

#### Using Conceptual Frameworks in Qualitative Evidence Synthesis

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# What is qualitative evidence synthesis and why do it?

# Decision makers want to know: "what works?"

#### And also:

- How can we achieve that?
- What do people think about it?
- Are there any unintended consequences?
- What are the factors that might help, or prevent, it happening?
- How do different stakeholders value different processes or outcomes?







## Why synthesise qualitative research?

- Strategic
- Less wasteful
- Create more powerful explanations, higher order conceptualisation
- Broader, more encompassing theories (more transferable)
- Belief that it "will yield truths that are better, more socially relevant, or more complete" (Paterson et al, 2001)
- Enhance transferability of findings
- "invokes some degree of conceptual innovation of the parts as a means of creating the whole" (Strike & Posner, cited by Noblit and Hare)







Table 5: systematic	Comprel reviews	nensive framework for good practice in the conduct of of qualitative research		
Developing research question	Develop Greenhale Research Assemble	an initial, tentative broad research question (Pawson et al., 2004; Paterson et al., 2001; gh et al., 2005) er interests (Noblit & Hare, 1988) multidisciplinary team (Pawson et al., 2004)		
Identifyin	g	Refining research questions and focus		
relevant		Deciding what, if any theoretical framework will be used (Paterson et al., 2001)		
literature		Type of questions to be answered and appropriate types of research to inform it (Popay et al., 2006)		
		Pragmatic balance between breadth and focus based 2001)	d on amount of available evidence(Paterson et al.,	
		Consider splitting into several more focused review questions if appropriate (Sandelowski et al., 1997)		
		Encurrence sources and the second second second second second sources and second sources and second se		
		Purposive sampling for competing approaches (Pawson et al. 2004)		
No ever reliance on electronic data bases, but bread of		No over reliance on electronic data bases, but broad su	hiert range searched	
INO OVER REliance on electronic data bases, but broad su		No over reliance on electronic data bases, but broad st	blect range searched	
Full		Synthesis through thematic analysis of findings, (Paterson et al., 2001) translation of concepts and		
		metaphors.(Noblit & Hare, 1988)		
		How methods and theories inform the findings, and the Greenhalgh et al., 2005)	heir development over time. (Paterson et al., 2001;	
		Which theoretical stances are incompatible (Paterson e	et al., 2001)	
		Quality through contribution to synthesis – record this.	(Noblit & Hare, 1988)	
		Explicit focus on identifying competing explanations (Paterson et al., 2001; Greenhalgh et al., 2004)		
		Theory development (Sandelowski et al., 1997; Jensen & Allen, 1996; Paterson et al., 2001)		
	Validity w 2004)	ithin a study reports' own terms and its context (Sandelowski et al., 1997; Greenhalgh et al.,		
Preliminary	Categoris	ing the findings (Paterson et al., 2001)		
Tools for analysis and preliminary synthesis: tabulation, mind maps etc. (Popay et al., 2006) Exploring relationships in the data within and between studies				
Full	Synthesis metaphors How meth Greenhals Which the	through thematic analysis of findings, (Paterson et al., 2001) translation of concepts and s.(Noblit & Hare, 1988) nods and theories inform the findings, and their development over time. (Paterson et al., 2001; gh et al., 2005) overtical stances are incompatible (Paterson et al., 2001)		
	Quality the	rough contribution to synthesis – record this. (Noblit & Hare, 1988)		
	Theory de	evelopment (Sandelowski et al., 1997; Jensen & Allen, 1996; Paterson et al., 2001)	Garside (2008) A comparison of methods for the sy	

Dissemination Dissemination to appropriate to audiences, in collaboration with them (Pawson et al., 2004) Initial draft report as consultation document (Pawson et al., 2004) Critical assessment of the strengths and limitations of the review (Paterson et al., 2001; Popay et al., 2006) Throughout Multidisciplinary team, value of multiple viewpoints

Reflexivity. Audit trail, recording reasons for decisions made, concepts collapsed etc. Link with commissioners, expert advisory group. More than one person making all decisions about quality, inclusion exclusion, concepts, metaphors used etc. Review purpose drives the review processes

Garside (2008) A comparison of methods for the systematic review of qualitative research



### What is a conceptual framework?

- "A visual or written product that explains, either graphically or in narrative form, the main things to be studied—the key factors, concepts, or variables—and the presumed relationships among them" (Miles & Huberman (1994)"
- "a conception or model of what is out there that you plan to study, and of what is going on with these things and why—a *tentative theory* of the phenomena that you are investigating." (Maxwell 2012)







### What is "theory" anyway?

A system of interrelated propositions that should enable phenomena to be described, explained, predicted or controlled.

