Making Sense of Framework and Best Fit Framework Synthesis

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Trusted evidence.
Informed decisions.
Better health.

Cochrane Methods
Qualitative and Implementation

Conflict of Interest Statement

I have no actual or potential conflicts of interest in relation to this presentation. I am a co-originator of Best Fit Framework Synthesis but do not stand to gain materially from this presentation.

Andrew Booth

Overview of whole program

1-2 pm 28th October, 2021
Introduction to qualitative research and qualitative evidence synthesis
Jane Noyes, Professor in Health and Social Services Research and Child Health, Bangor University, UK
Kate Flemming, Professor of Hospice F

15th November, 2021
Question formulation and searching
Dr Andrew Booth, Reader in Evidence E

13th December, 2021, 14:00 UTC [Che
Selecting studies and assessing meth
Jane Noyes, Professor in Health and Social Services Research and Child Health, Bangor University, UK

February 2022 – Thematic synthesis

March 2022 – Meta-ethnography

April 2022 – GRADE CERQual

May 2022 – Integrating qualitative and quantitative syntheses

20th January, 2022
Making Sense of Framework and Best Fit Framework Synthesis
Dr Andrew Booth, Reader in Evidence Based Information Practice & Director of Information, University of Sheffield, UK.

Key sources of information

Cochrane Methods
Qualitative and Implementation

Wiley Online Library | University Of Sheffield

Research Synthesis Methods

REVIEW | 🔒 Full Access

Innovations in framework synthesis as a systematic review method

Ginny Brunton ✉, Sandy Oliver, James Thomas

First published: 23 February 2020 | https://doi.org/10.1002/jrsm.1399 | Citations: 25

Brunton G, Oliver S, Thomas J. Innovations in framework synthesis as a systematic review method. Research Synthesis Methods; 2020 Mar 3;11(3):316–30. Available from: http://dx.doi.org/10.1002/jrsm.1399

☰ SECTIONS

Abstract

Framework synthesis is one systematic review method employed to address health care practice and policy. Adapted from framework analysis methods, it has been used increasingly, using both qualitative and mixed-method systematic review methods. This article demonstrates a spectrum of

Best Fit Framework Synthesis

1. Carroll, C., Booth, A., & Cooper, K. (2011). A worked example of" best fit" framework synthesis: a systematic review of views concerning the taking of some potential chemopreventive agents. *BMC Medical Research Methodology*, 11(1), 1-9.

2. Carroll C, Booth A, Leaviss J, Rick J. "Best fit" framework synthesis: refining the method. *BMC Medical Research Methodology*. 2013 Dec;13(1):1-6.

3. Booth, A., & Carroll, C. (2015). How to build up the actionable knowledge base: the role of 'best fit' framework synthesis for studies of improvement in healthcare. *BMJ Quality & Safety*, 24(11), 700-708.

Forthcoming Cochrane Qualitative Evidence Synthesis and Methods Handbook (eds. Noyes & Harden)

Chapter 9 - Framework Synthesis
Ginny Brunton, Andrew Booth & Chris Carroll.
London, Wiley, Late 2022.

WILEY

Today's Programme

- **What is Framework Synthesis?**

- **The Principles of Framework Synthesis**

- **Strengths and Limitations of Framework Synthesis**

- **Recent Applications of Framework Synthesis**

    Questions

- **Best Fit Framework Synthesis**

- **Identifying Candidate Frameworks**

- **Selecting Candidate Frameworks.**

    Questions

What is Framework Synthesis?

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What is a Theory, Model, Framework? etc

"a **theory** may be defined as a set of analytical principles or statements designed to structure our observation, understanding and explanation of the world…A "**good theory**" provides a clear explanation of how and why specific relationships lead to specific events"

"a **model** typically involves a deliberate simplification of a phenomenon or a specific aspect of a phenomenon. **Models** need not be completely accurate representations of reality to have value… **Models** can be described as **theories** with a more narrowly defined scope of explanation; a **model** is descriptive, whereas a **theory** is explanatory as well as descriptive"

"A **framework** usually denotes a structure, overview, outline, system or plan consisting of various descriptive categories, e.g. concepts, constructs or variables, and the relations between them that are presumed to account for a phenomenon. **Frameworks** do not provide explanations; they only describe empirical phenomena by fitting them into a set of categories".

In my "simple brain" – a **framework can be "static"**, a **model shows relationships** and a **theory explains how those relationships 'work'**

A simple illustration!

Framework:

- **Brain**
- **Eye**
- **Mouth**
- **Stomach**

Model:

Eye➜➜➜➜➜Brain➜➜➜➜Mouth➜➜Stomach

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Theory:

- The Eye sees the Ice Cream. The Eye sends signals to the Brain. The Brain pictures the Ice Cream as desirable and actions obtaining the Ice Cream. The Mouth consumes the Ice Cream. The Ice Cream is digested to the Stomach. (Programme Theory)
- Past Experience shapes Future Preference and Expectations (Mid-Range Theory)

What is Framework Synthesis?

"Systematic review method employed to address health care practice and policy. Adapted from framework analysis… used increasingly, using both qualitative and mixed-method systematic review methods". (**Brunton et al, 2020**)

"The research question and the background theoretical and empirical literature shape an understanding of the issue…into an a priori conceptual framework, which develops iteratively as new data are incorporated and themes are derived from the data. Framework analysis presents an opportunity to use a '**scaffold** against which findings from the different components of an assessment may be brought together and organised' (**Carroll et al, 2011**). Its flexibility captures new understanding as data is incorporated into the framework." (**Brunton et al, 2020**)

Examples of Framework/ Model types

Cochrane Methods
Qualitative and Implementation
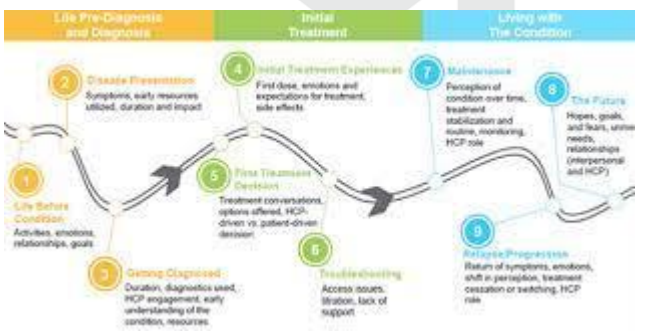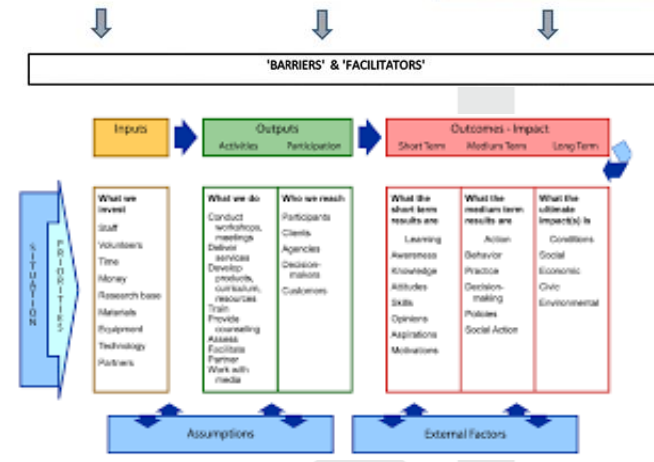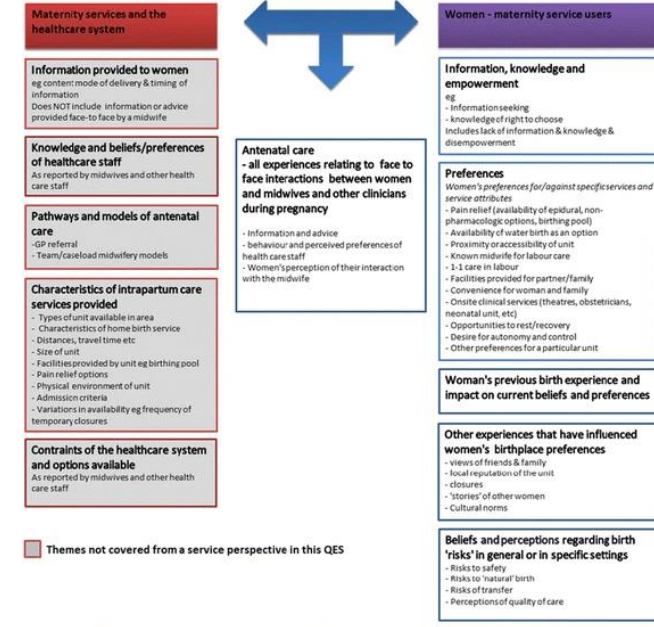
Conceptual frameworks – e.g. "Khan AA, Bhardwaj SM. Access to health care. A conceptual framework"

