A brief introduction to Realist Synthesis

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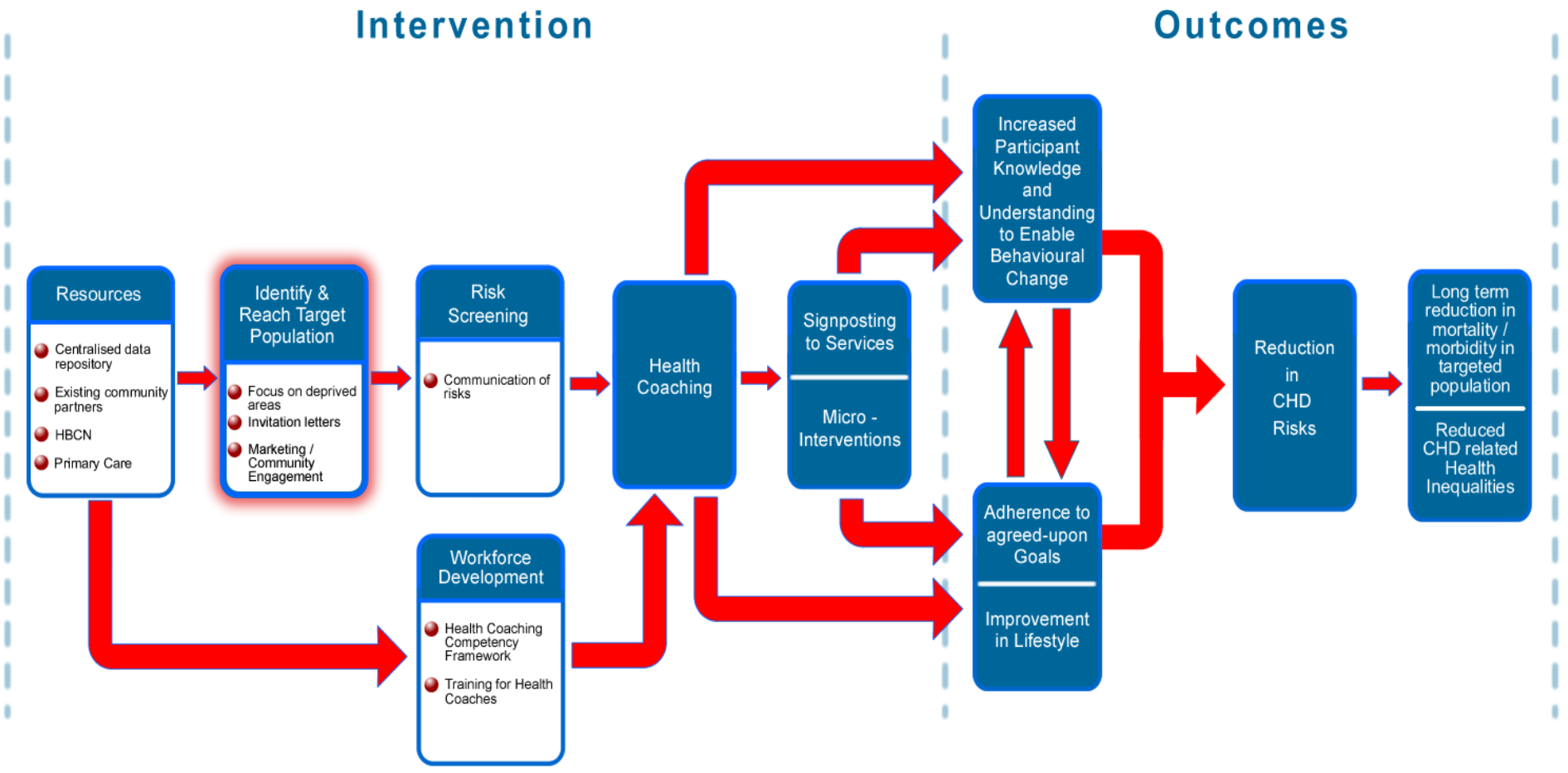
Outline

- *Reflecting on program complexity*
- *Why use realist synthesis?*
- An intuitive approach to realist synthesis
- Steps involved in doing realist synthesis
- Some examples
- Locating the need for realist synthesis within an evaluation-how realist synthesis could have helped an intervention with its implementation?

