

Future directions: making construals to inform and evaluate government policy

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Our work – two broad categories:

1. Evaluation of existing policies, programmes and projects
2. Research designed to gather deeper understanding of the systems government wishes to influence

What I'd like to talk about this morning

- Explain the role I think making construals could play in informing and evaluating government policy
- Spend a bit of time reflecting on key messages I've taken from CONSTRUIT 2017
- Offer some reflections on areas for further research

Evaluation





HM TREASURY

The Magenta Book

Guidance for evaluation

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

Randomised Control Trials (RCT)

Considered the gold standard; where members of the target population are randomly allocated to a treatment group (who receive the intervention) or to a counterfactual group (which do not receive the intervention). Observations are then made in both these groups both before and after the invention takes place.



Quasi-experimental designs

These approaches try to approximate the experimental approach of a RCT where all conditions are not possible. For example, an evaluator can employ non-equivalent comparison group design where random allocation cannot be achieved. This involves matching a comparison group based on as many profiling attributes as possible.

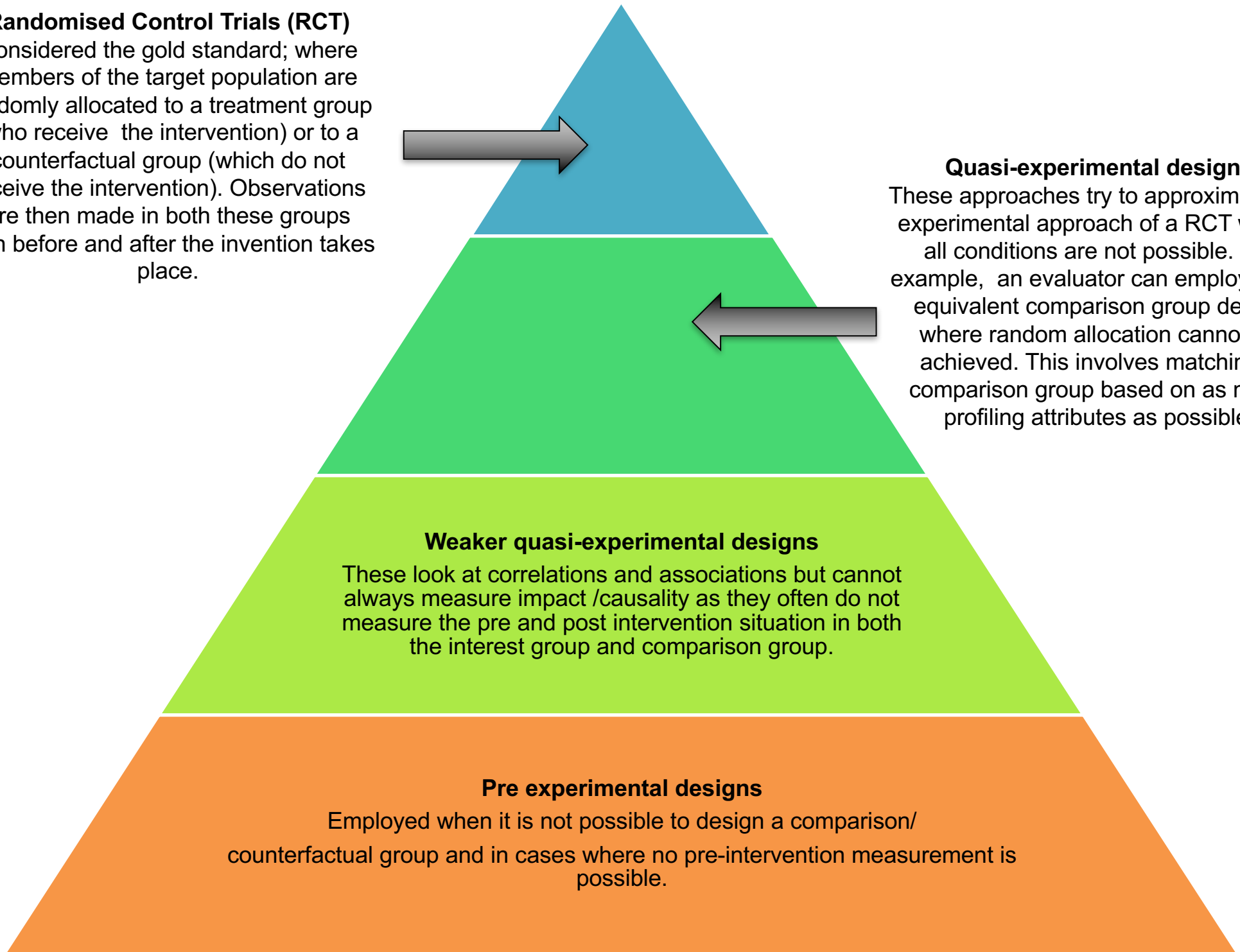


Weaker quasi-experimental designs

These look at correlations and associations but cannot always measure impact /causality as they often do not measure the pre and post intervention situation in both the interest group and comparison group.

Pre experimental designs

Employed when it is not possible to design a comparison/ counterfactual group and in cases where no pre-intervention measurement is possible.





Frameworks for causal inference

Table 1 Four frameworks for causal inference

	Aspect of causal relation	Causal question	Mill's methods	Description of causal mechanism
Counterfactual	Association between single cause and single effect	Did the intervention cause the effect? How much is the net effect of the intervention?	Difference	None
Regularity		Agreement, concomitant variation	None	
Configurational	Association between configurations of conditions and effects; description of causal mechanism	What configurations of factors are necessary and/or sufficient for the effect?	Agreement and difference but only applied to causal packages	Only the basic ingredients are described: conditions, their combinations and disjunctions
Generative	Description of causal mechanism	How was the effect produced? How did it come about?	None	In-depth

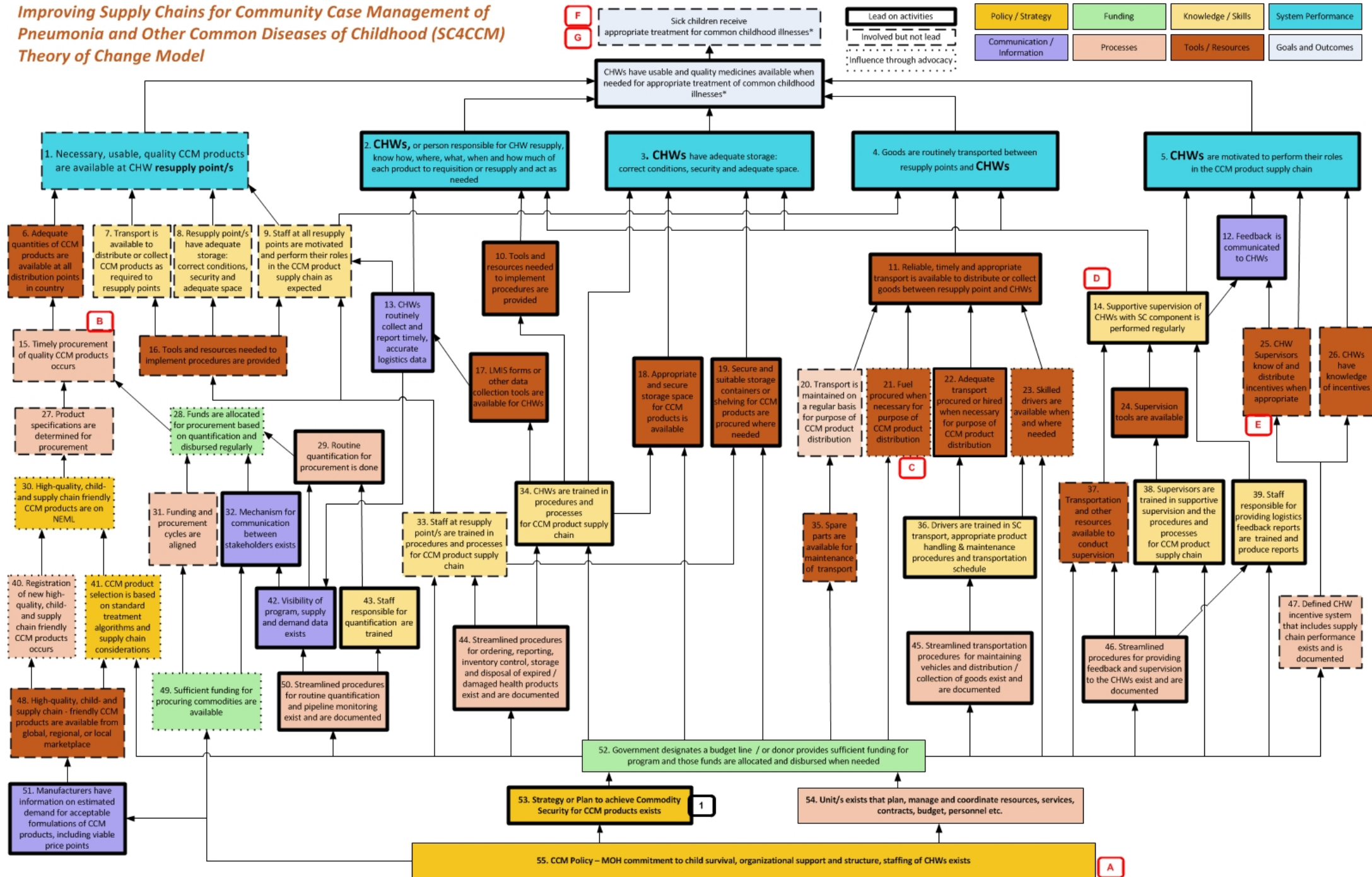
Source Adapted from Stern *et al.* (2012).