Policy frameworks – e,g, NHS Modernization Agency Protocol Based Care

Logic models – Representations of Programme Theory

Structural Logic Models – Inputs-Processes-Outputs-Outcomes
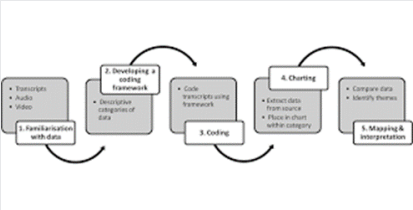
Process Logic Models – Temporal or Developmental

Disease Trajectories – Stages of a Disease

Care Pathways – Diagnosis – Treatment – Rehabilitation etc

Matrices – Descriptive variables, Thematic variables or combined

May come from Primary Studies, Reviews, Policy documents

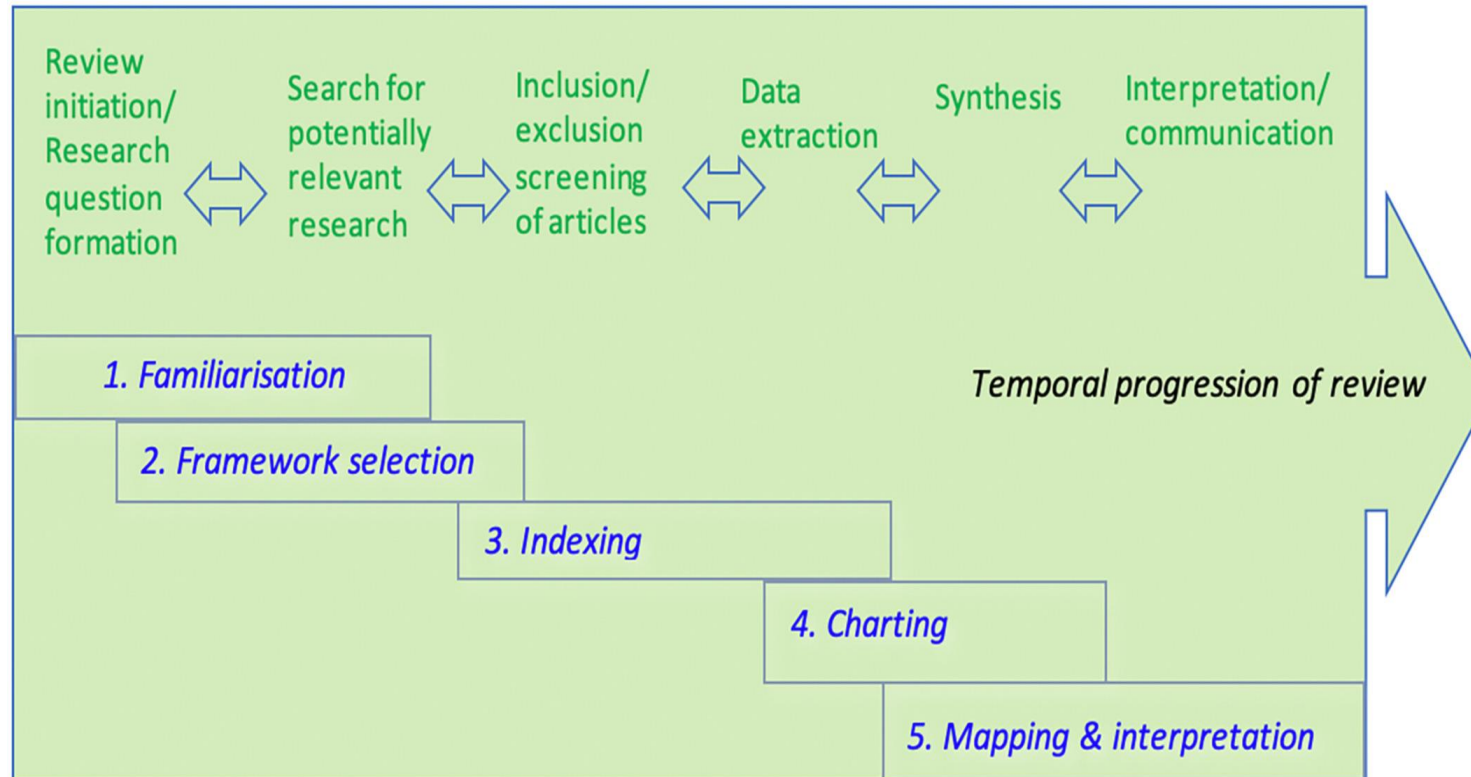# Framework Synthesis: where it all began.....

Framework Analysis (Ritchie and Spencer, 1994)	Framework Synthesis (Oliver et al, 2008)	Best Fit Framework Synthesis (Carroll & Booth, 2011, 2013)
Construction of thematic categories into which data can be coded (Ritchie & Spencer 1994)	Allows themes identified *a priori* to be specified as coding categories from the start	Formally separates deductive (coding) phase from inductive theme generation.
Five steps: 1. Familiarisation 2. Framework identification 3. Indexing 4. Charting 5. Mapping and Interpretation	Framework may come from: i. Background Literature ii. Researcher Experience iii. Stakeholder Consultation 	Framework systematically identified from the literature "Good enough" framework that explains more than 50% of the data

Five stages of Framework Synthesis

1. **Familiarization stage:** Become familiar with current issues and ideas about the topic, by drawing iteratively on a variety of sources.

2. **Framework selection stage**: Choose an initial framework (e.g. conceptual or policy framework, logic model, causal chain or established theory) to explain the issue.

3. **Indexing stage:** Seek and screen studies and extract data using initial conceptual framework. Sort studies by their relevance to the review questions and by their main characteristics.

4. **Charting stage:** Analyze main characteristics of each study by grouping characteristics into categories and deriving themes directly from those data.

5. **Mapping and interpretation stage:** Consider derived themes against original research questions. Present findings from the review in various formats (eg, forest plots, tables, figures, or narratives) for ease of reader interpretation.

Innovations in framework synthesis as a systematic review method

Systematic review processes (Gough et al. 2012)

Review initiation/Research question formation — Search for potentially relevant research — Inclusion/exclusion screening of articles — Data extraction — Synthesis — Interpretation/communication

Temporal progression of review

1. Familiarisation
2. Framework selection
3. Indexing
4. Charting
5. Mapping & interpretation

Stages of Framework synthesis method (Ritchie et al. 2014)

Key Points (Brunton et al, 2022)

⬜ Framework synthesis offers synthesis approach **structured by a chosen theory**

⬜ Allows organization and analysis of qualitative, quantitative or mixed method studies and data in **efficient and transparent** manner

⬜ Selected theory may be **tentative, emergent, refined or established**

⬜ Best-fit framework synthesis offers way to **refine an existing theoretical model** based on review data

⬜ **Stakeholder engagement** can support theory development that is tentative or emergent

The Principles of Framework Synthesis

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Principles of Framework Synthesis

- **Transparent** – especially BFFS

- **Explicit** – both FS and BFFS

- **Theory-Led** – both FS and BFFS

- **Consultative?** – especially FS

- **Pragmatic?** – especially BFFS

FS = Framework Synthesis (Oliver et al, 2008)
BFFS = Best Fit Framework Synthesis (Carroll & Booth, 2011)

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Time for a Poll!

Strengths and Limitations of Framework Synthesis

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Strengths

"Framework analysis [or synthesis]…is best adapted to research with specific questions, a limited time frame and issues that have been identified a priori".

"FS approach allows a team to go beyond insights from isolated case studies by seeking to identify what is generalisable across multiple settings. By identifying patterns and themes from the synthesis, a [team] is able to formulate a well-conceived action plan to address system-wide considerations".