#### (Duldt & Griffin 1985)





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Theories range from explicit hypotheses to working models and frameworks of thinking about reality.

(Alderson, 1998)





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### Mid-range theory

'Theories that lie between the minor but necessary working hypotheses that evolve in abundance during day-to-day research and the all-inclusive systematic efforts to develop a unified theory that will explain all the observed uniformities of social behaviour, social organization and social change.' (Merton, 1967: 39) via A. Booth



EXETER | MEDICAL





### Why use it in a systematic review?

• "the use of frameworks helped to inform the association between variables, guide the search strategy, structure and clarify the outcomes, identify knowledge gaps and indicate areas for future research. Used in this manner, frameworks could provide a valuable foundation for the process of synthesis." (Godfrey, 2010. JBI Library)





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Theory has an essential role to play in systematic reviews; a theoretical model of how the intervention works, and for whom, is important when deciding on the review question, and what types of studies to review. It will help in interpreting the review's findings, and will be valuable in assessing how widely applicable these findings may be. In turn systematic reviews can contribute to developing an testing the limits of theories by examining how contextual or temporal variables moderate outcomes.

(Petticrew & Roberts 2006)







## Use of theory in qualitative research

- Familiar ground!
- Commonly used to:
  - help design a research question,
  - guide the selection of relevant data,
  - interpret the data,
  - and propose explanations of the underlying causes or influences observed phenomena.







Theories give researchers different "lenses" through which to look at complicated problems and social issues, focusing their attention on different aspects of the data and providing a framework within which to conduct their analysis.

(Reeves et al, 2008)





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# Where does a conceptual model come from in QES?

- Use an existing framework / conceptual model for review or synthesis
- Develop for the review process (stakeholders involvement)
- Develop through the synthesis
  - Found constructs
  - Developed constructs







### When might I use it?

To frame the review process and questions To explain and link QES findings To link quantitative and qualitative evidence





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## How might it be used?

- Define a phenomenon
- Map different definitions and understandings of a phenomenon
- Propose links between activities and outcomes
- Explore possible reasons for phenomena
- Propose an explanation (theory) for observations

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## Theory of change or logic model:

- Illustrates how a program works to solve identified problems.
- Describes a "theory of change" intervention components necessary to accomplish desired change (ie, programme inputs, processes, and outcomes).
- Makes explicit underlying assumptions, (maybe formal theory or other presumptions), for achieving desired results.
- Logic model is: a graphic description of hypothesized, causal relationships (may situate within an economic, social, and political context).

(Anderson et al 2011)







#### Using logic models to capture complexity in systematic reviews



Research Synthesis Methods Volume 2, Issue 1, pages 33-42, 10 JUN 2011 DOI: 10.1002/jrsm.32 http://onlinelibrary.wiley. com/doi/10.1002/jrsm.3 2/full#jrsm32-fig-0001

SOURCE: Anderson LM, Popkin B, Fielding J, Willett W, Picciano MF. Logic model for food supply and population health: reviews for the Task Force on Community Preventive Services. 2004.





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## "Quality" of theory

- Does it explain the phenomenon of interest?
- Does the theory contain unambiguous concepts?
- Are the relationships between and among the concepts clearly articulated?
- Are the theoretical propositions empirically testable?

(Ritzer, 1991)

• Others (e.g. Merton) might add:

• Has it *actually* been verified by data?







# Examples of conceptual models used in QES

- I. Importing a conceptual framework from existing literature
- II. Using a framework used by one (or more) of the papers identified in the synthesis
- III. Creating a conceptual framework through the synthesis





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# Systematic searching for theory to inform systematic reviews: is it feasible? Is it desirable?

Andrew Booth & Christopher Carroll

Health Economics & Decision Science (HEDS), School of Health & Related Research (ScHARR), University of Sheffield, Sheffield, UK

#### Abstract

*Background*: In recognising the potential value of theory in understanding how interventions work comes a challenge – how to make identification of theory less haphazard?

Objectives: To explore the feasibility of systematic identification of theory.

*Method*: We searched PubMed for published reviews (1998–2012) that had explicitly sought to identify theory. Systematic searching may be characterised by a structured question, methodological filters and an itemised search procedure. We constructed a template (BeHEMoTh – Behaviour of interest; Health context; Exclusions; Models or Theories) for use when systematically identifying theory. The authors tested the template within two systematic reviews.