An example of a complex intervention



Reach → Screening → Health Coaching → Set of Interventions → Outcomes

Some questions to assist program implementation

- Reach
- How do we reach the hard-to-reach and hard-to-engage? Should we consider reaching poor areas vs. poor people? Should the reach efforts of the intervention be combined with other existing efforts of reach?

- Screening
- Should individuals be given a single score that summarizes the risk of heart disease? Or should multiple measures of risk be shared with the individual? What is more likely to motivate changes in behavior?

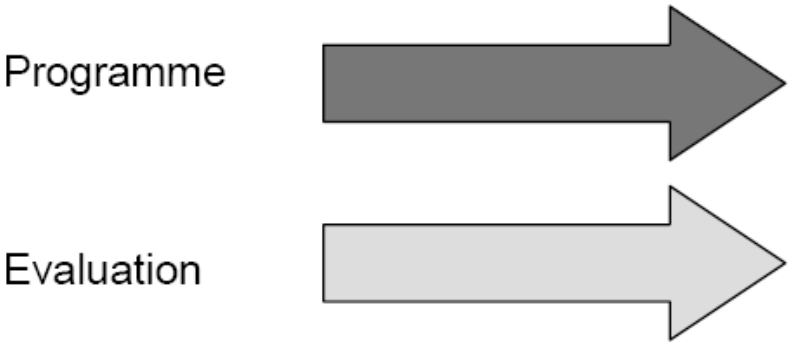
Seven characteristics of complex health interventions (Pawson et al., 2004)

- The intervention is a **theory or theories**
- The intervention involves **the actions of people** –
- The intervention consists of a **chain of steps or processes-**At each stage, the intervention could work as expected or ‘misfire’ and behave differently.
- These **chains of steps or processes are often not linear**, and involve negotiation and feedback at each stage.
- Interventions are **embedded in social systems** and how they work is shaped by this context.
- Interventions are **prone to modification** as they are implemented.
- Interventions are **open systems and change through learning** as stakeholders come to understand them.

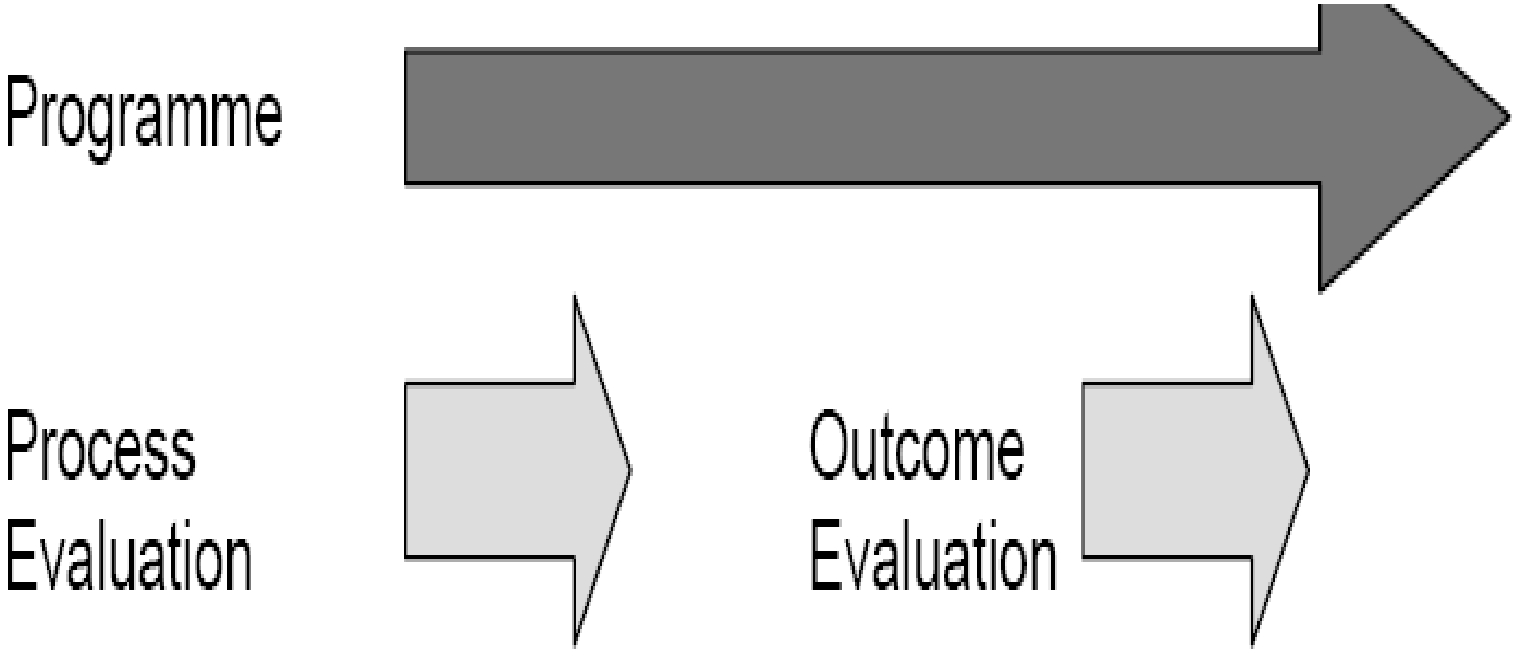
Why use Realist Synthesis?

