Mechanisms for Knowledge Mobilisation: Systematic Search and Synthesis of Case Studies with Transferable Lessons: Review Protocol

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INTRODUCTION

Rationale

Knowledge mobilisation relates to "sharing knowledge between different communities to create new knowledge to catalyse change".[1] It involves making sure that information and evidence is accessible, understandable and useful for those who will put it into action to improve research, policy and practice.[1,2] Much review activity to date has focused on the effectiveness of a multitude of interventions. However these interventions are known to be heavily context-dependent[3] meaning that it is challenging for implementation teams to know which interventions to choose and whether the chosen combination will work as intended.

An alternative approach is to focus on mechanisms (i.e. ways in which interventions activate a response in those at whom they are targeted). [4,5] Such an approach offers a flexible and versatile analytical frame that is likely to extend beyond a specific context (transferable). In doing so the resultant analysis offers the potential to be equally of value to researchers without prior experience of knowledge mobilisation, to knowledge brokers and to experienced knowledge mobilisation specialists.[6] The focus will be on approaches to encourage utilisation of a specific item of research and not on strategies that aim to improve utilisation of otherwise unspecified research (e.g. journal clubs).

Our review approach seeks to optimise breadth (by focusing on pervasive mechanisms not single interventions) and depth (by using a selective case study approach supported by a cluster of related publications).[7]

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[1] https://www.nihr.ac.uk/researchers/i-need-help-designing-my-research/plan-knowledge-mobilisation.htm#one

Objectives

- To identify key mechanisms for knowledge mobilisation between researchers and stakeholders in health care;
- To map interventions used to activate the nominated mechanisms;
- To provide a critical analysis of interventions and mechanisms as exemplified in a series of diverse case studies.

METHODS

The review will be structured around three activities:

1. **Identification of key focal mechanisms.** A long list of putative mechanisms, harvested from the research literature and focusing on the context of medical and health research, will be shared with stakeholders. From this list between 3 – 5 mechanisms agreed as important by the stakeholders, NIHR and the review team will be selected for further inquiry (**Output 1**). The team will engage with relevant stakeholders, including patients and members of the public, Impact Accelerator Units, knowledge mobilisation researchers (e.g. NIHR Knowledge Mobilisation Fellows) and practitioners, and members of a steering group in finalising the candidate mechanisms.
2. Searches will be conducted for each of the mechanisms and **interventions will be mapped to these mechanisms**; together with evidence for the intervention and supportive details of its use (**Output 2**). This stage recognises that there is not a direct one-to-one relationship between mechanisms and interventions; multiple interventions can activate the same mechanism and, correspondingly, a single intervention can activate multiple mechanisms.
3. A **small number (e.g. 4-6) of case studies** will be selected – chosen for relevance to the identified mechanisms and to key target audiences, richness (favouring clusters of reports that offer good contextual detail and process data) and transferability to common implementation scenarios. To identify the case studies, the preselected mechanisms will be mapped to different interventions and case studies that utilise multiple mechanisms and/or interventions will be prioritised to maximise coverage and utility. Each case study will be accompanied by an analysis of how activation of the mechanisms [2] likely achieved the desired mobilisation outcomes (**Output 3**). Stakeholders will be involved in identifying key target audiences and case studies will be finalised with reference to these audiences.

Eligibility criteria

For inclusion in **Output 1 (the theoretical mapping review)** papers need to articulate a theory of change[3], programme theory or logic model that includes one or more mechanisms attributed to mobilisation of knowledge from research. It is true that the frequency of explicit mentions of theories of change is comparatively low. However, cumulatively such mentions are reasonably plentiful given the large body of literature describing knowledge mobilization activities. While programme theory can be harvested from any type of paper or study, the rapid delivery of this synthesis requires that theory is articulated within a realist evaluation, realist synthesis, logic model

[2] We acknowledge that one case study may elucidate multiple mechanisms. Similarly, the same mechanism may be activated across multiple case studies.

