

cedilprogramme.org



# Middle level theory & the Principles Behind the Scenes

## Enablers, Derailers and Stepping carefully

Marcella VIGNERI

Mexico City  
14 October 2019



# Who are the authors



**Lucy Charlton – Goldsmith's**



**Matt Juden - SOAS**



**Nancy Cartwright  
Durham and UCSD**



**Richard Williams – Durham**



**Tamlyn Munslow – Durham**

# Why do we need a Middle Level Theory

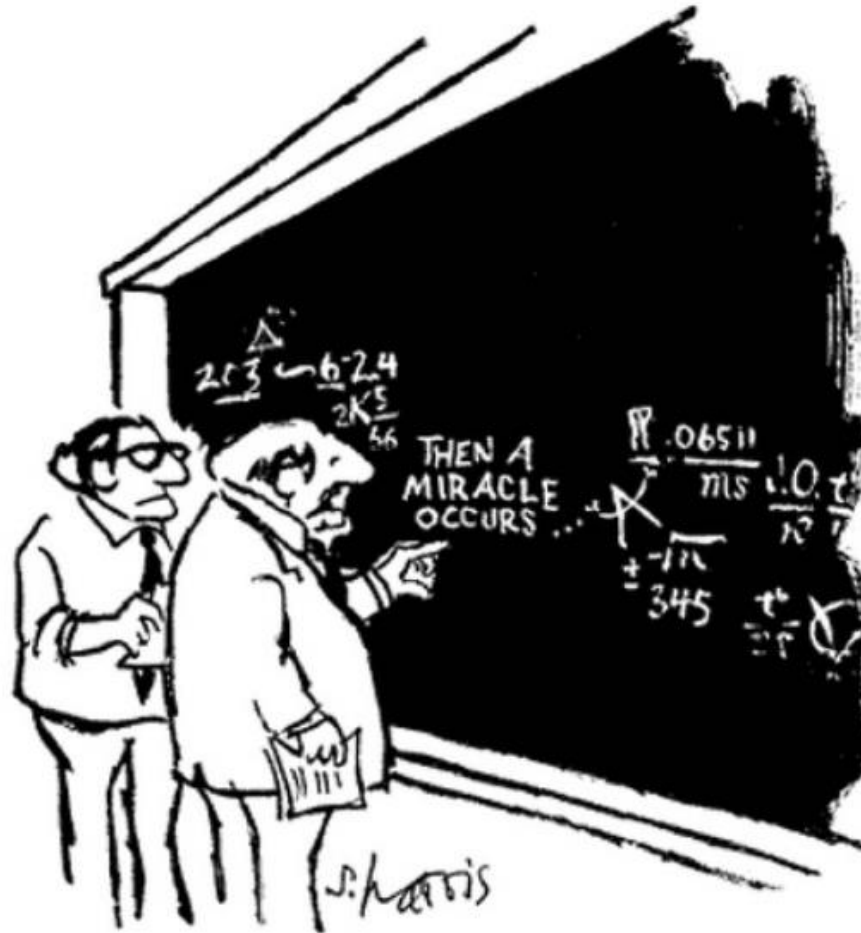


Image credit: Sidney Harris

"I think you should be more explicit here in step two."

# Why do we need a Middle Level Theory

- Middle-level theory helps **predict** if a proposed policy can have its intended outcomes in a specific setting
- Middle-level theory helps to *thicken* the sequencing of intervening steps for a **better evaluation**
- Testing the implication of a mid-level theory allows to refine it and better understanding how the intervention 'mechanism' works and how to **build setting-specific ToCs for new settings**

# DEFINITION: What is a Mid-level theory?

A model presenting the step-by-step process by which a programme is expected to produce its intended outcomes

MLT defines *principles, processes, actions, and events through which* program resources achieve the intended outcomes: they are the *steps in implementing a program*

# Mid-level theories

- Mid-level theories lie in between detailed setting-specific “theories of change” and “grand” social science theories
  - ❖ One type describes “explanatory mechanisms” and “tendencies”
  - ❖ Another type presents mid-level programme theories of change that are expected to be applicable across a range of settings
- They are not **setting**-specific. **Neither do** they have *general* validity. **Rather they are expected to hold** across some specified *range* of settings

# Theory of Change vs Middle Level Theory

A **Theory of Change** (ToC) is a design at the *general programme* level (expected to be of use across some specified range of settings)

A **setting-specific ('thick') Theory** is a ToC specific to a particular setting (expected to be used at the *local* level)

