Realist Reviews / Syntheses

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RAMESES projects: www.ramesesproject.org
RAMESES on JISCmail: www.jiscmail.ac.uk/RAMESES
University of Oxford training course on
Realist Review and Realist Evaluation (RR&RE) – more details: goo.gl/4vuqC8
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• The views expressed are those of the author(s) and not necessarily those of the NIHR, the NHS or the Department of Health.

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Structure of this presentation

• Why use a realist review approach?
• What is realism?
• The underpinning assumptions of realist research
• Brief overview of realist review
• Questions
Programmes or interventions in health are complex

- Multiple components
- Multiple outcomes
- Long implementation chains
- Non-linear
- Emergence
- Interacting components
- Context sensitive outcomes
A simplified diagram of a ‘complex’ intervention

Intervention

e.g. a smoking cessation programme
REALISM

Context + Mechanism = Outcome

A way of thinking about:

• how the world is constituted
• causation
• theories
• data
• why lessons are transferable
Clarifying concepts ...

- **Context**
  - The ‘things’, ‘world’, ‘structures’ around a person

- **Mechanism**
  - “…underlying entities, processes, or structures which operate in particular contexts to generate outcomes of interest.”*  
  - The way in which a programme’s resources or opportunities interact with the reasoning of individuals and lead to changes in behaviour. The reasoning may or may not be ‘rational’!  
  - Usually hidden  
  - Sensitive to variations in context  
  - Generate outcomes

- **Outcomes**
  - May or many not be observable!

- **Context-Mechanism-Outcome Configurations (CMOCs)**
  - Context, Mechanisms and Outcomes do not ‘free-float’  
  - Context and Mechanism are linked to an Outcome

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Clarifying concepts …

- “Middle-range theory involves abstraction, of course, but they are close enough to observed data to be incorporated in propositions that permit empirical testing.”


- In simple terms, a theory that is at the correct level of abstraction to be ‘useful’ and ‘testable’.

- Realist approaches (realist review and realist evaluation) have a specific way of expressing a middle-range theory:

  Context (C) + Mechanism (M) = Outcome (O)
Clarifying concepts …

Programme theory - an abstracted description and/or diagram that lays out what a programme (or family of programmes or intervention) comprises and how it is expected to work.

Diagrammatic representation of a refined realist programme theory.
What happens in a complex intervention?

• When participants take part in a complex intervention, they make choices about what actions to undertake and these choices about actions give us our outcomes.

• Participants do not have an infinite range of choices available to them as to what actions they might take.

• The range of choices is limited and determined by the context in which the person is in.

• Various ‘mechanisms’ drive these choices.
CMO and middle-range theory

• Hence…

Context + Mechanism = Outcome

- Mechanisms are one of the building blocks of middle-range theories.
- Middle-range theories explain how and why the context limits and influences mechanisms.
To recap …

- Agency lies with us - our heads ‘contain’ various different mechanisms
- We respond to the world around us - mechanism ‘fire’ or are ‘triggered’ by certain contexts
- The world is ‘full of’ context - interventions try to change context so that the ‘right’ mechanisms are triggered
- Patterns (or demi-regularities) of \( C + M = O \) occur (i.e. certain people tend to behave in certain ways under certain situations) When demi-regularities occur, one possible inference is that the same mechanisms may be causing the outcome
- Middle-range theories explain the limitations and/or influence of context on mechanisms behind these demi-regularities.
- The key goal of a realist reviews is to uncover these middle-range theories.
Realist review: A type of theory driven systematic review

Start
Review questions

General design
Designing the review

Formulating the initial programme theory

Search for evidence
Develop, pilot and refine search
Screening

Article selection
Relevance
Rigour

Refined programme theory

Extracting and organising data

Synthesising the evidence (and drawing conclusions)

Iteratively develop and provide recommendations

ADAPTED FROM: PROTOCOL - Interventions to improve antimicrobial prescribing of doctors in training: the IMPACT (IMProving Antimicrobial presCribing of doctors in Training) realist review (In press)* if necessary
Any questions?
Thank you for listening and for your questions

Suggested readings:

• RAMESES on JISCMAIL – www.jiscmail.ac.uk/RAMESES
• The RAMESES Projects – www.ramesesproject.org
The supplementary slides cover:

• Common pitfalls in realist reviews

• Quality in the reporting and conduct of realist reviews

• Three examples of when realist reviews have been used with references to the full text articles
Common pitfalls in realist reviews

• No programme theory.
• Programme theory is not realist.
• Not enough relevant data (e.g. exclusion by study type, single search, too tight inclusion criteria, not looked for documents where the same mechanism may be in operation).
• Did a thematic analysis / did not apply a realist logic of analysis or used some other logic of analysis.
• Confused intervention strategy with mechanism.
• Unconfigured C, M, O (‘CMO soup’).
Quality in reporting realist reviews

• RAMESES I Project (2011-2013).


• 19-item checklist.

• Has built in flexibility – acknowledging the variety in purpose and users’ needs of realist reviews.

• Not all items need to be reported – but if an item is left out this should be highlighted and justified.
Quality in execution – realist reviews

• Quality standards available for peer-reviewers and also for funders.

• 8 criteria and uses a rubric approach – inadequate/adequate/good/excellent.

• Available on RAMESES Project website (www.ramesesproject.org) under Standards and Training materials.
Realist review example – unpacking the problem

• Review of interventions to improve the antimicrobial practice of doctors-in-training
• Most interventions took a narrow focus on providing education
• Outcomes were mixed or unclear
• Unpacking revealed the stronger influence of hierarchies in driving prescribing behaviour
  – Wanting to fit in
  – Following seniors
  – Reputation management

Realist review example – developing interventions

• Review to develop interventional strategies to improve access to primary care for socioeconomically disadvantaged older people in rural areas
• Programme theory of patient journey
• Each stage’s outcome has a CMO configuration

Realist review example – developing interventions

Problem identified → Decision to seek help → Actively seek help → Obtain appointment → Get to appointment → Primary care interaction → Outcome

Stoicism → Denial

Problematic experience → Social network

General and personal health literacy

Educational status

General and personal health literacy → Evaluation of evolving experiences

Single border node = context
Double border node = mechanism
Square node = outcome
Realist review example – transferability of mechanisms

- Review to develop a programme theory to understand if a piece of public health legislation was likely to be successfully implemented
- Programme theory tested in a ‘desktop’ exercise on legislation banning smoking in vehicles carrying children
- In 2010, no evaluation of such legislation existed
- For the enforcement part of the programme theory we had to extrapolate from car seat legislation