Booth & Carroll (2015)

Framework As Window

Cochrane Methods

Framework operates as a window upon the data – assists team thinking when tackling the review

Ilott I, Booth A, Rick J, Patterson M. How do nurses, midwives and health visitors contribute to protocol-based care? A synthesis of the UK literature. International journal of nursing studies. 2010 Jun 1;47(6):770-80.

Used 12-step guide to developing and implementing protocols from NHS Modernisation Agency (MA) and National Institute for Clinical Excellence (NICE) as an analytical framework

Step 1: select and prioritise a topic
- Select topics linked to national standards and local service needs
- Prioritise predictable, standardised, large volume, very high cost procedures and high risk diseases and care process
- Develop disease-based, problem-based, treatment-based and client-based protocols

Step 2: Set up a team
- Multi-disciplinary group of clinical and non-clinical staff
- Agree terms of reference, a communication plan, a project plan, a meeting schedule and an implementation plan

Step 3: Involve patients and users
- Involve patient representatives and interest groups on the development team
- Produce a summary of the protocol for patients.

Step 4: Agree objectives
- Set clear, specific and measurable objective
- Identify problems or barriers from both staff and patient perspectives

Step 5: Build awareness and commitment
- Gain strategic and clinical commitment by engaging stakeholders
- Raise awareness and promote the benefits of standardised care

Step 6: Gather information
- Gather evidence of good practice, other organisations' experience and protocols, the views of patients, and the organisation's business plan and service objectives

Step 7: Baseline assessment
- Map care process using case notes, interviews and group sessions
- Identify who should see what information about patients

Step 8: Produce the protocol
- Agree the format as a single record of care
- Gain corporate level approval

Step 9: Pilot the protocol
- Train and support staff in using the protocol
- Evaluate ease of use, the effectiveness and impact on staff and patients
- Amend and get corporate 'sign off'

Step 10: Implement the protocol
- Include in Service Level Agreements with commissioners
- Train users and provide back-up support for problems
- Identify team member be made responsible for maintaining the protocol

Step 11: Monitor variation
- Document and monitor variations
- Review the protocol as a whole

Step 12: Review the protocol
- Keep the protocol under review to keep it up-to-date and measure benefits
- Train new staff
- Use the findings to inform organisation-wide and national agendas

Framework As Support

Framework lends credibility and substantiates subsequent theorizing

From: <u>Factors influencing the implementation of mental health recovery into services: a systematic mixed studies review</u>

| CFIR domains	Name of themes from the synthesis	CFIR construct(s) where data underlying this theme were coded to
Intervention characteristics	• Flexibility	• Design quality and packaging • Relative advantage • Adaptability
	• Relationship building	• Design quality and packaging • Complexity
	• Lived experience	• Design quality and packaging • Relative advantage • Source of the Intervention
Inner setting	• Traditional biomedical vs. recovery-oriented approach	• Culture • Learning climate • Compatibility • Relative priority
	• The importance of organizational and policy commitment to recovery-transformation	• Compatibility • Leadership commitment • Tension for change
	• Staff turnover	• Structural characteristics
	• Lack of resources to support personal recovery goals	• Available resources
	• Information gaps about new roles and procedures	• Access to knowledge and information
	• Interpersonal relationships	• New construct: Relationships
Characteristics of individuals	• Variability in knowledge about recovery	• Knowledge and beliefs • Self-efficacy • Individual stage of change

scite_

"We applied the best-fit framework synthesis method [70]. We chose the Consolidated Framework for Implementation Research (CFIR) [71] as the best-fit framework for this synthesis based on it being a germinal compilation of factors known to influence implementation and our aim being to systematically synthesize the factors known to influence the implementation of recovery-oriented services". (Piat et al, 2021)

Framework As Structure

The logic model variant is indicated where theorising is relatively immature as it offers a 'scaffolding' framework while focusing on programme theory. Programme theories seek to explain how a particular improvement programme is conceived to work…..
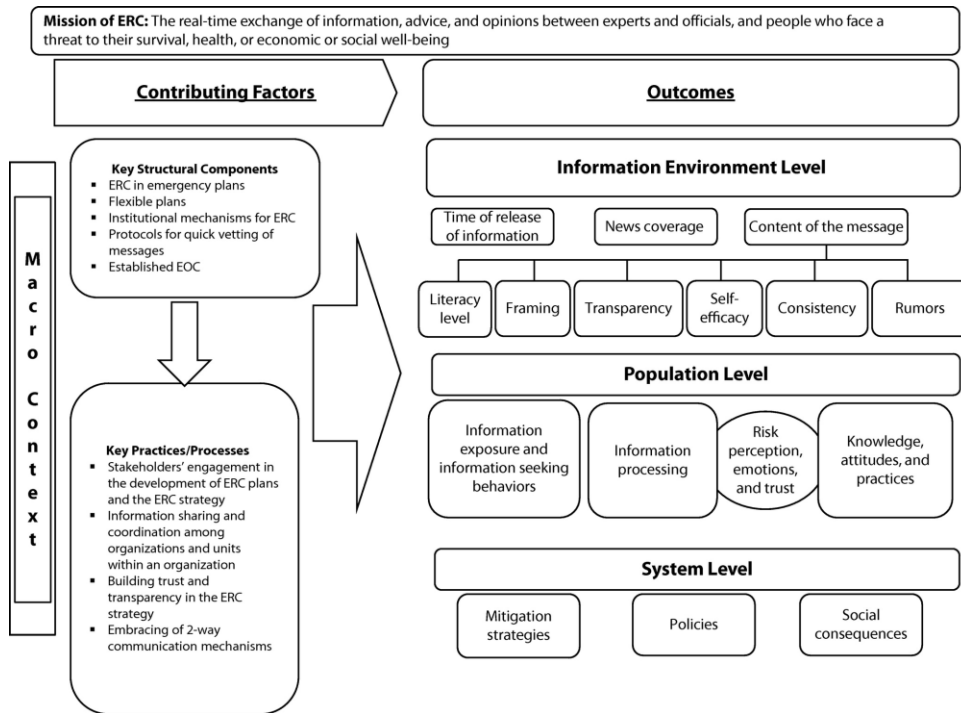

Fig. 2 Preliminary logic model for the mixed methods review on weekend effect
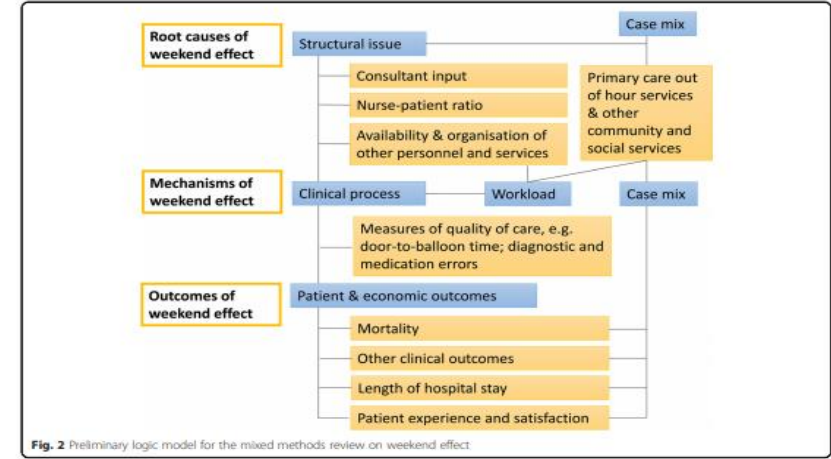
Chen YF, et al. The magnitude and mechanisms of the weekend effect in hospital admissions: a protocol for a mixed methods review incorporating a systematic review and framework synthesis. Systematic reviews. 2016 Dec;5(1):1-1.

A logic model framework synthesis is appropriate when a team has identified key elements of an intervention but not necessarily how these are interrelated. Elements of a logic model are 'deconstituted' to become fields in a data extraction form. Once extraction is completed, relationships identified from the data are depicted and a revised, expanded and tested logic model is 'reconstituted'.