MLT intends to improve the design of *general programme* ToCs **so that it is far easier for local planners to thicken these** with information about local setting for more reliable local ToCs



# How can we refer to Mid-level theory?

Because of its 'limited generality' this kind of ToC counts as 'middle-level' theory

*causal-**p**rocess **t**racing **T**heories **o**f **C**hange (cptToC).*



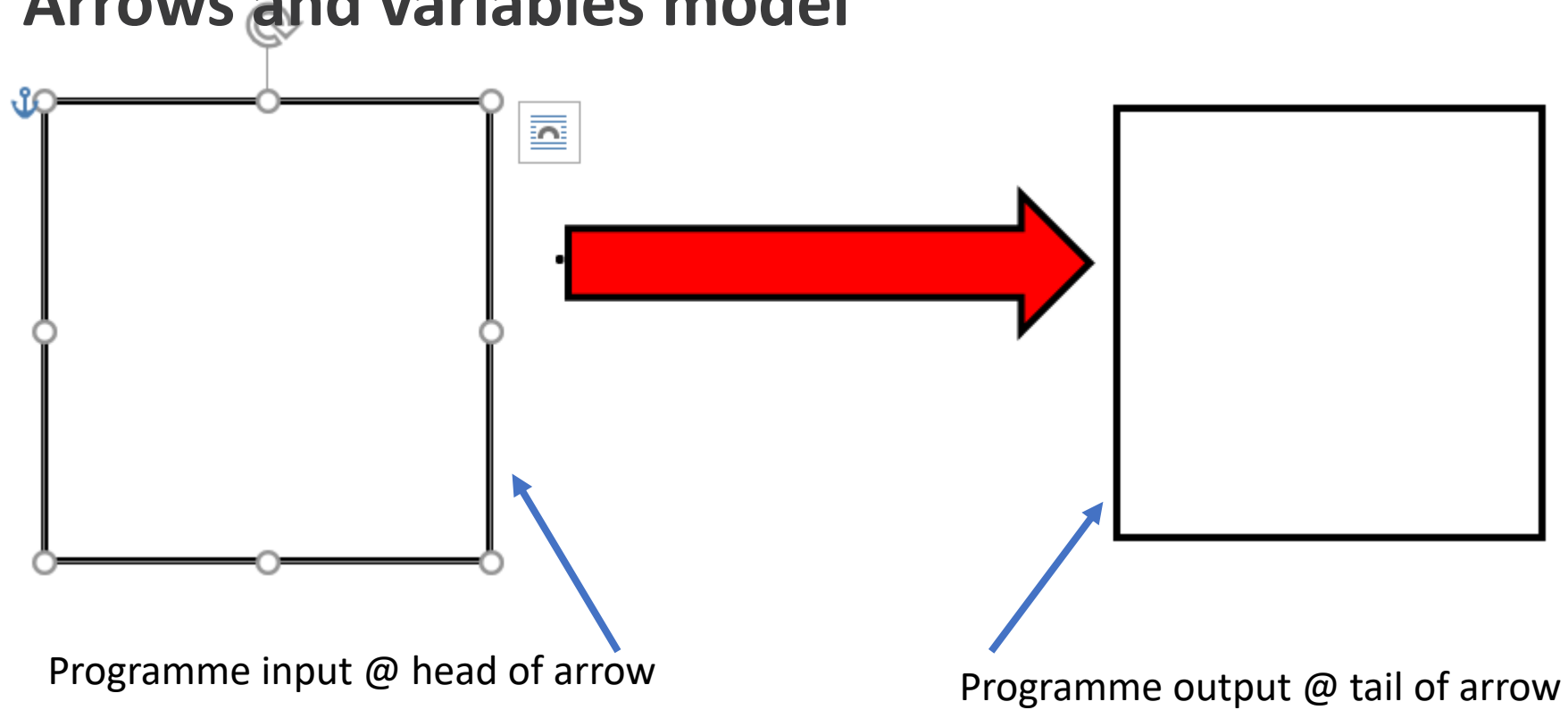
# Middle-level theory



tools for constructing these

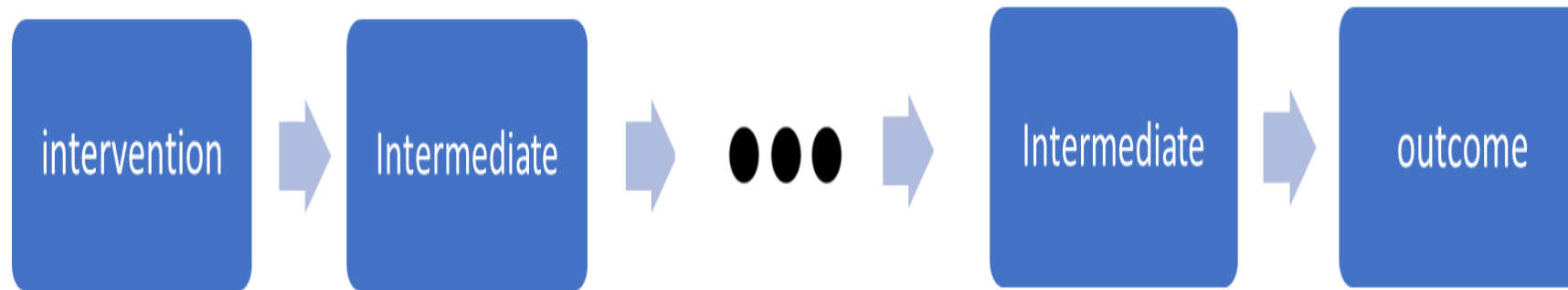
# SIMPLEST REPRESENTATION

## Arrows and variables model



# SEQUENCING: Impact pathway diagram

The **effect** of an **intervention** is represented with a **series of intervening steps**, each causing the next, eventually producing the outcome



