ReS-IS

Realist

Synthesis –

Implementation

Strategies

The story so far….

The Team

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Overview

Four parts:
- A brief overview of the methodology
- Development & application of method
  - Searching, retrieval & review
  - Data extraction
  - Theming
  - Chains of inference
  - Hypothesis generation
- Challenges
- Next steps

Realist Synthesis – methodology and application

Systematic Reviews

- A process of secondary research that:

  "identifies relevant studies, appraises their quality and summarises their results using a scientific methodology" (Khan et al, 2003)

- Emphasis on explicit and reproducible methods

- Time and labour-intensive to undertake; tend to be focused on narrowly defined questions

Limitations of Systematic Reviews

- Conventional systematic reviews tend to:
  - Impose a strict hierarchy of evidence focused on questions of effectiveness
  - Address very narrowly focused questions
- As a consequence, the review findings may have limited clinical applicability
- Reviews may not exist/be possible for more complex service delivery or policy issues

Alternative Methods of Undertaking Systematic Reviews

- Reviews integrating quantitative and qualitative forms of evidence
- Reviews that adopt a theory-driven approach to evidence synthesis e.g. realist synthesis

The Realist Alternative

- Realism Philosophy

  – Bridge between empiricism and constructivism.
  – No absolute 'truth'.
  – Purpose of science = describe phenomena in 'real' contexts rather than seek 'absolute truth'.

Realism contd

– Not enough to explain the existence of a social phenomenon but also necessary to understand the rationale for why the phenomenon exists.

– Three principles combined: causal explanations are achievable; social reality is an interpreted reality; social actors critically evaluate their social reality.

Realist synthesis
(Pawson et al, 2004, Pawson 2007)

A method for studying complex social interventions using diverse bodies of data

What works, for whom, in what circumstances, in what respects and why?

Realist Synthesis

- Review method based on principles of realistic evaluation

- Focus is on reviewing complex social interventions e.g. policy, management, service delivery

- Review takes place at the level of theories that underpin complex interventions

- Explanatory focus; seeking answers to the question '*What works, for whom, in what circumstances, in what respects and why?*'

Characteristics of Complex Social Interventions

- Consist of theories
- Involve actions of people
- Consist of a chain of steps or processes that interact
- Constituent steps and processes are rarely linear
- Embedded in social systems
- Prone to modification
- Open systems that change through learning

(Pawson et al, 2004)