Booth & Carroll (2015)

Framework As Presentation (and Evaluation) Frame

Mission of ERC: The real-time exchange of information, advice, and opinions between experts and officials, and people who face a threat to their survival, health, or economic or social well-being

Contributing Factors

Key Structural Components
- ERC in emergency plans
- Flexible plans
- Institutional mechanisms for ERC
- Protocols for quick vetting of messages
- Established EOC

Key Practices/Processes
- Stakeholders' engagement in the development of ERC plans and the ERC strategy
- Information sharing and coordination among organizations and units within an organization
- Building trust and transparency in the ERC strategy
- Embracing of 2-way communication mechanisms

Macro Context

Outcomes

Information Environment Level
- Time of release of information
- News coverage
- Content of the message
- Literacy level
- Framing
- Transparency
- Self-efficacy
- Consistency
- Rumors

Population Level
- Information exposure and information seeking behaviors
- Information processing
- Risk perception, emotions, and trust
- Knowledge, attitudes, and practices

System Level
- Mitigation strategies
- Policies
- Social consequences

…the proposed framework provides a visual representation of such components that can be adapted to local needs and the specifics of the evaluation study being implemented. Researchers and public health practitioners… can use the conceptual framework… to guide the development of evaluation studies and methods for assessing communication outcomes related to public health emergencies.
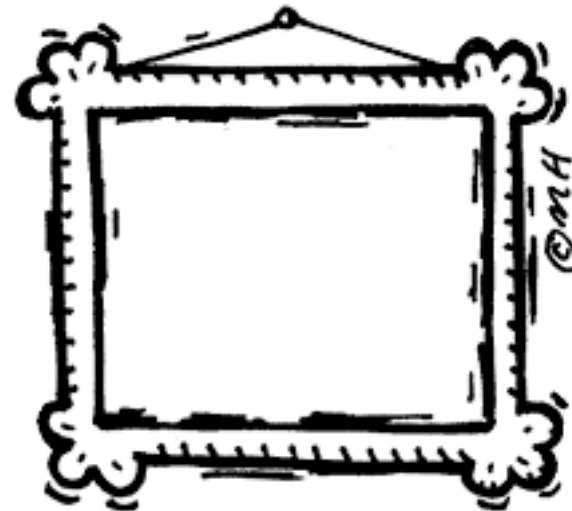
Savoia E, Lin L, Gamhewage GM. A conceptual framework for the evaluation of emergency risk communications. American journal of public health. 2017 Sep;107(S2):S208-14.

Limitations

- Can be time consuming (as all thorough qualitative data analysis methods) but may be quicker than others.

- Needs to be consider all data and ensure a rigorous process.

- Lacks theoretical underpinning of other qualitative approaches (e.g. grounded theory and meta-ethnography).

- Flexibility may encourage reviewers to take shortcuts

- "False starts" with inappropriate frameworks (especially when temporally inappropriate)

- May encourage reviewers to "squeeze" data into existing concepts rather than create new labels

- May require a "codebook" for agreement between coders and/or agreement with original model.

Framework As Gallows!

WARNING: Frameworks are not value neutral.
- They may meet resistance from the target audience
- They may be discredited
- They may be out-of-date or obsolete
- There may be "framework fatigue"

Therefore the audience may throw away the synthesis "baby" out with the framework "bathwater"

TIP: Test the receptivity and credibility of proposed frameworks early

Recent Applications of Framework Synthesis

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Application 1 – Conventional QES

"**Comparison of findings from this QES with the multi-context review funded by the WHO, and with a single country QES for Kenya**, co-produced by one of the authors, reveals some interesting insights. At a mid-range level, the **same constraints** pertain across geographical and cultural contexts; for example, how the availability of genuine choice is limited by the rapid onset of labour or by the occurrence of obstetric emergencies".

"Specifically, however, **transport options may differ across countries** and arrangements for access to facilities may be organised differently. **Prevailing religious beliefs may differ** but the influence of religion, traditional beliefs and family attitudes typically combine to impact upon decision-making".

Framework Used:
Bohren MA et al. Facilitators and barriers to facility-based delivery in low-and middle-income countries: A qualitative evidence synthesis. *Reprod Health.* 2014;1;11(1):71
Reference:
Mshelia, S. E., Analo, C. V., & Booth, A. (2020). Factors influencing the utilisation of facility-based delivery in Nigeria: a qualitative evidence synthesis. *Journal of Global Health Reports*, 2020(4).

Application 2 – Rapid QES

""We each extracted study data (qualitative themes/supporting quotations, and discussion) using ...the framework, with supplementary sections for additional study data both within each of the three headings (organisational, environmental and individual factors) as well as data that did not fall within any of these".

"Identified a framework... adapted from previous work by **Greene 1991** and **DeJoy 1996**. This framework had been **previously used to guide primary research on healthcare workers' perceptions of adhering to IPC guidelines** (**Moore 2005**), therefore we believed it to be a reasonable fit for this review. This framework has three overarching domains to help us to explore the factors that impact on IPC adherence".

Framework Used:
Theoretical Model to Explain Self-Protection Behaviour at Work (Moore, 2005)
Reference:
Houghton, C., Meskell, P., Delaney, H., Smalle, M., Glenton, C., Booth, A., ... & Biesty, L. M. (2020). Barriers and facilitators to healthcare workers' adherence with infection prevention and control (IPC) guidelines for respiratory infectious diseases: a rapid qualitative evidence synthesis. Cochrane Database of Systematic Reviews, (4).

Adapting the Framework

Organisational factors (Safety climate, Specific health and safety programmes, Availability of training programmes)

Environmental factors (Physical environment, Availability of PPE)

Individual factors (Individual knowledge, Individual attitudes, Individual beliefs

"All of our findings fitted beneath the three broad domains of the framework. However, **we added one additional subdomain** called 'Discomfort of PPE', which was captured under the domain of individual factors. In the final review stage, **we relabelled one of the subdomains in the organisational factors domain** from 'Specific health & safety programme' to 'Communication on IPC guidelines'. We made this change to enhance clarity and readability for all, but particularly for clinicians".

Framework Used:
Theoretical Model to Explain Self-Protection Behaviour at Work (Moore, 2005)
Reference:
Houghton, C., Meskell, P., Delaney, H., Smalle, M., Glenton, C., Booth, A., ... & Biesty, L. M. (2020). Barriers and facilitators to healthcare workers' adherence with infection prevention and control (IPC) guidelines for respiratory infectious diseases: a rapid qualitative evidence synthesis. Cochrane Database of Systematic Reviews, (4).

"We identified 544 unique third-order concepts from the included systematic reviews, which were **reclassified into 45 fourth-order themes** within the individual, interpersonal, community, institutional and structural levels of the model"

"Using this approach, we found **interdependence between factors** influencing ART linkage, retention and adherence and **identified the need for qualitative evidence that explores, in greater depth**, the complex relationships between structural factors and adherence, sociodemographic factors …and the experiences of growing up with HIV in low- and middle-income countries—specifically in children, youth, women and key populations.".

Framework Used: Kaufman HIV Behaviour Change model

Reference: Hendricks, L., Eshun-Wilson, I., & Rohwer, A. (2021). A mega-aggregation framework synthesis of the barriers and facilitators to linkage, adherence to ART and retention in care among people living with HIV. Systematic reviews, 10(1), 1-28.

Pause for questions

Best Fit Framework Synthesis

Professor Andrew Booth BA Dip Lib MSc MCLIP PhD

School of Health and Related Research (ScHARR) The University of Sheffield

Best Fit Framework Synthesis

"**Requires identification of a relevant framework, theory or conceptual model** for particular health behaviours. This is then reduced to its key elements or variables, which form the themes of the *a priori* framework. Primary research studies for inclusion in the review are identified and selected by applying conventional systematic review methods. Evidence…is then coded against the themes of the a priori framework and new themes are generated from evidence not captured by this a priori framework. **New themes are based on the reviewers' interpretation of the evidence and constant comparison of new themes across studies**".

"…**Relationships between the themes of the framework are then either recreated or generated based on the evidence** from the primary research studies included in the review".

