

# Realist Review: An Introduction

CPHA 2011 Presenters:

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Network Environment for Aboriginal Health Research

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## About us:

We are a research team, based at the McGill University Centre for Participatory Research (PRAM) and have been conducting a large systematic realist review of Participatory Research

### Our team:

#### Knowledge-User Co-Applicants:

- Sarena Seifer, Susan Law, David Clements, Marielle Gascon-Barré, David L. Mowat, Sylvie Stachenko, Sylvie Desjardins, and Ilde Lepore.

#### Academic Co-Applicants and Trainees:

- Ann C. Macaulay, Pierre Pluye, Jon Salsberg, Justin Jagosh, Jim Henderson, Robbyn Seller, Erin Sirett, Paula L. Bush, Geoff Wong, Trish Greenhalgh, Margaret Cargo, Carol Herbert, Lawrence W. Green

#### Acknowledgements:

The review, and post-doctoral fellows Drs. Jagosh and Seller, were supported by a Canadian Institutes of Health Research KT-Synthesis Grant (# KRS-91805), funding from Participatory Research at McGill (PRAM), and the Department of Family Medicine, McGill University.



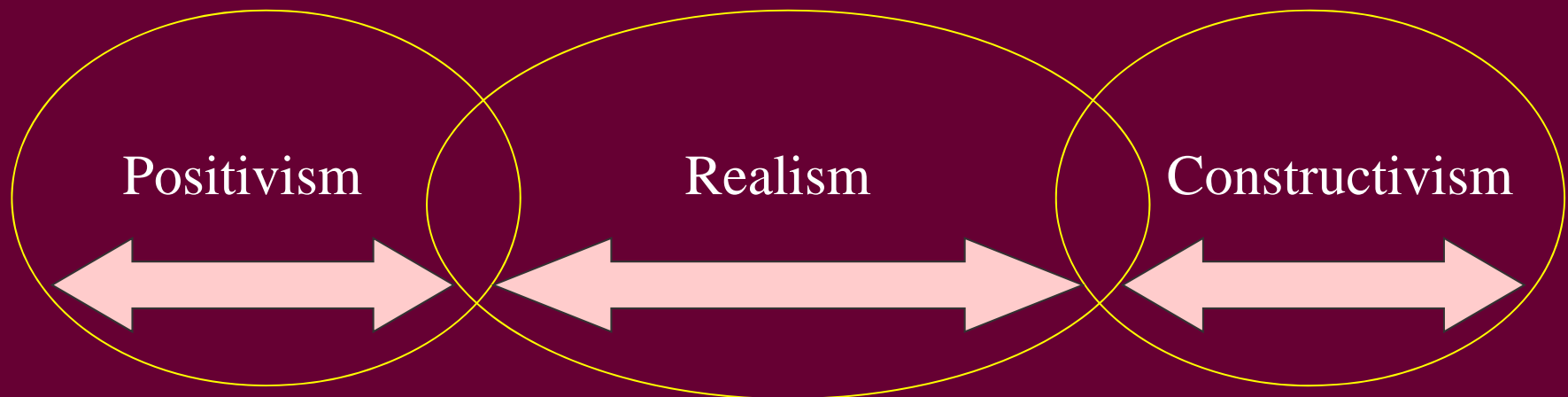
# Workshop Objectives

- To explain the logic and key ingredients of realist review:
  - What is the underlying philosophy of realism?
  - What does realist review purport to solve?
  - Key ingredients (Context-Mechanism-Outcomes configuring, Demi-Regularities and Middle-Range Theory)
- To explore when and why realist review is useful;
- To think about realist review using examples from the audience;
- To address specific questions concerning your interest, past experience and future use of realist review.



# The underlying philosophy of realism:

- Realism: a philosophical stance concerning the fallibility of knowledge



# Realist Logic:

“What causes something to happen has nothing to do with the number of times we observe it happening”

(Sayer, 2000 p. 14).

Not: “does it work or not?”