Rethinking the Standard Template

- Clarifying the scope of the review

- Searching for evidence

- Appraisal of primary studies

- Data extraction

- Data synthesis

- Interpretation of findings/ presentation of results and recommendations

ReS-IS
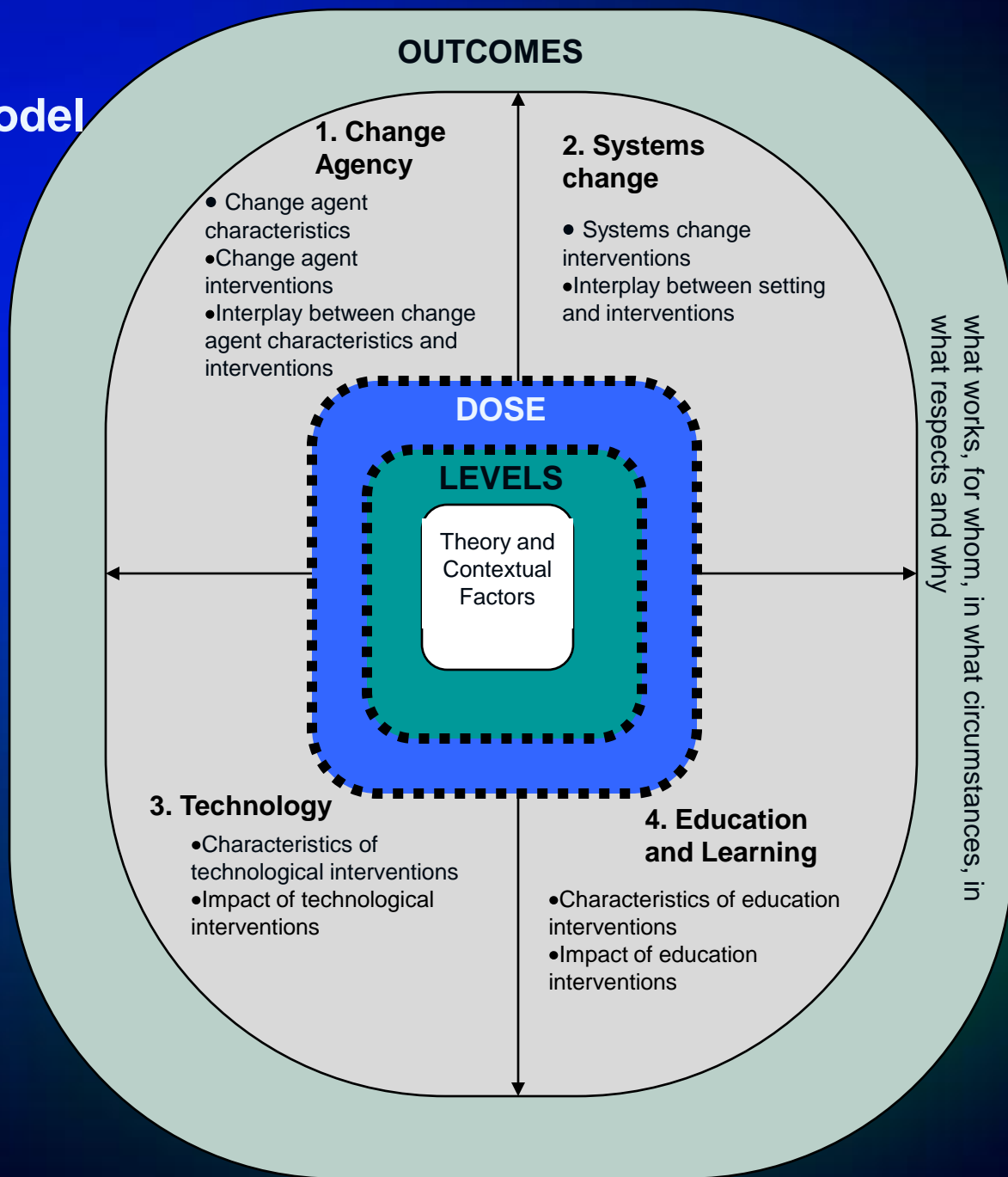
Realist

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Purpose of the Review

What are the interventions and strategies that are effective in enabling evidence informed healthcare?

ReS-IS Theoretical Model

OUTCOMES

1. Change Agency

- Change agent characteristics
- Change agent interventions
- Interplay between change agent characteristics and interventions

2. Systems change

- Systems change interventions
- Interplay between setting and interventions

DOSE

LEVELS

Theory and Contextual Factors

3. Technology

- Characteristics of technological interventions
- Impact of technological interventions

4. Education and Learning

- Characteristics of education interventions
- Impact of education interventions

what works, for whom, in what circumstances, in what respects and why

Four Theories and 13 Theoretical Foci

- **Theory area 1 - Properties of change agency in E-IHC**
  - What impact do the characteristics of the change agent have on **E-IHC**
  - What is the overall impact of the change agent intervention on **E-IHC**
  - What impact does the interaction between the change agent and the setting have on **E-IHC**

Theory area 2 –system change in E-IHC

- What impact do characteristics of the systems change intervention(s) have on **E-IHC**?
- What is the overall impact of the system change intervention(s) used?
- What impact does the interaction between the system change and the setting have on **E-IHC**?
- What impact do senior leadership roles have in creating practice environments that integrate daily use of evidence at the point of care delivery?

