

# Qualitative Evidence Synthesis

Where are we?  
What's New and What's next?

## Professor Jane Noyes

Noreen Edwards Chair in Health Services Research and Child Health, Bangor University

Cochrane Fellow and Lead Convenor Cochrane Qualitative Research Methods Group

Editor Journal of Advanced Nursing

# What have we learned so far?

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- Most methods of primary qualitative data **analysis** can be applied to qualitative evidence **synthesis**
- ‘New’ evidence synthesis approaches have emerged –eg meta-ethnography – but use recognisable qualitative analysis principles
- There are many methods with similar sounding names – rush to publish ‘my method’ and call it something slightly different – meta-narrative, meta-ethnography, meta-summary, meta-synthesis, meta-aggregation – etc etc.
- Some reviewers are mixing or combining methods – eg thematic and realist into a single review

# What have we learned so far cont?

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- Software evolving and improving: EPPI reviewer / Atlas Ti
- Searching methods and approaches have evolved for specific methods of qualitative synthesis (purposive versus exhaustive, tipping point)
- There are increasing numbers of some very good and inevitably some very bad reviews published!


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R

**A move to more systematic and transparent approaches in qualitative evidence synthesis: update on a review of published papers**

**Karin Hannes**  
KU Leuven, Belgium

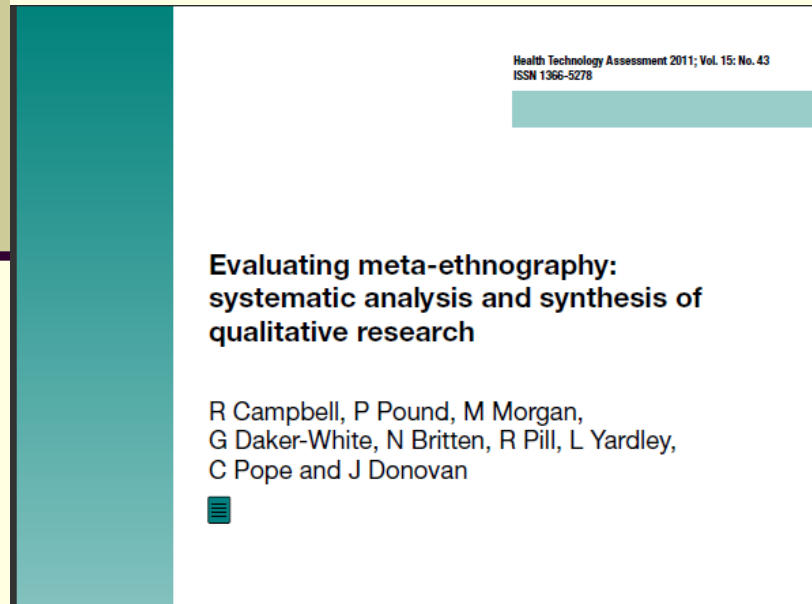
**Kirsten Macaitis**  
Flinders University, South Australia

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- **Huge increases in qualitative syntheses published**
- **There is a big gap between what people claim to use as a synthesis approach and what is actually done in practice**
- **Do not need more methods – but better application of existing ones**

# Theory development versus new thematic insights

Karin is particularly critical of the way meta-ethnography is reported in published reviews – line of argument synthesis



**Like others my experience of theory development is that it takes months and months of thinking, meeting, discussing, and ‘arguing’!**

**Some health and policy funders eg NICE require a product within 90 days**

**RAPID QUALITATIVE EVIDENCE SYNTHESIS METHODOLOGY**

# New and updated guidance and new acceptance of the value of qualitative evidence

**NICE Public Health Systematic Review guidance currently being updated**

## **Cochrane Qualitative Research Methods Group**

### **Supplemental Handbook Guidance**

This supplemental guidance should be used in conjunction with Chapter 20 of the Cochrane Handbook. The resources listed below have yet to be approved by the Cochrane Methods Board.

