Realist Reviews / Syntheses

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RAMESES projects: www.ramesesproject.org
RAMESES on JISCM@il: www.jiscmail.ac.uk/RAMESES
University of Oxford training course on
Realist Review and Realist Evaluation (RR&RE) – more details: goo.gl/4vuqC8

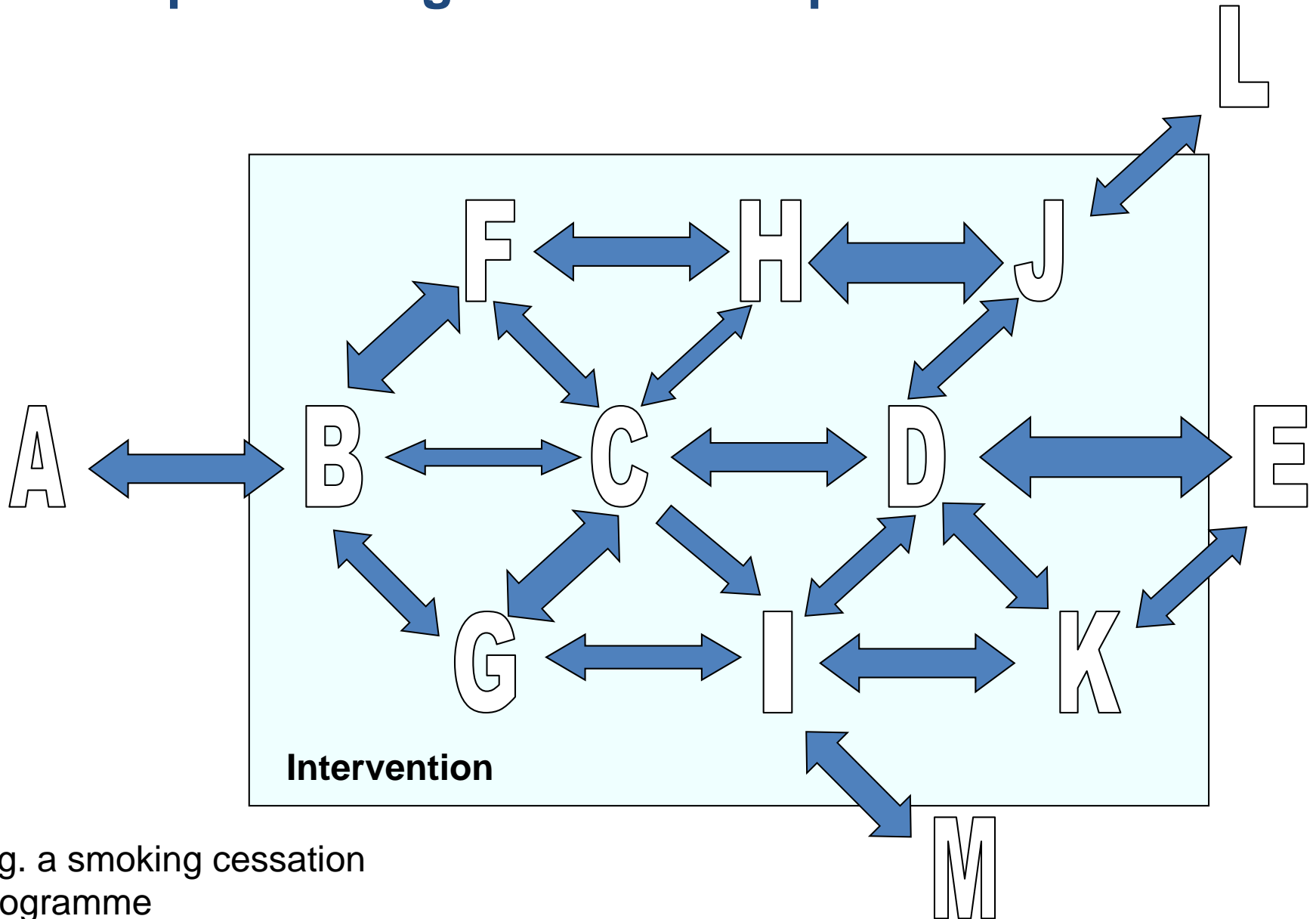# Acknowledgements and disclaimers

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

Emergence

Multiple outcomes

Non-linear

Long implementation chains

Interacting components

Context sensitive outcomes

A simplified diagram of a 'complex' intervention