- Moving beyond programs as the unit of analysis….focus is on program theory
- Complex programmes consist of a number of linkages
- Rarely are all linkages in a complex program supported by knowledge of “what works”.
- The program can fail due to limited knowledge of how to make choices during implementation.
- The evidence base supporting each of the linkages might be very different. Realist synthesis can help with such knowledge

The standard one-shot evaluation (Pawson et al., 2004)

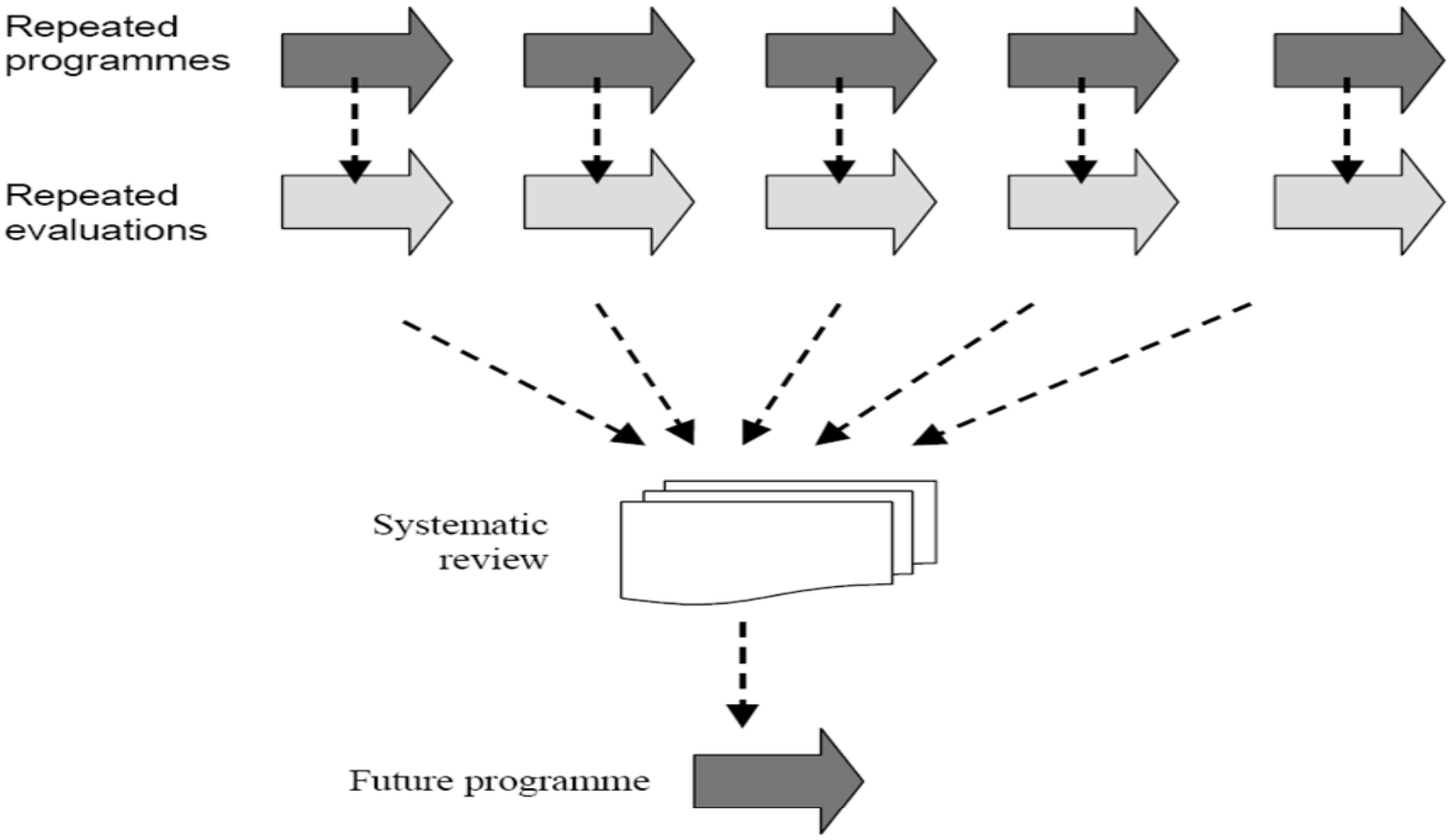


Evaluation over time (Pawson et al, 2004)

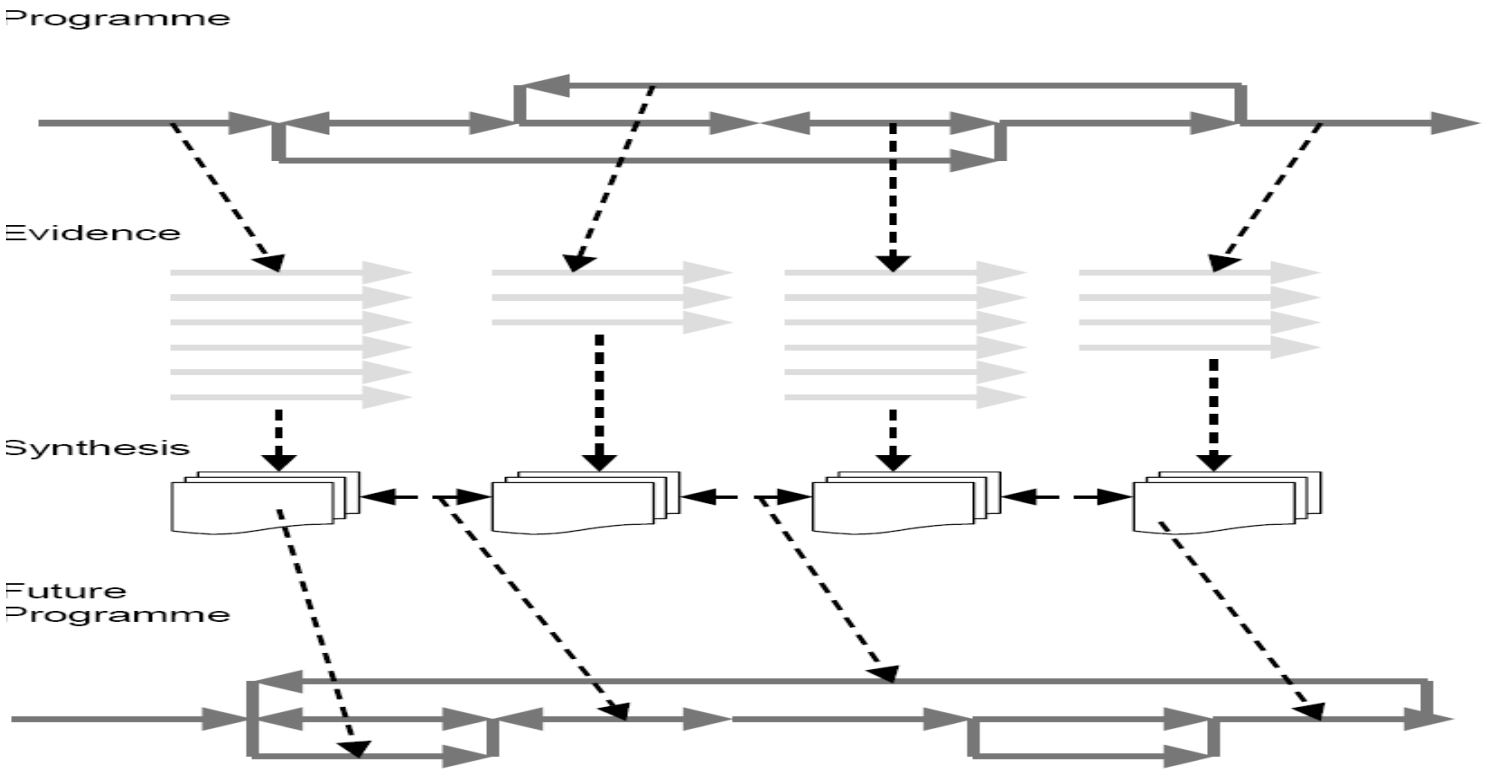


Realist Synthesis in a few key steps

Systematic reviews (Pawson et al., 2004)