Carroll, C., Booth, A., Leaviss, J. , Rick, J. "Best fit" framework synthesis: refining the method. *BMC Med Res Methodol* 13, 37 (2013). https://doi.org/10.1186/1471-2288-13-37

Best Fit Framework Synthesis

Figure 1. Systematic review using best-fit framework synthesis
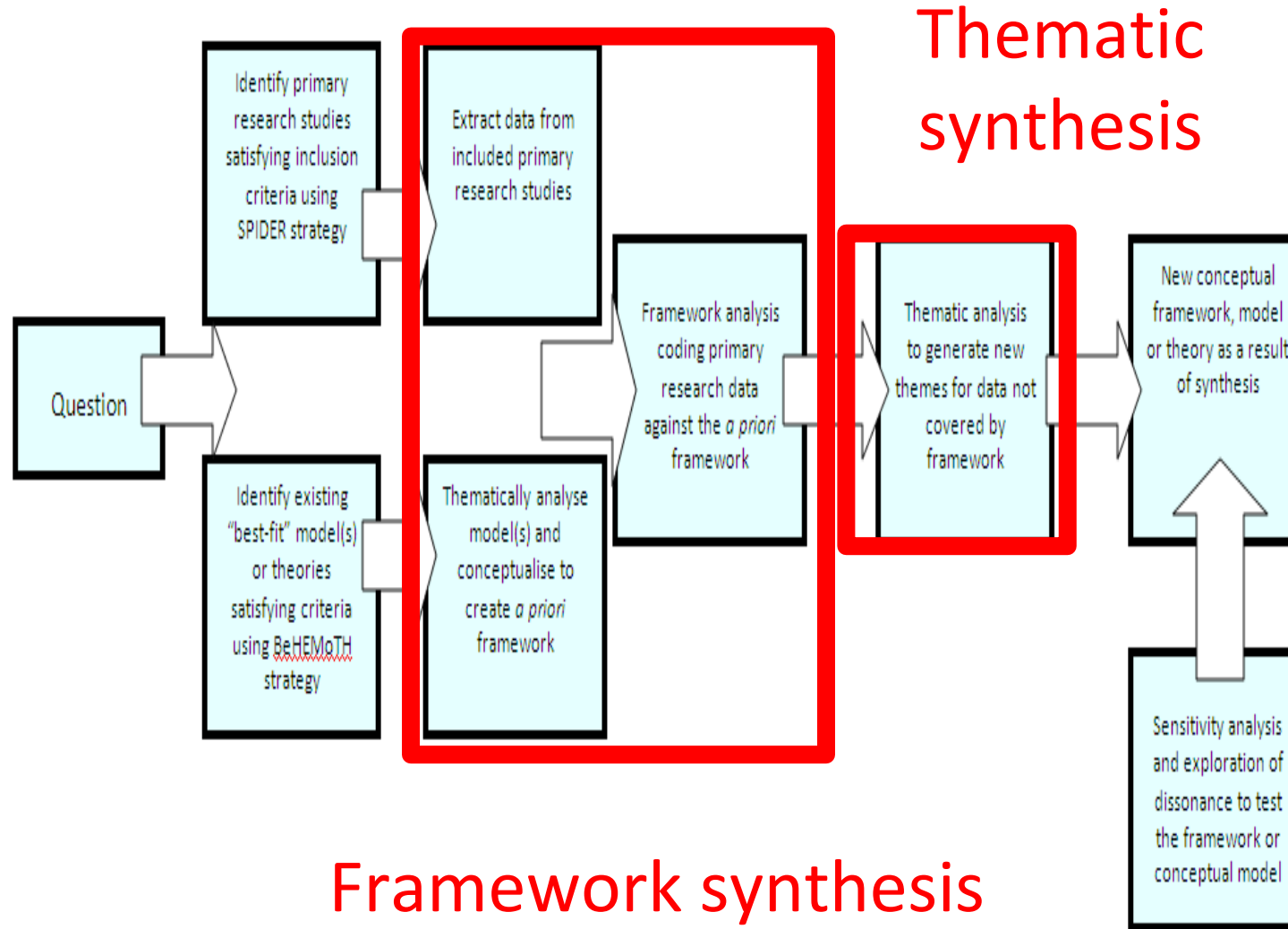
Summary of "Best Fit" FS Approach

Table 1 Summary of "best fit" framework synthesis approach

Step 1	Define review question	Step 5	Create new themes by performing secondary thematic analysis on any evidence that cannot be coded into the a priori framework
Step 2	a) Systematically identify relevant primary research studies b) Identify relevant ("best fit") publications of frameworks and conceptual models/theories	Step 6	Produce a new framework composed of a priori and new themes supported by the evidence
Step 3	Extract data on study characteristics from included studies and conduct study quality appraisal	Step 7	Revisit evidence to explore relationships between themes or concepts, in order to create a model
Step 4	Code evidence from included studies into the a priori framework identified in step 2		

Adapted from Booth and Carroll [8]

In a Nutshell!

"Advantages…**when time is short and the demand for policy-relevant evidence is urgent**. It enables focusing of the research on the priorities of those commissioning the work, while still leaving some room for finding the 'best fit' in the light of what the evidence actually reports.

Of course, like framework analysis… there are downsides of the approach too. Reviewers who have made a hefty investment in an initial conceptual model may be **unconsciously motivated to recover the sunk costs of that model**, and as a consequence tend to neglect evidence that presents a fundamental challenge. **Putting more time into specifying the model, using a wider range of literature, and gaining the views of a wider range of stakeholders may all be important in improving the legitimacy and validity of any ensuring synthesis.** There are also the usual risks… that it **can tend to suppress interpretive creativity**, and thus reduce some of the vividness of insight seen in the best qualitative research. Nonetheless, as Carroll and colleagues argue, framework-based synthesis using the 'best fit' strategy is, in the right hands, likely to be a **highly pragmatic and useful approach for a range of policy urgent questions.**

(Dixon-Woods, M. Using framework-based synthesis for conducting reviews of qualitative studies. *BMC Med* 9, 39 (2011). https://doi.org/10.1186/1741-7015-9-39)

Identifying Candidate Frameworks

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Identifying Candidate Frameworks
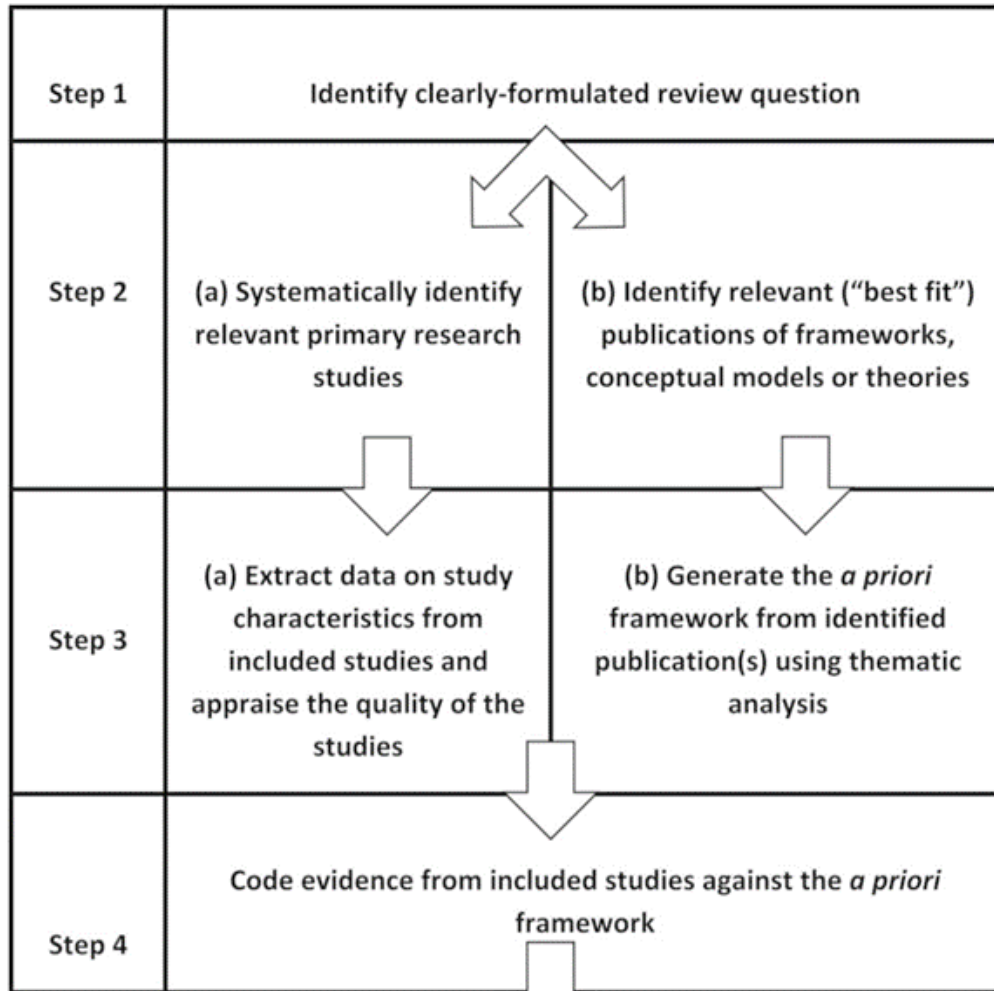
"Theor* OR Framework* OR Concept* OR Model*"

