



How to develop and use logic models

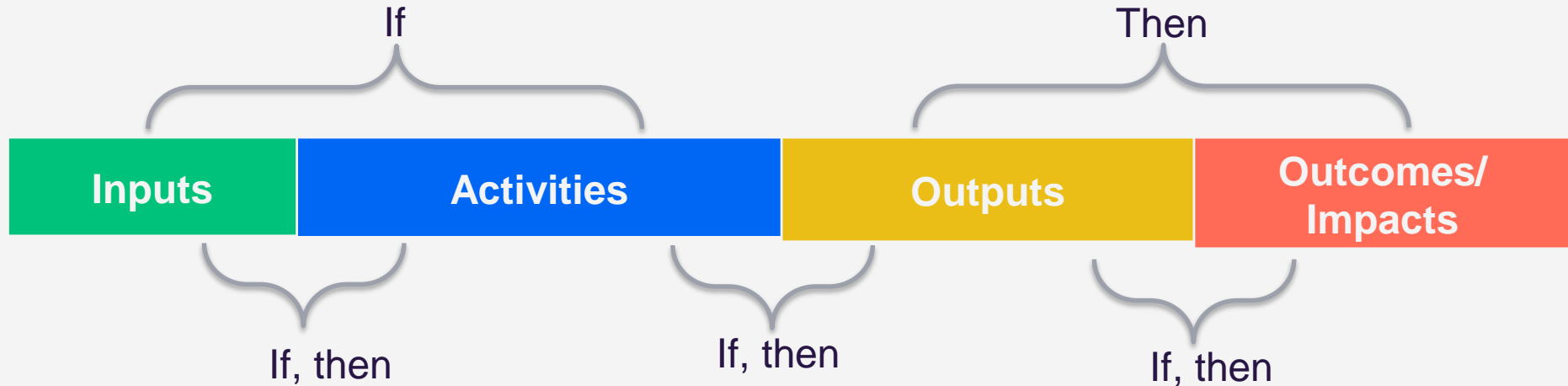
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What is a logic model?

A logic model presents a picture of how your intervention or initiative is supposed to work. It explains why your strategy is a good solution to the problem at hand.



Synonyms: Program(me) theory, Program(me) logic, Causal model, Results chain, Intervention logic, Theory of Change, Road map / Conceptual maps, Mental models

When can a logic model be used?

Planning and development

- help think through how and why a programme can work
- set out the relationships and assumptions between what a programme will do and what changes it expects to deliver
- illuminate gaps between underlying assumptions and the anticipated outcomes
- orient stakeholders, facilitate their buy-in

Implementation

- manage and monitor implementation

Evaluation

- communicate programme success
- advocate for programme continuation or expansion

Why use a logic model approach?

- Visually engaging approach
- Brings together existing evidence (and identifies gaps)
- Logically links activities and effects:
 - identifying barriers
 - clarifying assumptions making success more likely
 - provoking thought and triggers questions
- Builds understanding and promotes consensus re: the programme theory:
 - provides a common language
 - provides common point of reference

Limitations

- Always a danger that your model will not be correct
- Challenging to establish appropriate boundaries
- Time consuming
- Integrating the outcomes and outputs from different services is demanding
- Baselines can be hard to select, as can be measures when not pre-existing
- Attribution of measures is difficult in the context of other factors influencing the outcomes

Developing a logic model

Identifying the rationale

1. What is the problem?
2. What causes the problem?
3. Who is affected by this problem (i.e. the patients)?
4. Who cares about whether or not this problem is solved (i.e. the stakeholders)?
5. What does existing research and experience tell us about how to solve this problem?

Developing programme theory

1. Articulating mental models: talking with key informants
2. Backcasting: working backward from a desirable future to determine project feasibility
3. Five Whys: asking questions in order to examine the cause-and-effect relationships
4. Generic change theories: common theories about how change comes about
5. Group model building: building a logic model in a group
6. Previous research and evaluation: using the findings from evaluation and research studies that were previously conducted on the same or closely related areas
7. SWOT Analysis: reflecting on and assessing the Strengths, Weaknesses, Opportunities and Threats of a particular strategy

Outcomes / Impacts

Adequate or better practice

- Including an appropriate range of social, economic, etc consequences
- Reflecting the respective or shared goals of all stakeholders
- Phrasing with a direction of change
- Framing along a continuum
- Asking yourself: What have been the many effects of our activities? Which were sought out, which were unanticipated?
- Classifying unintended consequences

Inadequate practice

- Narrowly defining impacts in terms of what can be readily measured
- Not thinking about possible negative impacts or possible unintended positive impacts
- Over-relying upon individual-level theorising when the aim is to achieve community, organisational or population-level change
- Narrowly asking, did we achieve what we set out to achieve?