But rather, “**what works, for whom, and in what circumstances?**”



# What does realist review solve?

- Empirically-driven systematic reviews (e.g. Cochrane or Campbell-style reviews) are more suitable for assessing ‘simple’ interventions such as drug trials.
- Empirically-driven systematic reviews are less suitable for assessing complex social interventions...
- ...this is because such reviews, which meta-analyse outcomes from multiple studies, have limited capacity in accounting for the effects of culture, community history, geo-political contexts, study design, program theory etc., which characterize complex social interventions



# A Realist approach means synthesizing complexity of interventions...

- “...to go beyond reportage and summary of existing states of affairs. The point after all is to support fresh thinking to revise policy and launch it in new circumstances” (Pawson, 2006 ,p. 74\*);
- ...from multiple forms of evidence: research findings, author reflections, and description of program processes and contexts.;
- ...by using ‘abductive reasoning’ and ‘redaction’ to synthesize the evidence;
- ...by assuming from the outset that key answers to assessment questions are shrouded in a “black box” of programmatic unknowns. The goals is to unpack this “black box” ;

\*Pawson (2006). Evidence-Based Policy: A realist perspective. Sage Publications: London.



# How do you do that?

- By identifying the basic logic (theory) behind programs under review;
- By configuring the contextual features and mechanisms which determine outcomes -(known as C-M-O configuring);
- By identifying semi-predictable patterns or pathways in the data (known as demi-regularities);
- And by using the CMO and demi-regularity synthesis to dispute, confirm, or refine the theory that was originally identified.





# Identifying the theory:

For a realist synthesis of a single case, the underlying logic is understood as ‘program theory.’ Every program has a theory, whether it is obvious or not.

- For a realist review synthesizing many cases, the underlying theory is considered “Middle-range”:
- Middle-Range Theory: not abstract to the point of being disconnected from the actual on-the-ground realities of program planning and implementation, yet, not specific to the point of being relevant to only one type of program.
- Middle-Range Theory According to Merton\*:  
“theory involves abstraction, of course, but it is 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.



# Context-Mechanism-Outcome Configuring:

Context (C)

