Synthesis for health services and policy: the craft and science of question formulation and scoping

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Scientific summary

Background

Between April 2017 and June 2020 the National Institute for Health Research Health Services and Delivery Research programme commissioned the Universities of Exeter, Sheffield and York to deliver a rapid response evidence synthesis programme. The work involved conducting rapid systematic reviews, scoping reviews and other relevant research projects to directly inform NHS, health care and social care organisation and delivery.

Objectives

To discuss, analyse and present the experiences of three commissioned evidence synthesis centres during the three-year programme of reviews, specifically in relation to scoping of topics, question formulation and engagement with stakeholders, in conducting evidence synthesis projects to inform health service and social care organisation and delivery in the UK. Scoping comprises those initial processes within a review that aim to establish or refine the review questions, and determine the review's scope (e.g. area of focus, key terms, and types of studies to be included).

Methods

Design: Case studies of review scoping processes, thematic analysis and group discussion of findings. Eight case study reviews were chosen by each centre as examples of where scoping was challenging, interesting, and demonstrates a variety of approaches; or where the teams believed it was particularly critical to the ultimate delivery, quality and usefulness of the review.

Data Sources: Researcher recollection, review of notes and meeting minutes from within teams, e-mail correspondence with stakeholders, scoping searches and search results, from first allocation of a review topic through to review protocol agreement.

Experiences of conducting evidence synthesis projects for the NIHR Health Services and Delivery Research Programme were captured through three complementary processes:

1. Each team identified two or three candidate case studies of syntheses conducted between 2017 and 2020. Case studies were written up by team members using a standard format and template to allow identification of common themes and issues;

2. The case studies were analysed thematically and 14 themes were identified by one of the co-authors, and corroborated by other authors. This framework was informed by earlier conversations among co-authors on the focus of the report, and also drew upon factors identified in published a systematic review of evidence use by policy makers. The fourteen themes were mapped onto a framework of three categories:

- **Consultative issues**: **Externally-generated** issues relating to **input** from commissioners, stakeholders, experts, patient groups to inform the planned evidence synthesis product;
- **Interface issues**: Issues relating to the **interaction** between the technical processes of the review team and the requirements of the review user;
- **Technical issues**: **Internally-managed** issues relating to the **conduct of the review** as experienced within the review team.

3. Members of the three teams met to discuss the case studies to identify common issues and experiences and to agree lessons learned.

Findings

Eight case studies were identified (Exeter: 3; Sheffield: 3, York: 2) covering diverse topics and evidence synthesis types. The chosen case studies represent a good match to the diversity of the NIHR HS&DR research portfolio. All synthesis projects were commissioned or conducted in direct response to policy or health and social care service needs. The three teams encountered considerable similarity in the challenges typically faced and the processes developed to scope topics and formulate review

questions. Each of the identified issues was therefore populated by experience from multiple projects across the three academic centres. Fourteen themes were identified within a three-domain framework (Consultation-Interface-Technical) as follows:

Consultative issues:

- Managing and deciding priorities [C1]: How the review team manages and negotiates with NIHR, stakeholders and other customers to ensure that priorities are addressed within resource constraints;
- Reconciling different priorities/perspectives [C2]: How the review team manages potentially competing tensions between what different groups or stakeholders may want to achieve within the overall project remit;
- Achieving buy-in and engagement [C3]: How the review team secures input into the scoping and prioritising process from stakeholders and sustains this throughout the project to include reception of the deliverables;
- Educating the end user about synthesis process and products [C4]: How the review team communicates aspects of review methodology and different synthesis outputs to the potential users/audience particularly in terms of what they will deliver;
- Managing stakeholder expectations [C5]: How the review team communicates what the review project will and won't be able to achieve within the available resources and timeframe, particularly when the review will not seek to meet the conventional systematic review standards.

Interface issues:

- Identifying the niche/gap and optimising added value [I1]: How the review team positions the intended synthesis product within previous literature or reviews and in addressing users' specific needs;
- Rigour/Reliability/Relevance [I2]: How the review team manages potentially competing tensions of scientific quality, confidence in the review output and utility to the intended users within the constraints of remit and resources;

- Transferability/ Applicability of study evidence to policy/ service user context [I3]: How the review team manages the need to provide UK-specific interpretation from an evidence base that may have to be drawn from other countries and contexts.