**Arrows** show variables in box at head of arrow *cause* those in box at the tail.  
**Variables** in box at head of arrow are *a cause of the effect* in box at the tail.

# MLT ASSUMPTIONS

After the sequencing of important causal interactions come the ‘assumptions’:

1. The *overall programme theory*
2. The *tendency principles* (mechanisms) that support each step in causal sequence
  - *support factors* that must be in place for each step to lead to the next
  - *derailers* that may prevent the next step or diminish the chances of it being successfully produced.
  - *safeguards* that might protect causal process from these detractors and derailers
3. A *range of application* the kinds of settings where programme is expected to work

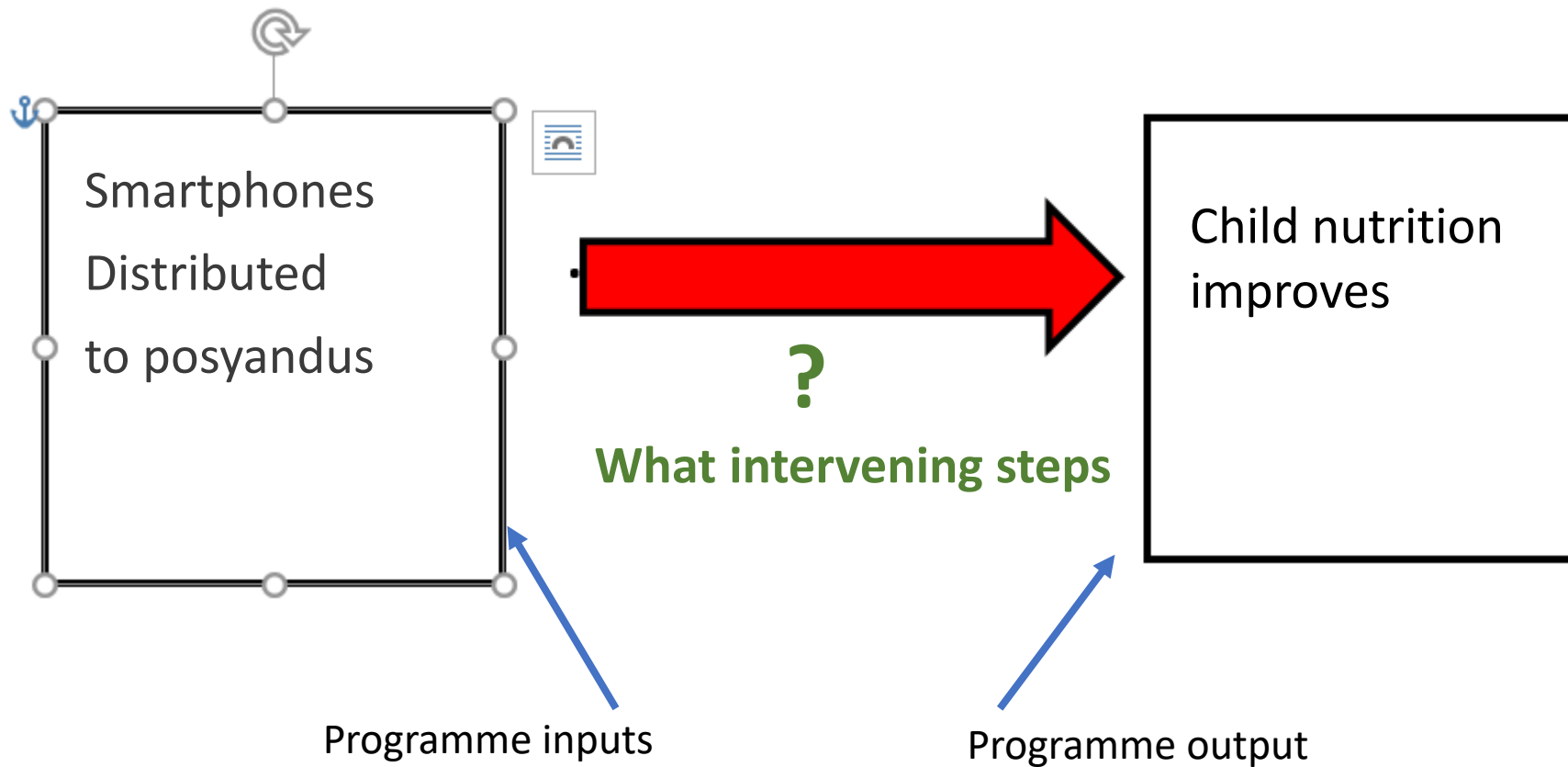
# An illustration: the M-health programme

