Developing meta-ethnography reporting guidelines and standards for research (eMERGe)

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Summary of Research

Designing high-quality, patient-centred services and implementing NHS interventions and programmes needs robust synthesised evidence (1). Quantitative syntheses provide evidence of intervention effectiveness but qualitative evidence syntheses (QES) of multiple qualitative research studies can provide evidence of intervention feasibility, appropriateness and acceptability to patients (2,3) and advance understanding of *any* complex healthcare issue (4) and patients' experiences of *any* illness e.g. (5-8). Meta-ethnography (ME) (9,10) is a complex, rigorous, theory-based QES approach unique in using the authors' interpretations, e.g. themes or concepts, in published studies as data and in its systematic analysis process that takes into account contextual influences on study findings. A meta-ethnography interprets rather than aggregates studies (9). It is ideally suited to conveying patients' views and developing theory to inform service and intervention implementation. High quality meta-ethnographies have informed clinical guidelines (6,11,12).

NIHR is a key funder of meta-ethnographies (13) but there are no specific guidelines to guide the quality (rigour, transparency and utility) of meta-ethnography reports. Meta-ethnography reporting quality in general varies and is often poor (13,14). This is a barrier to end-users' trust in and use of meta-ethnography findings that are of potential value for improving health services and care. Users of evidence syntheses (e.g. patients, policy-makers, NHS managers, clinicians) require reports that clearly articulate the analytical processes and findings. Tailored research reporting guidelines are widely used and can raise reporting standards (15). We urgently need in-depth meta-ethnography reporting guidelines. These would be excellent value for money, raising reporting quality, and hence utility, of all subsequent meta-ethnographies for the NHS and other evidence users.

Aim

This study aims to create evidence-based meta-ethnography reporting guidelines articulating the methodological standards and depth of reporting required to improve the quality and transparency of meta-ethnography reports. The purpose of the guidelines is to maximise the value and utility of meta-ethnography for enhancing health service design and delivery and understanding patient experiences. Improving patient experiences of care is a key NHS aim. Our research questions are:

1. What are the existing recommendations and guidance for conducting and reporting each process in a meta-ethnography, and why?
2. What good practice principles in meta-ethnography conduct and reporting can we identify to inform recommendations and guidance?
3. From the good practice principles, what standards in meta-ethnography conduct and reporting can we develop to inform recommendations and guidance?
4. What is the consensus of experts and other stakeholders on key standards and domains for reporting meta-ethnography in an abstract and main report/publication?

Design and methods

Our mixed methods research design to answer these questions follows good practice in research reporting guideline development:

Stage 1: systematic scoping review to identify recommendations and guidance in conducting and reporting meta-ethnography. Output: typology of recommendations and guidance.

Stage 2: review and audit of seminal and recent published meta-ethnographies to define good practice and develop standards in conduct and reporting. Output: good practice principles; draft guideline standards.

Stage 3: online workshop and Delphi studies to agree guideline content with 90 QES/meta-ethnography experts and key stakeholders including patients. Output: guideline statement.

Stage 4: develop and widely disseminate a detailed explanatory document to accompany the guideline statement, a NIHR-commissioned meta-ethnography report template, and training materials on guideline use.

Outputs

The guideline statement and accompanying detailed explanatory document, report template for NIHR-commissioned meta-ethnographies, and training materials on guideline use will internationally raise reporting quality**,** maximising the likelihood that high-quality meta-ethnographies will contribute robust evidence to improve patient-centred NHS services and interventions for any health condition.

Background and rationale

What is the problem being addressed?

Designing and implementing NHS interventions and services to improve patient experiences of care is a key NHS aim (16,17) and major challenge requiring robust synthesised evidence. Meta-ethnography (ME) (9,10) is an interpretive qualitative evidence synthesis (QES) approach ideally suited to informing design and implementation. A recent evaluation concluded that, if well-conducted and reported, meta-ethnography is effective, systematic and can produce important new conceptual understandings of complex healthcare issues, even in well-researched fields (18). Meta-ethnography has great potential to improve health services and understanding of patient experiences e.g. (5-8). Users of evidence syntheses (e.g. patients, NHS managers, policy makers, clinicians) require quality reports that clearly articulate analytical processes and findings, but meta-ethnography is poorly reported (13,14). Systematic reviews of reporting quality by us (13) and others (14) show that over two-thirds of recent health-related meta-ethnographies did not clearly describe their analysis. Poor reporting is a barrier to trust in and use of meta-ethnography findings meaning that opportunities to gain new insight that could enhance patient experiences, care and health services are lost and funding resources wasted.