Realist synthesis in one slide (Pawson et al., 2004)



A six step process of realist synthesis (Pawson, 2006) (1)

- Stage one: Identifying the review questions
  - Mapping the territory
  - Prioritizing review questions
  - Formalizing the model

- Stage two: Searching for primary studies
  - Background search
  - Search to track programme theories
  - Search for empirical evidence to test the theories
  - A final search to fine-tune the synthesis

A six step process of realist synthesis (2)

- Stage three: Quality Assessment
  - Assessment of relevance
  - Assessment of rigor
- Stage four: Extracting the data
  - Annotation
  - Collation
  - Reportage

A six step process of realist synthesis (3)

- Stage five: Synthesizing the data
  - Questioning program integrity
  - Adjudicating between rival program theories
  - Considering same theory in comparative settings
  - Comparing official expectations with actual practice
- Stage six: Dissemination
-

Examples

- Still a new approach…good examples are still being developed
  - School Feeding Program
  - Megan's Law
  - Youth Mentoring
  - Naming and Shaming

Realist review to understand the efficacy of school feeding programmes (Greenhalgh et al, 2007)

- “Our Cochrane review of school feeding programmes in disadvantaged children included trials from five continents and spanned eight decades. Although we found that the programmes have significant positive effects on growth and cognitive performance, the trials had many different designs and were implemented in varying social contexts and educational systems; by staff with different backgrounds, skills, and cultural beliefs; and with huge variation in the prevailing social, economic, and political context.”

- “Simply knowing that feeding programmes work is not enough for policymakers to decide on the type of intervention that should be implemented. We therefore looked at the trials more closely to determine the aspects that determine success and failure in various situations.”

Approach used in school feeding example (1)

- “We read, re-read, and discussed the papers and constructed a matrix on an Excel spreadsheet to collate information for each trial on:
  - Study design, sample size, and outcome data
- Nature of the experimental and (where present) control interventions, including intensity and timing
- Process detail, especially comments on the fidelity of the intervention, changes made by staff on the ground, and reasons for those changes
- Aspects of the study's history and context, especially those highlighted as important by the study's authors
- Any theories or mechanisms postulated (or assumed) by the study's authors to explain the success or failure of the programme.”

Approach used in school feeding example (2)

- “We considered relevant data first on a trial by trial basis in terms of the interaction between context, mechanism, and outcome, and then across the different trials to detect patterns and idiosyncrasies. We discussed preliminary conclusions and synthesised key findings using a narrative and interpretive approach. *We identified four broad areas relevant to this analysis: the historical context of school feeding programmes, theories to explain the success of particular programmes, theories to explain their failure or qualify a partial success; and measurement issues.”*

School feeding example

- “Is it time to shift the balance in what we define as quality from an exclusive focus on empirical method (the extent to which authors have adhered to the accepted rules of controlled trials) to one that embraces theory (the extent to which a theoretical mechanism was explicitly defined and tested)? If authors of trials of complex interventions were required to meet minimum quality standards for theory as well as method, far fewer systematic reviews might conclude that "more primary research is needed."