# Theory area 3 – properties of technologies (paper & electronic) used in E-IHC

– What impact do the characteristics of the technological intervention(s) have on **E-IHC**?

– What is the overall impact of the technological intervention(s) used?

– What impact does the interaction between the technological intervention and the setting have on **E-IHC**?

Theory area 4 – education interventions in E-IHC

- – What impact do the characteristics of the education intervention(s) have in enabling **E-IHC**?
- – What is the overall impact of the education intervention(s) used?
- – What impact does the interaction between the education intervention and the setting have on **E-IHC**?

ReS-IS
Theoretical Model

- Change agent characteristics
- Change agent interventions
- Interplay between change agent characteristics and interventions
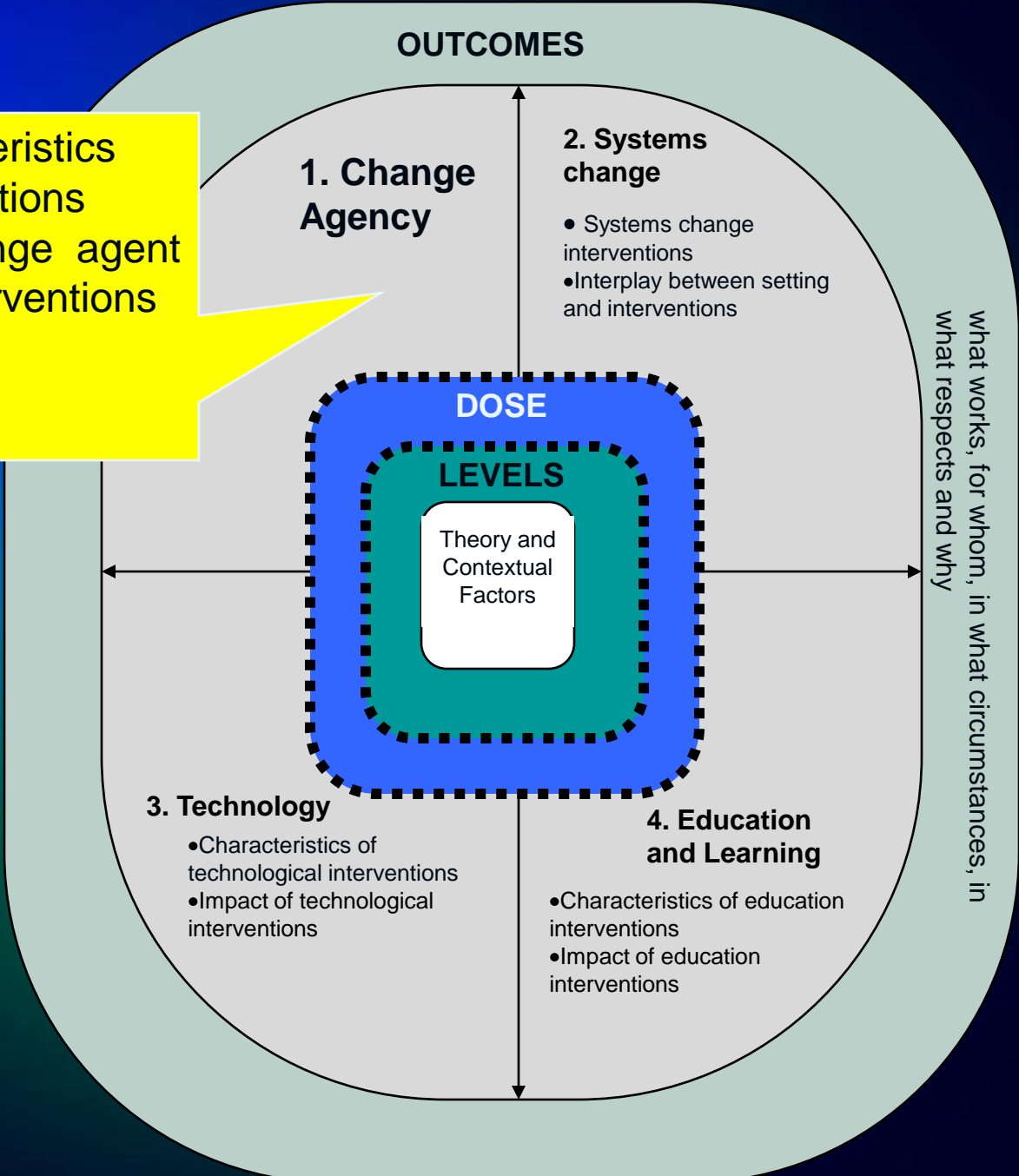
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- Characteristics of education interventions
- Impact of education interventions

