

# Evaluating health promotion: Pragmatic solutions to complex questions

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**Treviso, Italia, December 2019**



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**SYDNEY**

# Overview of content

- Different perspectives on the “value” in evaluation
- Stages of evaluation (problem definition through to program maintenance)
- Evaluation research methods: Balancing scientific design with practical need
- Use of logic models in evaluation - outcome hierarchies and indicators,
- Assessing evaluation results – where do things go wrong

# What do we mean by **evaluation**?

- A systematic process of judging the **value** of something – there is no single “correct” method.

# What do we mean by evaluation? Different perspectives

## Different people place “value” on different things

- **Policy makers and budget managers** need to judge the likely success of the programs in order to make decisions about how allocate the resources, and to be accountable for this decisions. Success is often defined by the relationship between financial investment and the achievement of health outcomes in the short terms.

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# What do we mean by evaluation? Different perspectives

- **Front-line practitioners** value the practicality of implementation, and possibilities for engaging patients/people and organisations in implementation so that they know that their work is effective, and understand what needs to be done to ensure successful implementation.



# What do we mean by evaluation? Different perspectives

- **The patients/population** who are to benefit from intervention value relevance to their perceived needs, and opportunities for participation in decisions about their health
- **Academic researchers** value methodological rigor, maintenance of program integrity and achievement of pre-determined outcomes



**There is no clear consensus on the purposes of evaluation or the meaning of “evidence”.**

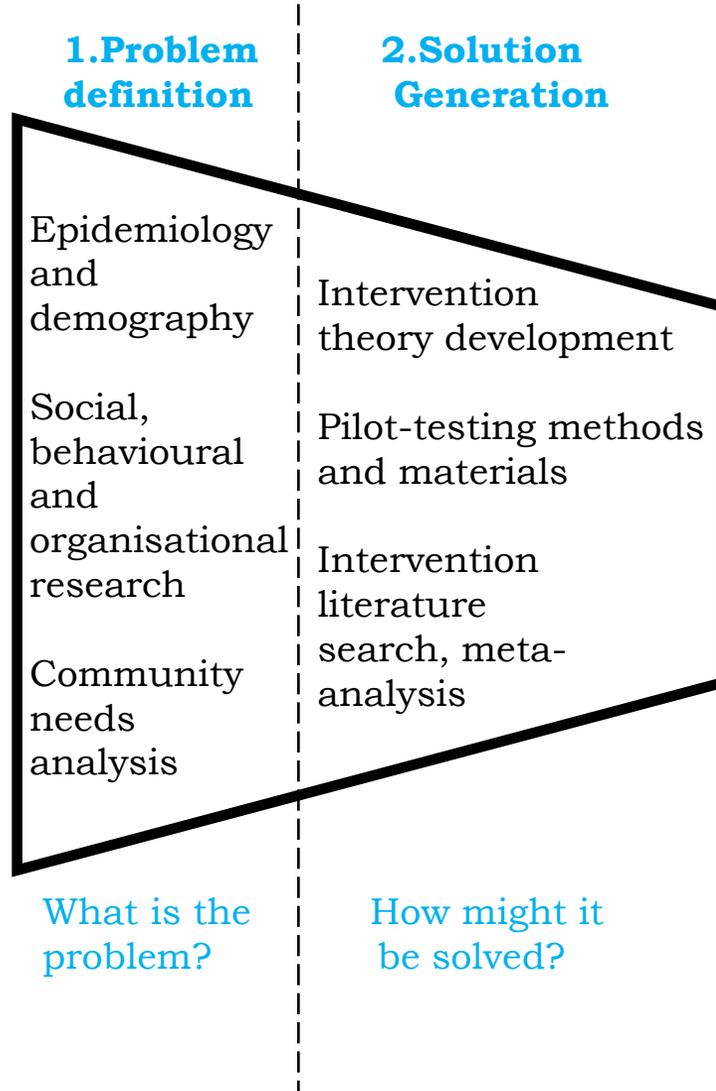
# Building evidence through research

## What is the best evaluation research method?

- Different **stages in the development of ideas** need different evaluation methods
- Multi-level interventions require **multiple layer evaluations**
- **Assessment of outcome** is of greatest interest to academics and policy makers, and needs to be tied to relevant, measurable indicators
- **Understanding process** of implementation and conditions for success of is also of great interest to clinicians and practitioners

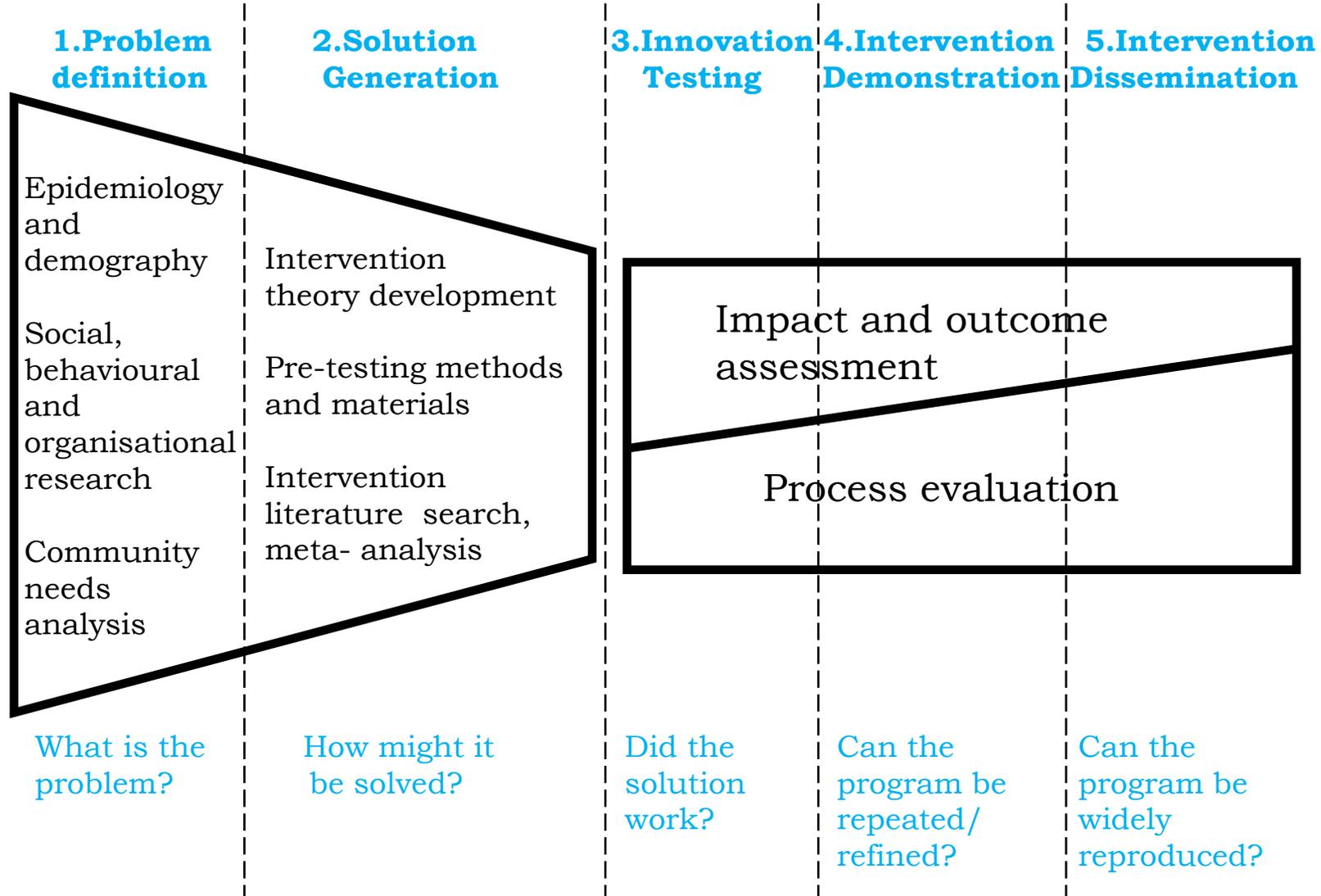
# Building evidence for public health intervention:

## Stages of Research and Evaluation



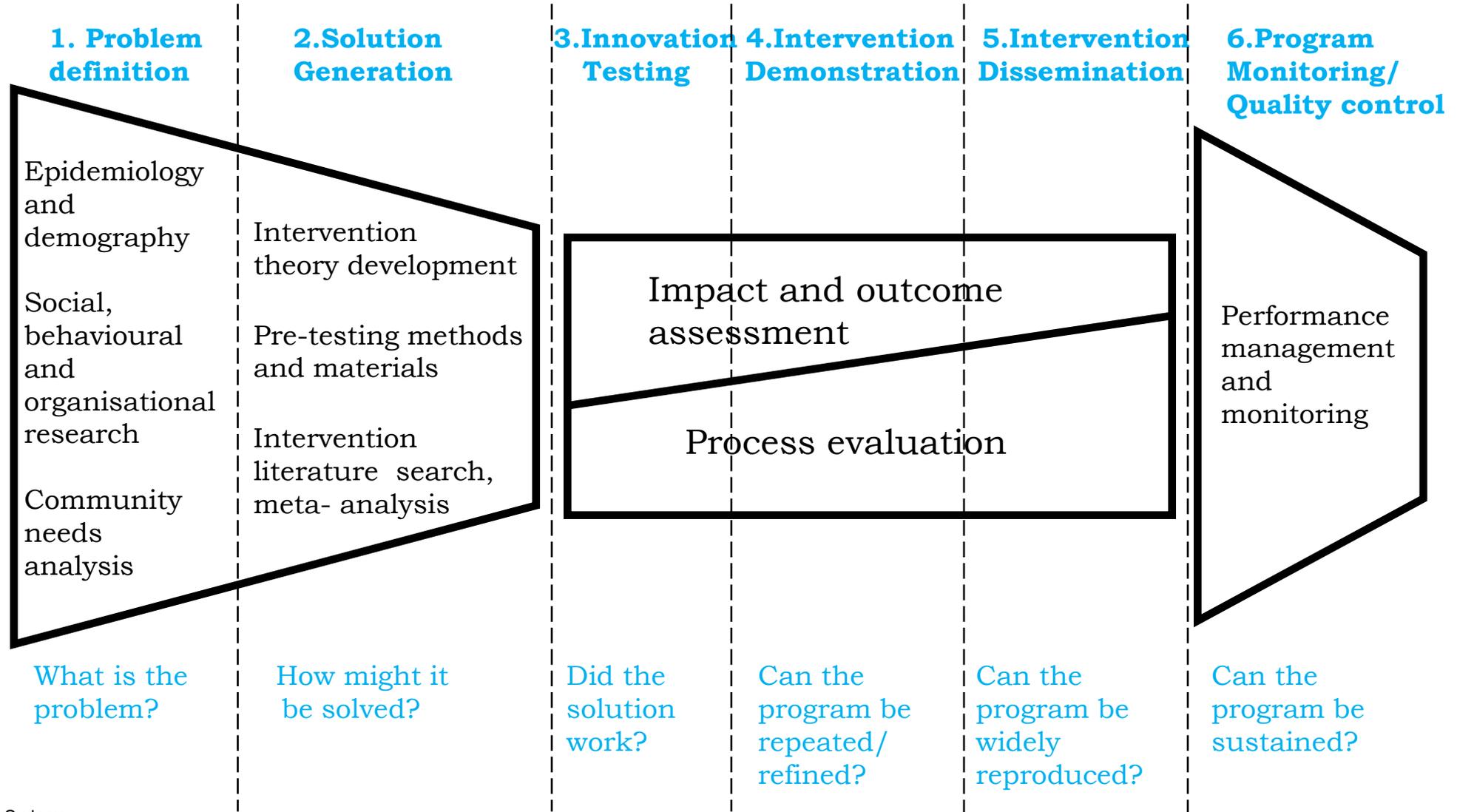
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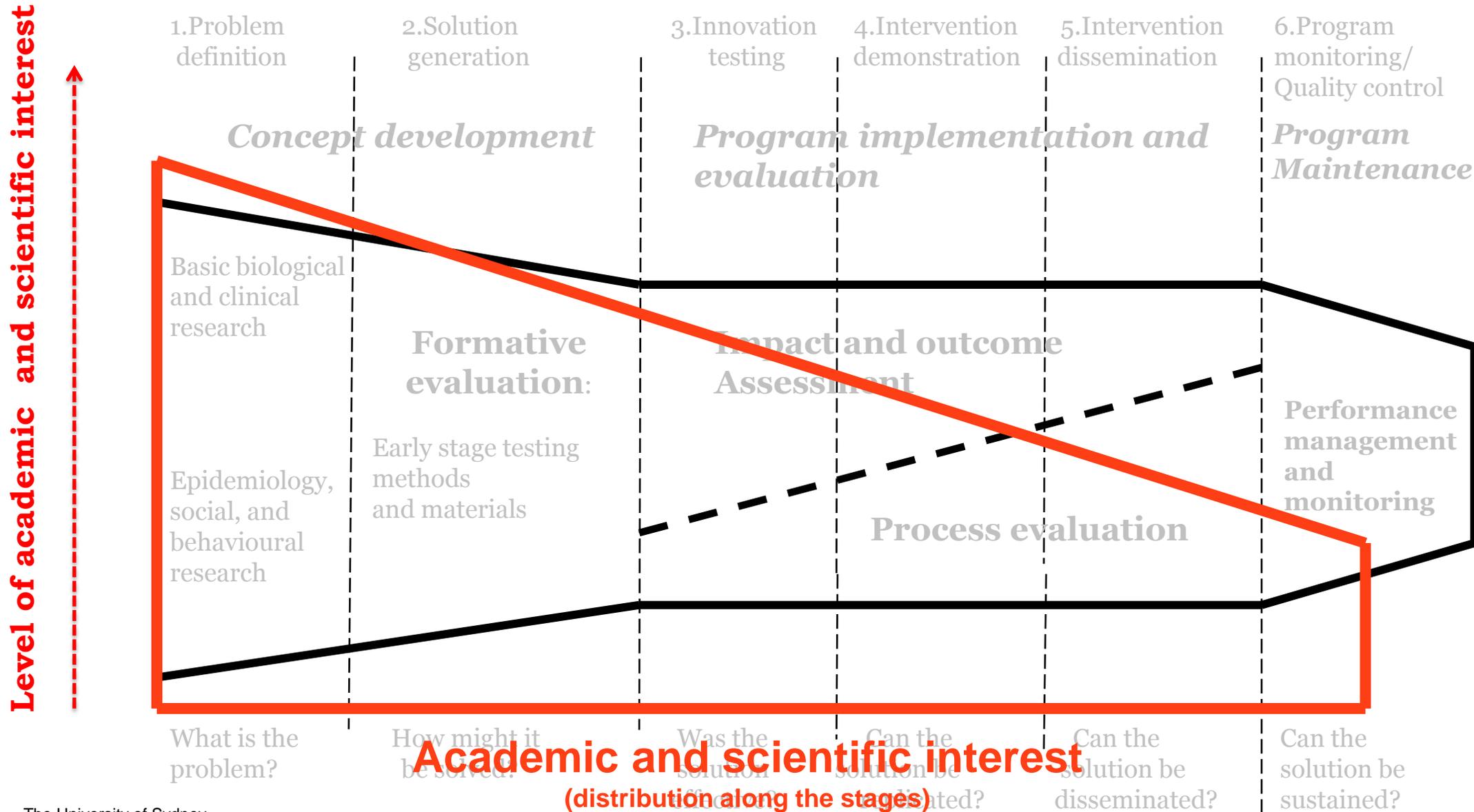
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