No specific guidelines exist for reporting meta-ethnography but these are needed internationally because meta-ethnography is complex, unique and methodologically challenging. Noblit and Hare (9) developed meta-ethnography in the 1980s, but their synthesis process was unclear (5) and they gave no guidance on how to sample or appraise studies for inclusion. Robust methods to identify (19) and select studies now exist (20). Seminal meta-ethnography worked examples were published in early 2000 (7,21) but less than a third of recent meta-ethnographies cited these (13). To urgently improve reporting quality of meta-ethnography evidence to enhance health services, we aim to develop in-depth evidence-based meta-ethnography reporting guidelines that make explicit the methodological standards and depth of reporting required. This supports the NIHR HS&DR programme's aim to produce rigorous, relevant evidence on the quality, access and organisation of health services by focusing on ensuring production of high-quality meta-ethnography health research evidence reports.

Importance of the research for public and/or patients' health and the NHS

Qualitative syntheses and meta-ethnography can advance understanding of patients' experiences of *any* illness for different population groups across the life course or illness trajectory e.g. what it is like to have and be treated for arthritis (18). Quantitative syntheses can provide evidence of intervention effectiveness but QES can show an intervention's feasibility, appropriateness and acceptability to patients (2,3); inform implementation of complex interventions, e.g., by explaining why interventions effective in trial settings are not implemented in mainstream practice (22,23); enhance interpretation of systematic reviews of intervention effects (4); and illuminate complex healthcare issues by developing theory about how a health service, policy, strategy or intervention works or not and how patients experience it (4). Department of Health policy (1) states that evidence-based decision making requires qualitative *and* quantitative research and Public Health England's 'Knowledge Strategy' (24) says existing evidence must be used to understand barriers to improving public health. The White Paper 'Equity and excellence: liberating the NHS' (16) and NICE guideline for patient experience in NHS services (17) stress that improving patients' experience of care is key. Meta-ethnography is a unique, rigorous, theory-based (25), interpretive QES approach ideally suited to conveying patients' views and experiences and informing implementation of services and interventions. Meta-ethnography aims to produce new interpretations that transcend individual studies' findings, rather than aggregate them, by systematically comparing study concepts to identify any overarching concepts while preserving original meanings and taking account of contextual impacts on findings (9,18).

Well-conducted, well-reported meta-ethnographies can provide valuable evidence to improve patient experiences, public health and health services for any health condition, topic or service. Individual qualitative studies rank low in the clinical evidence hierarchy (26) but increasing the transferability and generalizability of their findings by rigorously synthesising them can increase their weight in the hierarchy, thus their potential to inform clinical guidelines, service design and patient-centred care. For example, a seminal meta-ethnography which informed a National Institute for Health and Care Excellence (NICE) guideline (11) concluded that people resist taking prescribed medicines for chronic conditions because of concerns about the medicines rather than failures in doctor-patient communication or patient 'failings' (6). This important new finding indicated that trying to increase medication adherence by changing patient behaviour or enhancing clinical communication would waste NHS resources, that patients' priorities and concerns about medicines differed from those of clinicians and had been neglected, and future research should focus on alternative treatment effectiveness and medication appropriateness.

To realise meta-ethnography's high potential value to the NHS, patients and other agencies requires high quality, transparent reporting that clearly conveys the methodology, analysis and findings, but current reporting is poor (13,14). This is a barrier to meta-ethnography use as users cannot assess its quality and trustworthiness. Reporting guidelines can raise reporting quality (15). However, there are no bespoke reporting guidelines for meta-ethnography despite its

unique, complex analysis methods and huge potential to inform patient-centred NHS service delivery, design and implementation (4). We urgently need in-depth, tailored reporting guidelines to raise the reporting standards of meta-ethnographies internationally and thus maximise their ability to contribute robust evidence relating to any specific illness or service to improve health services and patient care and outcomes.