what works, for whom, in what circumstances, in what respects and why

Search for Evidence

- Searching by stages to:
  - Get a 'feel' for the literature
  - Identify key programme theories (and refine inclusion criteria)
  - Test and refine programme theories
- Purposive and snowball sampling
- Look across policy domains
- Final search for additional studies when review nearing completion

Search Strategies

- Broad, not discipline-specific, corresponding to healthcare in general

- Approx 39 lines of search text used with Boolean operators

Search Results

6 online databases (1997-2007):

(Medline, CINAHL, Embase, PsycInfo, Sociological Abstracts, Web of Science)

Health Sciences Librarians (Dalhousie University, McMaster University) consulted on search strategies run March 5, 2007 in OVID

Search Results

- **24,021 electronic references**
  - Medline 4,530
  - Embase 8,482
  - CINAHL 5,683
  - PsycInfo 4,993
  - Sociological Abstracts 248
  - Web of Science 130

- **196 potentially-relevant papers based on title and abstract**
  (return rate of 0.8%)

Inclusion Criteria

- Relate to purpose statement:

What are the interventions and strategies that are effective in enabling evidence-informed health care?

- Published in the last 10 years
- English-language
- Healthcare related
- All disciplines
- Not limited by research focus or design
  (e.g. papers addressing intervention application in addition to effectiveness)

Data Extraction

- Papers divided among 5 work groups
- Further papers eliminated based on full versions
- Data extraction of each paper by 2 reviewers
- Final data extraction resulted in a number of papers being omitted

This paper describes the experience in the exchange of information between researchers and practitioners where conditions favourable to knowledge exchange were systematically documented.

THEORY AREA 1 – PROPERTIES OF CHANGE AGENCY IN KU

What impact do the characteristics of the change agent have on KU

The change agents were a research team in a healthcare institution. Thus they were known to the participants and had awareness of the contextual factors.

What is the overall impact of the change agent intervention on KU?

Participating clinicians were trained in the use of a specific questionnaire (CaW-QLI) which assesses aspects of quality of life of people with mental illness. The clinicians were also taught how to help people with mental illnesses complete their own version of the questionnaire. Every participating team attended two meetings 6 months apart at which they were informed of the results of the questionnaires. The research team presented the results focusing on implications for rehabilitation objectives and quality of life issues. Support materials for the presentation were used and repercussion of the results on intervention were also presented. There is no indication that these results were discussed and it is assumed that the intervention was a didactic exchange of information.

"At the begi8nning of the project, a majority of the practitioners made use of the information in relation to more than half of people with mental illnesses with whom they worked: 81% in their intervention plans, 88% in discussions with their colleagues, and 69% with people with mental illnesses with whom they worked! (p58).

"After 6 months, fewer of the practitioners were using it: 61% for their intervention plans, 83% in discussions with colleagues, and 38% with people with mental illnesses with whom they worked" (p58)

"Less than one-third of the clinicians (25% at time 1 and 31% at time 2) felt that the information had had an impact on their practice" (p58)

However at the end of the project, participants felt that overall the information had had a positive effect on their relationship with people with a mental illness compared with 31% after the first transmission of information.