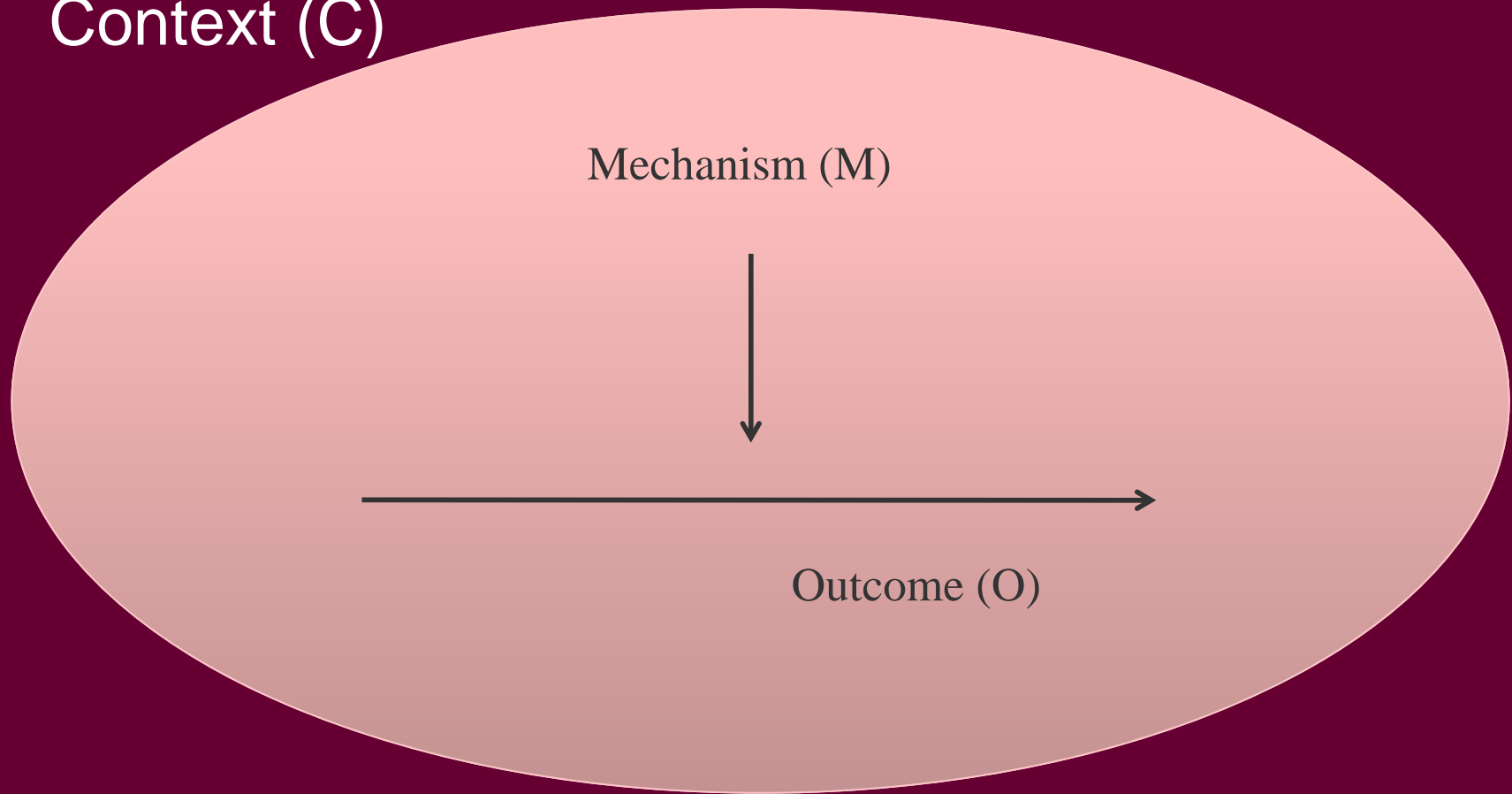


Figure 1: Basic components of realist causal explanation

# Understanding Mechanisms:

- Mechanism may be defined as:
  - “...underlying entities, processes, or structures which operate in particular contexts to generate outcomes of interest.”\*
- Mechanism:
  - Are usually hidden
  - Sensitive to variations in context
  - Generate outcomes
- For social interventions, mechanism typically refer to a cognitive process or what ‘turns on’ in the mind of program participants to make them want to participate in the program

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



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# CMO categories are fluid, flexible and overlapping

e.g., Outcome from one CMO can become context of another:

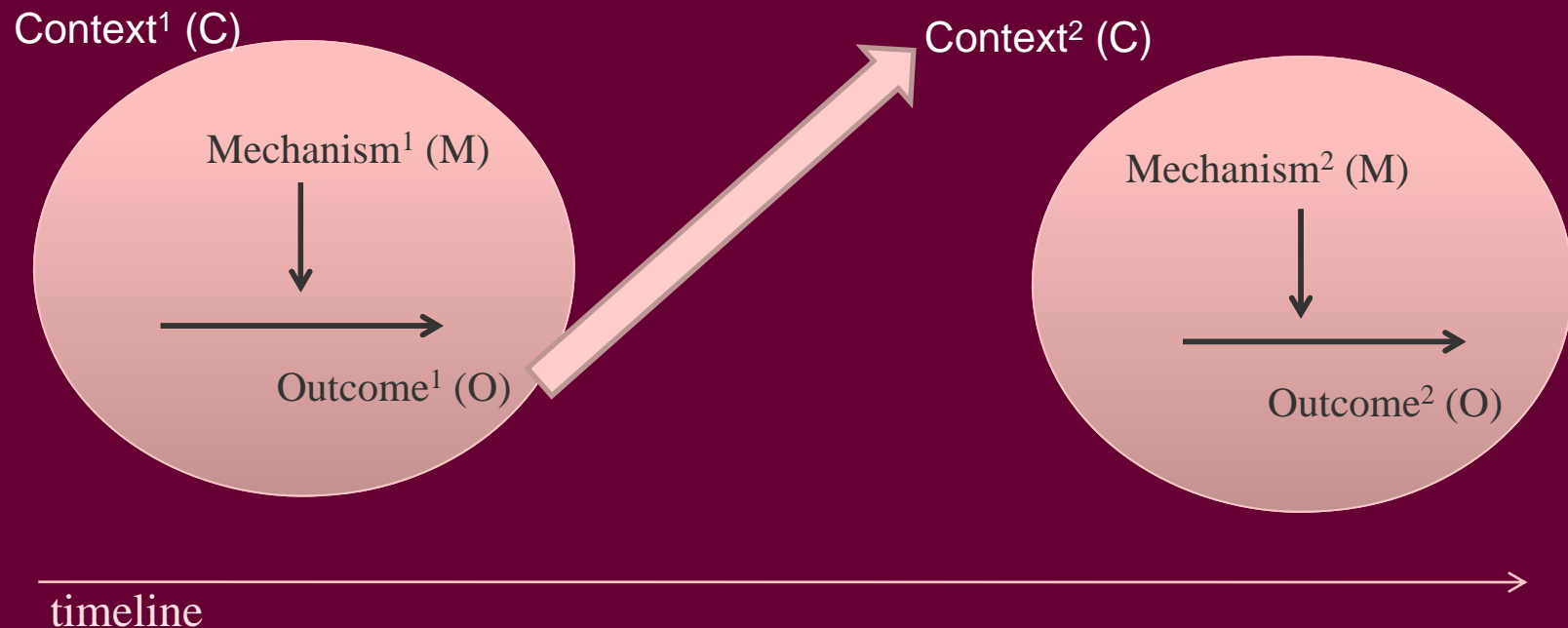
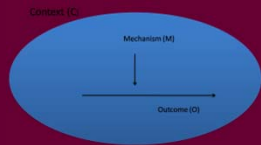
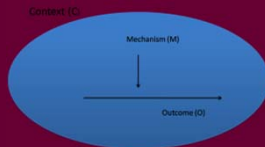