**mHealth** programme in Indonesia using mobile phone application to strengthen community-based growth monitoring to tackle child undernutrition

## How does it work?

- Smartphones distributed to the posyandus (community health centres) by the local community volunteers to input children weights at monthly weigh-in sessions.
- Mobile phone app used by cadres to input data on weights, and data accessed both by mothers (visual feedback) and sub-districts
- App automatically stores data, calculates child weights, assess if child is under/over weight and sends referral to sub-district if there is concern with weight
- App also used to plan and prompt monthly follow up visits and produce summary reports accessible to different stakeholders in health system

# M-health programme in arrows/variables model



# 1. OVERALL PROGRAMME THEORY

mHealth makes *assumption* that local health workers less accurate in calculating children's weight and other data than is mobile phone app

mHealth addresses this concern by preventing incorrect plotting and misclassification of the child's growth monitoring status through an automatic calculation

The mHealth programme has potential to help improve children's nutrition in other places where children can be weighed in local centres but data is collected and curated, and resources allocated at a higher (eg district) level



## 2. TENDENCY 'PRINCIPLES'

Represent not what does happen but what effect a feature *tends* to cause (J. S. Mill)

Often describe familiar psychological or sociological dispositions widespread in individuals or institutions

Often need right circumstances to elicit them

What happens when they operate depends on setting

# Tendency principles are important to help in figuring out other necessary information

- Support factors
- Derailers
- Safeguards
- Range of application

By thinking:

What does it take to get this principle to operate

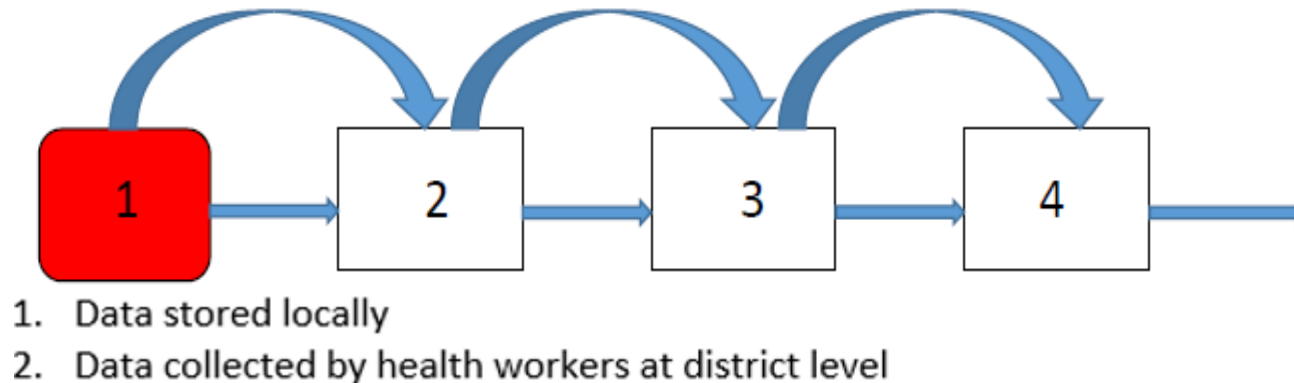
What can get in the way

What can guard against derailers to the operation of the principle

Where **can** this principle operate

# REPRESENT TENDENCY ‘PRINCIPLES’

The principles that cover the causal relation at any step are represented by a curved arrow above, from one box to the next



**Principle 1-2: Health staff who understand and value doing a task which is clearly explained and assigned them, will do so if they can.**

## 2a. SUPPORT FACTORS

Few of what we call 'causes' produce effects by themselves.