Results: Of 34 systematic reviews, only 12 reviews (35%) reported a method for identifying theory. Nineteen did not specify how they identified studies containing theory. Data were unavailable for three reviews. Candidate terms include concept(s)/conceptual, framework(s), model(s), and theory/theories/ theoretical. Information professionals must overcome inadequate reporting and the use of theory out of context. The review team faces an additional concern in lack of 'theory fidelity'.

Conclusions: Based on experience with two systematic reviews, the BeHEMoTh template and procedure offers a feasible and useful approach for identification of theory. Applications include realist synthesis, framework synthesis or review of complex interventions. The procedure requires rigorous evaluation.

Keywords: bibliographic databases; database searching; information retrieval; literature searching; review and systematic search









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Title Abstract Key

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Cochrane Reviews 🔻	Trials 🔻	Clinical Answers 🔻	About 🔻

#### **Cochrane Database of Systematic Reviews**

#### Barriers and facilitators to the implementation of lay health worker programmes to improve access to maternal and child health: a qualitative evidence synthesis

Cochrane Systematic Review - Qualitative Version published: 08 October 2013 see what's new

https://doi.org/10.1002/14651858.CD010414.pub2 🕑



Used in 2 guidelines View article information

Claire Glenton | Christopher J Colvin | Benedicte Carlsen | Alison Swartz | Simon Lewin | Jane Noyes | Arash Rashidian View authors' declarations of interest





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*"Identifying a thematic framework*: Rather than develop our own a priori framework after reading the included studies, we opted to use the SURE framework described above (The SURE Collaboration 2011) as an a priori framework of themes and categories. We used this framework to guide our analysis for two reasons. Firstly, it provided us with a comprehensive list of possible factors that could influence intervention implementation. Secondly, the current synthesis is one of four syntheses of qualitative research that have informed the World Health Organization's OPTIMIZEMNH Guidelines (WHO 2012). The use of the SURE Framework across these syntheses made it possible to carry out an overarching analysis of factors influencing optimisation among different health worker groups."





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### Used several approaches

Main elements of the data synthesis	Purpose	Tools and frameworks used
Identifying a theoretical model of barriers and facilitators to health systems intervention implementation	<ul> <li>To inform the synthesis of the included studies</li> <li>To enable an overarching analysis across several syntheses of qualitative data within a broader, but related theme</li> </ul>	The SURE framework
Developing a synthesis of the included studies	<ul> <li>To identify and list the barriers and facilitators to implementation reported</li> <li>To explore the relationships between reported barriers and facilitators</li> </ul>	Framework thematic synthesis
Exploring differences across contexts	<ul> <li>To explore possible differences in barriers and facilitators between high, middle and low income countries and between studies of trained traditional birth attendants and other type of lay health workers</li> </ul>	Cross case analysis
Assessing the certainty of the findings	<ul> <li>To assess the quality of the individual studies</li> <li>To assess the certainty of the evidence for drawing conclusions about barriers and facilitators to lay health worker programme implementation</li> </ul>	Elements of the CASP tool CerQual tool
Integrating the findings of the synthesis with the Cochrane review of LHW programme effectiveness	<ul> <li>To suggest how specific chains of activities and events identified in the synthesis of qualitative studies could lead to the outcomes described in the review of effectiveness</li> </ul>	Logic model approach







### Framework synthesis

- Sits within a broad family of analysis methods often termed thematic analysis or qualitative content analysis.
- "these approaches identify commonalities and differences in qualitative data, before focusing on relationships between different parts of the data, thereby seeking to draw descriptive and/or explanatory conclusions clustered around themes" (Gale 2013)







	Level	Factors affecting implementation		
	Recipients of care	Knowledge and skills		
		Attitudes regarding programme acceptability, appropriateness and credibility		
		Motivation to change or adopt new behaviour		
	Providers of care	Knowledge and skills		
		Attitudes regarding programme acceptability, appropriateness and		
		credibility		
		Motivation to change or adopt new behaviour		
	Other stakeholders (including other	Knowledge and skills		
	healthcare providers, community	Attitudes regarding programme acceptability, appropriateness and		
	health committees, community	credibility		
	leaders, programme managers,	Motivation to change or adopt new behaviour		
	donors, policymakers and opinion			
	Health system constraints	Accessibility of care		
		Financial resources		
		Human resources		
		Educational and training system, including recruitment and selection		
		Clinical supervision, support structures and guidelines		
ng		Internal communication		
5		External communication		
211		Allocation of authority		
		Accountability		
		Community participation		
		Management and/or leadership		
		Information systems		
		Scale of private sector care		
		Facilities		
		Patient flow processes		
		Procurement and distribution systems		
		Incentives		
		Bureaucracy		
		Relationship with norms and standards		
	Social and political constraints	Ideology		
		Governance		
		Short-term thinking		
		Contracts		
		Legislation or regulation		
OF		Donor policies		
D		Influential people		
N		Corruption		
		Political stability and commitment		





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### Approach to theory

 "We organised these findings and the outcome measures included in the review of LHW programme effectiveness in a logic model. Here we proposed six chains of events where specific programme components lead to specific intermediate or long-term outcomes, and where specific moderators positively or negatively affect this process."