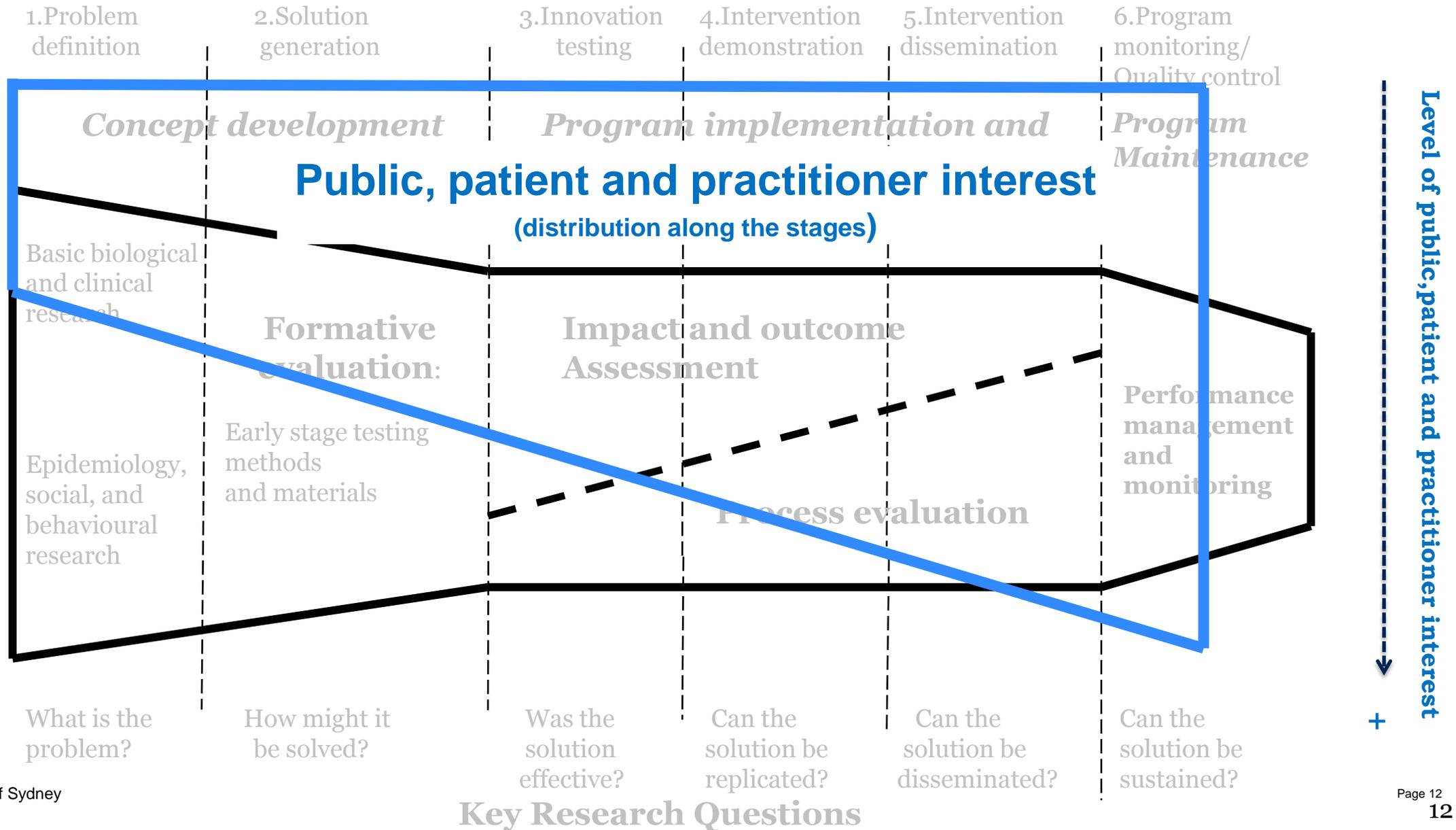
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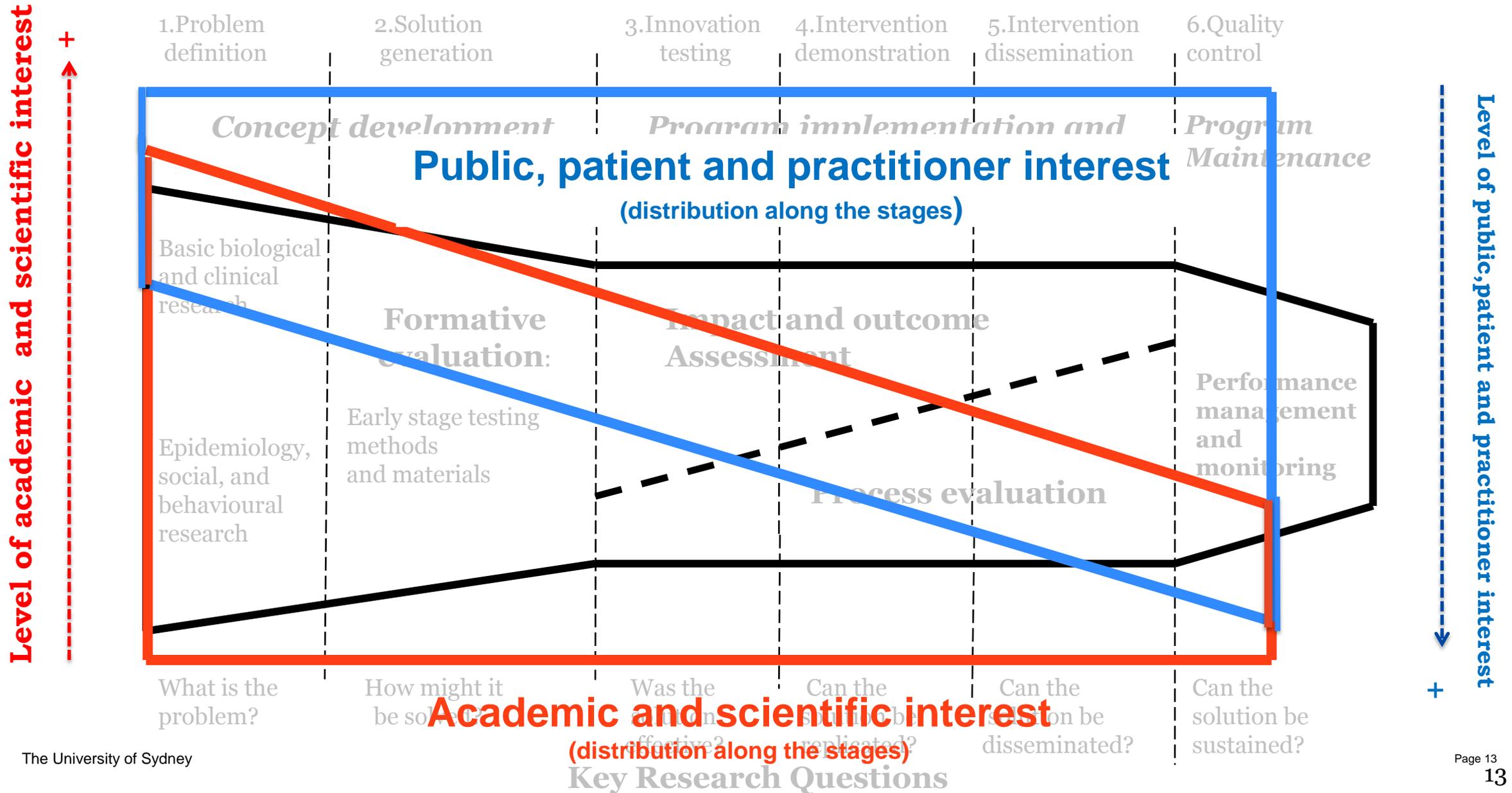
# Building evidence for public health programs:

## Stages of Research and Evaluation



# Building evidence for public health programs:

## Stages of Research and Evaluation



# Key elements of the model

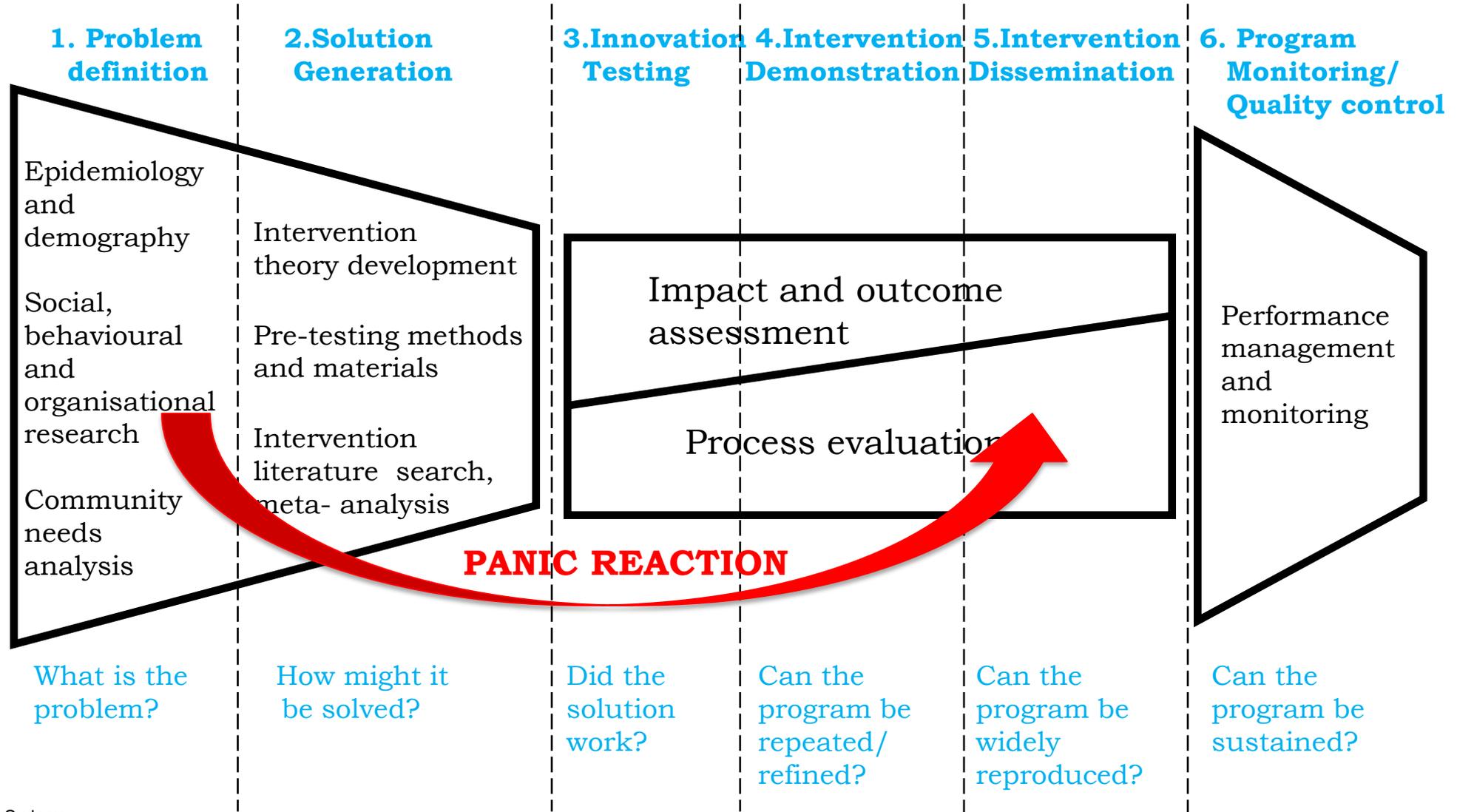
- Different stages in the development of ideas require **research to answer different questions**
- Type and intensity of evaluation research needs to be related to **stage of development** of a program and perceived “risks”
- **Measuring outcome and tracing causality** of greatest importance in early stages of development
- **Understanding the processes of implementation** and how to create conditions for success are of greatest interest in the longer term

# Inadequacies of current intervention research

- Current research is heavily directed towards the left of the model – we confuse “evidence” with descriptions of determinants and modifiable risk factors
- “Quality” is not synonymous of methodology but it is often confused with the type of methodology that was used: focus on controlled trial methodology and limited measurable outcome measures often leads to regressive intervention methods (single risk, single method, single setting) - we learn more and more about less and less
- Change process insufficiently studied or described - we pursue the right answers to the wrong questions