Why this research is needed now

NIHR is a key funder of meta-ethnographies, funding almost a fifth of recent published health-related meta-ethnographies (13) but there are no guidelines for meta-ethnography reporting quality. Reporting quality of meta-ethnographies varies and is often poor and, despite methodological advances (7,13,18,21), recent systematic reviews show it is not improving (13,14). In over 70% of recent peer-reviewed meta-ethnography journal papers the authors did not clearly report how they analysed concepts from primary studies (13,14). Quality reporting is a prerequisite to assessing confidence in (27) and so enabling use of meta-ethnography findings to inform care (see Figure 1). Meta-ethnography is a unique, complex approach that urgently requires specific rather than generic reporting guidelines. Meta-ethnography differs from other QES methods in its underpinning theory (25), use of the authors' interpretations (e.g. concepts, themes) from primary qualitative studies as data, and creation of new interpretations through its systematic analytic synthesis process. Noblit and Hare (9) outlined the meta-ethnography method in 1988 but gave no detail on how to do the analytic synthesis (5); in 2011 Campbell et al (18) advanced the methods for conduct of health-related meta-ethnography. No publication has outlined reporting standards.

Tailored research reporting guidelines are widely used and can raise reporting standards (15), e.g., CONSORT (28) for randomised controlled trials and PRISMA (29) for systematic reviews and meta-analyses. The 2012 ENTREQ statement (30) for enhancing transparency in QES reporting has limitations: it was not developed using consensus methods with qualitative synthesis experts, it is generic, and was not designed for the conceptually, methodologically distinct meta-ethnography approach with its unique synthesis process. ENTREQ is not widely used, is unlikely to greatly improve meta-ethnography reporting (13) because it provides no guidance on how to report the analytic synthesis process, and cannot simply be adapted for meta-ethnography. Only one of 32 recent meta-ethnography journal articles used ENTREQ to guide reporting and its analytic reporting was unclear (13). Because QES approaches differ greatly, the need for specific guidelines for reporting other unique forms of QES (realist and meta-narrative reviews) has been recognised and these have recently been developed (31,32). We urgently need to develop reporting guidelines to raise the quality and transparency of meta-ethnographies. Well-reported meta-ethnographies could contribute robust evidence to underpin improvements to health services and implementation of interventions.

Figure 1. Role of meta-ethnography reporting guidelines in facilitating use of synthesised research evidence

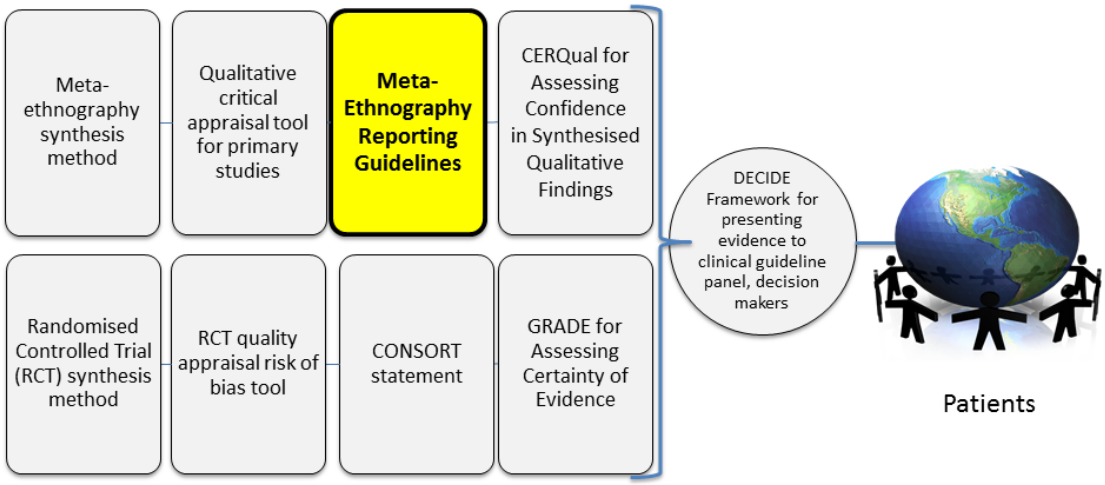


Figure 1 key: CERQual = Confidence in Qualitative evidence, CONSORT = Consolidated Standards Of Reporting Trials, DECIDE = Developing and Evaluating Communication strategies to support Informed Decisions and practice based on Evidence, GRADE = Grading of Recommendations Assessment, Development and Evaluation, RCT = randomised controlled trial.