Almost all need other factors to cooperate with them for effect to be produced.

We call these *support factors*.

### mHealth programme in Indonesia

step 1 mHealth is administered and its use is mandated at the local clinics

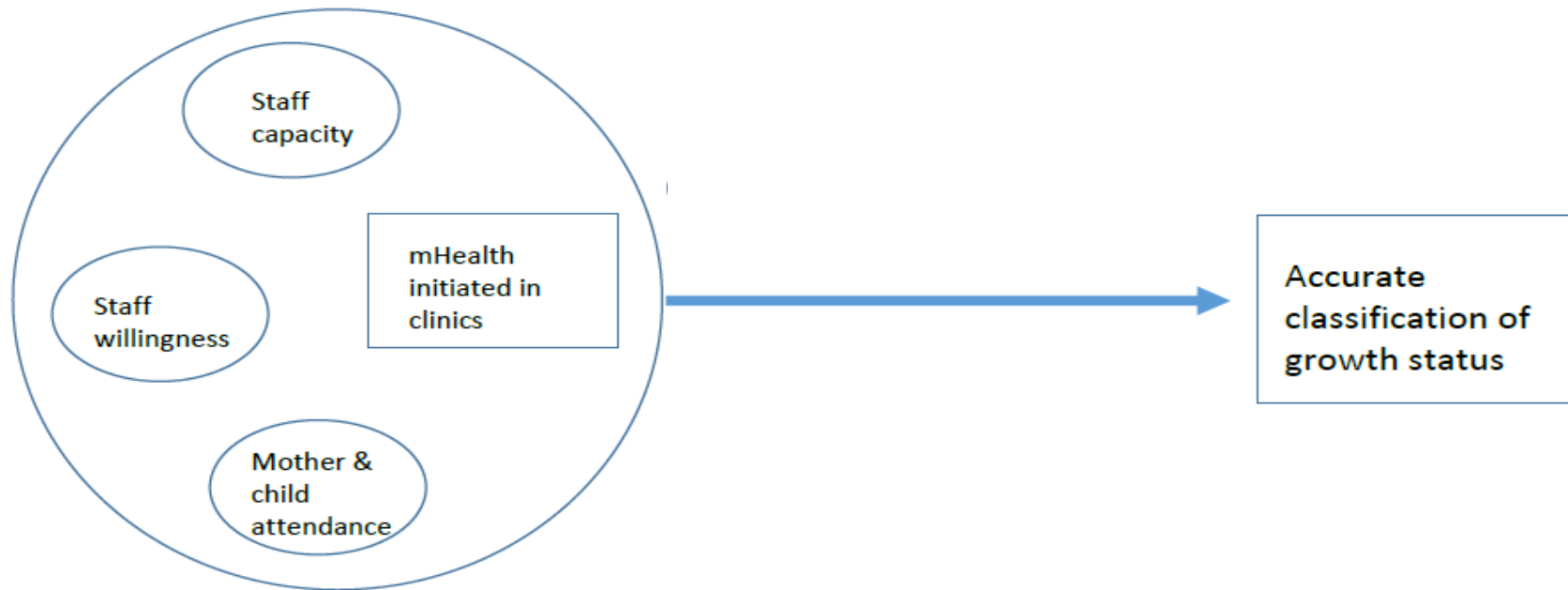
step 2 infants' weight data is accurately recorded in phones at local clinics

A number of support factors are required if step 1 is to lead to step 2:

- Local health staff accept that using mHealth is good for their clients
- Local health staff have the capacity to use mHealth
- Mothers and infants attend the clinics on a regular basis

# SUPPORT FACTORS IN cptToC DIAGRAM

All support factors necessary are enclosed together in circle at head of arrow



A general programme cptToC should include all that can be figured out for each step

**A causal process is only as strong as its weakest link**

Any implementation of the programme will fail in any place when necessary enabling factor is missing at any stage of the process from programme inputs to hoped-for outcomes