[Chapter 1: Developing a protocol in REVMAN \(in development\)](#)

[Chapter 2: Question Formulation](#)

[Chapter 3: Searching](#)

[Chapter 4: Critical appraisal](#)

[Chapter 5: Data-extraction](#)

[Chapter 6: Synthesis](#)

## **Systematic Reviews**

**CRD's guidance for undertaking reviews in health care**

**WHO evidence reviews and guidelines include qualitative research**

# Guidance on new applications

Conversation with Andrew over dinner

Few references to implementation science synthesis approaches in the literature

Framework synthesis may be suited  
NICE – implementation group

## Realist synthesis: illustrating the method for implementation research

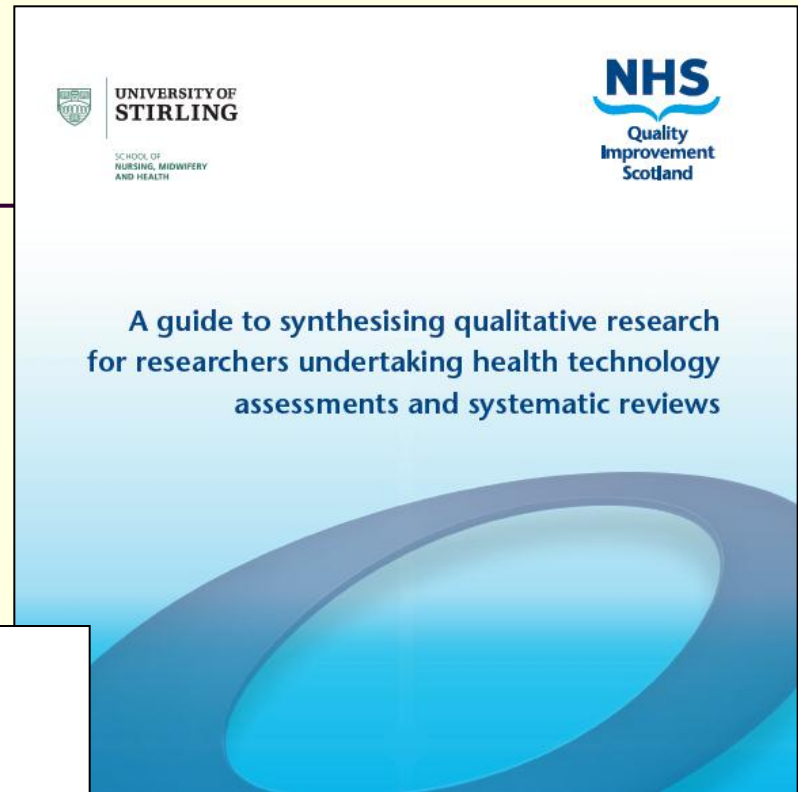
Jo Rycroft-Malone<sup>1\*</sup>

\* Corresponding author

Email: [j.rycroft-malone@bangor.ac.uk](mailto:j.rycroft-malone@bangor.ac.uk)

Brendan McCormack<sup>2</sup>

Email: [bg.mccormack@ulster.ac.uk](mailto:bg.mccormack@ulster.ac.uk)



# Methods for qualitative evidence synthesis

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**Thematic synthesis –various types with different starting points - inductive and deductive**

- 3 stage thematic synthesis - Line by line inductive coding- eg Thomas and Harden
- A priori - eg 5 stage Ritchie and Spencer Framework Synthesis
- Conceptual frameworks and models to guide analysis and synthesis
- Additional adaptations to conceptual frameworks to 'best-fit' specific reviews – eg conceptual development by the back door



# Methods for the thematic synthesis of qualitative research in systematic reviews

James Thomas\*† and Angela Harden†

The screenshot displays the EPPI-Reviewer 3.0 software interface. At the top, the title bar reads "EPPI-Reviewer 3.0" and "Inductive coding: code". A navigation menu includes "Review details", "Screening", "Analyse", "Enter / edit data", "My account", "Admin tools", and "Logout". Below this is a secondary menu with "List guidelines", "Reviewers", "Login details", "Delete item", "Inductive coding", "Filter builder", "Edit review", "Web databases", "Help", and "View item".