Aims and Objectives

The aim of this study is to create evidence-based meta-ethnography reporting guidelines that articulate the methodological standards and depth of reporting required to improve reporting quality and transparency. The purpose of

the guidelines is to maximise meta-ethnography's value and utility for enhancing health service design and delivery, so improving patient experiences and outcomes for *any* specific health service, topic or illness.

Research questions (RQ):
1. What are the existing recommendations and guidance for conducting and reporting each process in a meta-ethnography, and why?
2. What good practice principles in meta-ethnography conduct and reporting can we identify to inform recommendations and guidance?
3. From the good practice principles, what standards in meta-ethnography conduct and reporting can we develop to inform recommendations and guidance?
4. What is the consensus of experts and other stakeholders on key standards and domains for reporting meta-ethnography in an abstract and main report/publication?

To answer our research questions we will conduct:
1. a systematic scoping review of the literature on the methodology and conduct of meta-ethnography to identify recommendations and guidance, focusing on the analytic processes and highlighting issues and characteristics specific to this qualitative synthesis method [RQ 1];
2. review and analysis of published seminal and low quality (poorly conducted and/or reported) meta-ethnographies to define good practice principles and develop standards in meta-ethnography conduct and reporting and an audit of recent health-related and social care meta-ethnographies to explore if/how they embody good or bad practice, how they perform against standards, identify barriers to quality, common pitfalls and further emerging good practice [RQs 2 and 3];
3. an online workshop and Delphi consensus studies with multi-disciplinary panels of research experts and other key stakeholders including the public and patients to agree the reporting guideline content in order to make it explicit and accessible [RQ 4].
4. We will produce and seek feedback from the panels on an explanatory document to accompany the eMERGe guidelines that gives examples of good reporting and the rationale for including particular domains and information. We will facilitate wide adoption and use of the eMERGe guidelines and explanatory document by authors, peer-reviewers and editors as a prerequisite to publication in line with other evidence-based reporting guidelines, e.g. CONSORT and PRISMA. Based on the guideline content, we will create an NIHR report template for commissioned meta-ethnographies. We have registered our intent to produce the guidelines with the EQUATOR (Enhancing the QUAlity and Transparency Of health Research) international network and comprehensive database of reporting guidelines.