# Building evidence for public health intervention:

## Stages of Research and Evaluation

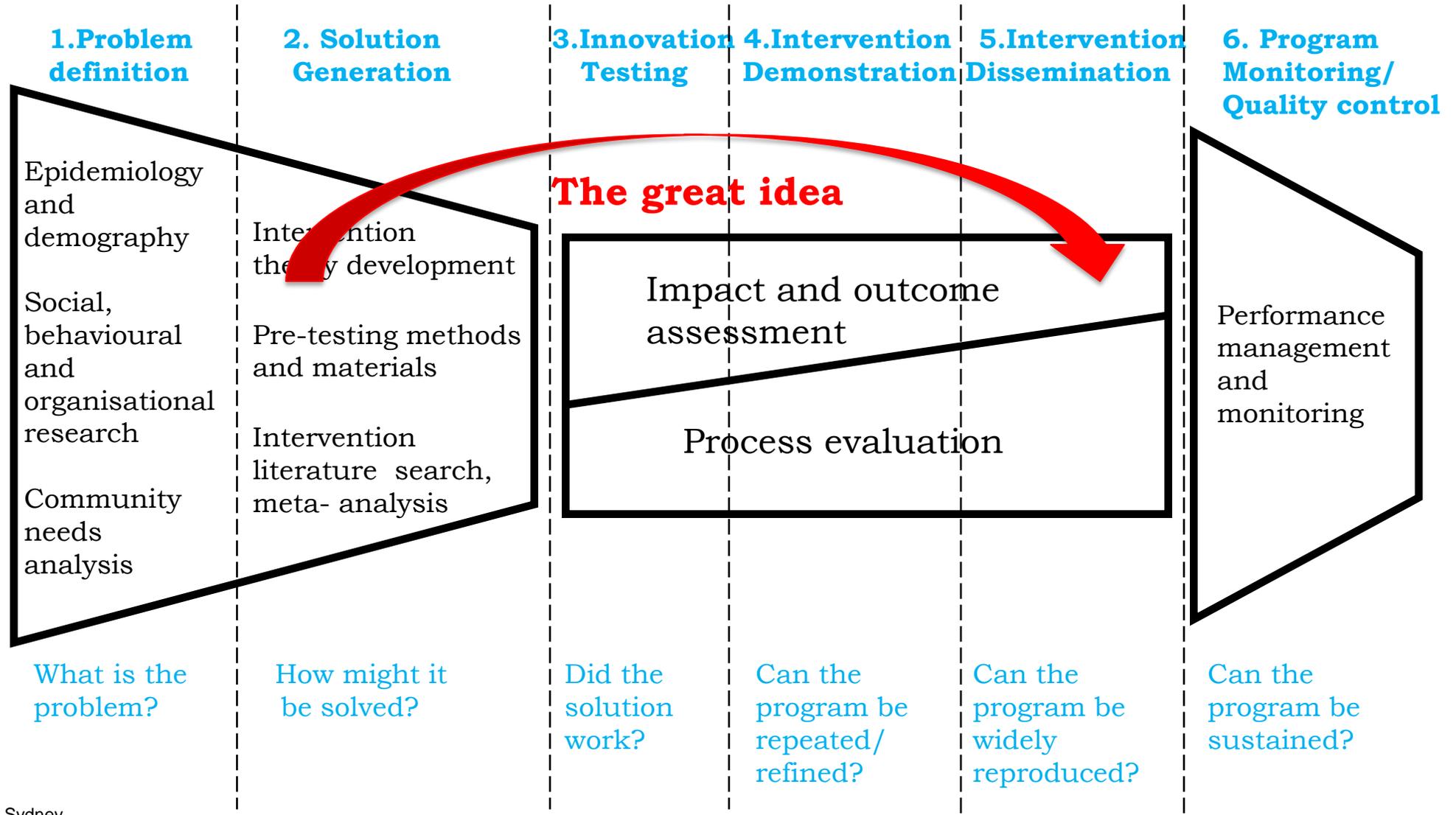


**PANIC REACTION**

### Key Research Questions

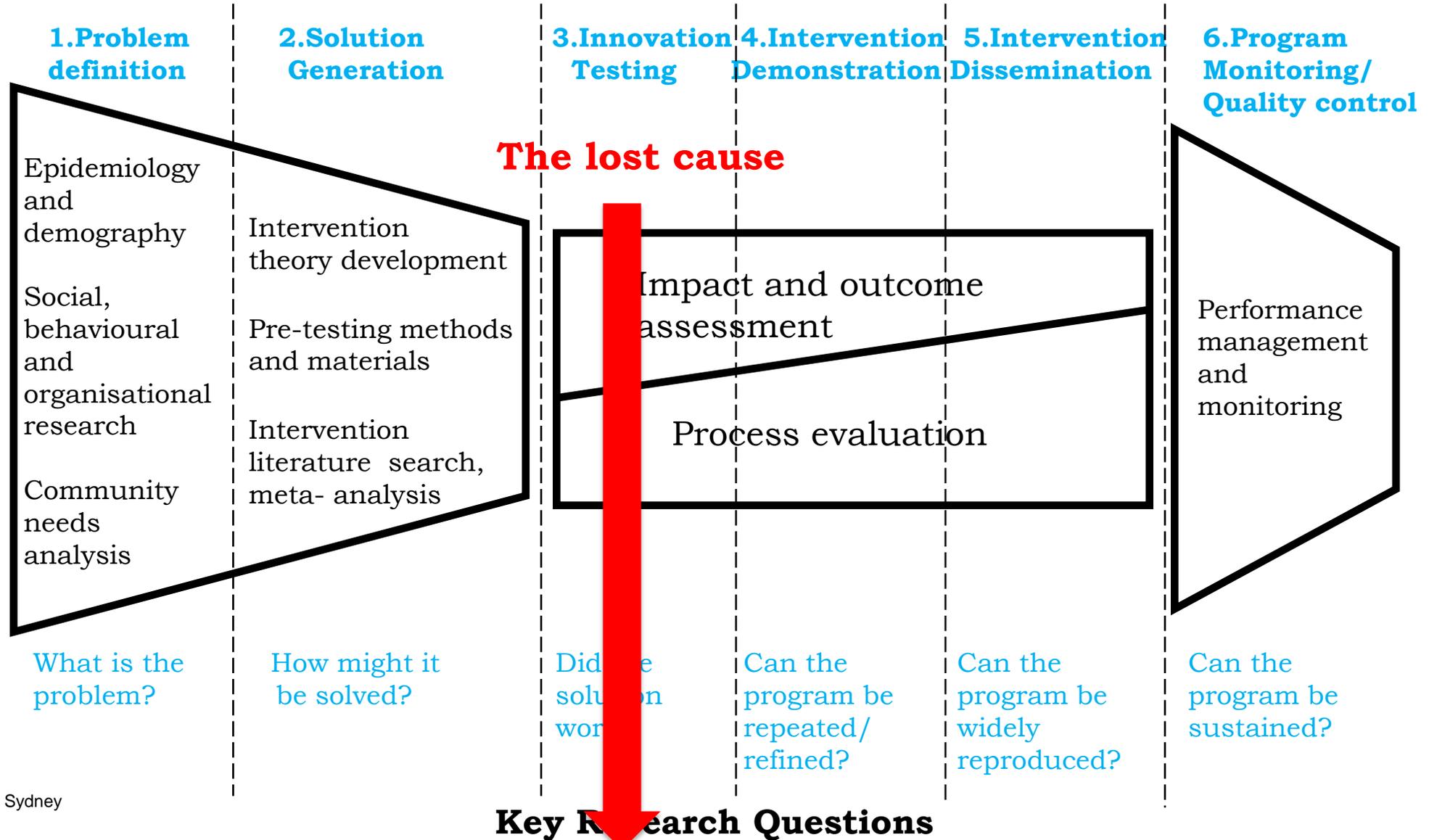
# Building evidence for public health intervention:

## Stages of Research and Evaluation



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## Stages of Research and Evaluation

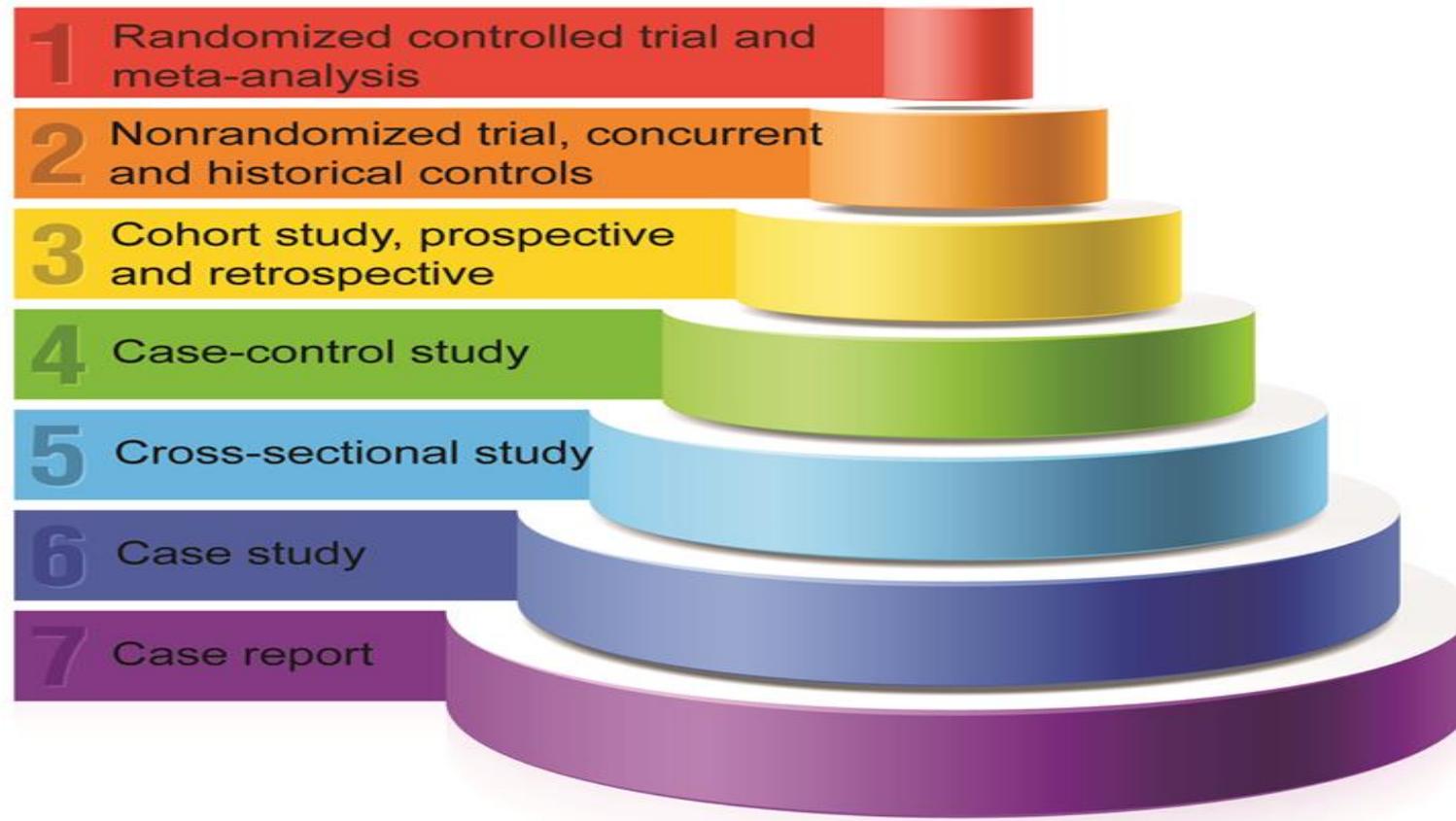


# How would you know if your intervention had made an observed difference (causality)?

- You can measure indicators of interest **before and after** the intervention (observed change)
- You can **compare** observed change between the population receiving the intervention, and a similar population not receiving the intervention
- You can make sure that those receiving, or not receiving the intervention are **randomly distributed**

How would you know if your intervention had made an observed difference (causality)?

## Hierarchical Levels of Research Design



# Quantitative or qualitative methods in program evaluation

- Both quantitative and qualitative methods contribute to each of research studies described above.
- In many circumstances they are synergistic; and a good quality of evaluation has components of both.

# Evaluation to what end? Use of logic models in the evaluation of health and social interventions

## Logic models can

- provide a **structured framework** within which program inputs, context and impact can be described
- be used to **make explicit assumptions about the intervention** - what will happen during a program, in what order, and with what anticipated effects.
- **help practitioners and evaluators to communicate** clearly to stakeholders (and to each other), and
- help to **better manage unreasonable expectations** from impatient policy-makers and funders

# Evaluation to what end?

## Use of logic models in the evaluation of health and social interventions

### Use of outcome hierarchies which distinguish between:

- changes to health and social outcomes (mortality, morbidity, independence and disability, usually longer-term)
- changes to underlying determinants (services accessibility, and use, personal behaviors, socio-economic, environmental conditions – usually medium term)
- Program impacts (changes to knowledge, motivation, capacity, social norms, public policy, organizational practice, usually in short-term)