The main content area shows "Show all 42 items" and "Coding text for Item: *Dixey R; Sahota P; Atwal S; Turner A; (2001) Children talking about healthy eating: Data from focus groups with 300 9-11-year-olds* (click here to change item and/or text)".

The central workspace is split into two panes. The left pane contains the text to be coded, with several phrases highlighted in yellow: "as a legitimate use of their money and thought parents should buy this.", "All the things that are bad for you are nice, and all the things that are good for you are awful", and "because they were 'good for you' and only ate the crisps and chocolate". The right pane shows a hierarchical tree of codes. The selected code is "bad food = nice, good food = awful". A context menu is open over this code, with options: "Code selected text", "Remove this code from selected text", "Show text coded with this code" (highlighted), "Delete this code", "Add sub-code here", "Reports", and "Properties...".

At the bottom, the user information is displayed: "You are logged in as: James Thomas", "Review: Children and Healthy Eating: A systematic review of barriers and facilitators", and "Database: EPIC".

# Richie and Spencer Framework Synthesis Approach With Normalisation Process Theory Elements

(Watson et al 2011)

	Timing	Individual focus	Considers other areas of transition	Preparation for adult services	Skills training	Service delivery	Service development	Sustainability	Outcome measure	Evaluation
Coherence										
Participation										
Action										
Monitoring										

	Timing
Coherence	Evidence from the service description that staff understand the need to be flexible about the timing of transfer to adult services. Transfer should be made on the basis of need and not on the grounds of having reached a specific age – understand the need to offer a developmentally appropriate service

Figure 1. Framework coding example (Parfitt 2008).

# ‘Best Fit Framework Synthesis’

A worked example of “best fit” framework synthesis: A systematic review of views concerning the taking of some potential chemopreventive agents

Christopher Carroll\*, Andrew Booth, Katy Cooper

## Abstract

**Background:** A variety of different approaches to the synthesis of qualitative data are advocated in the literature. The aim of this paper is to describe the application of a pragmatic method of qualitative evidence synthesis and the lessons learned from adopting this “best fit” framework synthesis approach.

**Methods:** An evaluation of framework synthesis as an approach to the qualitative systematic review of evidence exploring the views of adults to the taking of potential agents within the context of the primary prevention of colorectal cancer.

**Results:** Twenty papers from North America, Australia, the UK and Europe met the criteria for inclusion. Fourteen themes were identified *a priori* from a related, existing conceptual model identified in the literature, which were then used to code the extracted data. Further analysis resulted in the generation of a more sophisticated model with additional themes. The synthesis required a combination of secondary framework and thematic analysis approaches and was conducted within a health technology assessment timeframe.

**Conclusion:** The novel and pragmatic “best fit” approach to framework synthesis developed and described here was found to be fit for purpose. Future research should seek to test further this approach to qualitative data synthesis.

# Moving on from the Aggregative, Interpretive and Integrative muddle:

## A new typology put forward by Gough, Thomas and Oliver 2012

Table 1. Examples of review types

Predominant review type	Review questions
<i>Aggregative</i>	
'What works?' reviews	What is the effect of a health or social intervention?
Diagnostic test	What is the accuracy of this diagnostic tool?
Cost benefit	How effective is the benefit of an intervention relative to its cost?
Prevalence	How extensive is this condition?
<i>Configurative</i>	
Meta-ethnography [4]	What theories can be generated from the conceptual literature?
Critical interpretative synthesis [8]	What theories can be generated from the conceptual literature?
Meta narrative review [11]	How to understand the development of research on an issue within and across different research traditions?
<i>Configuring and aggregative</i>	
Realist synthesis [9]	What is the effect of a social policy in different policy areas?
Framework synthesis [25]	What are the attributes of an intervention or activity?