Design

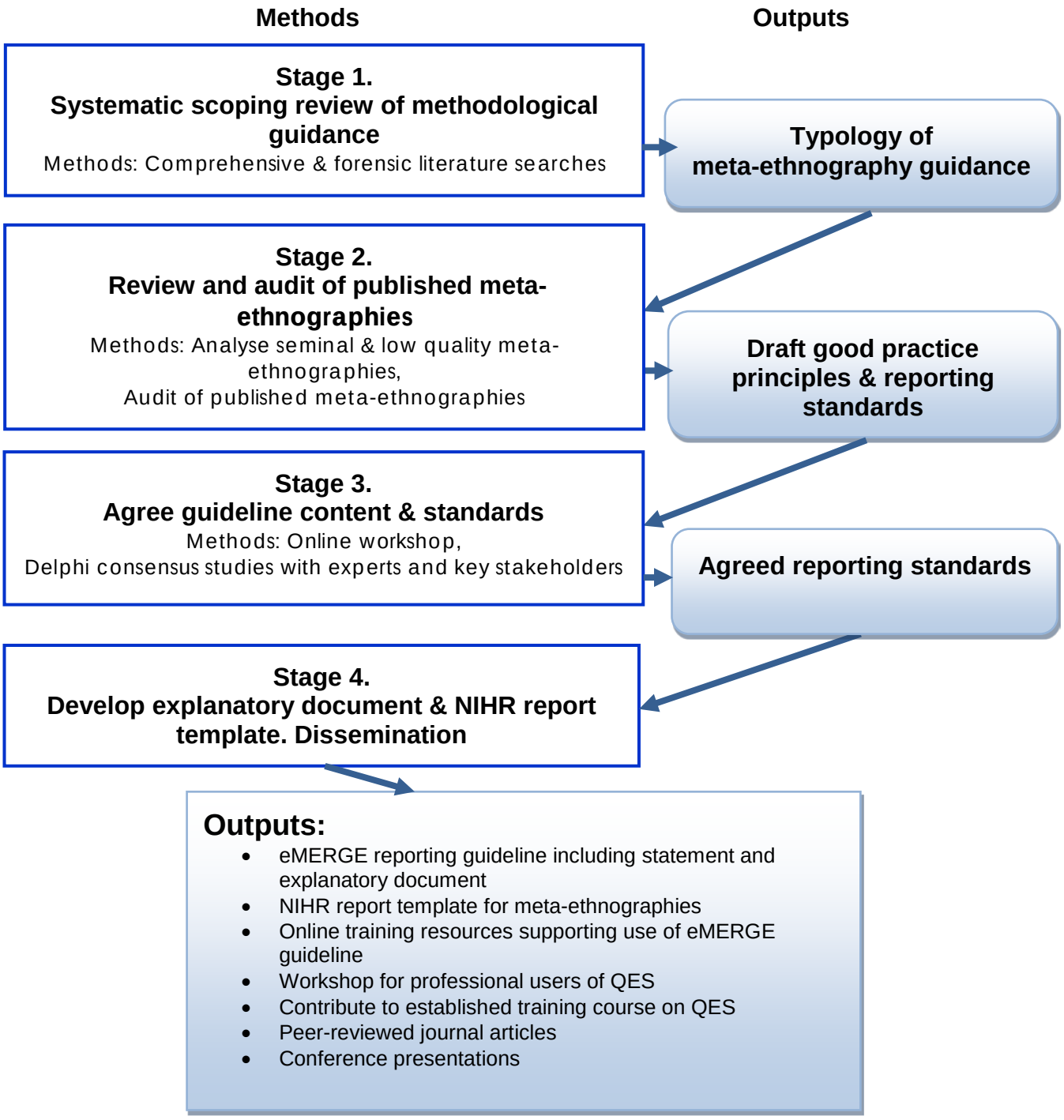
Our mixed methods design follows key steps recommended as good practice in health-related research reporting guideline development (33) and that have been used successfully to develop reporting guidelines for other qualitative evidence synthesis methods (realist and meta-narrative reviews) (31,32) including: literature reviews of relevant guidance (Stage 1) and to ascertain quality of reporting in published research articles (Stage 2), a guideline item development workshop (Stage 3.1), Delphi consensus studies (Stage 3.2), developing a guidance statement and accompanying explanatory document (Stages 1-4), and encouraging guideline endorsement by journals (Stage 4)**.**

The project will involve four key stages:

- Stage 1. Identifying recommendations and guidance [RQ 1]. Systematic scoping review of recommendations and guidance for conducting and reporting meta-ethnography. We will produce a description of how meta-ethnography is defined and a detailed typology of recommendations and guidance about what could be reported, which we will then compare with actual practice.
- Stage 2. Defining good practice principles and standards [RQs 2 & 3]. Review of published seminal and low quality meta-ethnographies from any discipline identified by experts and an audit of practice in recent published health-related or social care meta-ethnographies to define good practice in conduct and reporting. This will tell us what is actually being reported and let us identify good practice principles. From the principles we will develop draft guideline reporting items and domains for consideration by the panels in Stage 3.
- Stage 3. Agreeing guideline content [RQ 4]. Workshop and Delphi studies to agree guideline content including an online workshop and Delphi studies with experts and other key stakeholders (patients, public, users of evidence syntheses). This will tell us what should be reported. The output will be an agreed list of reporting standards/items.

- Stage 4. Developing an explanatory document to incorporate and support guidelines for adoption by authors, peer-reviewers and publishers and an NIHR report template for commissioned meta-ethnographies [RQs 1, 2, 3 & 4].

Figure 2. eMERGe mixed methods research design



We have designed the project to minimise biasing the guidelines towards our own preferences. The content of the guidelines will be the culmination of learning, debate, and expert and other stakeholder agreement from Stages 1-3 – we will develop the draft guideline items to be debated by panels in the Stage 3.1 workshop from the findings of stages 1 to 2.2 and expert input. We will ensure that we document an audit trail of decisions made at each stage in our research so that the decision-making process can be scrutinised and record our preferences for certain meta-ethnography practices.