Figure 1: Basic components of realist causal explanation

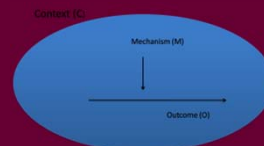
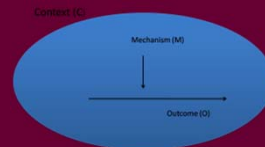
# From CMO to Demi-Regularities

Demi-regularities = What we expect to find in a semi-predictable manner:

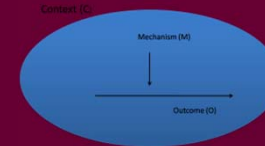
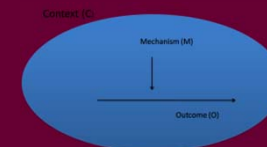
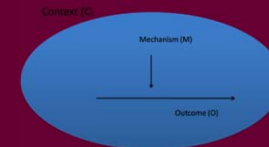
## Demi-regularity 1



## Demi-regularity 2



## Demi-regularity 3



# Steps in the review process:

from Pawson, R. (2006). Evidence-Based Policy: A realist perspective. Sage Publications: London.

- Step one: identifying the review question
- Step two: searching for primary studies
  - A search to track program theories
  - A search for primary studies
- Step three: quality appraisal
  - Assessment of relevance
  - Assessment of rigour
- Step four: extracting the data
  - Annotation, Collation, Reportage
- Step five: synthesis



# Step five: possible goals of synthesis:

- To question program theory integrity;
- To adjudicate between rival program theories;
- To consider the same theory in comparative settings;
- To compare official expectations with actual practice.



# Our experience with realist review:

- We conducted a review of the Participatory Research literature.
- Participatory Research = Co-governance of research by:  
*academic researchers + end-users*
- End-users can be:
  - Community members
  - Health professionals
  - Patients
  - And others...





# Identification, Selection, and Appraisal

- 7167 citations pulled from the literature



- 594 full-text articles retained using an identification tool



- 83 partnerships (sets of full-text articles) retained for appraisal using selection tool



- 23 partnerships (276 articles) retained for synthesis



## *Our synthesis was undertaken in seven iterative steps:*

- (1) Reading, annotating and extracting data from all retained publications and websites that pertain to PR processes and contexts;
- (2) Identifying predictable patterns of PR outcomes ('demi-regularities');
- (3) Mapping partnership lifecycles and constructing (CMO) configurations that explain PR outcomes in the chronology of partnership events;
- (4) Sorting CMO configurations according to demi-regularities;
- (5) refining CMO configurations, with particular attention to identifying the mechanisms of participation;
- (6) confirming or modifying our understanding of the demi-regularities based on refined CMOs;
- (7) and confirming the relevance of our identified middle-range theory as applied to these CMO configurations.