Intervention

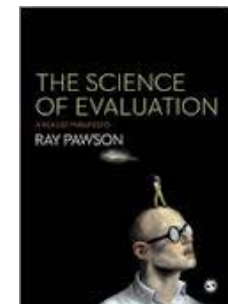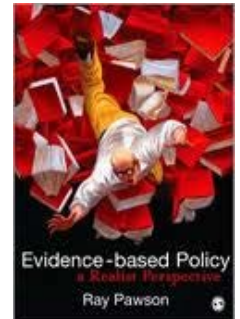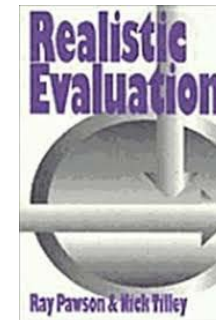e.g. a smoking cessation programme

1944 - 2014

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

*Astbury B, Leeuw F. Unpacking Black Boxes: Mechanisms and Theory Building in Evaluation *American Journal of Evaluation* 2010 31(3):363-381

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."
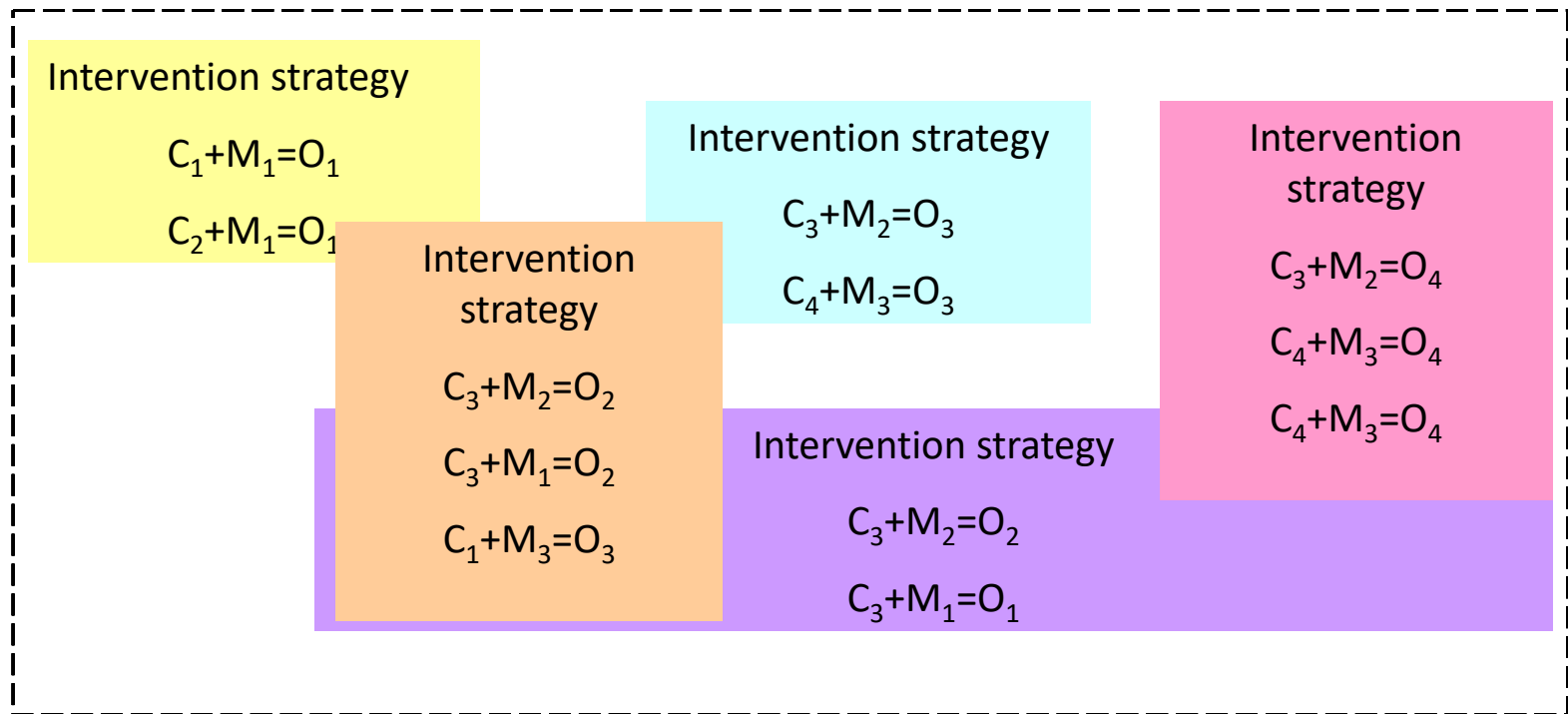
  Merton R. On Theoretical Sociology. Five Essays, Old and New. New York: The Free Press, 1967.