  Summary Results

1. The information exchanged during the project was used both symbolically and instrumentally, although instrumental use tended to diminish over time.
2. Whilst practitioners acknowledged that the information exchanged did have a positive impact on their relationship with people with mental illnesses, the experience did not result in the creation of a culture of utilisation of information generated by research in clinical practice.
3. The experience confirmed that multiple exchanges between the parties involved are necessary in order to create cooperative bonds that can be maintained. These cooperative bonds need to be supported by organisational conditions as well as by practitioners and researchers characteristics.

Comment Lars: This paper gives a description of several factors obstructing the collaboration between researchers and practitioners. In large these factors remained after having accomplished the project. The used approach must be judged as not successful. The paper concludes on factors that **could** have been helpful to bring researchers and their partners. Not the factors that **were** helpful.

What impact does the interaction between the change agent and the setting have on KU?

The change agent (researchers) were internal to the organisation and were thus seen as 'available' to clinicians. Participants appreciated the change agents' effective communication skills.

Quality Assessment

IS THE EVIDENCE PROVIDED IN THIS THEORY AREA GOOD AND RELEVANT ENOUGH TO BE INCLUDED IN THE SYNTHESIS (CONSIDER ISSUES OF SAMPLE SIZE, DATA COLLECTION, DATA ANALYSIS AND CLAIMS MADE)
Yes – the data were systematically collected and analyzed and interpretations made are linked to a review of the literature and a table of 'best practices for knowledge exchange' derived from the literature.

Five-step approach to data analysis and synthesis

Data Analysis: Step 1: organising the data into evidence-tables

THEORY AREA 1 - What impact do the characteristics of the change agent have on KU?		COMMENTS
Moore, KA; Peters, RH; Hills, HA; Levasseur, JB; Rich, AR; Hunt, WM; Young, MS, Valente, TW (2004)	The study identified a number of 'competency – related' characteristics of opinion leaders (OL) that are significant, including – postgraduate education; relevant professional credentials; years of experience in the treatment area. Identified opinion leaders (n=10) were compared with other counsellors (n=55). In this study, OLs were found to have more postgraduate education, more relevant professional credentials and more postgraduate qualifications. "OLs had significantly more work experience in mental health than their co-workers, and were twice as likely to have postgraduate education in comparison to their peers … OLs were more confident and willing to work with clients who have co-occurring disorders. In comparison to their colleagues, OLs had significantly greater knowledge regarding diagnosis and treatment of co-occurring disorders" (p199)	
Stanley D (2006)	This paper does not specifically focus on KU but it is still helpful to KU with its focus on the characteristics of clinical leaders. A clinical leader is defined as "one who possesses clinical expertise in a specialty practice area and who uses interpersonal skills to enable nurses and other healthcare providers to deliver quality patient care" (p108). The study of the characteristic of clinical leaders suggests that "… it is the demonstration and translation of their values and beliefs into the actions and the functions of their role for which they are admired and followed" (p110).	
Mercier C; Bordeleau M; Caron J; Garcia A and Latimer E (2004)	The change agents were a research team in a healthcare institution. Thus they were known to the participants and had awareness of the contextual factors.	

Step 2 – individual themes

Brendan

Moore, KA; Peters, RH; Hills, HA; Levasseur, JB; Rich, AR; Hunt, WM; Young, MS, Valente, TW (2004)	The study identified a number of 'competency – related' characteristics of opinion leaders (OL) that are significant, including – postgraduate education; relevant professional credentials; years of experience in the treatment area. Identified opinion leaders (n=10) were compared with other counsellors (n=55). In this study, OLs were found to have more postgraduate education, more relevant professional credentials and more postgraduate qualifications. "OLs had significantly more work experience in mental health than their co-workers, and were twice as likely to have postgraduate education in comparison to their peers … OLs were more confident and willing to work with clients who have co-occurring disorders. In comparison to their colleagues, OLs had significantly greater knowledge regarding diagnosis and treatment of co-occurring disorders" (p199)	**More Postgraduate education, more postgraduate qualifications and more professional credentials were found among opinion leaders than other counsellors.**

