?
  – How does the program intend to target or circumvent shortcomings?
  – What services will be offered?
What is a potential solution to this problem?
Alternative Solution(s)?
Really the source of the problem?

- Water quality helps little without hygiene (Esrey, 1996)
  - 42% live without a toilet at home
- Nearly 2.6 billion people lack any improved sanitation facilities (WHO)
- Quantity of water is a better determinant of health than quality of water (Curtis et al, 2000)
- People are more willing to pay for convenient water than clean water
- Chlorine is very cheap,
  - In Zambia, $0.18 per month for a family of six
  - In Kenya, $0.30 per month
- Yet less than 10% of households purchase treatment

Theory of Change

Less Diarrhea

Contaminated water is primary source of illness

Drink Clean water

Choose to drink only clean water

Understand benefits of clean water

Know which water is clean

Access to clean water at source

Have access to clean water at home

Choose to collect only clean water

No recontamination

Clean method of extracting water

Sufficient water

Hygiene practices
## Log Frame

<table>
<thead>
<tr>
<th>Impact (Goal/ Overall objective)</th>
<th>Objectives Hierarchy</th>
<th>Indicators</th>
<th>Sources of Verification</th>
<th>Assumptions / Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower rates of diarrhea</td>
<td>Rates of diarrhea</td>
<td>Household survey</td>
<td>Waterborne disease is primary cause of diarrhea</td>
<td></td>
</tr>
<tr>
<td>Outcome (Project Objective)</td>
<td>Households drink cleaner water</td>
<td>(Δ in) drinking water source; E. coli CFU/100ml</td>
<td>Household survey, water quality test at home storage</td>
<td>Shift away from dirty sources. No recontamination</td>
</tr>
<tr>
<td>Outputs</td>
<td>Source water is cleaner; Families collect cleaner water</td>
<td>E. coli CFU/100ml;</td>
<td>Water quality test at source</td>
<td>continued maintenance, knowledge of maintenance practices</td>
</tr>
<tr>
<td>Inputs (Activities)</td>
<td>Source protection is built</td>
<td>Protection is present, functional</td>
<td>Source visits/surveys</td>
<td>Sufficient materials, funding, manpower</td>
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Making the program work

PROCESS EVALUATION
Process Evaluation
Questions answered by a process evaluation

• Was the program carried out as planned?
  – Are basic tasks being completed?
  – Is the intervention reaching the target population?
  – Is the intervention being completed well or efficiently and to the beneficiaries’ satisfaction?
What is Impact Evaluation?
Measuring how well it worked

IMPACT EVALUATION
Impact Evaluation
Questions answered by impact evaluations

• Process evaluations determine if a program is running in the way it is supposed to run

• Impact evaluations determine if a program creates a change in an outcome(s)
  – Did concrete encased springs decrease diarrhea rates?
What was the impact?

- 66% reduction in source water E. coli concentration
- 24% reduction in household E. coli concentration
- 25% reduction in incidence of diarrhea
## Making Policy from Evidence

<table>
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# Making Policy from Evidence

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<td>20-40% reduction in diarrhea</td>
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<tr>
<td>Home chlorine distribution (Kenya)</td>
<td>20-40% reduction in diarrhea</td>
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<tr>
<td>Hand-washing (Pakistan)</td>
<td>53% drop in diarrhea incidence for children under 15 years old</td>
</tr>
<tr>
<td>Piped water in (Urban Morocco)</td>
<td>0.27 fewer days of diarrhea per child per week</td>
</tr>
</tbody>
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Evidence-Based Policymaking

COST-EFFECTIVENESS ANALYSIS
Cost-Effectiveness Diagram

Cost-Effectiveness: Diarrheal Incidents Avoided per $1000

Sensitivity to Population Density

- Source improvements
- Changing behavior
- Chlorine treatment

- Free Chlorine Dispensers at Water Sources Kenya
- Free Home Delivery of Chlorine Kenya
- Encasing Water Sources in Concrete Kenya
- Free Home Delivery of Chlorine Pakistan
- Handwashing Promotion with Free Soap Pakistan
Course Overview

1. What is Evaluation?
2. Measurement & Indicators
3. Why Randomize?
4. How to Randomize?
5. Sampling and Sample Size
6. Threats and Analysis
7. Generalizability
8. Project from Start to Finish