[3] These may not necessarily be theoretical papers. Empirical studies may articulate a clear theory of change. Outputs 1 and 2 are therefore identifiable by their purpose, not by the types of studies they include.

or explicit theory of change. The review team will use a search strategy that they have previously designed[4] to identify these elements, based on early work from the EPPI-Centre.[8]

[4] Booth A. *Making Sense of Framework and Best Fit Framework Synthesis*. Cochrane Learning Live Webinar. February 2020. https://training.cochrane.org/sites/training.cochrane.org/files/public/uploads/Cochrane%20QES%20Webinar%204%20-%20Making%20Sense%20of%20Framework%20and%20Best%20Fit%20Framework%20Synthesis.pdf

For inclusion in **Output 2** (**the empirical review**) papers will either (i) describe the use and evaluation of interventions in an empirical study specifically targeted at one of the preselected programme theories nominated as a result of the first activity or (ii) describe the methodology of/procedural considerations for using such an intervention. While evaluations of KM approaches are not in themselves plentiful focusing on this criterion will help manage the potential breadth of KM interventions across the field of health care.

Sensitivity to context will be recognised by only including interventions that have been evaluated within a High-Income country. It is also recognised that approaches used in health care may not translate well into the policy-sensitive domain of social care. Therefore, the review will focus on demonstrating the potential for this investigative approach within the context of UK health care with the acknowledgement that these review methods may subsequently translate for exploring some elements of UK social care.

A signal to noise approach, balancing methodological rigour and relevance,[9] will be used to prioritise examples trialled in the United Kingdom, from similar health systems (e.g. Australia, Canada, Ireland, New Zealand), then from the United States and other high income countries.[10] In this way common interventions will be populated exclusively from UK examples but less common interventions will be substantiated from other contexts.

For inclusion in **Output 3 (the analysis of case studies)** at least one paper identified from activity 2 will be used as an index paper for an intervention, project or programme. Related papers will be identified using the CLUSTER technique developed previously by the review team;[7] papers may represent associated papers from the same project (known as "sibling" papers) or papers linked conceptually, via related articles or citations (known as "kinship" papers). UK examples will be prioritised but, as for output 2, where UK accounts of interventions are not sufficiently plentiful or informative examples from other high income countries will be explicitly substituted.

Information sources

1. Searches for programme theory (theory of change) (Search 1) will be conducted via four different source types: 1. PubMed/MEDLINE as a biomedical source; 2. Scopus as a multidisciplinary source; 3. Google Scholar to harness its full-text retrieval facilities; and, 4. Scite and Litsense to capture citation in context.
2. The search for interventions (Search 2) will be conducted across PubMed/MEDLINE and Scopus as above. In addition, implementation and knowledge translation databases will be specifically targeted. Examples include *Knowledge Translation (KT) Strategies Database (https://ktdrr.org/ktstrategies/) and Knowledge Translation (KT) Library https://ktdrr.org/ktlibrary/index.html.* This will ensure coverage of both formal journal literature and grey literature publications.
3. Starting from one or more index papers identified from Search 2 searches will be conducted using the set of CLUSTER procedures.[7] This will ensure coverage of all types of publication that can contribute to an understanding of the context, mechanisms or outcomes of an intervention, project or programme. Published experience suggests that as many as 14 separate publications (including book chapters, journals, reports or web pages) can be associated with a single project or programme.[7] To ensure the longevity of the case studies the activity of the index project should be concentrated within the time period of 2015 - 2024.

Search strategy

1. **Search for theory:** A purpose-specific strategy for searching for programme theory will be used ("logic model*" OR "theory of change" OR "theory of action" OR "outcomes chain" OR "program* theory" OR "program* logic“ OR “logical framework*”). Although this has not been formally evaluated it is comprised of an exhaustive list of concepts related to theories of change.
2. **Search for interventions:** Mechanisms identified and “labelled” in the previous search will be combined with terms relating to knowledge mobilisation or implementation. These terms will be typically identified in journal abstracts or in full text reports and journal articles.
3. **Cluster searching for case studies.** The seven stages of the CLUSTER method will be implemented;[7] using an index paper as the starting point for each of 4 to 6 case studies. Initial retrieval will be by distinctive label (e.g. project name) or sets of authors, or via citation or related articles, followed by supplementary retrieval techniques.

Data management

Search results, as bibliographic records, will be downloaded to Endnote for reference management and de-duplication. Google Scholar will be searched and records downloaded using the Publish or Perish interface. De-duplicated records will then be uploaded to Covidence (or EPPI-Reviewer) for study selection. All data will be kept securely on a shared Google Drive with cloud backup security.