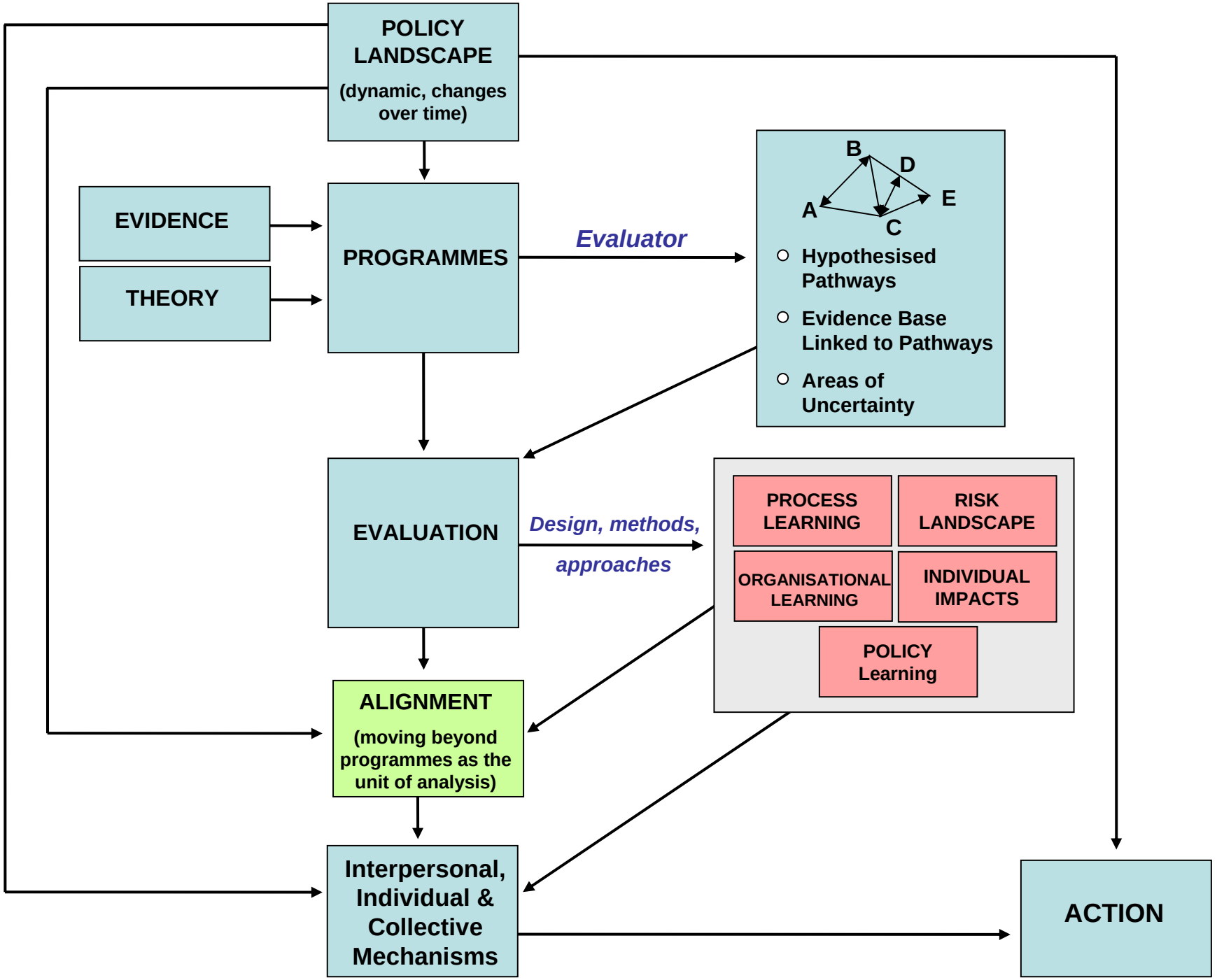
Locating the need for realist synthesis in a recent evaluation