Stage 1. Identifying recommendations and guidance [RQ 1]

We will carry out a systematic scoping review of the literature, including 'grey' literature such as reports, text books and book chapters, to identify guidance from any discipline on meta-ethnography conduct and methodology, such as methodological texts and worked examples of meta-ethnographies containing technical detail and/or guidance, in order to describe existing recommended practice in conducting and reporting meta-ethnography. Although there are no meta-ethnography reporting guidelines, we are aware of some published data in reviews of qualitative syntheses that relate to meta-ethnography reporting (10,13,14).We will produce and follow a detailed protocol in conducting the review. This review has been registered on PROSPERO, the International Prospective Register of Systematic Reviews, (registration number: CRD42015024709). This review is the first step in identifying what should be included in the reporting guideline and will result in a preliminary definition of what constitutes a meta-ethnography and an initial detailed typology of recommendations and guidance regarding the elements in a meta-ethnography that could be reported. The research question is: what are the existing recommendations and guidance for conducting and reporting each process in a meta-ethnography, and why?

Search strategy

Our exhaustive search strategy will combine comprehensive database searches with forensic or 'expansive' searches - these will be iterative and will evolve as the review progresses because their purpose is to build our knowledge of recommendations and guidance in conducting and reporting meta-ethnography rather than to answer a tightly defined research question (34). This will combine browsing of texts with periods of more focused systematic searching rather than a linear search process (34). We will carefully document our search process for transparency.

To identify relevant literature we will start with seminal methodological and technical publications known to our expert academic advisors and the project team including Noblit and Hare's 1988 seminal book, detailed worked examples of meta-ethnographies, and publications relating to qualitative evidence synthesis more generally e.g. reporting guidelines for other qualitative evidence synthesis approaches, reviews of qualitative syntheses including meta-ethnographies. We will include relevant texts from other disciplines that use meta-ethnography, such as education and social work. We will perform citation searching, reference list checking (also known as backward and forward 'chaining') of the seminal texts, search key websites e.g. the Cochrane library, search Google Scholar, and search by names of authors of relevant publications. We will also conduct comprehensive database searches to identify other methodological publications (see details below). We anticipate reviewing up to 100 methodological texts based on our familiarity with the literature and scoping searches.

Comprehensive database searches to identify methodological publications

We will search bibliographic databases including: MEDLINE, SCOPUS, PsycARTICLES, PsycINFO via Health Source: Nursing/Academic Edition; Pubmed; CINAHL; the International Bibliography of the Social Sciences; Sociological abstracts; Web of Science Core Collection; British Education Index, ERIC (Educational Resources Information Center); Australian Education Index; and ERA (Educational research abstracts) Online.

We will use the following search terms (these are based on Medline terms, these will be refined following piloting and will be tailored to each database):

> ((metaethnograph* or meta ethnograph* or meta-ethnograph* or "qualitative synthes#s" or noblit) or (((qualitative adj2 (review or systematic or overview)) or (metasynthes#s or meta synthes#s or meta-synthes#s)) and (("third order" adj2 construct*) or ("line* of argument" or "line*-of-argument"))) and ((good or best or recommend* or quality) adj3 (guid* or design or standards or practice or practices or reporting or method*)) or ((publishing or reporting) adj2 (guid* or design or standards or practice or practices or method*)) or (Publishing/st [Standards]) or (methods/st)

We may refine these terms following pilot searches. (The terms 'third order construct' and 'line of argument' are often-used terms relating to meta-ethnographic analysis and synthesis).