Selection process

Selection of programme theory will be a collective review team process – producing a “long list” of programme theory options to be prioritised in association with the NIHR HS&DR Programme informed by stakeholder and expert consultation. Three-five mechanisms will be selected and synonyms identified to be operationalised within the search strategy.

Selection and mapping of interventions will be conducted by at least two reviewers who will begin by independently selecting from a common test set of records (e.g. 200 records). Once any ambiguities have been resolved and consensus has been reached on eligibility the titles and abstracts will be divided between the reviewers. Queries for potential inclusion will be discussed between the reviewers with a third senior reviewer referred to in cases of disagreement.

Selection of the case studies will be decided against explicit criteria (yet to be determined) and these will be finalised with reference to the NIHR HS&DR Programme. Additional study reports will be determined by citation links, related articles proximity or by explicit conceptual linkage.

Data collection process

Data extraction will be carried out using Excel spreadsheets, with input via a Google Forms front screen. Forms will be piloted and a sample discussed within the team to ensure consistency of completion. Mechanisms and associated interventions will be mapped using mindmaps.[11]

Data items

Data from each intervention paper will be extracted to a spreadsheet. Descriptive variables for the target populations (stakeholder(s)), the knowledge mobilisation intervention(s) and any relevant knowledge mobilisation outcomes will be extracted along with details of the context. An abbreviated TidIER checklist (TiDIER-Lite) will be used to characterise the knowledge mobilisation interventions.[12] A structured case study template will be developed to focus analysis on methods used and to critique features of the intervention(s).

Outcomes and prioritization

This synthesis will prioritise outcomes that relate to mobilisation and uptake of knowledge (Primary Outcomes). However for the case studies any increase, improvement or other change in the behaviour targeted by the knowledge mobilisation strategy will be documented as supporting evidence of impact (Secondary Outcomes). Interventions, projects or programmes that achieve clinical improvement, improvements in public health or general health and well-being but that do not document knowledge mobilisation outcomes will be excluded from the selected case studies.

Risk of bias in individual studies

Quality of the case studies will be evaluated using a purpose-specific instrument to be identified by or developed by the team. Collective quality of evidence for specific interventions will be documented using a rating scale but individual study quality will not be assessed. One reason for this is that a particular study may have been designed to demonstrate clinical effectiveness without focusing specifically on knowledge mobilisation. Appraising a study that is being used for reasons that are different from the primary rationale for design is of questionable value, especially within a resource-constrained review.

Data synthesis

Data will be synthesised in multiple forms. First, a map of the designated programme theories with associated interventions will be presented back to the original stakeholders, plus others, in the form of a mindmap.[11] Then tables of intervention studies will be produced, organised by overarching mechanism and accompanied by a narrative synthesis. Finally, structured case study templates will synthesise the key features of each case study facilitating cross-case comparison.

Meta-bias(es)

Searches of grey literature and Google Scholar will be undertaken to minimise the effect of publication bias. It is recognised that number of reports and richness of accompanying data may impact on selection of case studies. However the topics and implementation characteristics of these will be selected purposively reducing the selection effect of any one specific example. We acknowledge that the requirement for a priori articulation of a theory of change may, in general, legislate against examples that involve co-production or more iterative approaches to knowledge mobilisation. We will therefore purposively include these approaches among the case studies by drawing on illustrative examples that explicitly articulate theories of change within this specific context.

Confidence in cumulative evidence

No formal grading will be made of the cumulative evidence. However principles of knowledge mobilisation will be identified and promoted to encourage transferability of both mechanisms and interventions to similar or analogous contexts.

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Proposed Timetable

Month	Activity	Deliverable
December 2023	Finalising Protocol; Scoping searches to Inform Mechanisms; Identifying and Analysing Contexts, Mechanisms and Outcomes	Protocol uploaded to NIHR and PROSPERO.
Mid-Late January 2024	First Meeting of Stakeholders to sign off shortlist of mechanisms	Agreed list of mechanisms
February 2024	Formal searches to link mechanisms to interventions	Comprehensive list of interventions
March 2024	Selection of Case studies and design of case study template	
April 2024	Compilation and analysis of Case studies	
May 2024	Second meeting of stakeholders to sense check and advise on dissemination/mobilization.	Presentation of case studies and draft findings
3rd June 2024	Submission of Draft Final Report	Draft Final Report

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