A Case Study

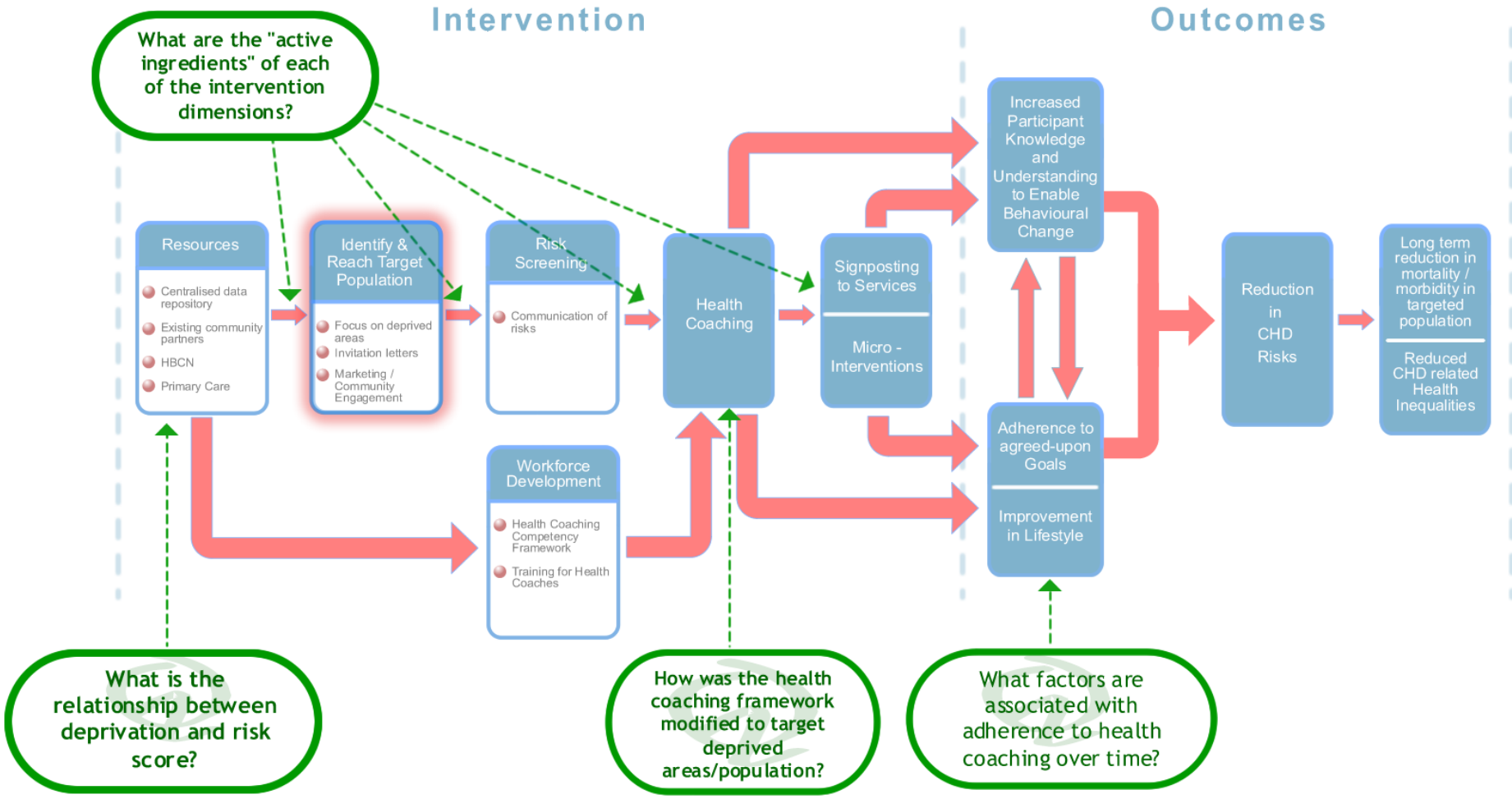
- The policy theory:
  - We believe that NHS Scotland can do more itself to break the link between deprivation and poor health. We need not only a sustained effort to promote good health and good health care, but also to target our resources at areas of greatest need. This will call for additional service activities to promote and support good health in our most disadvantaged communities and for the lessons learned be translated elsewhere.
  - (Delivering for Health, p. 24, 2005)

Rationale for policy theory

- Inverse care law: where the availability of good medical services are inversely related to the need for in the population served.


POLICY LANDSCAPE
(dynamic, changes over time)
EVIDENCE
THEORY
PROGRAMMES
Evaluator
B
D
A
E
C
Hypothesised Pathways
Evidence Base Linked to Pathways
Areas of Uncertainty
EVALUATION
Design, methods, approaches
PROCESS LEARNING
RISK LANDSCAPE
ORGANISATIONAL LEARNING
INDIVIDUAL IMPACTS
POLICY Learning
ALIGNMENT
(moving beyond programmes as the unit of analysis)
Interpersonal, Individual & Collective Mechanisms
ACTION