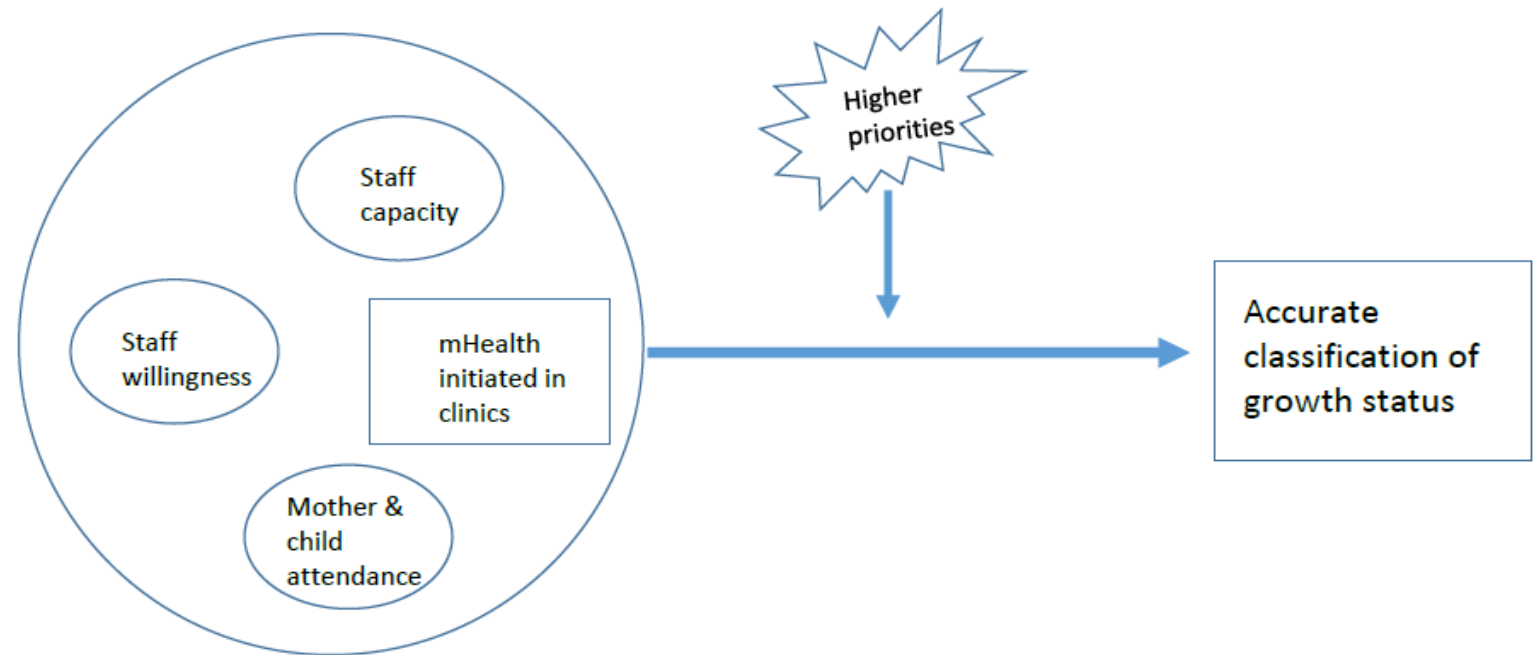
## 2b. DERAIL FACTORS

- Everything can be in place for a policy or programme to succeed, then something unanticipated happens to derail the process
- ***Derailers*** are things that can intervene and stop a full set of causes from producing the expected contribution
- Many derailers unforeseeable, many foreseeable: programme developers and implementers need to work hard to identify these
- Important to envisage as many *derailers* as possible applying across a given *kind* of settings



# DERAIL FACTORS IN cptToC DIAGRAM

Represent derailers in pointy boxes with arrows headed into the causal arrow to show possibility of breaking the causal chain at that point