Source: Process tracing and contribution analysis: A combined approach to generative causal inference for impact evaluation. Barbara Befani and John Mayne

Rise in popularity of theory-based evaluation

1. Theory-based approaches can provide insight into the causal mechanisms at play and how the intervention worked (or not) in particular contexts/circumstances.
2. Where it is infeasible to implement randomised control trials or quasi-experimental designs, theory-based approaches offer an alternative framework for causal inference (generative causation), providing at least some opportunity to explore whether/how an intervention influenced observed outcomes.

Improving Supply Chains for Community Case Management of Pneumonia and Other Common Diseases of Childhood (SC4CCM) Theory of Change Model



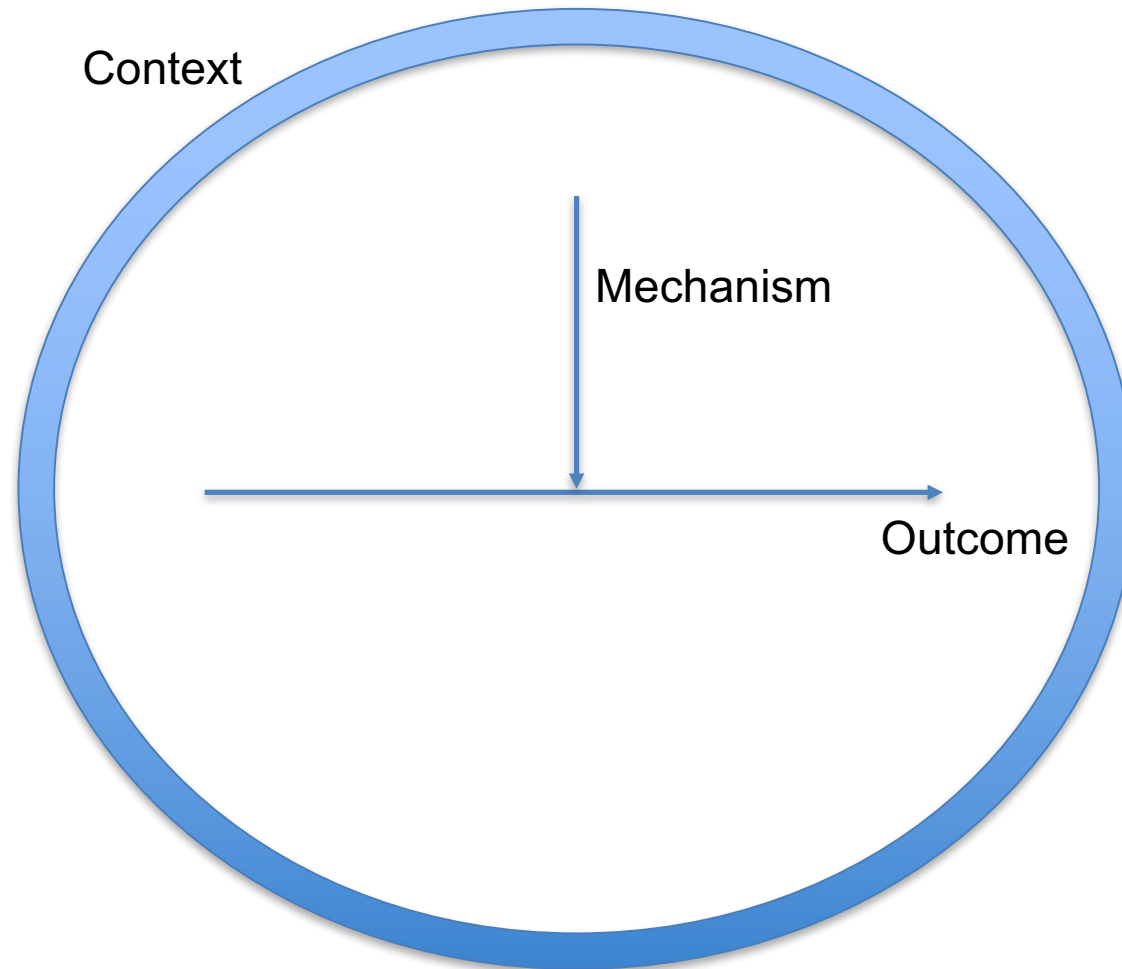
Criticisms of traditional theories of change