- 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

Intervention strategy

$C_1+M_1=O_1$

$C_2+M_1=O_1$

Intervention strategy

$C_3+M_2=O_2$

$C_3+M_1=O_2$

$C_1+M_3=O_3$

Intervention strategy

$C_3+M_2=O_3$

$C_4+M_3=O_3$

Intervention strategy

$C_3+M_2=O_4$

$C_4+M_3=O_4$

$C_4+M_3=O_4$

Intervention strategy

$C_3+M_2=O_2$

$C_3+M_1=O_1$

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.
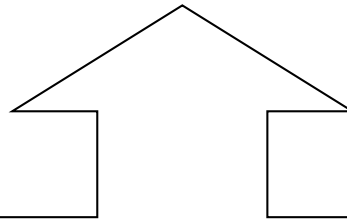
CMO and middle-range theory

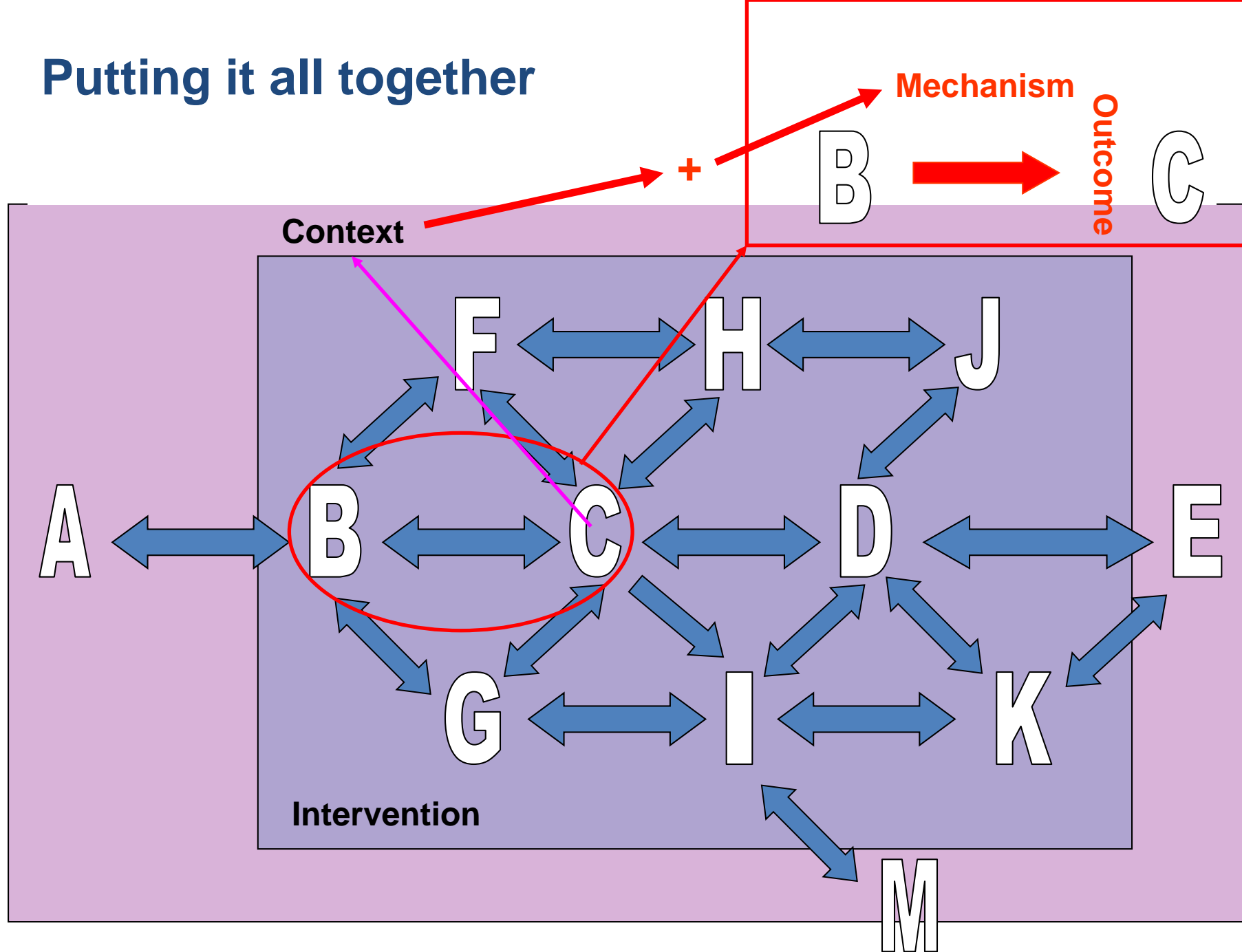- Hence…

Intervention
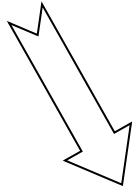
Context influences which mechanisms 'fire'.

Context + Mechanism = Outcome

- Mechanisms are one of the building blocks of middle-range theories.