Booth A, Carroll C. Systematic searching for theory to inform systematic reviews: is it feasible? Is it desirable? *Health Info Libr J.* 2015 Sep;32(3):220-35. doi: 10.1111/hir.12108.
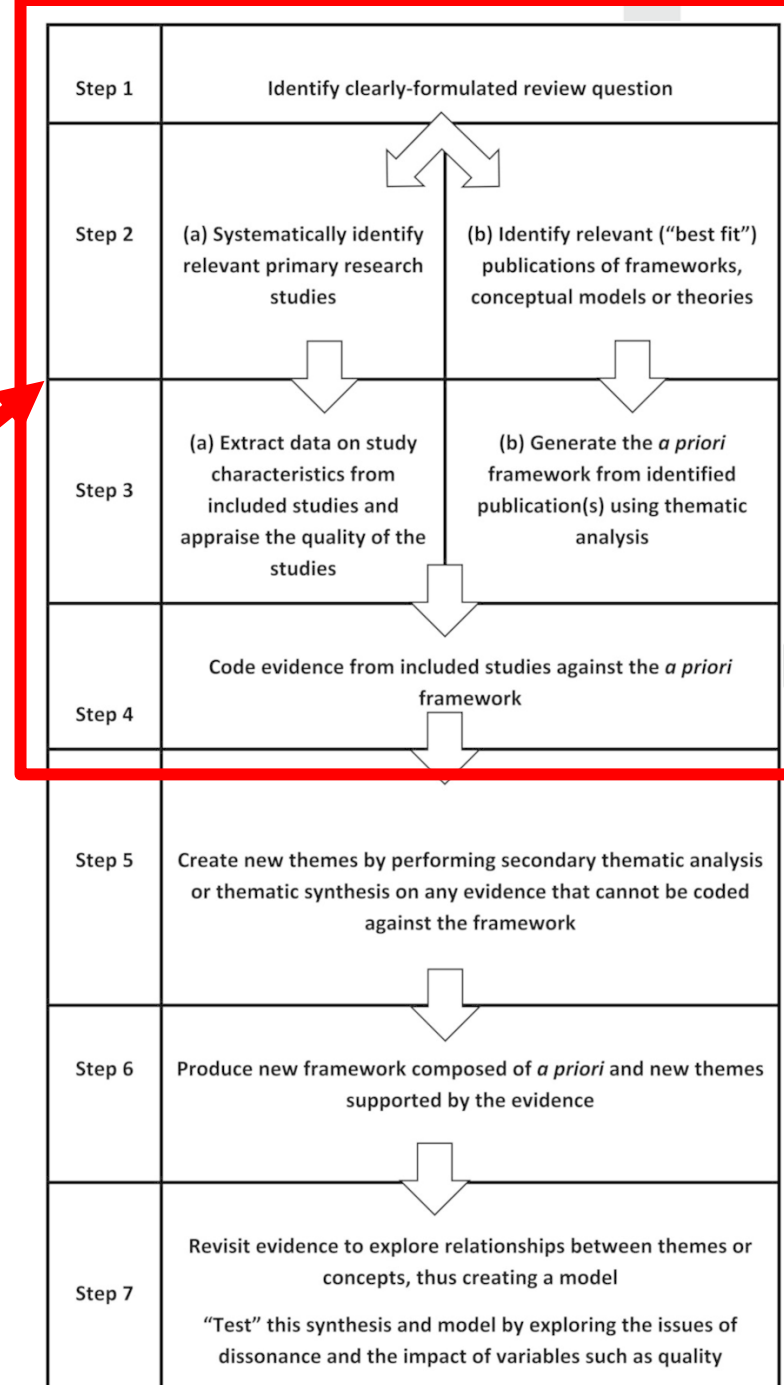
("logic model" OR "theory of change" OR "theory of action" OR "outcomes chain" OR "program* theory" OR "program* logic" OR "logical framework*") AND "postnatal depression"

Using Google Images to Find Frameworks and Theories

(Model* OR Theor* OR Framework* OR Concept*) AND [*Topic of Interest e.g.* "Men's Sheds"]

Two candidate conceptual models found within less than 30 seconds:
1. From a Qualitative study of Men's Sheds in Scotland
2. From a Systematic Review of Men's Sheds

Both from published studies!

Starting Points

Rycroft-Malone J, Bucknall T, editors. *Models and frameworks for implementing evidence-based practice: linking evidence to action.* John Wiley & Sons; 2010 May 10.
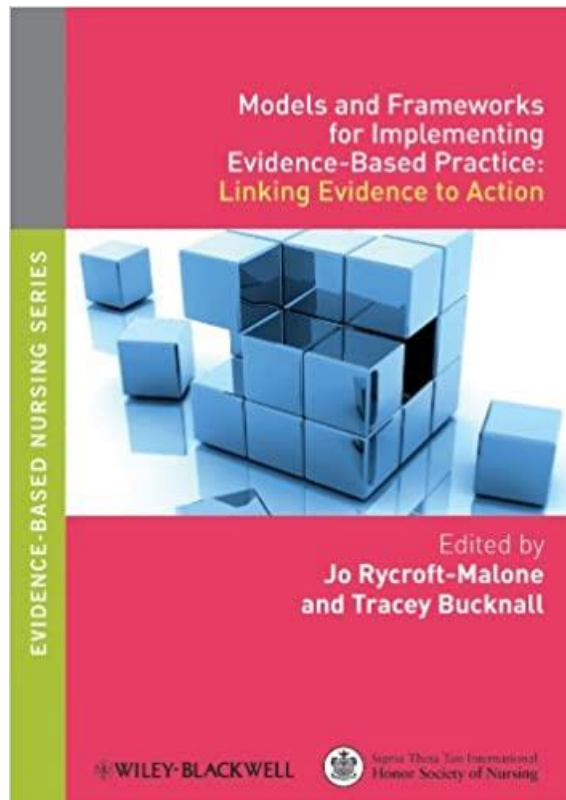
Table 4 Most widely used or 'dominant' theories and models in health education and health promotion (expanded from Glanz et al.[31])

Cognitive Behavioral Theory	Motivational Interviewing
Community Organization Theory	Organizational Change Theory
Diffusion of Innovation Theory	PRECEDE PROCEED Model
Health Belief Model	Protection Motivation Theory
Precaution Adoption Process Model	Social Cognitive Theory
Social Learning Theory	Social Ecological Model
Social Marketing	Stages of Change or Transtheoretical Model
Theory of Planned Behavior	Theory of Reasoned Action

Booth, A., & Carroll, C. (2015). Systematic searching for theory to inform systematic reviews: is it feasible? Is it desirable?. *Health Information & Libraries Journal*, 32(3), 220-235.