- Too simplistic
- Too linear – feedback loops not taken into account sufficiently
- Do not define / spell out the mechanisms
- Difficult to understand if you were not involved in their construction
- Not really a theory – more like a tentative explanation

Realist evaluation

- Central question: What works (or not), for whom, in what respects, to what extent, in what contexts and how/why.
- Realist evaluation starts and ends with a theory; the goal being to gather evidence that enables the initial theory to be tested and refined.

Realist evaluation principles



Pawson's example to illustrate the concept

“Gunpowder has the chemical composition (M) to create exothermic reactions (O) under an initial application of heat, but whether it does so depends on other conditions such as the absence of damp and presence of oxygen (C)”

Pawson, Ray. Evidence-based policy: a realist perspective. Los Angeles: Sage, 2006. Print.

Pawson example – CCTV

- 'Caught in the act' mechanism
- 'You've been framed' mechanism
- 'Nosy parker' mechanism
- 'Effective deployment' mechanism
- 'Publicity' mechanism
- 'Time for crime mechanism'
- 'Memory jogging mechanism'
- 'Appeal to the cautious mechanism'

Pawson, Ray, and Nick Tilley. Realistic evaluation. London: Sage, 2014. Print. First published 1997

Realist evaluation

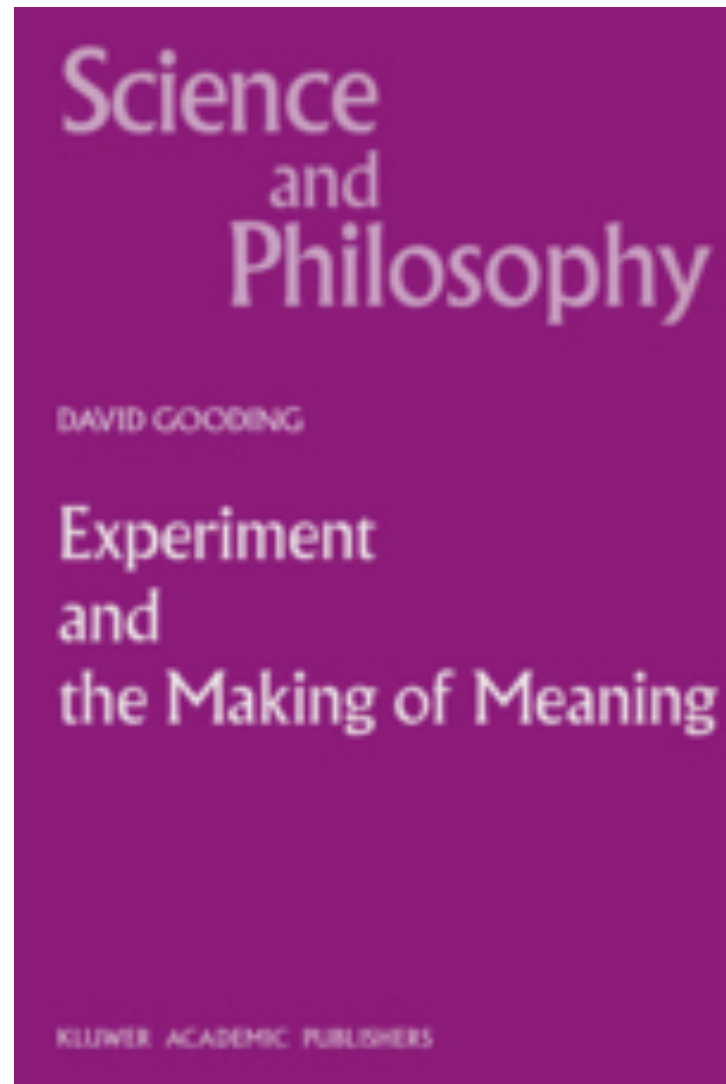
- Each theory is developed in the form of 'context, mechanism, outcome configurations' (CMOCs), with each new piece of evidence observed feeding in to developing, supporting, refuting or refining the existing theory.
- A few other important ideas to realist evaluation:
 - Idea that all policies and programmes are real-world experiments – so each is a source of evidence that might be considered
 - Mechanisms can and should be identified and discussed, ultimately, at a **mid-level of abstraction**