# **Integration of qualitative evidence: towards construction of academic knowledge in social science and professional fields**

**Claire Howell Major**

The University of Alabama, USA

**Maggi Savin-Baden**

Coventry University, UK

Analysis

Synthesis

Interpretation

Constructionism

# Methods for the synthesis of qualitative research: a critical review.

Barnett-Page E, Thomas J.

FIGURE 1: Dimensions of difference

Ranging from subjective idealism through objective idealism and critical realism to scientific realism to naïve realism [41, p45-46].

- Subjective idealism: there is no single shared reality independent of multiple alternative human constructions
- Objective idealism: there is a world of collectively shared understandings
- Critical realism: knowledge of reality is mediated by our perceptions and beliefs
- Scientific realism: it is possible for knowledge to approximate closely an external 'reality'
- Naïve realism maintains that reality exists independently of human constructions and can be known directly.

## Epistemology

Idealist \_\_\_\_\_ Realist

Meta-narrative	CIS	Meta-study	Meta-ethnography	Grounded theory	Thematic synthesis	Textual narrative synthesis	Framework synthesis	Ecological triangulation
Subjective idealism	Subjective idealism	Subjective idealism	Objective idealism	Objective idealism	Critical realism	Critical realism	Critical realism	Scientific realism

# Complex interventions

Candy et al. *BMC Medical Research Methodology* 2011, **11**:124  
<http://www.biomedcentral.com/1471-2288/11/124>



RESEARCH ARTICLE

Open Access

## Using qualitative synthesis to explore heterogeneity of complex interventions

Bridget Candy<sup>1\*</sup>, Michael King<sup>2</sup>, Louise Jones<sup>3</sup> and Sandy Oliver<sup>4</sup>

### Abstract

**Background:** Including qualitative evidence on patients' perspectives in systematic reviews of complex interventions may reveal reasons for variation in trial findings. This is particularly the case when the intervention is for a long-term disease, as management may rely heavily on the efforts of the patient. Inclusion though seldom

# Complex Interventions

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- ***Therapist dependent interventions*** (where the intervention is a combination of the therapist effect and the therapy or procedure and the effectiveness is potentially dependent on both);
- ***Complex healthcare interventions*** (where the intervention is a combination of several actions, e.g. multidisciplinary health care in stroke units); multilevel public health interventions (e.g., a healthy living initiative that aims to impact behaviour at the community, school, and individual levels);
- ***Professional or patient education interventions*** (e.g., introduction of clinical guidelines).
- Complex interventions may contain a mix of effective, ineffective, and even harmful actions which may interact synergistically or dysynergistically or be interdependent.



# Conceptual Frameworks, Theoretical and Logic models

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- **Programme logic** is the way in which a ‘programme’ fits together, usually in a simple sequence of inputs, activities, outputs, and outcomes.
- **Programme theory** goes a step further and attempts to build an explanatory account of how the intervention/programme/service works, with whom, and under what circumstances.

**Programme theory** - feeding children whilst at school would improve the health of the most disadvantaged children by increasing their calorie intake and ensuring they ate a nutritious and balanced diet

**Programme logic** – all children attending class received x number of nutritious free meals each day, 5 days a week during term time at school.

