

# Monitoring and Evaluating MHEALTH Interventions

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# Objectives

By the end of this lecture, participants will

- Review the basic concepts of monitoring and evaluation
  - Define M&E
  - Understand Logical frameworks
  - Understand the concept of indicator and its importance in M&E
  - Differentiate between Monitoring and Evaluation
- Understand the need for adapting M&E strategies to MHEALTH interventions
- Understand how robust evaluation design can help increase the evidence base for the effectiveness of MHEALTH interventions



# Monitoring and Evaluation Basics



# What is monitoring and evaluation?

An essential component of any project, program or intervention

Provide information that helps determine:

- If a program is being implemented appropriately meeting program goals and objectives

Specifically, they allow one to

- manage and measure program performance
- Ensure effective and efficient use of resources
- Promote accountability
- improve the quality of programs
- Inform design of future projects

# A Good M&E System...

- Provides constant feedback
- Identifies potential problems at an early stage
- Informs on intervention coverage
- Informs on project efficiency
- Assesses attainability of project objectives
- Provides guidelines for future projects
- Improves project design

# FRAMEWORKS

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# Frameworks

Key element of monitoring and evaluation

Graphical depiction of a “thinking” process

Describes links and possible hypotheses

Critical to understand and analyze how a program works

Easier to understand but can become complex

Important research tool

# Four Types of Frameworks

Conceptual frameworks

Results frameworks

Logic models

Logical frameworks





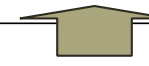
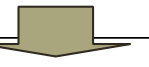




# Logical Frameworks

Narrative Summary	Objectively-Verifiable Indicator	Means of Verification	Assumptions
<b>Impact</b> –Improved Health (Among a Risk Group)			
<b>Outcome</b> – Changed Behavior (Among that Risk Group)			
<b>Output</b> – Increased Access, Skills, Support, Information and Motivation (Among that Risk Group)			
<b>Process</b> – Activities (Training, communication, service delivery)			
<b>Input</b> - Ressources (Human, Financial, material)			

# The logic of logical frameworks

Narrative Summary	Top to bottom	Bottom to top
<b>Impact</b> –Improved Health (Among a Risk Group)		If (Outcome), then (output) 
<b>Outcome</b> – Changed Behavior (Among that Risk Group)	If (goal), “how?” (purpose) 	If (output), then (output) 
<b>Output</b> – Increased Access, Skills, Support, Information and Motivation (Among that Risk Group)	If (purpose), how? (output) 	If (process), then (output) 
<b>Process</b> – Activities (Training, communication, service delivery)	If (output), how? (Process) 	If (input), then (output)
<b>Input</b> - Ressources (Human, Financial, material)	If (process), what? (Input)	

# INDICATORS



# Indicators

Definition: A variable that measures one aspect of a project or program directly related to the project or program's objectives

## Examples

- Number of health workers trained in the use of mobile phone for prenatal screening
- Percentage of clinics that provide vaccination services

# Characteristics of a Good Indicator

**Reliable** (Produces the same result each time it is used to measure the same condition or event)

**Sensitive** (Accurately represents the desired outcome - measures only the condition it is intended to measure)

**Specific** (Reflect changes in the state or condition over time)

**Realistic** (Represents reasonable measurement cost)

**Understandable** (Defined in clear and unambiguous terms)

# Importance of Indicators in M&E

They are at the heart of any M&E strategy

- Monitoring systems report on values and trends in indicators
- Evaluation methods report on the link between changes in indicators and exposure to program or intervention activities

They are used to express program or intervention objectives

- Changes in indicator I from level X to level Y over T time

# How to Select Indicators

Select indicators that are measurable within the available resources constraints

Select a few number of indicators

Prioritize internationally accepted indicators over other

Select indicators that use different data sources

Select indicators that change meaningfully in face of program effect/impact

# MONITORING

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# What is monitoring?

Collecting information in a planned, organized and routine way to help answer three key questions

- Are we doing the right things and consistently?
- How well is the intervention being implemented?
- Did the intervention benefit its intended target?

# Monitoring

Is an ongoing process

Requires multiple data collection times

Is used to determine need for adjustments

Usually pertains to counting, tracking and collecting

- Counting children vaccinated
- Tracking contraceptives distributed
- Collecting data on training activities

# Keywords in the definition of Monitoring

- **Planned:** decided beforehand
- **Organized:** systematic in its scope and contents
- **Routine:** on a regular basis such as weekly, monthly, quarterly or annually

# EVALUATION

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# What does an evaluation do?

Measures how well an intervention has met objectives

Determines the extent to which changes in outcomes can be attributed to intervention

Helps decision-makers understand how and to what extent an intervention is responsible for a particular, measured result

# An Evaluation can use

A quantitative research design

A qualitative approach

A combination of both

# A Quantitative Evaluation requires

Data collection at two points in time (baseline and end line)

A control or comparison group in order to attribute changes to intervention

A well planned study design

A theory or framework that helps generate hypotheses about how the intervention works

# M&E PLANS

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# What is an M&E Plan?

A document that describes how a project, program or intervention would be monitored and evaluated.

## Contents

- Brief program description (Objectives)
- Logical framework and Indicators
- Data sources, data collection and quality assurance
- Monitoring plan
- Evaluation plan
- Implementation and mechanisms for update

# A M&E plan requires

Five key elements to be incorporated

1. Clearly defined objectives
2. Measurable indicators
3. Systems for gathering, analyzing, and reporting data
4. Data quality assurance mechanisms
5. Strategies to incorporate M&E findings and update the plan

# M&E IN MHEALTH



# Special Characteristics of MHEALTH interventions

Mobile Technology-Based

Cheap and can be easy to implement

Technology readily available even in remote places

Little is understood of major determinants of success

Require service providers (and sometimes beneficiaries) to have access to technology



# Advantages of mobile technology for M&E

Easy and instantaneous data capture

High quality data collected

Automatic calculation of indicators

Data dissemination

Low cost data storage

More environmentally friendly

Improved data security



# Advantages of MHEALTH in M&E

Provides immediate feedback

Reinforces learning

Increases accountability

Improves tracking of health and disease patterns

Improves resources allocation

Reduces loss to follow up (missing data)



# Challenges

Requires new conceptual frameworks

Rigorous evaluations are scanty but emerging

- Lack of comparison groups
- Lack of baseline data
- Small sample size

Problems with indicators measurements

Issues of compatibility between platforms

Issues of long-term sustainability

# Resources

A free online course on M&E by USAID

<http://www.k4health.org/toolkits/m-and-e/monitoring-and-evaluation-me-fundamentals-course-usaid-global-health-e-learning>

eHealth and mHealth for MCH – A presentation by Garrett MEHL, WHO

[http://www.itu.int/ITU-D/cyb/events/2010/infoses\\_2010/docs/MEHL%20ITU%2017\\_9\\_2010%20presented.pdf](http://www.itu.int/ITU-D/cyb/events/2010/infoses_2010/docs/MEHL%20ITU%2017_9_2010%20presented.pdf)

A Review of the state of the evidence of Mhealth and MNCH

[http://www.mhealthalliance.org/images/content/un\\_007\\_evidencegapreport\\_digital\\_aaa.pdf](http://www.mhealthalliance.org/images/content/un_007_evidencegapreport_digital_aaa.pdf)