Challenges

- It turns out that doing realist evaluation – doing it well – is pretty hard
 - Mechanisms are invisible – often, it’s what goes on in people’s heads
 - Systems are intertwined and complex – there are multiple mechanisms at play and multiple contexts
 - Existing research evidence often tells only part of the story (C,M,O)
 - It can take a lot of time and effort to devise even an initial theory that stakeholders can agree on as a starting point
- One of the biggest challenges is that there isn’t a lot of guidance or support in terms of how one can develop a suitable theory – you just have to think, **hard**

Construal

Gooding's notion of construal



Gooding's notion of construal

Since much of the process is pre-verbal the experimentation is necessarily pre-hypothetical. This has two aspects. The first is one which my notion of construals is meant to capture – Faraday is thinking *through* doing as well as *about* doing. Some of these thoughts are inherently ambiguous until articulated into configurations of real or imagined entities (images, models or concrete apparatus). The second is of course that Faraday was experimenting to *realize* possibilities, not to *decide between* two distinct or incompatible interpretations. The possibility of ‘deciding’ depended on obtaining a stable outcome, at which point a choice could be made. As I pointed out in section 1.4, choices are perceived retrospectively as decisions. Faraday adjusted and refined his expectations frequently, as he experimented. He was not testing a *single*, unchanging hypothesis or theoretical model, nor a well-defined phenomenal model (M) entailed by such a theory. The phenomenal possibilities (m’s) had not yet crystallized. (For the distinction between phenomenological models (m’s) and models of phenomena (M’s) see section 3.6). These construals developed as each successive trial added new information.

Making construals

Making construals

- Making construals:
 - A process of making, interacting and experimenting with an artefact (thing to think with) that has a referent / some meaning to the maker
 - In the context of evaluation: an activity stimulated by desire to identify / better understand causal mechanisms (in social, economic systems etc.)
- A construal:
 - An emerging embodiment of the referent, pre-theoretical by virtue of its tentative and incomplete nature [at least initially],
 - Subject to further development in light of new information/evidence

Recent developments that make
me think there is a role for
making construals



Welcome to CECAN

Imagine you're responsible for a policy that affects every household in the UK, but the goal-posts keep changing and you're unsure whether the policy is still working.

Contributing to the design of public policy that can respond to the UK's societal problems is challenging. Policies are difficult to design and it can be near impossible to assess their success.

That's where [CECAN](#) comes in...

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New CECAN Seminar looking at Understanding Health Policy Through a Complex Systems Lens. 12th September 2017. BEIS.

cecan.ac.uk/events/cecan-s...