Technical issues:

- Choosing the method(s) of synthesis [T1]: How the review team explores different options and makes an informed decision about which type of synthesis product will best meet the needs of the intended users;
- Balancing fixed versus fluid questions/ components/definitions [T2]: The extent to which the question as a whole and/or its individual components are predefined and predetermined or whether they emerge during exploration of the literature;
- Taking stock of (and building on) what is already out there [T3]: How the review team explores the quantity, quality and characteristics of existing studies and/or reviews in determining which output will be both feasible and useful;
- Mapping vs Scoping vs Reviewing [T4]: How the review team manages and intersects the relationship between exploring the characteristics of the existing evidence base (mapping), determining the parameters of the specific synthesis (scoping) and conducting the synthesis (reviewing), and the extent to which these processes transform into discrete project deliverables;
- Scoping/relevance as a continuous process not just at initiation [T5]: The extent to which the scoping process is used as an opportunity to precondition the users to the content and form of the final synthesis product;
- Calibrating general versus specific and broad versus deep [T6]: How the review team makes decisions regarding whether to cover an entire topic or whether to select one or more subtopics as exemplars of the whole, and the extent which they optimise coverage versus detail (e.g. description versus analysis).

Discussion of these themes identified several broader themes or tensions relating to scoping processes and challenges. These are:

- Acknowledging the need for iteration, effort and perseverance to scope review topics well;
- Navigating between 'The Two Fears' - of ending up with 'too much' evidence or 'too little'/no evidence;
- Scoping as negotiation between parties with competing objectives, or as honest brokers with shared goals working towards shared understanding.
- Scoping as co-production; review teams working as partners with research commissioners, policy makers and service providers;
- 'Pinning down' versus 'keeping open' what the review will focus on and produce;
- The role of information specialists;
- The ethics of commissioned reviews;
- Scoping is both a technical (informational, scientific rule-based) process and a social process (developing relationships, shared learning).

Looking across all the issues and themes, we have also summarised the practical implications of our findings - for review teams, research commissioners and the users of rapid responsive reviews - as 28 'lessons learned'.

Strengths and limitations of our methods

This report and the case studies within it have been produced by experienced review methodologists who have worked in diverse topic areas and review contexts. They contribute rich and diverse experience of scoping and question formulation issues and have researched and, in many cases, published on the methodology of reviews in general and of scoping and question framing processes in particular. The teams reflected a good representation of key review functions in project direction and management, information retrieval, and review methodology.

Recollections and reflections of team members may have unintentionally under-reported negative experiences of stakeholder engagement or communication from research commissioners. Selection of case studies was typically based on their perceived intensity in capturing issues relating to scoping or question formulation.

However, these may have been subject to availability bias or immediacy effects. Reporting of issues may seek to preserve relationships with current stakeholders or potential collaborators or future review commissioners. While attempts have been made to preserve the anonymity of those engaged during the planning or conduct of each review some of these may be readily identifiable from their role as acknowledged in each case study.

As with the previous report which reflected on the first three years of these commissioned HS&DR evidence synthesis centres (2014-17), scoping processes were mainly focussed on policy customer and other professional/organisational end-users or stakeholders. While some of the described reviews did involve consultation with patients or the public in the scoping stages, it was typically alongside more intensive consultation with the review commissioners and policy end-users. The teams need to transparently consider if this is an inevitable consequence of the rapidity of these reviews, and the presumed importance to clarify policy customer expectations first; or whether more agile and pre-planned efforts to involve patients and the public in scoping stages is not just feasible but essential.

Conclusions

The needs of a commissioned, rapid and responsive evidence synthesis programme extend beyond the sound technical and scientific practices of a review team. Relationship-building and social processes are key to the scoping and shared learning process – between the review commissioners and the review team, between the review teams and diverse stakeholders, including patient and public involvement representatives, and within the review team itself. In some cases, the intended users are identifiable, offering a focus for consultation, but this adds a requirement for relationship management by the review team and NIHR commissioners. Rapid evidence synthesis programmes require experienced research staff to broker the relationship between objective, product and the needs of intended users throughout the scoping and question definition process. Relationships should be conducted within agreed principles for good evidence synthesis for policy. From the shared experiences

and reflections from the three centres from 2017 to 2020 we have identified common issues and suggested lessons for improving scoping processes to inform similar commissioned and responsive review programmes. More prospective, methodological research conducted alongside such rapid and responsive review teams could be used to validate the considerations and competing goals of scoping identified in this report, and potentially develop strategies and tools for managing them more effectively.

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