# Example map with CMO configuring:

(1997)  
East Harlem  
Diabetes Centre  
for Excellence  
Established

Coalition formed  
(Physicians, nurses,  
nutritionists, health educators,  
community members, health services  
and policy leaders)

First focus on improving  
clinical performance for  
diabetes prevention

Tension: focus did not  
resonate with members.

CMO 1: Adjustment in Power Dynamic and Focus  
C: new group dynamics; high level of misce among diverse group of coalition members; leaders suggested a research direction that did not resonate with the coalition members  
M: partners allowed to see the agenda. They agreed to remain on board if the direction of research moved away from patient healthcare vaccination to community and individual disease self management  
O: Renewed interest in preventing diabetes; feeling of trust and safety

Community events held to raise  
community awareness  
re: Diabetes

change in direction  
of research away  
from clinical service  
to community prevention

CMO3: Building social capital with Clinician Members  
C: local physicians had no connection to community and low understanding of community wide challenges  
M: set up coalition committees organized community events, volunteered to give community lectures on diabetes prevention, collaborated on survey design, which indicated that community members have good understanding of diabetes prevention but low self-efficacy  
O: transfer of survey results directly into their clinical practices; shift in perspective - began to see patients living in a vibrant community struggling with limited individual and community resources

CMO2: Significance of Community Events  
C: scarce form of diabetes prevention issues in East Harlem  
M: local artist created artwork as campaign to raise awareness and advertise local events. Coalitions sponsored numerous local events including diabetes screening days, lectures, and local entertainment  
O: Local ties with community strengthened; increase in social capital through networking, increased group identity and focus; generated significant interest and enthusiasm among outreach workers; strengthened working relationships within coalition; gave coalition credibility and staying power; attracted new ideas and new coalition members

CMO4: Impact of Survey on Collaboration  
C: local knowledge of diabetes self-care measurements was lacking  
M: collaboration of coalition members on a survey to investigate present knowledge and behaviors concerning diabetes management  
O: Experience of coalition working on the survey project built community infrastructure. Community networks took partial ownership of survey indicated new group money, multiple neighborhoods; outreach workers learned the basics of diabetes care; health center staff learned how to categorize data to improve services; other members disseminated lessons learned to local politicians, religious, political, and hospital leaders; partners gained appreciation for using rigorous evidence in local sites for addressing problems and obtaining new funding

CMO 5: PR augmenting uptake of research findings  
C: increased social networking and social capital due to the success of previous coalition approaches to group formation and reaching objectives  
M: disseminated 2<sup>nd</sup> survey results with local clinicians and community people at interactive sessions  
O: direct uptake of research findings; physicians were suggested to use findings about their difficulty finding diabetes self-care food and encouraged them to shop at grocery stores that carry diabetes prevention foods; nutrition center then established including nutritionists, grocery store owners and distributors and other local stakeholders in the community

applied for  
new funding  
for EXPERT grant to  
promote disease  
self-management  
new board established

CMO 6: Building social capital from previous PR cases the establishment of a new board and creates more social capital  
C: social capital already exists from previous PR related activities  
M: leaders carefully selected an interdisciplinary team of reps from community, social and social service organizations  
O: some community leaders who agreed to participate as a liaison rather than an opportunity, came to appreciate the complexity of planning and implementing a large-scale research project; some researchers viewed the board as an obligation rather than opportunity; learned the depth and breadth of existing local programs to target racial and ethnic disparities, and the extent of board members' expertise in issues relating to the local community's health thus increasing social capital