Complex systems

CECAN – improve practice of evaluation of interventions affecting change in complex systems

Complex systems are made up of (and emerge from):

- Many diverse, interacting components
- Non-linear (i.e. non-proportional) interaction between component
- These interactions lead to:
 - Non-linear behaviours at the system level
 - Unexpected outcomes
 - Resilience to change

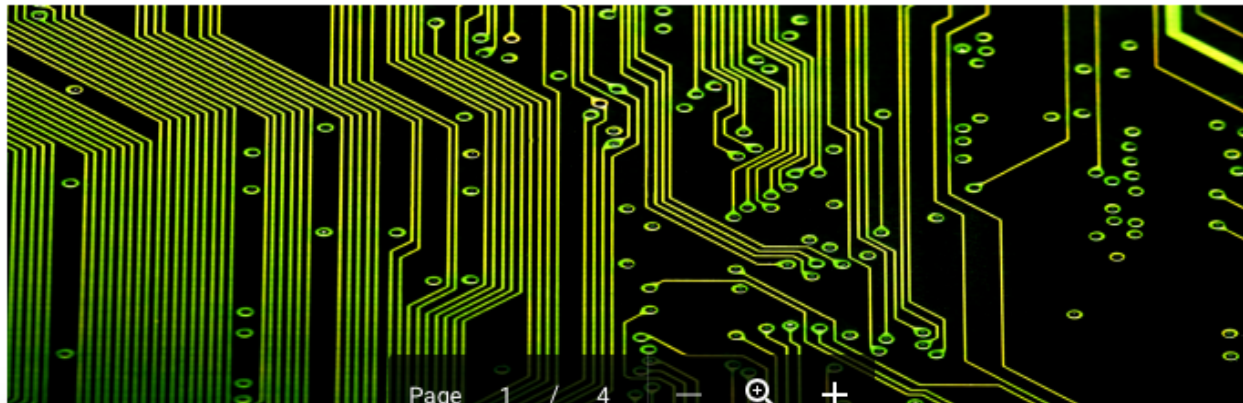
A desire to use computers to support thinking...



Note No. 3
Autumn 2016

Agent-Based Modelling for Evaluation

A CECAN Evaluation and Policy Practice Note for policy analysts and evaluators



A desire to use computers to support thinking



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CECAN Seminar: The use of dependency modelling to support evaluation in complex environments - 11th July 2017

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CECAN Seminar: The use of dependency modelling to support evaluation in complex environments - a case study application. Understanding and quantifying the value of flood risk management activities

11th July 2017, BEIS, 1 Victoria St, London 12.45-2pm

Harry Walton, Economist the Environment Agency, and Helen Wilkinson, Director, Risk Solutions



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Low impact for low cost, based on moderate evidence.

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Very low or no impact for moderate cost, based on very limited evidence.

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Behaviour interventions
Moderate impact for moderate cost, based on extensive evidence.

£ £ £ £ £ £ £ £ £ £ +3

Block scheduling
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Built environment
Very low or no impact for low cost, based on very limited evidence.

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Collaborative learning
Moderate impact for very low cost, based on extensive evidence.

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What does The EEF do? Please take the 2 minute tour of our website tools & features.

Home / Crime Reduction Toolkit

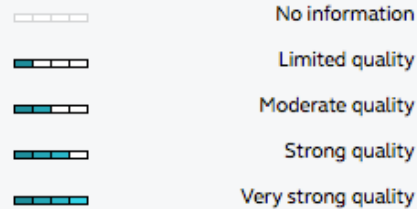
About the Crime Reduction Toolkit and EMMIE