Inputs

Adequate or better practice

Describing:

- Financial: new funding, shifts in funding
- People: workforce / capacity, community capacity and end users
- Equipment: estates, technology
- Other influencing factors (e.g. policies or other programmes)

Inadequate practice

- Being unrealistic or over-optimistic about inputs and costs
- Not thinking about or logically describing how the scale of activities and impact will be increased or maintained / sustained in the longer term (and how this will change the inputs)

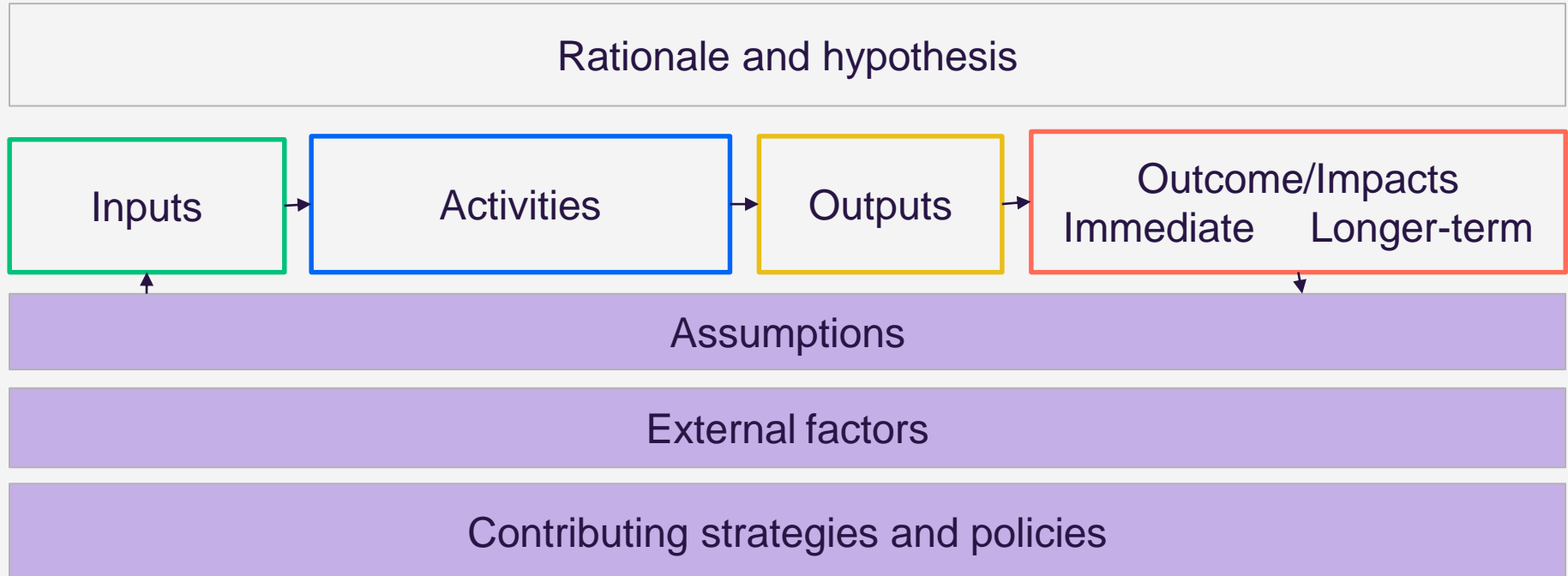
Activities

Adequate or better practice	Inadequate practice
<ul style="list-style-type: none">• Provide detailed descriptions of what is being implemented, who is delivering the intervention and how (quantify wherever possible)• Think carefully about the mechanisms of change• Chains of actions where there are interdependencies• Describe activities at various levels	<ul style="list-style-type: none">• Laying out the series of events at too high of a level – creating a ‘black box’ where changes will take place. This ignores how the resources outlined will come together to actually implement the change.

Outputs

Adequate or better practice	Inadequate practice
<ul style="list-style-type: none">• Being comprehensive in describing and distinguishing the products, milestones and deliverables• Ask yourself: What evidence is there that the activities were performed as planned?• Using both qualitative and quantitative approaches to gather data	<ul style="list-style-type: none">• Not linking outputs to specific activities and outcomes

Assumptions and external factors



Checking and refining your model

- **Testing comprehensiveness:** Is the level of detail sufficient to create understandings of the elements and their interrelationships? Is the programme logic complete? Are all key elements accounted for?
- **Verification:** Work closely with stakeholders to test the model (may lead to reallocate resources) and review the evidence base for the assumptions made
- **Create links:** Map the causal links between components
- **Make appropriate changes over time:** Be flexible and open to changes to overall design

Discussion and debate

For all:

- Do the benefits of the logic model approach outweigh the limitations?

For those who have used logic models:

- When you last used a logic model, would you say you used good practice?
- Which factors enabled good practice?

References and helpful links

Better Evaluation

- <https://www.betterevaluation.org/>
- https://www.betterevaluation.org/en/rainbow_framework/define/develop_programme_theory

HM Treasury - The Magenta Book

- <https://www.gov.uk/government/publications/the-magenta-book>

North of England Commissioning Support

- <https://learning.necsu.nhs.uk/elearning/tcp-c3-d3/templates/logic-models-a-practical-guide.pdf>

Strategy Unit

- <https://www.strategyunitwm.nhs.uk/index.php/publications/logic-models-complex-programmes>
- <https://www.strategyunitwm.nhs.uk/sites/default/files/2017-09/Using%20Logic%20Models%20in%20Evaluation-%20Jul16.pdf>

UK Medical Research Council (MRC) – process evaluations of complex interventions (to be updated in 2019)

- <https://mrc.ukri.org/documents/pdf/mrc-phsrn-process-evaluation-guidance-final/>

University of Kansas – Community Tool Box

- <https://ctb.ku.edu/en/table-of-contents/overview/models-for-community-health-and-development/logic-model-development/main>

University of Wisconsin

- <https://fyi.extension.wisc.edu/programdevelopment/logic-models/> (includes a PDF on how to teach the logic model approach)