Michie, S. F., West, R., Campbell, R., Brown, J., & Gainforth, H. (2014). *ABC of behaviour change theories.* Silverback publishing.
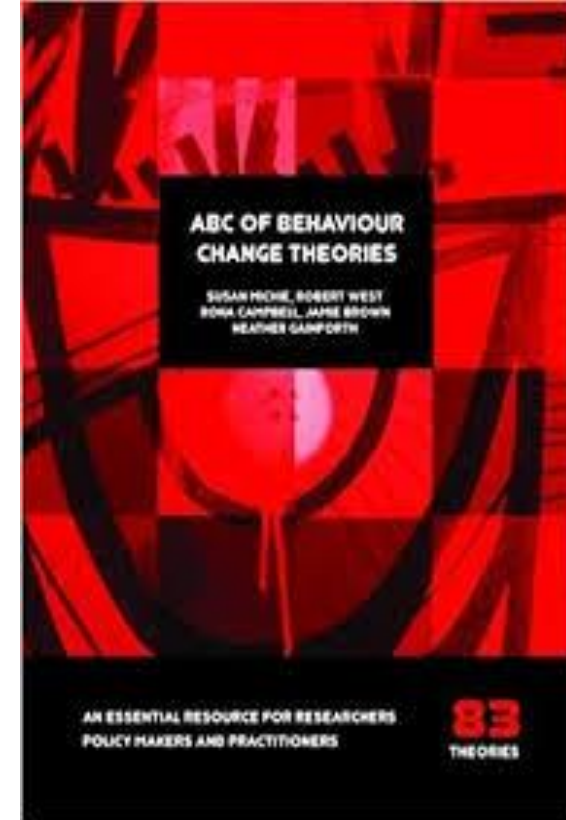
ABC of Behaviour Change Theories:
An Essential Resource for Researchers, Policy Makers and Practitioners

< > Page 12

1. Action Theory Model of Consumption (Bagozzi)
2. Affective Events Theory (Weiss & Cropanzano)
3. Aids Risk Reduction Model (Catania et al.)
4. Behavioural-Ecological Model of Adolescent Aids Prevention (Hovell et al.)
5. CEOS Theory (Borland)
6. Change Theory (Lewin)
7. Classical Conditioning (Pavlov)
8. COM-B System (Michie et al.)
9. Consumption as Social Practices (Spaargaren & Van Vliet)
10. Containment Theory (Reckless)
11. Control Theory (Carver & Scheier)
12. Differential Association Theory (Sutherland)
13. Diffusion of Innovations (Rogers)
14. Ecological Model for Preventing Type 2 Diabetes in Minority Youth (Burnet et al.) 113
15. Extended Information Processing Model (Flay et al.)
16. Extended Parallel Processing Model (Witte)

Cochrane Methods
Qualitative and Implementation

Models and Frameworks for Implementing Evidence-Based Practice: Linking Evidence to Action

EVIDENCE-BASED NURSING SERIES

Edited by Jo Rycroft-Malone and Tracey Bucknall

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ABC OF BEHAVIOUR CHANGE THEORIES
SUSAN MICHIE, ROBERT WEST, RONA CAMPBELL, JAMIE BROWN, HEATHER GAINFORTH

AN ESSENTIAL RESOURCE FOR RESEARCHERS, POLICY MAKERS AND PRACTITIONERS
83 THEORIES

Evidence to Decision Framework

Guideline considerations	Evidence source for addressing these considerations	Where to place this evidence in the evidence-to-decision framework
What outcomes are important to stakeholders?	**Qualitative evidence synthesis** or studies of utility value or choices at scoping stage of a guideline	How stakeholders value different outcomes*
What are the effects of an intervention?	Systematic review of intervention effectiveness'	Desirable and undesirable effects of the intervention
What are the acceptability, feasibility, and equity implications of an intervention?	**Qualitative evidence synthesis** tailored to the guideline questions	Acceptability, feasibility and equity impacts of the intervention
What resources will an intervention use and is it cost-effective?	Systematic review of intervention resource use and cost-effectiveness	Resources required and cost-effectiveness of the intervention

Guideline recommendation and implementation considerations

Text in red indicates where qualitative evidence can be used

*Findings from a qualitative evidence synthesis conducted at the scoping stage of a guideline can inform all aspects of the scope of a guideline, as described in paper 1 in this series
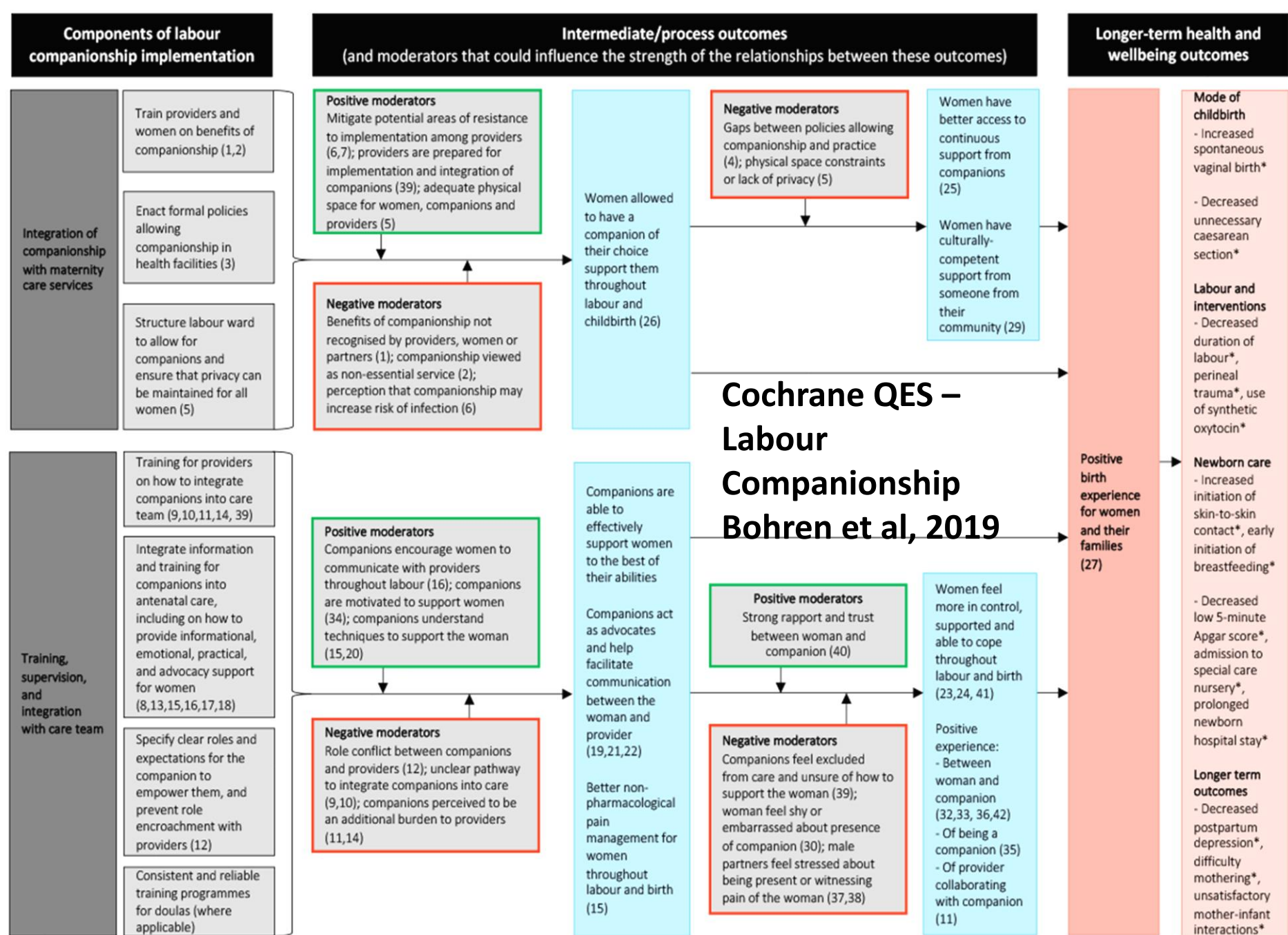
Cochrane QES – Labour Companionship Bohren et al, 2019

Legend
(#) = corresponding review finding from qualitative evidence synthesis; * = outcome from the intervention review

Analytical Framework

Selecting Candidate Frameworks

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How Do I Evaluate a Theory or Framework?

Fit for Purpose – does it help explain ≥ 50% of my data?

The ultimate judgment of the CFIR's utility and validity can be discerned by coalescing answers to three questions over time [12]:

1. Is terminology and language coherent?

2. Does the CFIR promote comparison of results across contexts and studies over time?

3. Does the CFIR stimulate new theoretical developments?

If answers to all three questions are yes, then we are on the right path.

Box 4 **Suggested criteria for 'good' theory in the area of behaviour change**[70]

- Clarity of theoretical concepts: 'Has the case been made for the independence of constructs from each other?'