A Simplified Logic Model for Primary Prevention



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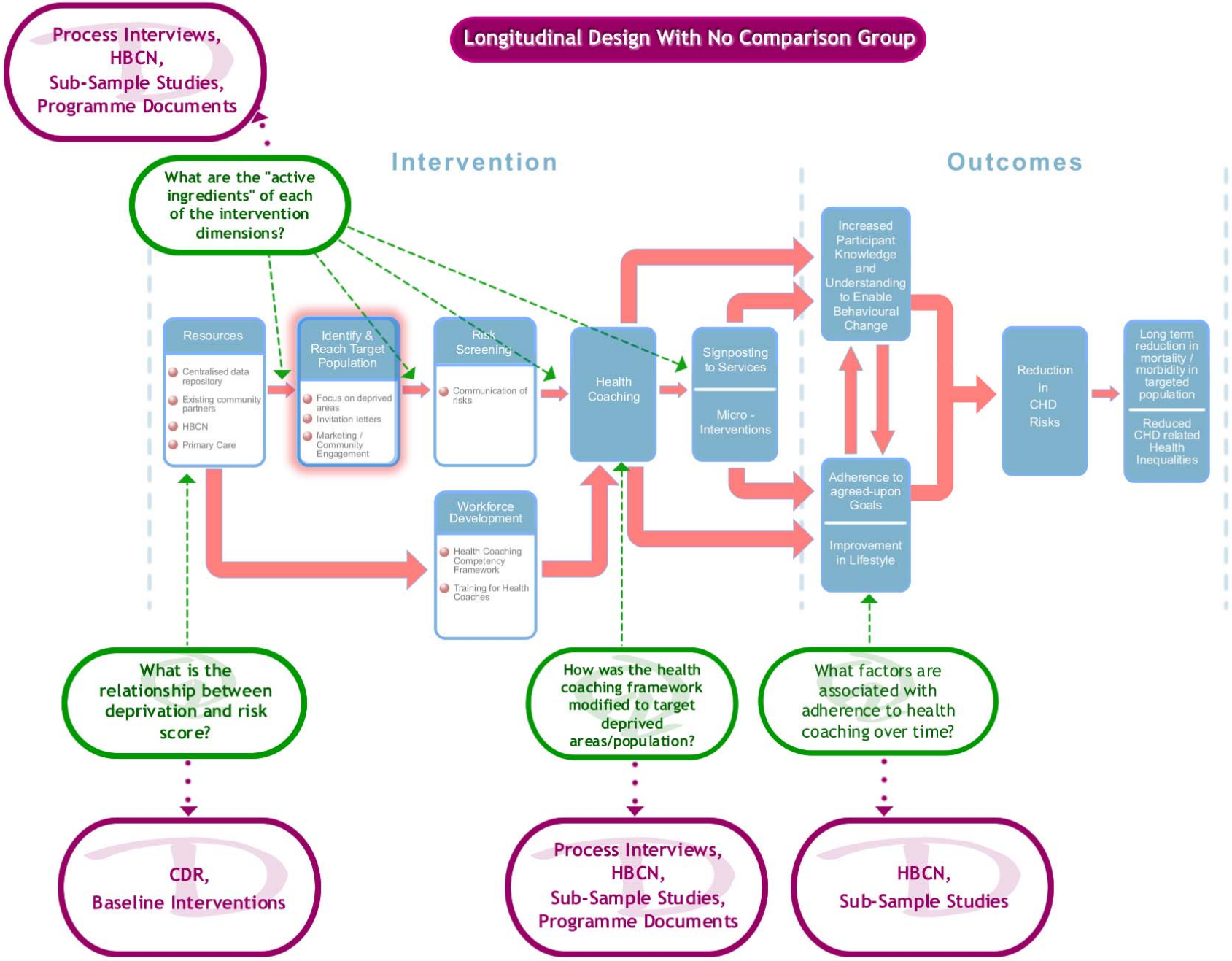

Five types of learning

Policy Learning

- How could realist synthesis have helped:
  - Targeting individuals: Universal targeting vs. more individualized targeting?
  - Role of deprivation in targeting individuals – multiple levels of deprivation?
  - Role of “access” in interventions?

Organizational learning

- How could realist synthesis have helped:
  - Organizational structures/processes needed to support reach activities? The need for an adaptive structure
  - Connection between planning for sustainability and a key active ingredient of such interventions: continuity of care

Process learning

- How could realist synthesis have helped:
    - Use of risk score to motivate behavior
    - How does Health Coaching work?
    - Support vs. Signposting to interventions?

Risk landscape of individuals

- How could realist synthesis have helped:
  - Understanding constraints of multiple disadvantages
  - How can interventions be planned to respond to such constraints
  - What can be done to continually re-engage hard to engage participants?
  - Trade-offs inherent in complex interventions

Individual impacts

- Impacts on attitudes, behaviors and medical outcomes (blood pressure, risk score, etc)
  - Results
- Whom did the programme work for? Issues of heterogeneity
- Comparison to prior evaluations
  - Systematic reviews

Next steps

- Moving beyond programs as the unit of analysis
- Greater attention to program theory
- Greater focus on the “uncertainty” around the evidence base for key linkages
- Realist synthesis can bring greater attention to implementation science
- ….need for more examples of realist synthesis