**School feeding for improving the physical and psychosocial health of disadvantaged elementary school children (Review)**

Kristjansson EA, Robinson V, Petticrew M, MacDonald B, Krasevec J, Janzen L, Greenhalgh T, Wells G, MacGowan J, Farmer A, Shea BJ, Mayhew A, Tugwell P

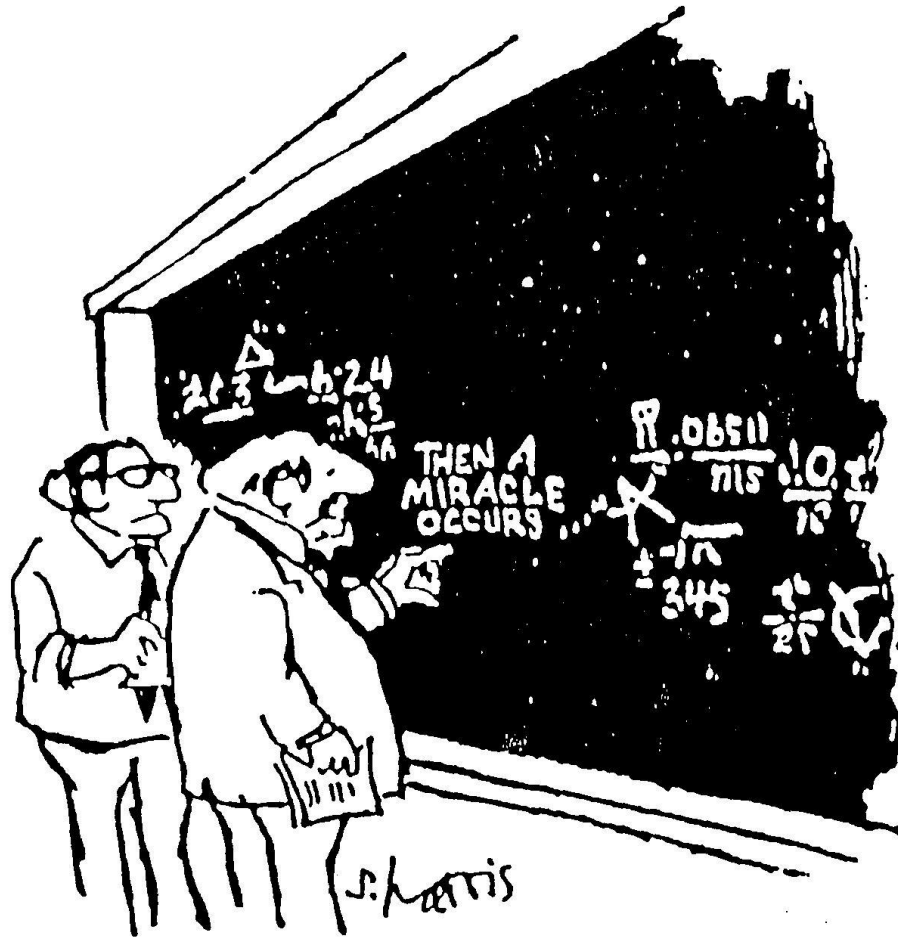


# Mechanisms

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## ■ MECHANISMS

- Programme theory can be expressed as an elaborated programme logic model, where the emphasis is on causal explanation using the idea of “mechanisms” that are at work.
- **Mechanisms** ‘occur’ between the delivery of the intervention/programme/service and the occurrence of outcomes of interest.
- **Mechanisms** are participants’ responses to the intervention/programme/service.
- The **mechanism of change** is not the intervention/programme/service per se but the response that the activities generate (ie **the human behaviour – that can be largely captured by qualitative research** )



*"I think you should be more explicit here in Step Two."*

# What does a logic model look like?

- Graphic display of boxes and arrows; vertical or horizontal

- Relationships, linkages

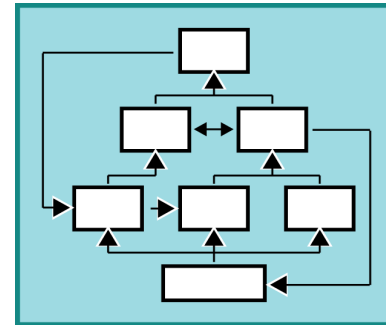
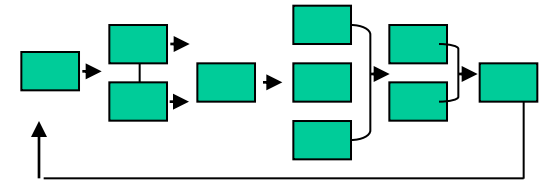
- Any shape possible