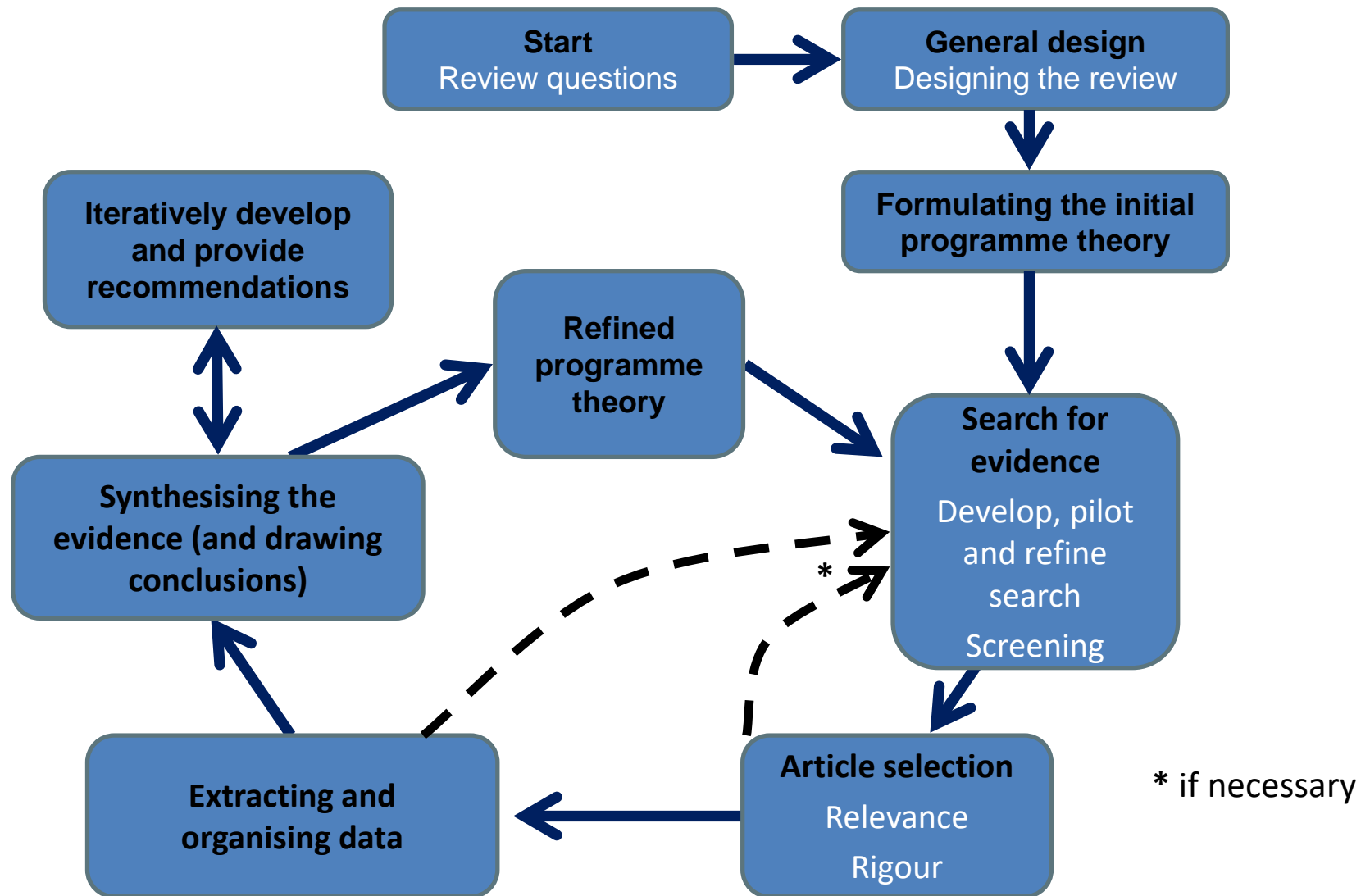- Middle-range theories explain how and why the context