- Clarity of relationships between constructs: 'Are the relationships between constructs clearly specified?'

- Measurability: 'Is an explicit methodology for measuring the constructs given?'

- Testability: 'Has the theory been specified in such a way that it can be tested?'

- Being explanatory: 'Has the theory been used to explain/account for a set of observations?' Statistically or logically?;

- Describing causality: 'Has the theory been used to describe mechanisms of change?'

- Achieving parsimony: 'Has the case for parsimony been made?'

- Generalisability: 'Have generalisations been investigated across behaviours, populations and contexts?'

- Having an evidence base: 'Is there empirical support for the propositions?'

Damschroder, L.J., et al. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implementation Sci* **4,** 50 (2009). https://doi.org/10.1186/1748-5908-4-50

Davidoff F, Dixon-Woods M, Leviton L, et al Demystifying theory and its use in improvement *BMJ Quality & Safety* **2015;24:228-238.**

Choosing Theories

Table 3: Choosing theories

- **Determine the origins of the theory.**

The "origins of a theory" refers to the original development of the theory. Who developed it? Where are they from (institution, discipline)? What prompted the originator to develop it? Is there evidence to support or refute the development of the theory?

- **Examine the meaning of the theory.**

The meaning of a theory has to do with the theory's concepts and how they relate to each other. What are the concepts comprising the theory? How are the concepts defined? What is the relationship between concepts?

- **Analyze the logical consistency of the theory.**

The logical adequacy of a theory is the logical structure of the concepts and statements. Are there any logical fallacies in the structure of the theory?

- **Consider the degree of generalisability and parsimony of the theory.**

Generalisability refers to the extent to which generalizations can be made from the theory. Parsimony refers to how simply and briefly a theory can be stated and still be complete in its explanation of the phenomenon in question.

- **Determine the testability of the theory.**

Can the theory be supported with empirical data? A theory that cannot generate hypotheses that can be subjected to empirical testing through research is not testable.

- **Determine the usefulness of the theory.**

Usefulness of the theory is about how practical and helpful the theory is in providing a sense of understanding and/or predictable outcomes.

The Improved Clinical Effectiveness through Behavioural Research Group (ICEBeRG). Designing theoretically-informed implementation interventions. *Implementation Science*; 2006 Feb 23;1(1). Available from: http://dx.doi.org/10.1186/1748-5908-1-4

Summary

- Framework synthesis offers considerable flexibility and offers a readily-accessible role for the refinement and testing of theory within QES methods

- Identification of a framework or development of a framework with stakeholders may add a not-inconsiderable overhead to the synthesis process. Additionally, an inappropriately chosen framework may lead to a "false start"

- Once an appropriate framework has been identified, a review team may experience substantive time-savings, while taking precautions against inappropriately squeezing data into framework categories.

- Framework synthesis offers considerable potential in connection with rapid QES and overviews of multiple QESs.

To the person with a hammer (framework)......

Types of Synthesis	Analysis	Role of Theory	Examples
Thematic Synthesis	Themes	May or May Not involve Theory	Lins S, et al. Efficacy and experiences of telephone counselling for informal carers of people with dementia. Cochrane Database of Systematic Reviews 2014, Issue 9. Art. No.: CD009126.
Framework Synthesis	Concepts (from framework and new)	To Test <u>and</u> Generate Theory	Glenton C et al. Barriers and facilitators to the implementation of lay health worker programmes to improve access to maternal and child health. Cochrane Database of Systematic Reviews 2013, Issue 10. Art. No.: CD010414.
Meta-ethnography	First, second & third order constructs	To Generate Theory	Sarmento VP, et al Home palliative care works: but how? A meta-ethnography of the experiences of patients and family caregivers BMJ Supportive & Palliative Care 2017;7:00.

Flemming K, Booth A, Garside R, et al Qualitative evidence synthesis for complex interventions and guideline development: clarification of the purpose, designs and relevant methods BMJ Global Health 2019;4:e000882.

Thematic Synthesis vs. Framework Synthesis vs. Meta-Ethnography

Flemming K, Noyes J. Qualitative Evidence Synthesis: Where Are We at?. *International Journal of Qualitative Methods*. 2021 Feb 19;20:1609406921993276.

Noyes, J., Booth, A., Flemming, K., et al. 2018. Cochrane QIMG guidance series—paper 3: methods for assessing methodological limitations, data extraction and synthesis, and confidence in synthesized qualitative findings. *Journal of Clinical Epidemiology*, 97, pp.49-58.

Flemming K, Booth A, Garside R, Tunçalp Ö, Noyes J. Qualitative evidence synthesis for complex interventions and guideline development: clarification of the purpose, designs and relevant methods. *BMJ Global Health*. 2019 Jan 1;4(Suppl 1):e000882.

Beyond the Three "core" methods?

Booth, A., et al (2016) **Guidance on choosing qualitative evidence synthesis methods for use in health technology assessments of complex interventions** [Online]. Available from: https://www.researchgate.net/publication/298743768_Guidance_on_choosing_qualitative_evidence_synthesis_methods_for_use_in_health_technology_assessments_of_complex_interventions

Table 7: Conducting a Qualitative Evidence Synthesis – Which Review Processes Are Required?

Component of Review Process	Best Fit Framework Synthesis	Concept Analysis	Ecological Triangulation	Framework Synthesis	Grounded Formal Theory	Meta-Aggregation	Meta-Ethnography	Meta-Interpretation	Meta-Study	Meta-Summary	Narrative Synthesis	Qualitative Interpretive Meta-Synthesis	Textual narrative synthesis	Thematic synthesis
Generating Theory	⊕	⊕	⊗	●	⊕	⊗	⊕	⊕	⊗	⊗	●	●	⊗	⊗
Exploring Theory	●	⊕	⊕	●	⊕	⊗	⊕	⊕	⊗	⊗	⊕	●	⊗	⊕
Testing Theory	⊕	⊕	⊕	⊕	⊕	⊗	⊕	⊕	⊗	⊗	●	●	⊗	⊗
Use of Logic Models	●	⊗	●	●	⊗	●	⊗	⊗	⊗	⊗	●	●	⊗	⊗
Comprehensive Search	⊕	⊗	⊕	⊕	●	⊕	●	⊗	⊕	⊕	⊕	⊗	⊕	⊕
Purposive Search	●	⊕	●	●	⊕	⊗	●	⊕	⊗	⊗	⊗	⊕	⊗	⊗
Rich Conceptual Data	⊗	⊕	⊕	⊗	⊕	⊗	⊕	⊕	⊗	⊗	⊗	●	⊗	⊗
Thick Contextual Data	⊗	⊗	⊕	⊗	●	⊗	●	⊕	⊗	⊗	⊗	●	⊗	⊗
Quality Assessment	⊕	⊗	⊕	⊕	●	⊕	●	⊕	●	●	⊕	⊕	⊕	⊕
Interpretive level of Themes	●	⊕	⊗	●	⊕	⊕	⊕	⊕	⊗	⊗	⊗	●	⊗	●
Model as Output	⊕	●	⊗	●	⊗	⊗	●	⊗	●	●	●	●	⊗	⊗
Graphical Presentation	⊕	●	⊕	●	⊗	⊗	●	⊗	●	●	●	●	⊗	⊗

⊗ = Not Required ● = Uncertain ⊕ = Essential

Booth et al, 2016. Guidance on choosing qualitative evidence synthesis methods.
INTEGRATE -HTA

Questions?

Remainder of Programme

24th February, 2022 - Thematic Synthesis
Angela Harden, Professor of Health Sciences, City, University of London & James Thomas, Professor of Social Research & Policy, UCL Institute of Education, London.

17th March, 2022 - Meta-ethnography
Kate Flemming, Professor of Hospice Practice and Evidence Synthesis, University of York, UK

25th April, 2022 - GRADE CERQual
Megan Wainwright, consultant in qualitative research, Portugal & member of the GRADE-CERQual coordinating team.

16th May, 2022 - Integrating qualitative evidence syntheses with intervention effect findings
Angela Harden, Professor of Health Sciences, City, University of London. & James Thomas, Professor of Social Research & Policy, UCL Institute of Education, London.