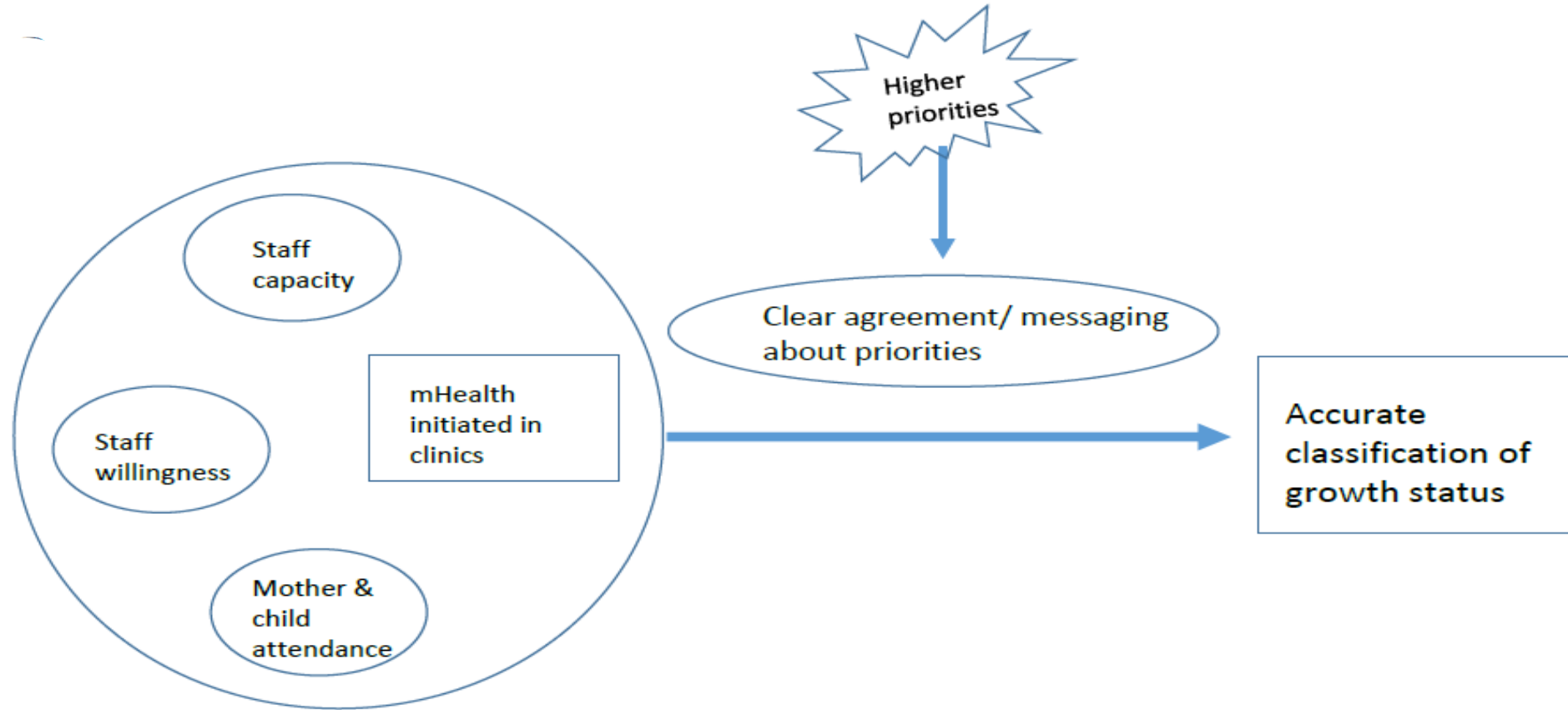


## 2c. SAFE-GUARDS

Important to include information that can be obtained to prevent possible derailers in order to stop them from harming the process.

*Safe-guards* are represented by 'walls' on both sides of the causal arrows preventing derailers from intruding