- Circular, dynamic
  - Cultural adaptations; storyboards

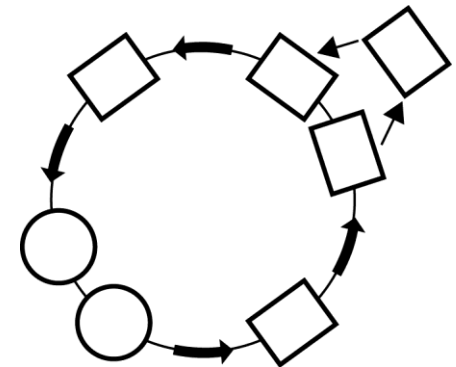
- Level of detail

- Simple
  - Complex

- Multiple models



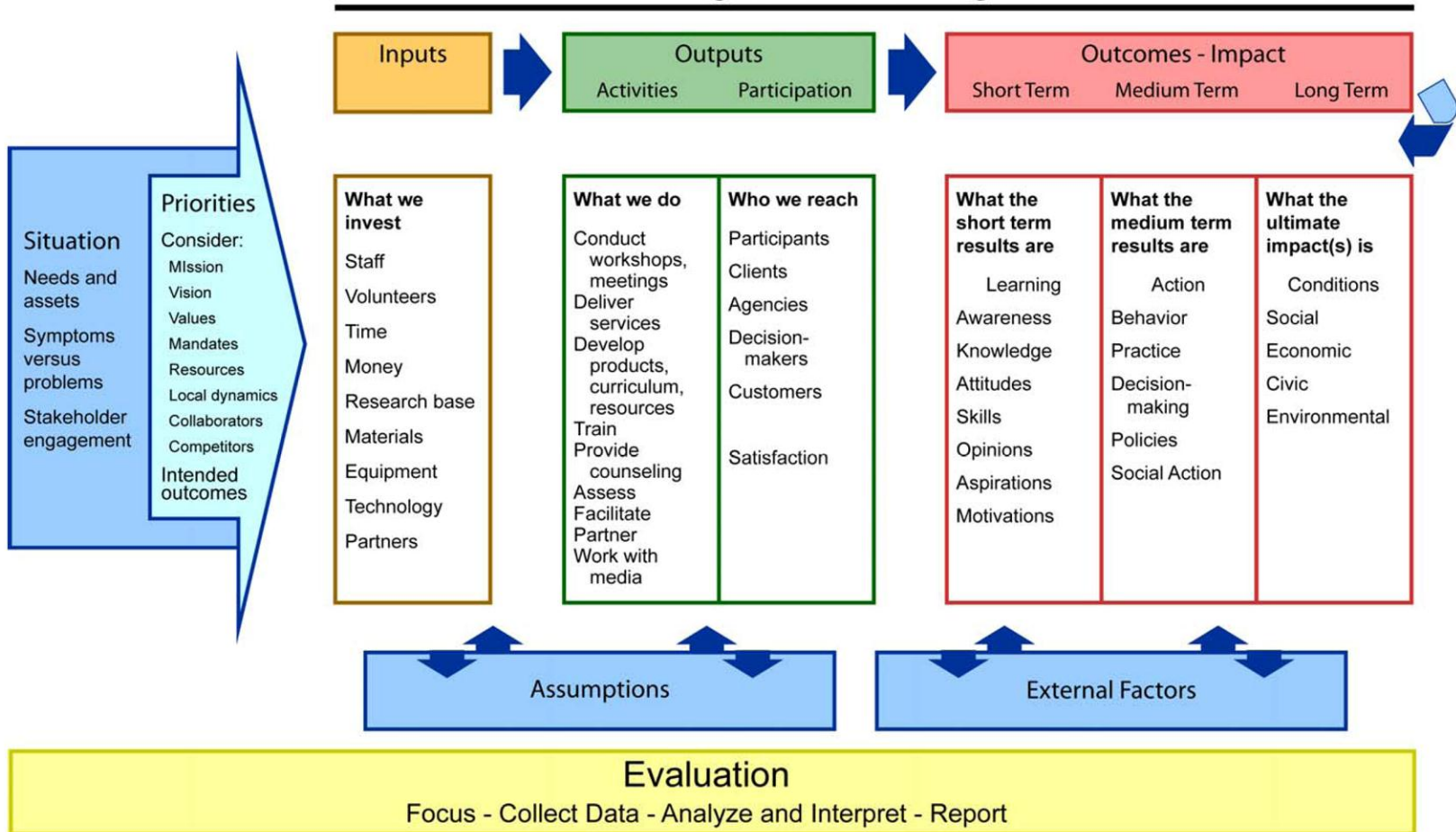
Inputs	Outputs	Outcomes
	1	1a b
	2	2a b c
	3	3a b
	4	