EXETER SCHOOL

![](_page_29_Picture_2.jpeg)

![](_page_29_Picture_5.jpeg)

## 3. Examples of theory used in QES

- I. Importing a theoretical framework from existing literature
- II. Using a framework used by one (or more) of the papers identified in the synthesis
- III. Creating an explanatory theory through the synthesis

![](_page_30_Picture_4.jpeg)

![](_page_30_Picture_5.jpeg)

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#### What influences the uptake of information to prevent skin cancer? A systematic review and synthesis of qualitative research

Ruth Garside\*, Mark Pearson and Tiffany Moxham

#### Abstract

Skin cancer is an increasing problem in Europe, America and Australasia, although largely preventable by avoiding excessive ultraviolet (UV) exposure. This paper presents the findings of a systematic review of qualitative research about the prevention of skin cancer attributable to UV exposure. The aim is to understand elements that may contribute to the successful or unsuccessful conveyance of skin cancer prevention messages and their uptake by the public. A systematic review was undertaken using evidence identified through searching electronic bibliographic databases and Web sites and reference list checks. Predefined inclusion and exclusion criteria were used. Sixteen study reports (relating to 15 separate studies) were included from the United Kingdom, United States, Australia, Canada and New Zealand. Each included study was quality appraised, and the findings were extracted into an evidence table. A coding scheme, framed by the Health Belief Model, was developed by the reviewers and informed analysis and synthesis. This showed that most people perceived their susceptibility to skin cancer, and its severity, as low. While benefits of adopting changed behaviour were acknowledged, there were substantial barriers to this, including positive perceptions of a tan as healthy and attractive and the hassle of covering up or using sunscreen. Peers, parents and media may offer 'cues to action' that encourage adoption of preventative behaviour and finally self-efficacy or the perceived ability to make such changes. Effective health education messages will need to address the barriers to adopting protective behaviours identified through this review.

#### Introduction

Exposure to ultraviolet (UV) light radiation, particularly that resulting in burning, is the leading cause of skin cancer. Risk is related to individual factors. for example, those with pale or fair skin and/or a large number of moles, as well as exposure either to strong sunlight or tanning beds [1]. Skin cancer is the most common UK cancer, with ~81 700 cases of nonmelanoma registered in 2006 (rate 94.9/100 000 population) and 10 400 malignant melanoma cases diagnosed (14.7/100 000): the latter represents a quadrupling of incidence rates since the 1970s, raising faster than any other cancer [2]. Globally, the highest rates are in New Zealand and Australia. It is known that many cases of skin cancer would be preventable through simple observations such as avoiding excessive sunlight, using UV filters in sunscreen and covering up with hats and clothing.

This paper reports a systematic review and syn-

![](_page_31_Picture_10.jpeg)

# Approach to conceptual framework identification & synthesis

"Four (of 15) included studies used the Health Belief Model and this offered a coherent framework to interpret and synthesize findings from most of the included studies.

We therefore used this as the starting point for developing codes to analyse the findings, and related sub-themes were developed through further reading and coding.

Extracted findings were coded using this framework and similar codes drawn together in a narrative which synthesized the study findings.

This method was informed by meta-ethnographical approach of translation, whereby the findings of one study are understood in terms of another and linked to produce a line of argument [5, 6].

In this case, most papers were not conceptually well developed, summarizing findings in the form of themes.

We used the structure of the Health Belief Model as the conceptual lens through which these themes were assessed and 'translated' findings into this framework."

![](_page_32_Picture_7.jpeg)

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#### Health Belief Model: moving from knowing to doing

Concept	Definition	
Perceived Susceptibility	Opinion of chances of getting a condition.	
Perceived Severity	Opinion of how serious a condition and its consequences are.	
Perceived Benefits	Belief in the efficacy of the advised action to reduce risk or seriousness of impact.	
Perceived Barriers	Opinion of the tangible and psychological costs of the advised action.	
Cues to Action	Exposure to strategies to prompt action	
Self efficacy	Confidence in one's ability to successfully perform an action	

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Health Belief Model	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
	Being outdoors/ incidental tanning	
Cues to action	Knowing people with skin cancer	
	Media campaigns	
	Sources of encouragement	
Self-efficacy		

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*Meanings of pale skin*. Three study reports (from Scotland, Australia and Canada) describe negative associations with white, untanned skin, which was described as unhealthy, artificial, sterile, like a 'milk bottle', like a ghost and indicative of being a 'couch potato' (participant quotes [7, 9, 19]).