Screening and selection of texts

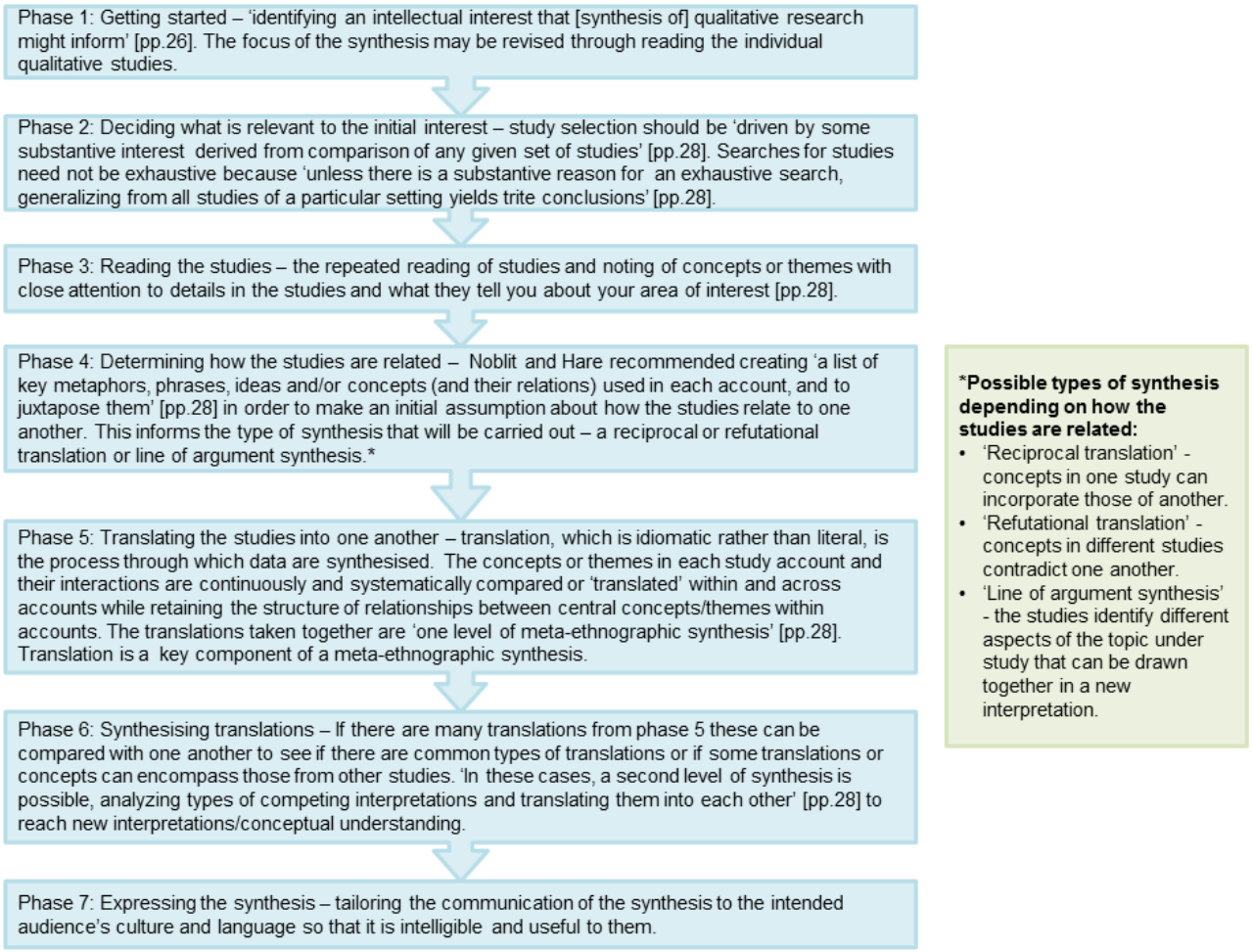
One reviewer will perform searches and do initial screening to exclude off-topic texts, i.e. those clearly not about meta-ethnography or evidence synthesis. Potentially relevant texts will be screened independently by two reviewers –and by a

third reviewer if they cannot reach agreement - by title and abstract (where relevant) initially and then by full text to assess their relevance. The inclusion criteria are:

- One of these types of publication: book, book chapter, journal article, editorial, report, or doctoral thesis
- Reports on methodological issues in conducting meta-ethnography (including worked examples, reviews of qualitative syntheses), or is a reporting guideline for, or provides guidance on reporting, qualitative syntheses including meta-ethnography
- Any discipline or topic, not just health-related (e.g. education, social work)
- Published after 1988 (when Noblit and Hare's book came out).
- In any language.

Any relevant foreign language texts will be translated. We will aim to include all publications with content, such as technical guidance, relevant to all of Noblit and Hare's (9) seven phases of conducting a meta-ethnography (see Figure 3) as well as those providing advice on initially choosing a suitable qualitative evidence synthesis method for one's research aim, and those that define the characteristics of a meta-ethnography. Our key focus will be on the meta-ethnography analytic synthesis phases 4-6 which are complex and currently very poorly reported (10,14). We will *not* exclude texts on grounds of poor meta-ethnography practice in Stage 1.

Figure 3. The seven phases of Noblit and Hare's (9) meta-ethnography approach.