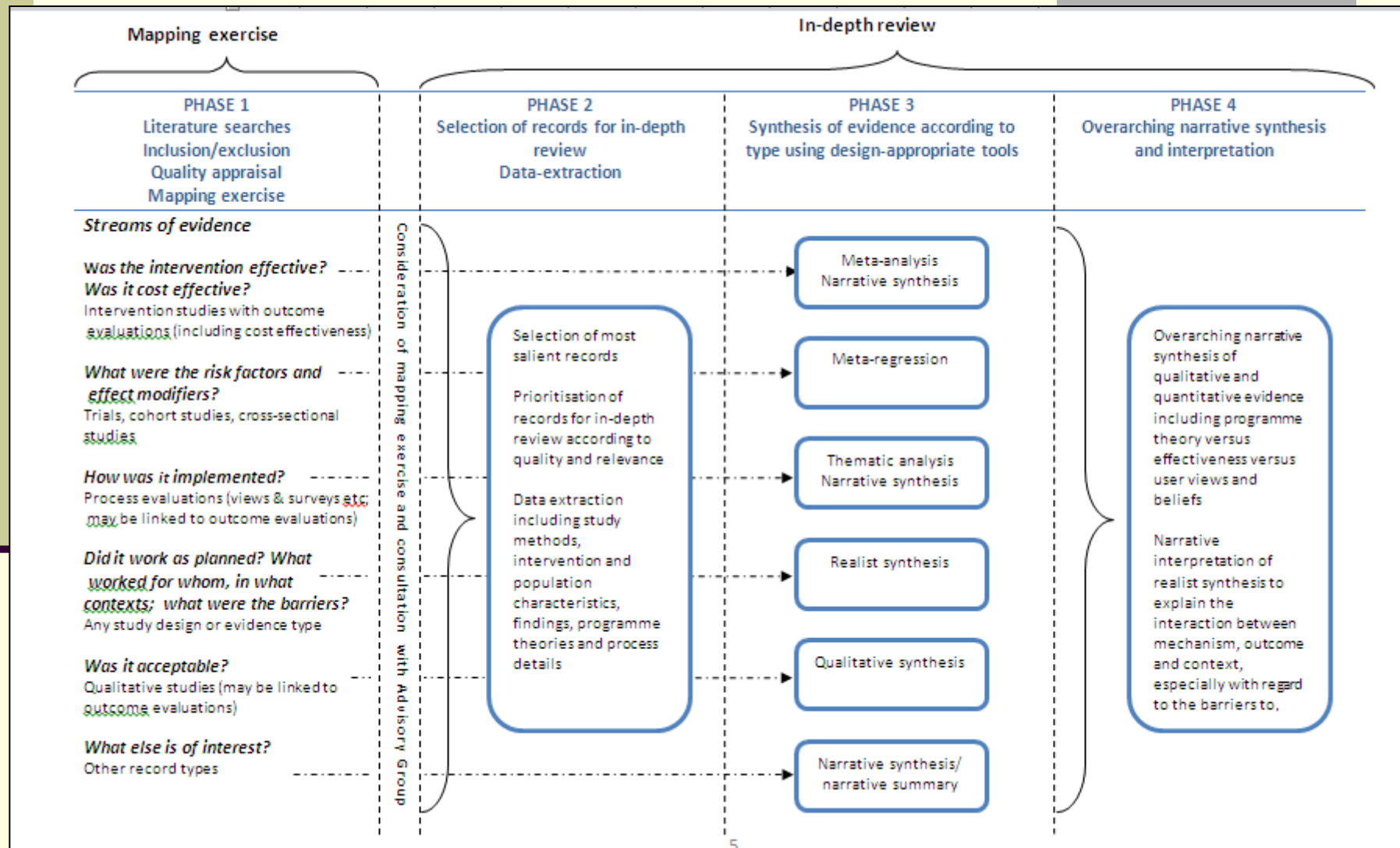
# PROGRAM DEVELOPMENT

Planning – Implementation – Evaluation

## Program Action - Logic Model



# Multiple methods within a single HTA review



# Assessing intervention complexity to inform effectiveness reviews and qualitative evidence syntheses

Before undertaking the complexity assessment, it may be helpful to describe the following for each RCT:

- The intervention/s and the control (or usual care)
- Who delivered the intervention
- Who received the intervention
- Whose behaviour / action the intervention intended to change.

Designation	Description
	<i>Dimension 1: Number of discrete, active<sup>2</sup> components included in the intervention compared with the control (or usual care)<sup>3</sup>.</i>
+	Three or more intervention components. [A component is defined as a discrete, active element of the intervention that could be implemented independently of other elements e.g. an educational booklet for consumers; clinical guidelines for practitioners; a single drug intervention; a discrete surgical procedure. Also see footnotes 2 and 3 below.]
+/-	Two intervention components.
-	One intervention component.

	<i>Dimension 2: Number of behaviours<sup>4</sup> or actions of intervention recipients or participants to which the intervention is directed<sup>5</sup>.</i>
+	Intervention directed at three or more behaviours or actions [Behaviours or actions include taking a medication, changing a particular practice,



# Health belief model: public information to prevent skin cancer

Concept	Definition	Application