White skin evoked negative emotions, with people feeling embarrassed and self-conscious of pale skin [9, 19], especially if British and on holiday somewhere warm:

... white legs come out, I'm ashamed to be Scottish ... it's like if you see a group of peelie wally people then they are Scottish (Carter [9]).

An Australian study also found that pale skin was associated negatively with being a Pom (British)

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#### Health Belief Model: skin cancer synthesis

- Belief that they are susceptible to the condition
- Belief that taking action would reduce susceptibility to condition or its severity
- Belief that the costs of taking action are outweighed by the benefits
- Are exposed to factors that prompt action
- Are confident in their ability to successfully perform an action

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## Examples of theory used in QES

- I. Importing a conceptual framework from existing literature
- II. Using a framework used by one (or more) of the papers identified in the synthesis
- III. Creating a conceptual framework through the synthesis

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#### **RESEARCH ARTICLE**

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#### **Open Access**

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#### Understanding how environmental enhancement and conservation activities may benefit health and wellbeing: a systematic review

Rebecca Lovell1\*, Kerryn Husk12, Chris Cooper3, Will Stahl-Timmins14 and Ruth Garside1

#### Abstract

Background: Action taken to enhance or conserve outdoor environments may benefit health and wellbeing through the process of participation but also through improving the environment. There is interest, amongst both health and environmental organisations, in using such activities as health promotion interventions.

The objective of this systematic review was to investigate the health and wellbeing impacts of participation in environmental enhancement and conservation activities and to understand how these activities may be beneficial, to whom and in what circumstances or contexts.

Methods: A theory-led mixed-method systematic review was used to assess evidence of effect and to identify pathways to change (protocol: http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD010351/full). Due to the multi-disciplinary, dispersed and disparate body of evidence an extensive multi-stage search strategy was devised and undertaken. Twenty-seven databases and multiple sources of grey literature were searched and over 200 relevant organisations were contacted. The heterogenous evidence was synthesised using a narrative approach and a conceptual model was developed to illustrate the mechanisms of effect. Due to the limited nature of the evidence additional higher order evidence was sought to assess the plausibility of the proposed mechanisms of effect through which health and wellbeing may accrue.

**Results:** The majority of the quantitative evidence (13 studies; all poor quality and lower-order study designs) was inconclusive, though a small number of positive and negative associations were observed. The qualitative evidence (13 studies; 10 poor quality, 3 good) indicated that the activities were perceived to have value to health and wellbeing through a number of key mechanisms; including exposure to natural environments, achievement, enjoyment and social contact. Additional high level evidence indicated that these pathways were plausible.

**Conclusions:** Despite interest in the use of environmental enhancement activities as a health intervention there is currently little direct evidence of effect, this is primarily due to a lack of robust study designs. Further rigorous research is needed to understand the potential of the activities to benefit health and environment.

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### We wanted to know:

- 1. What are the health and wellbeing impacts of participating in conservation activities?
- 2. How do these activities achieve these benefits?

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#### WELLBEING AND THE ENVIRONMENT: LINKING CONSERVATION ACTIVITIES AND HEALTH

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#### WELLBEING AND THE ENVIRONMENT: LINKING CONSERVATION ACTIVITIES AND HEALTH

#### Supporting evidence

Mechanism or process outcomes	High level evidence identified	Weight of evidence to support pathway?
Physical activity	15 systematic reviews	A <b>significant body of reliable and robust evidence</b> regarding the relationships between physical activity and health exists
Achievement	2 systematic reviews, 4 longitudinal studies, and 1 qualitative study	The positive link between the types of achievement and contribution described in the studies to mental and social health and wellbeing is <b>plausible</b>
Social contact	4 systematic reviews and 1 longitudinal study	<b>Good quality, robust evidence</b> demonstrating the health and wellbeing benefits of social contact, reduced social isolation, and of communities with greater social capital
Natural environment	6 systematic reviews	<b>Some evidence</b> to suggest that this may be a plausible pathway between the activities and health and wellbeing outcomes

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**GRADE** CERQual

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Better evidence for a better world

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Collaboration for Environmental Evidence

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## Thank you

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@CochraneQual
@Campbellreviews
@EnvEvidence

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