Alyce

Moore, KA; Peters, RH; Hills, HA; Levasseur, JB; Rich, AR; Hunt, WM; Young, MS, Valente, TW (2004)	The study identified a number of 'competency – related' characteristics of opinion leaders (OL) that are significant, including – postgraduate education; relevant professional credentials; years of experience in the treatment area. Identified opinion leaders (n=10) were compared with other counsellors (n=55). In this study, OLs were found to have more postgraduate education, more relevant professional credentials and more postgraduate qualifications. "OLs had significantly more work experience in mental health than their co-workers, and were twice as likely to have postgraduate education in comparison to their peers … OLs were more confident and willing to work with clients who have co-occurring disorders. In comparison to their colleagues, OLs had significantly greater knowledge regarding diagnosis and treatment of co-occurring disorders" (p199)	**Characteristics influencing practice knowledge/competence were:** **Post graduate education** **Prof. credentials** **Yrs of experience** **Confidence** **Willing to work with clients w/ co-disorders**

Steps 3-4

Author	Individual comments	Step 2. Amalgamated themes	Step 3: Look for chain of inferences (connections across papers) to ultimately develop hypotheses	Decision/recommendations of conference call
1) Moore, KA; Peters, RH; Hills, HA; Levasseur, JB; Rich, AR; Hunt, WM; Young, MS, Valente, TW (2004)	Does not address impact change agent characteristics on KU but does address characteristics of OL in practice/competence	Post graduate education. Prof. credentials. Yrs of experience. Confidence. Greater knowledge.	Expert Knowledge Professional qualifications Experience Positive attitude	Need to go back to article and determine if "confidence" is related to knowledge or experience; Possibly remove positive attitude based on review of article

Step 4a: Impact assessment

- Identification/isolation of those papers that provided some evidence of impact in terms of evidence of "what worked, for whom, in what circumstances and why … in relation to EIHC

Step 5: CHAINS OF INFERENCE

Interventions

Roles

Human Personal

Sources of Information

Multiple Components

Workshops

Tailoring

Settings

Partnerships

Contextual Factors
Leadership
Embeddedness
Culture
Social Influence

Characteristics

Knowledge

Social Interactions

Personal Characteristics

Skills

Themes within Chains of Inference

Chains of Influence	Derived from the following themes in step 3	Articles
Knowledge	Professional qualifications Expert knowledge Knowledgeable Local knowledge Research Knowledge Practice knowledge	1,3, 6,7,10, 11, 13, 14,15, 16,18,19,20,21, 22, 23, 25, 29,35,36,37,39
Skills	Communication skills Leadership skills Thinking skills Clinical skills Cognitive skills Evaluation skills Political skills Facilitation Skills Reflective skills	2, 4,5,6,7,8,9,10,11,12, 13, 14,15,16, 17, 18,19,20,21, 22, 24,25,27,28,32, 33, 34,36,38,39,40
Personal Characteristics	Role model Positive attitude Responsibility/accountability Respected Information Seeking Positive Attitude Accessible Age Teacher Culturally compatible Objectivity Years of experience	1,2,4, 6,7,8, 13, 14, 15, 16, 17,18, 22,28,29,30,31,32,33,35,36, 37,38, 39
Social Interaction	Social Influence Networking Shared Ownership	5,8,12, 15,18,31,39,40, Wright

Connections among chains of Inference

- **Nature of relationship …**

  – between CA personal characteristics and the ability to form partnerships on the impact of EIHC.

  – among CA personal characteristics, role adopted, and contextual influences on the impact of EIHC.

  – between CA personal characteristics, skills, and knowledge and the interplay with contextual influences on the impact of EIHC.

  – Between knowledge and human personal sources of information on the impact of EIHC.

  – among contextual influence, social interaction, CA personal characteristics and human personal sources of information and impact on the EIHC.

  – among partnership, social interaction, contextual influence, and skills on the impact of EIHC.