Perceived Susceptibility	One's opinion of chances of getting a condition	Define population(s) at risk, risk levels; personalize risk based on a person's features or behavior; heighten perceived susceptibility if too low.
Perceived Severity	One's opinion of how serious a condition and its consequences are	Specify consequences of the risk and the condition
Perceived Benefits	One's belief in the efficacy of the advised action to reduce risk or seriousness of impact	Define action to take; how, where, when; clarify the positive effects to be expected.
Perceived Barriers	One's opinion of the tangible and psychological costs of the advised action	Identify and reduce barriers through reassurance, incentives, assistance.
Cues to Action	Strategies to activate "readiness"	Provide how-to information, promote awareness, reminders.
Self-Efficacy	Confidence in one's ability to take action	Provide training, guidance in performing action.

Source: (National Cancer Institute 2005)

**Table 5 Health Belief Model with Extended Analytic Themes**

Health Belief Model category	Contributing themes	Subthemes
Perceived susceptibility		
Perceived severity	Cancer vs aging	
Perceived benefits		
Perceived barriers	Positive perceptions of a tan	Tans are healthy Tans are attractive Meanings of white skin Tans signify a good holiday Peers' views of tans
	Hassle of protection	Sunscreen Hats Long sleeves/ covering up
	Structural challenges	
	Adult responsibilities	Parents School teachers Teenagers vs younger children

# PARiHS

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See word doc... for example..

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**Thank you !**

**Jane.noyes@bangor.ac.uk**