Our effect scale

Our quality scale

Key

Quality of evidence



Filters

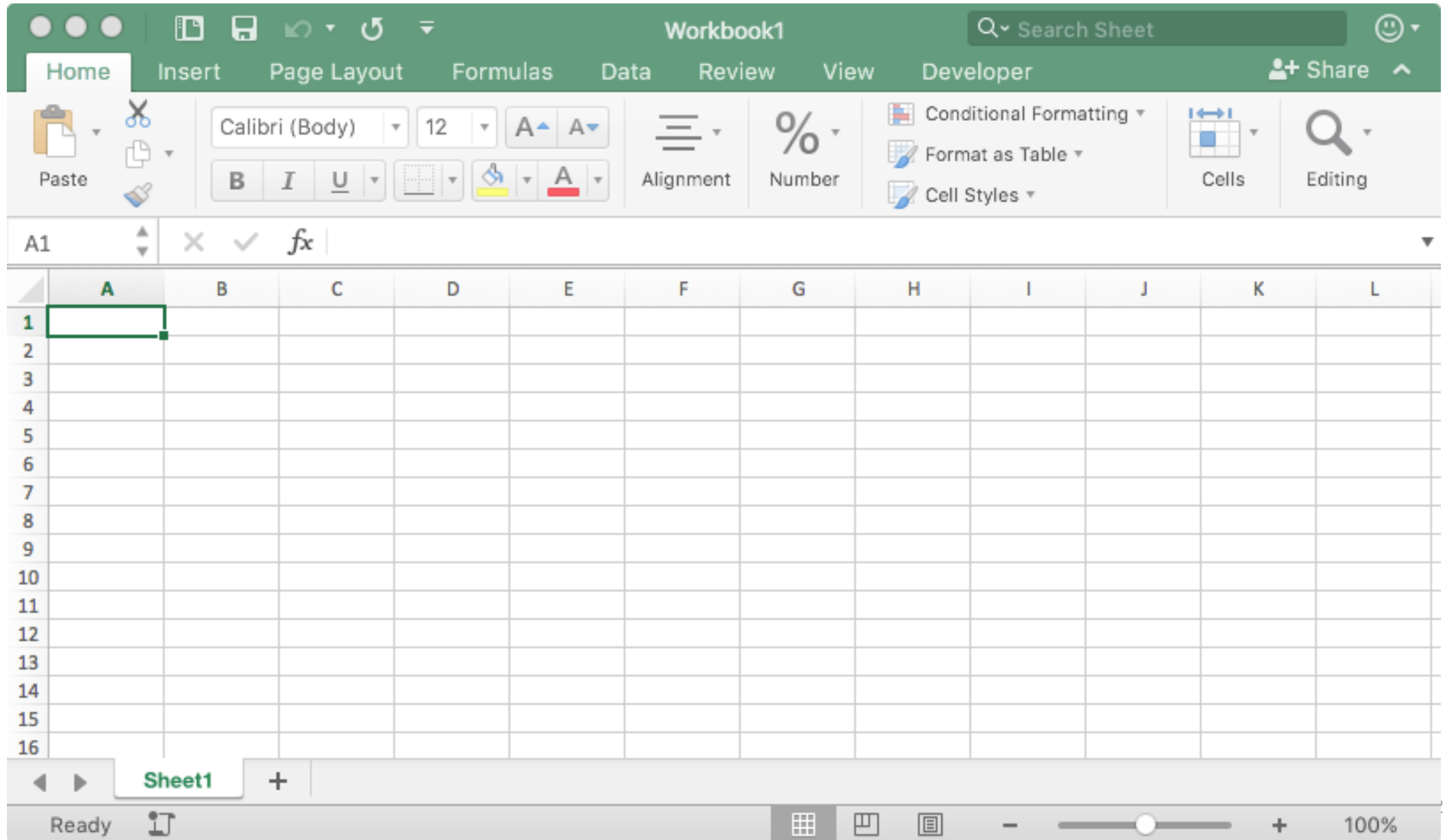
Impact on Crime
(select a range using the markers below)



Crime Reduction Toolkit

Intervention	Impact on crime	How it works	Where it works	How to do it	What it costs
	Effect	Mechanism	Moderator	Implementation	Economic cost
NEW Aftercare programmes for young offenders	XX✓	⚙️	📍	?	£
Alcohol ignition interlock	✓✓	⚙️	📍	?	£
Alcohol tax and price policies	✓✓	⚙️	📍	?	£
Alley gating	✓✓	⚙️	📍	?	£
Alternative education programmes	XX✓	⚙️	📍	?	£

Extensive use of spreadsheets



Personal experience

- Feel a real need to integrate the theory more closely with the data itself – so the computer can support identification of gaps in the theory – outcomes for which an emerging theory cannot account

What I'd like to see

- Construal-based evaluation – as a precursor to more theory-based activity. Creating an open and extensible artefact that can allow for experimentation as well as playing a role in documenting emerging understanding
- Agile evaluation (cf. agile software development)
- Synthesis of evidence, and theories/perspectives in the form of interactive artefacts that can support understanding – an encyclopedia of construals (cf. Willard McCarty's distinction between computers as knowledge jukeboxes and as modelling machines)