  – between skills and roles on the impact of EIHC.

Hypothesis Generation

Hypotheses	Chain of Inference (theory level)	Chain of inference (sub-theory level)	Themes from the literature	Papers addressing the theme
An opinion leader and his/her personal characteristics are dependent on contextual factors in order to have an impact on EIHC.	The nature of the relationship between the change agent's personal characteristics, the role adopted, and contextual influences and the impact of EIHC.	Roles Personal Characteristics Contextual Factors	Opinion Leader Facilitator	*Papers with mixed and positive effects, only:* 6 OL (Wright, Chaillet, Curran, Moore, Davies, Majumdar)
A facilitator and his/her personal characteristics are dependent on contextual factors in order to have an impact on EIHC.				6 FAC (int/ext and ext fac incl), (Stetler, Cranney, Gerrish, Milner, Thomas, Hutt) Total 18 CA papers, 12 OL and FAC

Comments on the literature:

- literature predominantly focuses on overall impact of roles but not characteristics
- while authors may describe personal characteristics, there is little work to measure the impact
- facilitator vs. facilitation (unclear usage, terms may have been used interchangeably)
- sloppy use of language in general; important to be clear with use of terms

Ways of working – what has been effective?

- Small group work
- Overall leadership
- Opportunities to meet annually face-to-face,
- Using group consensus to resolve any issues that arose
- Use of theory area 1 as a way to understand the process (pilot),
- Great people to work with

- Using different media to communicate
- Dealing with problems and challenges as they arose
- Division of labour
- Respect for each others respective 'other' responsibilities (picking up the slack)
- Flexibility within the sub-groups and larger group. Everyone contributed; led at different points in the work depending on our own immediate workloads

Challenges 1

- Getting to grips with RS
- Distance
- Time
- Fragmentation – stop/start
- Lack of framework in place to move forward
- Limited in-person meeting time,
- Quantity of work ahead for the project as a whole and the need to make regular progress,
- Reaching consensus on inclusion/exclusion/outcomes/data extraction,
- Maintaining effective communication

Challenges 2

- Maintaining shared/collective responsibility
- Working with shared leadership
- Sticking with timelines
- No funding
- No admin support
- No one close-by to chat with
- Incomplete information to do tasks
- Lack of clarity in definitions and perhaps different paradigms
- Feelings of uncertainty around process
- Translating our findings to our objectives
- Late night phone calls
- Getting RS prioritized into workload
- Technology glitches

Key learnings so far 1

- The group has greater knowledge of RS
- We have staying power
- We have an overview of the influencing factors
- We can work together internationally
- Need for funding to progress properly
- More formal plan needed for ways of working
- Challenge of collective leadership
- State of literature, importance of understanding the process,
- Regular contact has been needed along with shared responsibility for progressing the work

Key learnings 2

- We need a formal plan around our meeting schedule
- Shared leadership is a challenge to maintain
- The work is gaining recognition
- Time has enabled further understanding
- Potential adaptations and perhaps ability to advance the concept
- This is not a well researched field
- The ability to work through emails
- A feeling of not being sure if we have learned what we were supposed to learn
- The ability of this team to continue working together

Strengths of the Realist Approach

- Clarity of philosophy and located in the social sciences
- Not a method or formula, but a logic of enquiry
  - Pluralist and flexible
- Brings together different forms of evidence
  - Explanatory, as opposed to judgemental
- Learns from, rather than attempting to control, real world phenomena (contextualised evidence)
- Engages stakeholders in a systematic way
- Has the potential to maximise learning across policy and practice domains

Some Limitations

- Stage of development of the realist approach:
  - Small number of completed reviews
- Iterative process
- Handling potentially large volume of evidence
- Developing/documenting reproducible methods
- Demonstrating and maintaining objectivity
- Requires breadth of experience and thought on the part of the reviewer
- Leads to recommendations that have identified associations but which are not generalisable but theoretically transferable