# SAFE-GUARDS IN cptToC DIAGRAM



# IMPORTANT NOTE

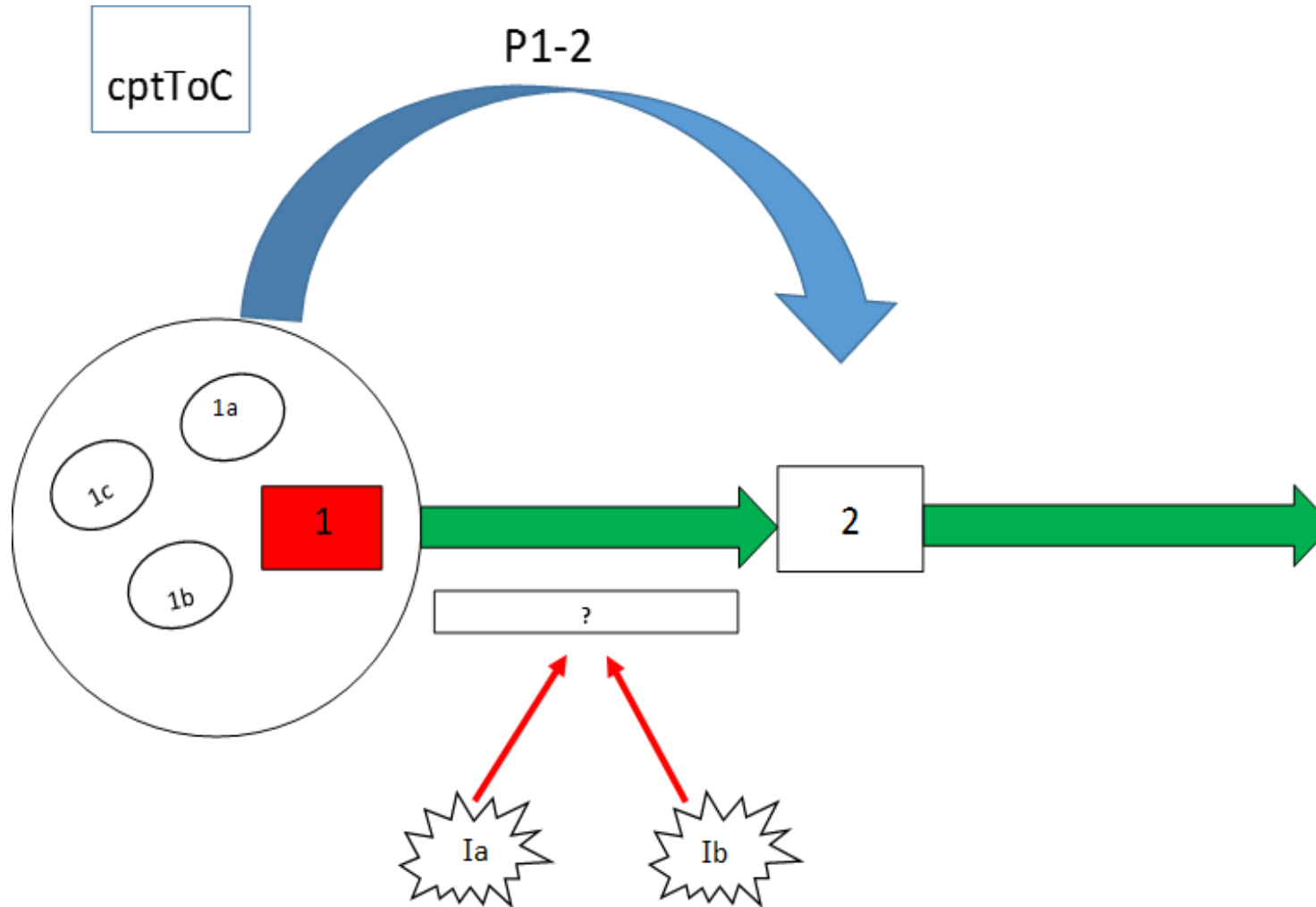
*Support, derail and safe-guard factors are **not** natural categories*

- They are ways to organise thinking
- There will always be a variety of ways of dealing with the same information

*Health workers in Indonesia's mHealth programme must be willing and able to input data to phones and to send the data off – support factors.*

*But a sudden electricity outage that prevents the message going out probably occurs more naturally under the heading 'derailer'*

# REPRESENTATION OF STANDARD cptTOC



### 3. SPECIFY RANGE OF APPLICATION

- A programme that worked somewhere need not work anywhere else and one that failed in a number of places may work well in just the right setting.
- A detailed cptToC goes a long way in probing where and why the programme is likely to work and where and why it is unlikely to do so
- The first stage in deciding whether a programme is suitable for implementation in a given setting will be to reflect on whether it satisfies the description of one of the types of setting in which that programme might be effective

# Consider mHealth in a new setting

1. mHealth will not contribute the expected degree of improvement where local health workers are already good at following calculating nutritional status or
2. where experienced health workers can do better at looking at the data and at the children themselves or where the technology in the phones is apt to fail



# Summing up

- Aim of a general programme cptToC is to present as much information as possible to help local users build a similar but much thickened cptToC for own setting
- Even if no general support factors/derailers are known, the programme cptToC should have empty boxes with question marks to remind local users to consider what these might be
- Programme ToCs not generally constructed in a form that takes note of it all

# *What should programme developers do?*

1. Identify the steps by which the intervention is to produce the outcome
2. Consider the tendency principles by which the effect is produced at each step
3. Take into account underlying structures that afford this sequence of changes



## **CONTACT CEDIL**

cedilprogramme.org

E: [cedil@cedilprogramme.org](mailto:cedil@cedilprogramme.org)

T: +44(0) 20 7958 8136

🐦: @CEDILprogramme

in: cedilprogramme

**THANK YOU**