limits and influences mechanisms.
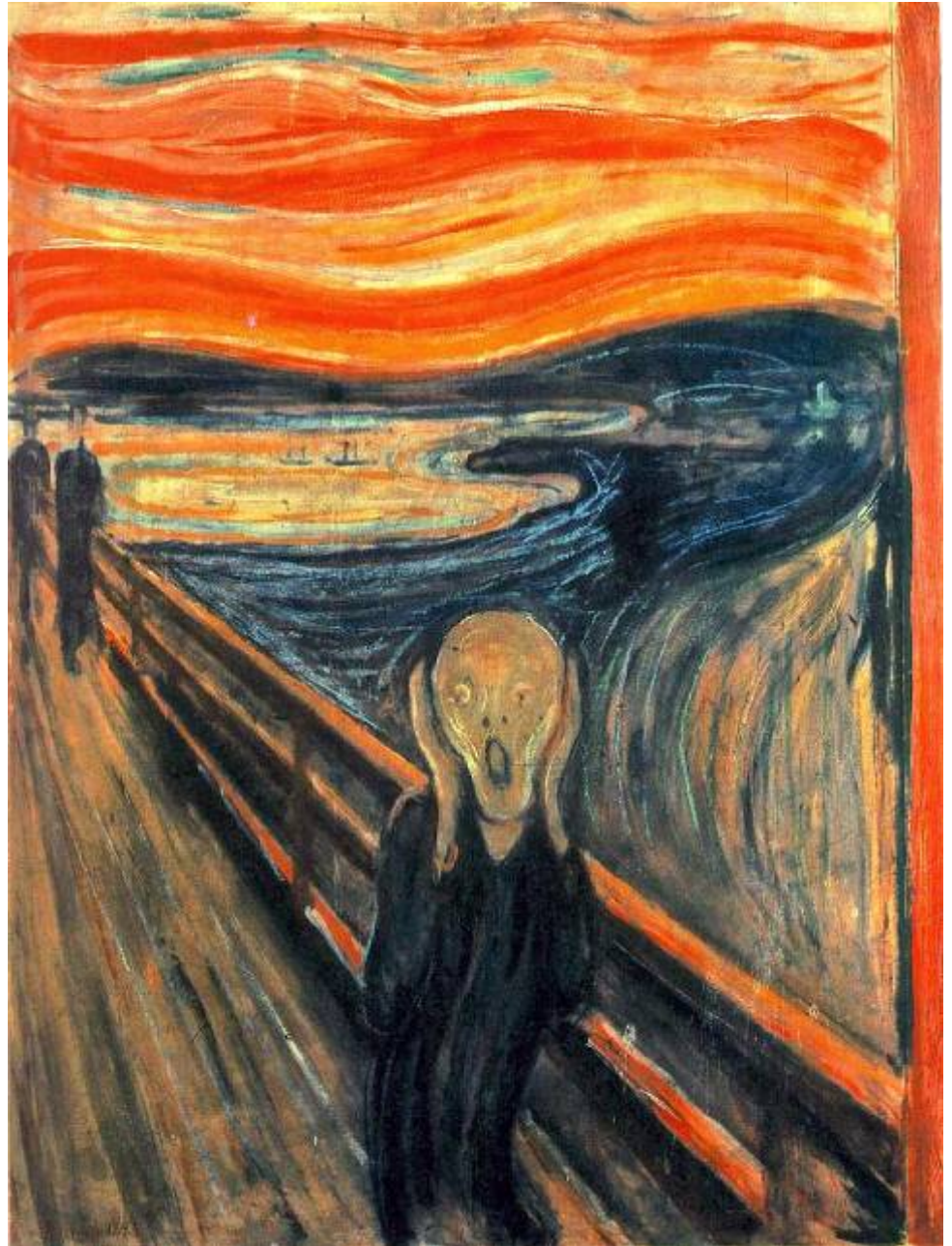
Putting it all together