Implies careful selection of most relevant indicators

## Figure 1: Logic model for intervention planning

### Starting at the end – what do we want to achieve?

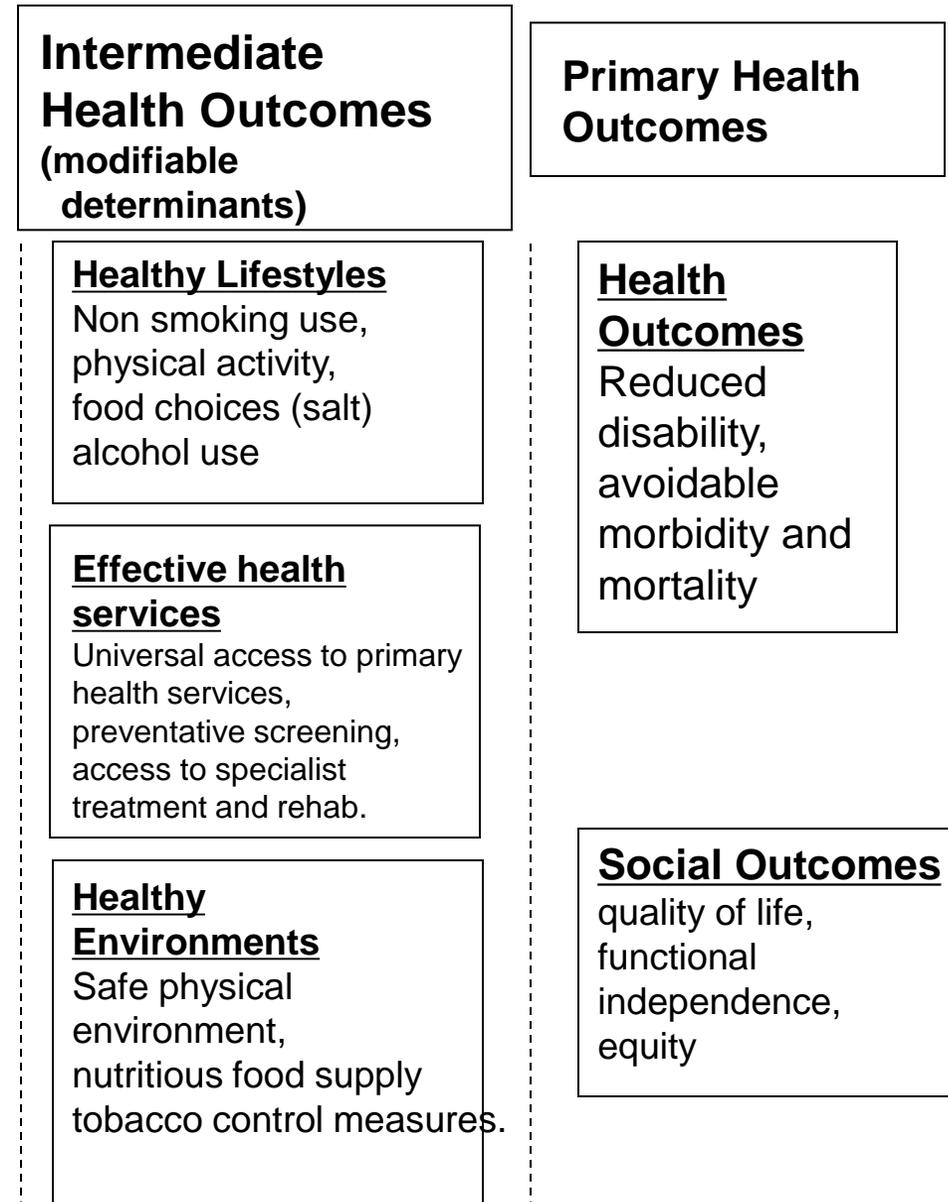
**Primary Health Outcomes**

**Health Outcomes**  
Reduced disability, avoidable morbidity and mortality

**Social Outcomes**  
quality of life, functional independence, equity

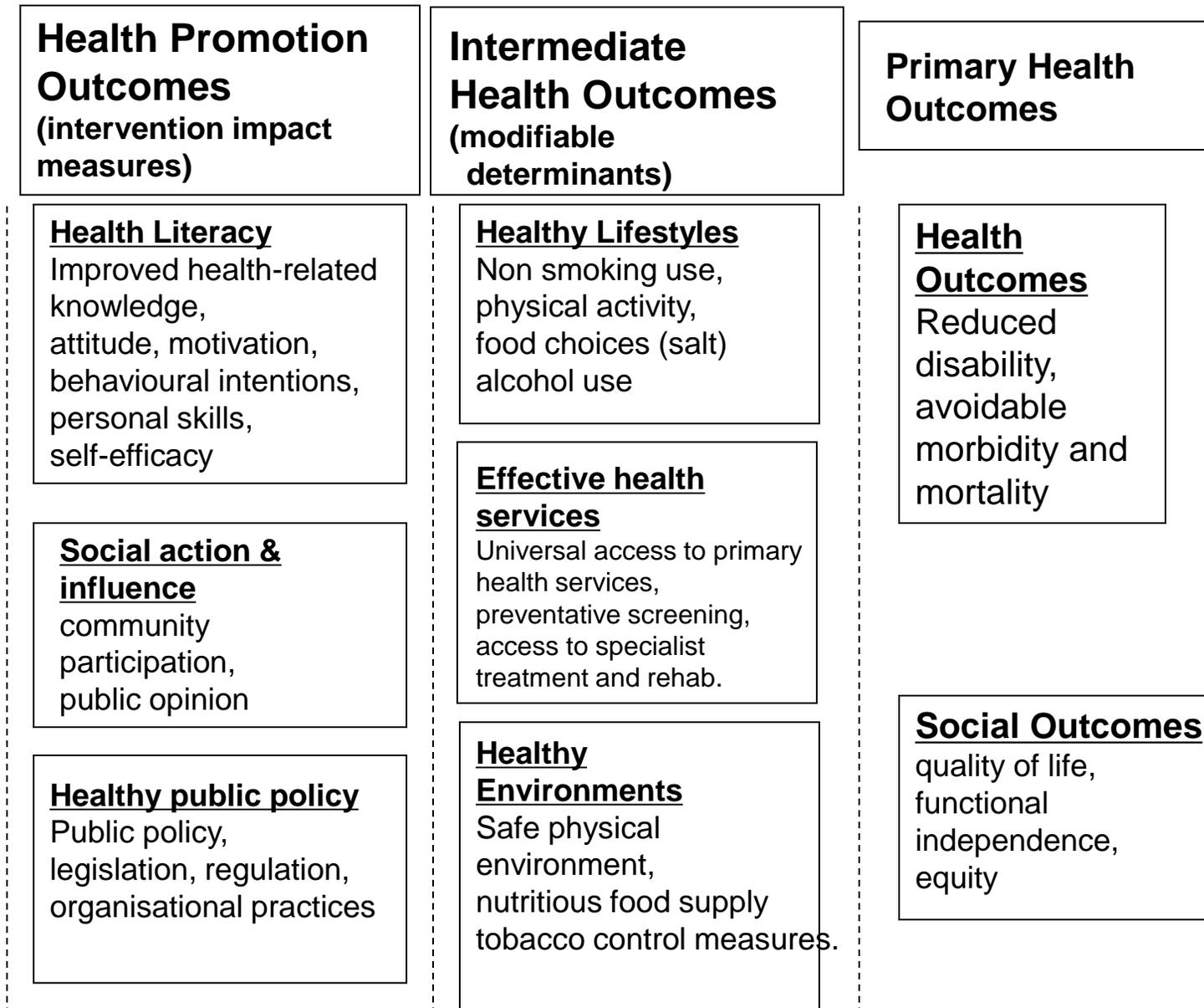
# Figure 1: Logic model for intervention planning