CMO 7: Collaboration facilitates recruitment into peer-led, community-based course on weight loss  
C: increased social capital and copyleft created by previous activities of the Centre for East Harlem Diabetes Prevention  
M: using social networks used to recruit participants; church leader coalition members were involved in the logistics of recruitment. Peer-based approach used community members who already had ties with their neighbours as teachers  
O: recruitment success of pilot project HEAL enhanced by existing PR interventions

Large RCT-  
PROJECT HEAL  
(peer-led weight loss  
program) Origin

PROJECT HEAL:  
pilot study for peer-led  
weight reduction community  
trial



# An example of CMO configuring

- **Context:** most Lowell Cambodians are from rural Cambodia and thus had little educational opportunity because of the closing of schools by the Khmer Rouge, resulting in very low literacy levels in their own language, Khmer, and in English. s. (K, p. 420, pa 1)
- **Mechanism:** Coalition members [academic and community] valued and made use of the community coalition members' knowledge about the effects of the collective historical trauma that the community has endured
- **Outcome:** With this understanding, the steering committee chose to conduct personal outreach, develop audiotapes to replace brochures, and made extensive use of weekly radio and cable TV show to reach their audience

# Insights on realist review...

- There is no one way to conduct a realist review
- Context, mechanism, and outcome categories are fluid, overlapping and closely interrelated;
- Use review concepts heuristically (i.e., only if useful and relevant)
- The logic of realism must be understood and adopted in order to carry out synthesis

## Insights continued:

- Realist Review is a qualitative-style approach, typically requiring small sample of cases for in-depth analysis;
- “Hand-picking” and snowball sampling techniques are accepted sampling strategies in realist review. The definitions of ‘quality appraisal’ and ‘systematic procedure’ are used differently in realist review as compared to traditional empirical reviews.

# Group Exercise #1

## Exercise 1:

**The following is a passage from a publication describing a participatory health intervention on asthma prevention in an inner city neighbourhood. Can you find a basis for (at least) one CMO configuration?**

...Some in the community felt that we [the community advisory board (CAB)] would not be able to find families to participate in the study. There were also concerns [by the academic stakeholders] that conducting a complex clinical trial requiring structured outcome collection and adherence to study regimens in a community of families that frequently moved and changed telephone numbers might not be possible. Academic researchers recognized that inner-city families may have problems arranging required visits and may not always have a stable address or telephone, making scheduling and follow-up difficult. As a result they may be less compliant with complicated, taxing regimens or may not report side effects.

...The participants were first provided a service and then offered the research part as an option. Great care was taken not to pressure families in any way to join the study. We were pleased that we were able to enrol a high percentage of eligible families and, despite a high rate of changes in living arrangements, had such a high retention rate. We believe this was due primarily to the trust created by the overall project and the people working for the project. The CAB helped ... develop successful recruiting and retention strategies....The CAB defined appropriate school partners and community organizations for presentations of the study....The CAB guided us to the development of a successful project ... As the study unfolded, we learned a great deal about ways to keep families engaged. When we encountered follow-up problems, possible courses of action were discussed with field staff and strategies developed” (A, p. 164, para 8).

# Group Exercise #2

## Exercise 2:

Think about public health interventions that you are familiar with and how would you plan a realist review of that subject area?

- How would you identify, select, and appraise the literature?
- Can you think of a possible 'underlying middle-range theory' pertaining to your subject area?
- What could be an hypothetical example of Context-Mechanism-Outcome configuration for your subject area?
- What questions arise for you as you think about applying realist methodology to your work?



# Questions?



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## Commentary:

AC Macaulay, J Jagosh, R Seller, J Henderson, M Cargo, T Greenhalgh, G Wong, J Salsberg, LW Green, C Herbert, P Pluye. Benefits of Participatory Research: A Rationale For a Realist Review. Global Health Promotion. 18(2) June. 2011

## Protocol:

J Jagosh, P Pluye, AC Macaulay, J Salsberg, J Henderson, E Sirett, PL Bush, R Seller, G Wong, T Greenhalgh, M Cargo, CP Herbert, SD Seifer, LW Green. Assessing the Outcomes of Participatory Research: Protocol for Identifying, Selecting and Appraising the Literature for Realist Review. Implementation Science, 6(24). 2011

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**Thank You!**