Mechanism

Outcome

B → C

Context

Intervention

A ↔ B ↔ C ↔ D ↔ E
F ↔ H ↔ J
G ↔ I ↔ K
M

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 <u>same</u> 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

Iteratively develop and provide recommendations

Refined programme theory

Search for evidence
Develop, pilot and refine search
Screening

Synthesising the evidence (and drawing conclusions)

Extracting and organising data

Article selection
Relevance
Rigour

* if necessary

Any questions?

Thank you for listening and for your questions

Suggested readings:

- Pawson R., Tilley N. **Realistic Evaluation**. London: Sage, 1999

- Pawson R. **Evidence-based Policy. A Realist Perspective**. London: Sage, 2006.

- Pawson R. **The Science of evaluation: A realist manifesto**. London: Sage, 2013

- RAMESES on JISCM@il – www.jiscmail.ac.uk/RAMESES

- The RAMESES Projects – www.ramesesproject.org

Supplementary slides – for information only

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).

- Reporting standards published:
  http://bmcmedicine.biomedcentral.com/articles/10.1186/1741-7015-11-21

- 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 hierachies in driving prescribing behaviour

  – Wanting to fit in
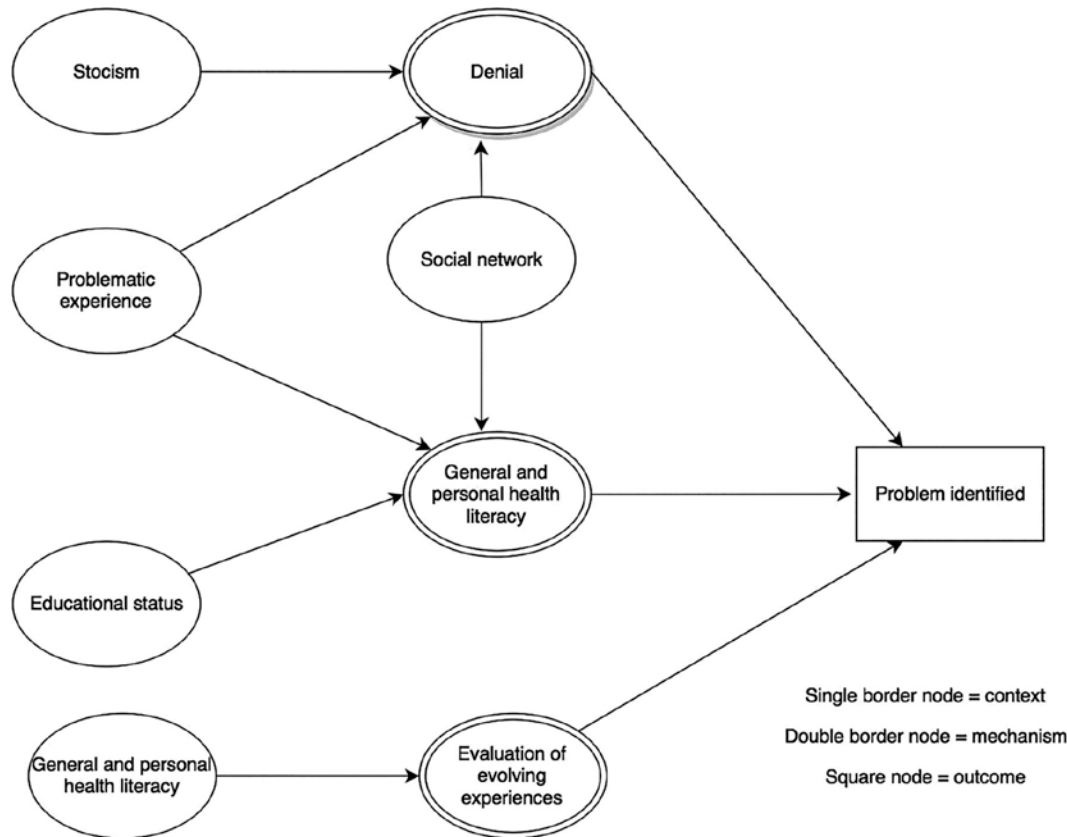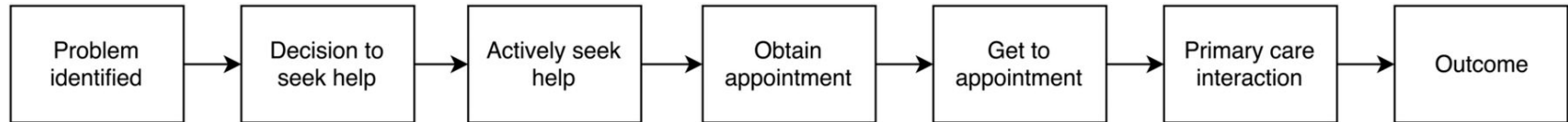
  – Following seniors

  – Reputation management

Papoutsi C, Mattick K, Pearson M, Brennan N, Briscoe S, Wong G. Social and professional influences on antimicrobial prescribing for doctors-in-training: a realist review. Journal of Antimicrobial Chemotherapy 2017; dkx194. doi: 10.1093/jac/dkx194.

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

Ford J, Wong G, Jones A, Steel N. Access to primary care for socioeconomically disadvantaged older people in rural areas: a realist review. BMJ Open 2016; 6:e010652.

Realist review example – developing interventions

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

Stocism → Denial

Problematic experience

Social network

Denial

General and personal health literacy

Problem identified

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

Wong G, Pawson R, Owen L. Policy guidance on threats to legislative interventions in public health: a realist synthesis. BMC Public Health 2011; 11(222)

Pawson R, Wong G, Owen L. Known Knowns, Known Unknowns, Unknown Unknowns: The Predicament of Evidence-Based Policy. American Journal of Evaluation 2011; 32(4):518-546