## What are the determinants we want to change?



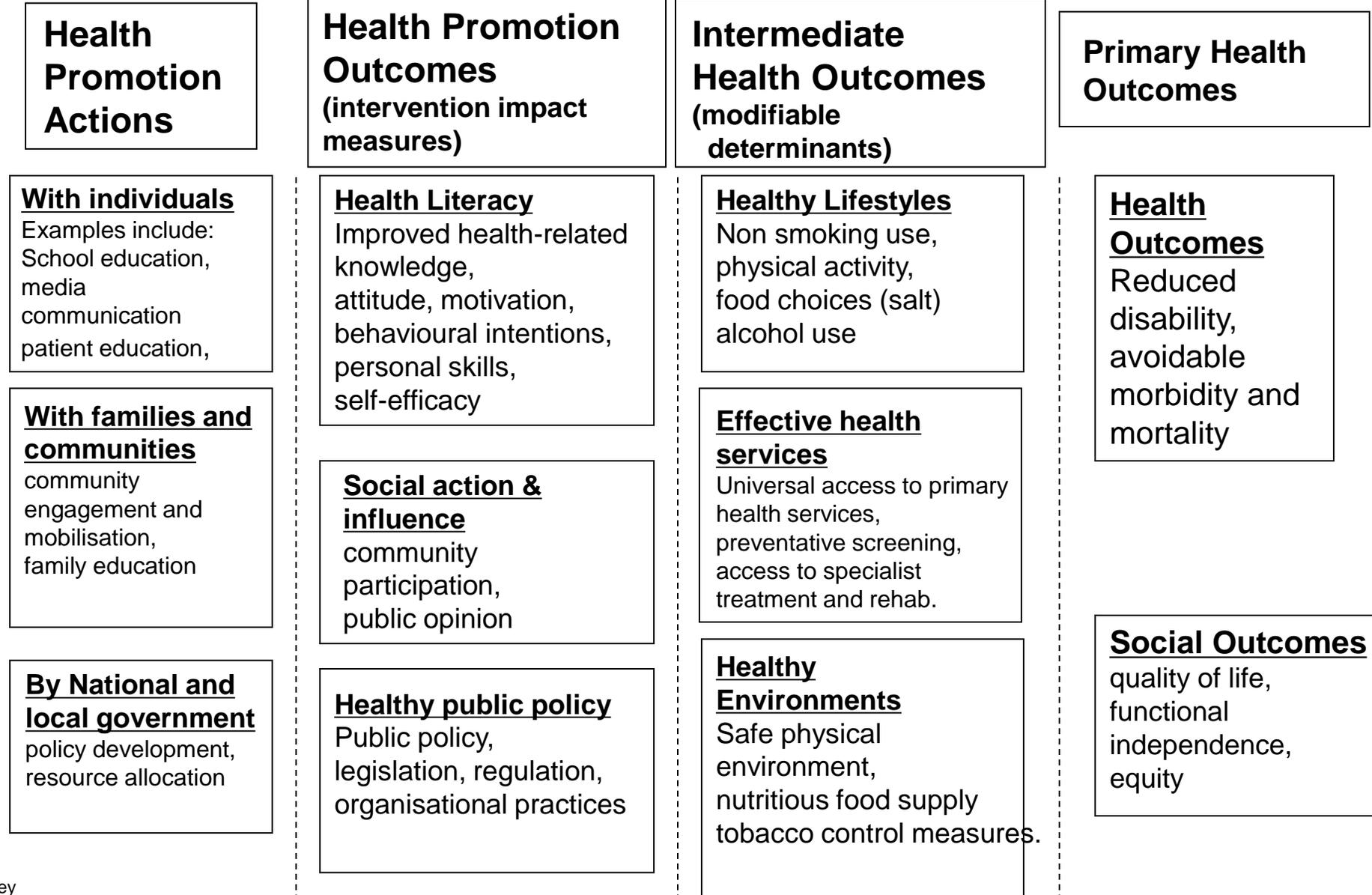
# Figure 1: Logic model for intervention planning

## What influences the determinants we want to change?

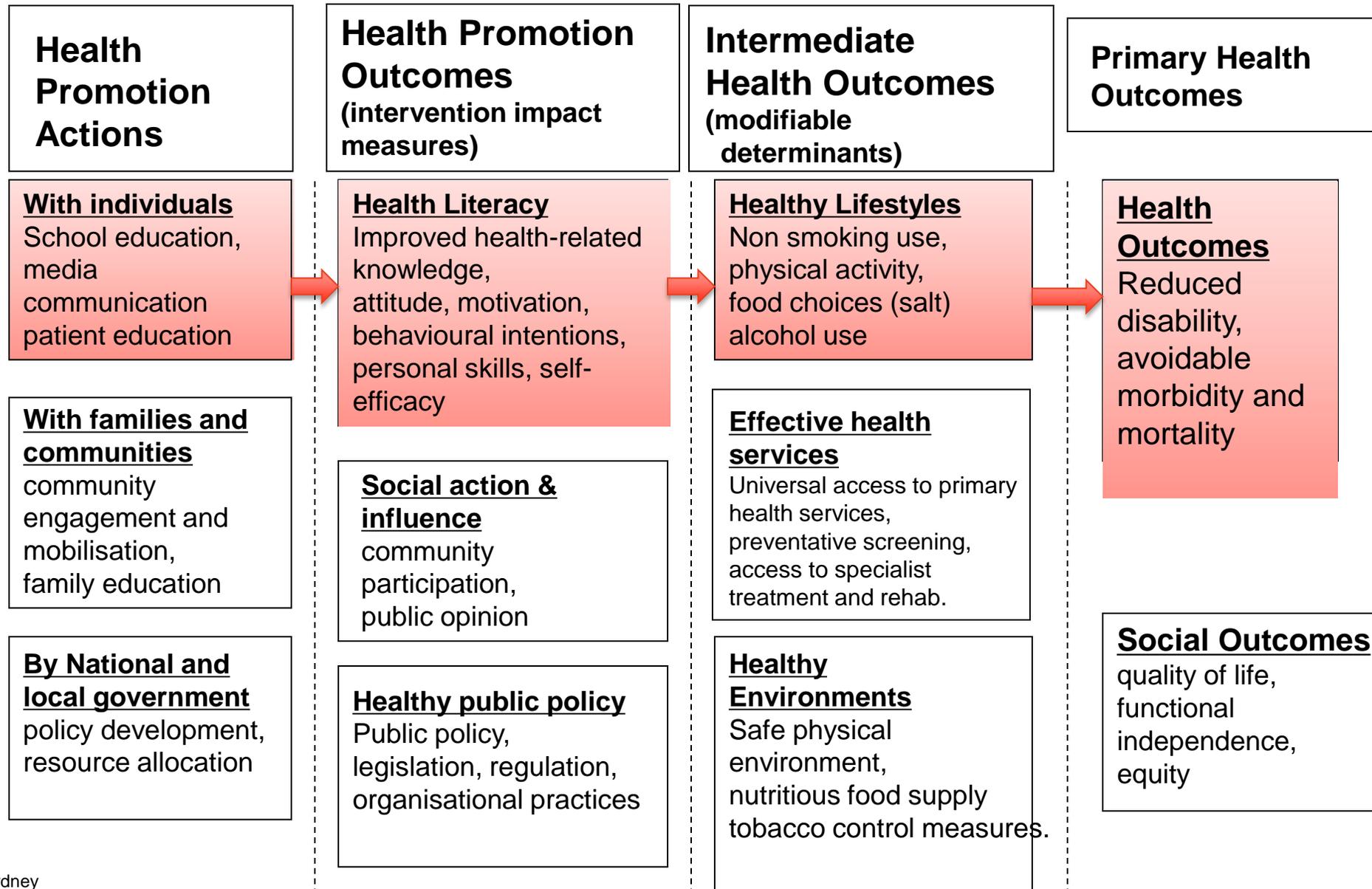


# Figure 1: Logic model for intervention planning

## What actions are needed at different levels?

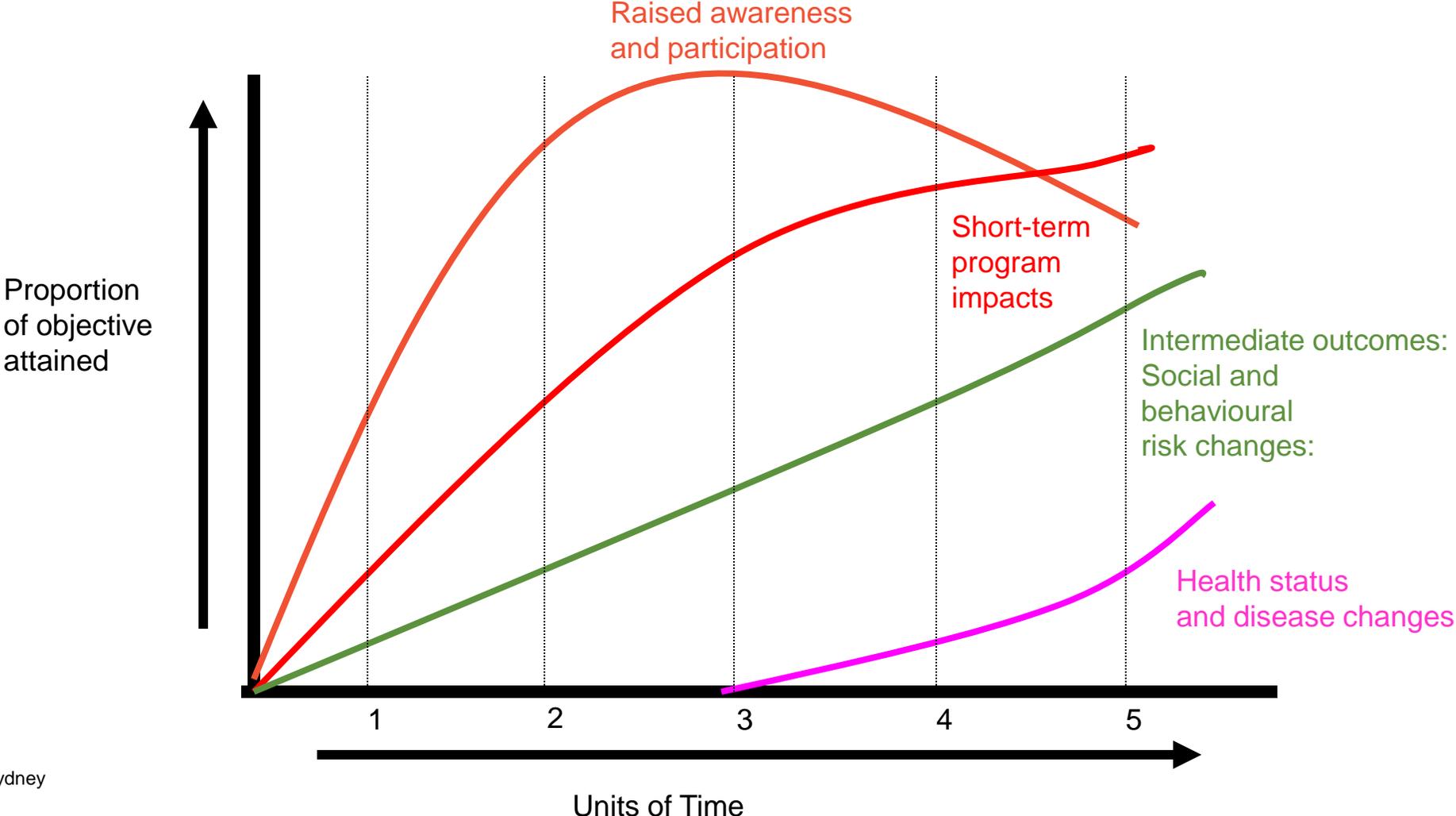


**Figure 1: Logic model for intervention planning**  
**What can educational programs achieve?**

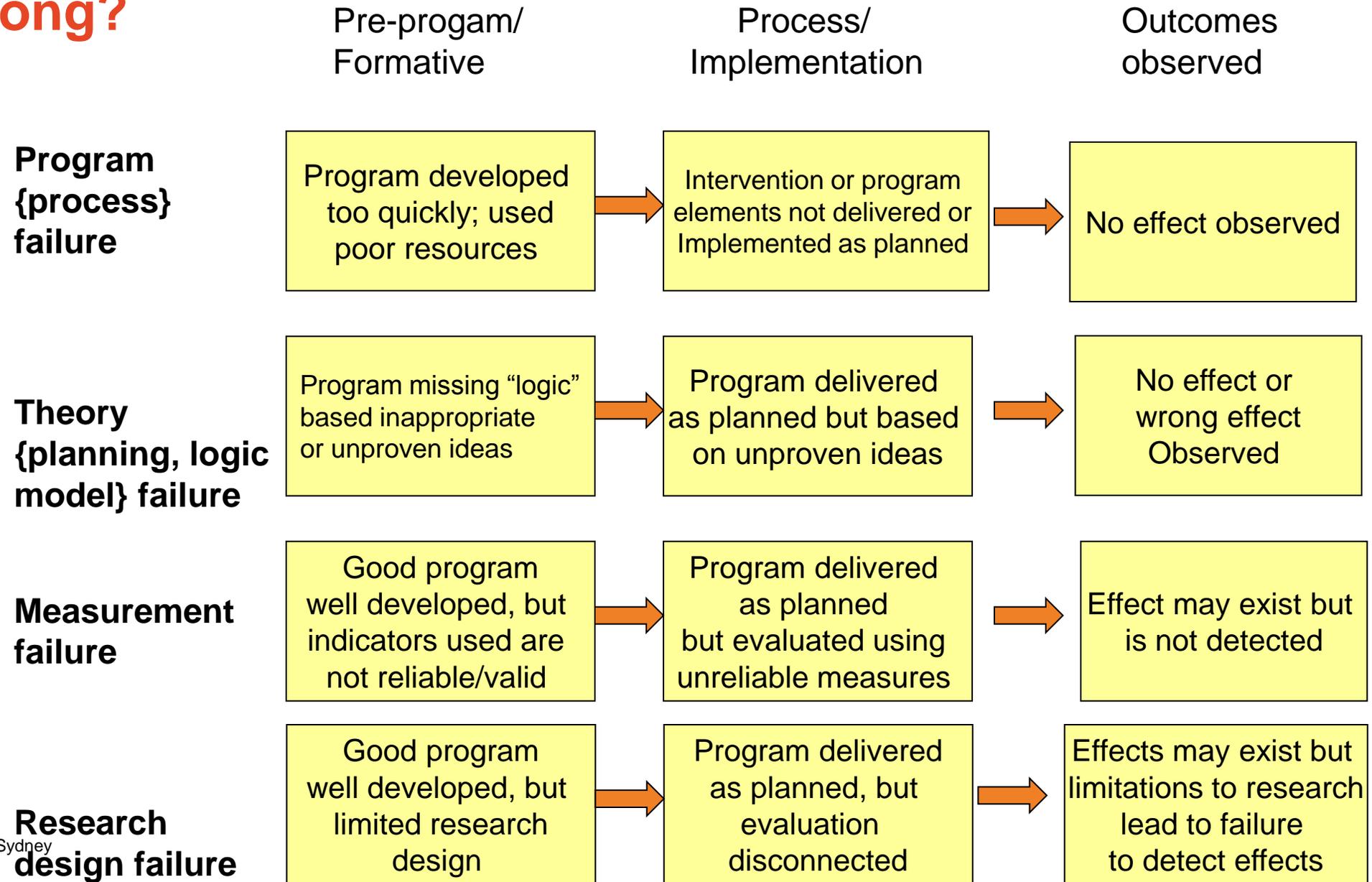


# Managing expectations

Theoretical distribution over time of outcomes from public health intervention



# Assessing evaluation results – where do things go wrong?

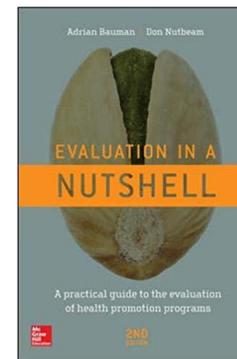


# What do we need to do to improve evaluation in health and community services

- More carefully debate the nature of “evidence” in health interventions, **and implicit values**
- **Communicate, and explain** intervention logic, manage expectations of stakeholders
- Carefully select the **most relevant indicators**
- More **intervention** research (right side of model)

# What do we need to do to improve evaluation in health and community services

- Reflect honestly the complexity of effective interventions in the development of research methods and outcome measurement, **not confuse quality with methodology**
- Combining research methods (quantitative, with qualitative), and “build” evidence derived from a much richer base of knowledge and experience than is often advocated, **get the right answers to the right questions**
- Get help when you need it!



# Where can things go wrong....

– doi:10.1136/bmj.327.7429.1459

## Hazardous journey

### Parachute use to prevent death and major trauma related to gravitational challenge: systematic review of randomised controlled trials

Gordon C S Smith, *professor*<sup>1</sup>, Jill P Pell, *consultant*<sup>2</sup>

#### Abstract

**Objectives** To determine whether parachutes are effective in preventing major trauma related to gravitational challenge.

**Design** Systematic review of randomised controlled trials.

**Data sources:** Medline, Web of Science, Embase, and the Cochrane Library databases; appropriate internet sites and citation lists.

**Study selection:** Studies showing the effects of using a parachute during free fall.

**Main outcome measure** Death or major trauma, defined as an injury severity score > 15.

**Results** **We were unable to identify any randomised controlled trials of parachute intervention.**

**Conclusions** As with many interventions intended to prevent ill health, the effectiveness of parachutes has not been subjected to rigorous evaluation by using randomised controlled trials. Advocates of evidence based medicine have criticised the adoption of interventions evaluated by using only observational data. We think that everyone might benefit if the most radical protagonists of evidence based medicine organised and participated in a double