Data extraction and analysis

Data will be extracted from each included text by only one reviewer because this is a qualitative review in which the key principles are transparency and consensus, not independence and inter-rater reliability. The accuracy and completeness of the data extraction will be checked by a second reviewer for five texts per reviewer (10 in total). We will develop and pilot a template (e.g. in tabular format using Excel or Access) to record characteristics of publications including details such as the authors, publication year, title, aim, focus, academic discipline and type of document. Our initial data extraction categories will be informed by our earlier preparatory review (13) and will be refined following piloting.

Extracted data will be analysed qualitatively. We will use the qualitative analysis software NVivo 10.0 (35) to facilitate management and coding of documents. Data will be read repeatedly, annotated, and we will write and iteratively revise descriptive memos (analytical notes) to articulate ideas and arguments. We will analyse: how meta-ethnography is defined and differs from other qualitative evidence synthesis approaches; how to identify that meta-ethnography is the appropriate method for a particular research question; the range of practices, recommendations and guidance on how to do the seven meta-ethnographic phases (see Figure 3), especially the analytic phases 4-6, and their component tasks (for example, phase 2 'deciding what is relevant to the initial interest' can involve identifying, selecting and quality appraising studies for inclusion); how to conduct a meta-ethnography and present findings so that they are useful/relevant for health and social care policy, practice and decision making; definitions of reciprocal and refutational analysis and line of argument synthesis; how to develop theory after the analytic synthesis; how to handle the unique context of primary studies in analysis and synthesis; and authors' views, if any, on good and bad practices. We will record any additional steps in meta-ethnography conduct identified (i.e. in addition to Noblit and Hare's seven phases) and identify any areas of consensus, divergence, ambiguity or lack of evidence among texts.

The guidance we review will inevitably vary in quality and the detail it provides, but there is currently no tool for appraising the quality of meta-ethnographies to establish methodological rigor. Therefore we will record the full range of practice, regardless of the richness (quality) of the text, but we will record which texts are rich in detail i.e. a detailed account with in-depth explanation and rationales that goes beyond description. Recommendations and guidance may or may not represent good practice, therefore we will examine high and lower quality meta-ethnographies in Stage 2 to identify good practice principles.

Stage 1 output: a narrative report containing a preliminary definition of what constitutes a meta-ethnography and a detailed typology of recommendations and guidance for meta-ethnography conduct and reporting.

Stage 2. Defining good practice principles and standards [RQs 2 & 3]

In Stage 2 we will compare the existing guidance identified in Stage 1 to actual practice in published meta-ethnographies in order to identify and develop good practice principles and standards in their conduct and reporting on which to base provisional reporting guideline standards and items for the expert and stakeholder panels to consider in Stage 3. We will identify and review published, peer-reviewed meta-ethnography journal articles to explore and describe the depth and type of reporting for each phase of a meta-ethnography. The research questions are: What good practice principles in meta-ethnography conduct and reporting can we identify to inform current recommendations and guidance? From the good practice principles, what standards in meta-ethnography conduct and reporting can we develop to inform recommendations and guidance? To answer these questions we will conduct:

Stage 2.1 – a review and analysis of seminal and lower quality (poorly conducted and/or reported) meta-ethnographies from any discipline to identify and document good practice principles and develop standards

- Stage 2.2 – an audit of recent peer-reviewed, health-related or social care meta-ethnographies to verify if and how they meet the standards and to further inform and develop the good practice principles and standards.

Stage 2.1 Review of seminal and lower quality meta-ethnographies

We will review 10-15 seminal and 10-15 lower quality (poorly conducted and/or reported) meta-ethnographies in order to identify and describe good practice in conduct and reporting to build on and refine the definition, recommendations and guidance identified in Stage 1 and create provisional good practice standards against which to compare recent meta-ethnographies. In order to identify examples of good practice, we will ask our expert academic advisors (advisory group members) to recommend published, peer-reviewed meta-ethnography journal articles from any discipline published following Noblit and Hare's 1988 book that they consider to be seminal, i.e. meta-ethnographies that have influenced or significantly advanced thinking and/or that are of central importance in the field of meta-ethnography, and to explain why. We will not rely on citation metrics to indicate 'seminality' since texts are cited for many reasons including because they are poor. We will also ask the experts to identify any published, peer-reviewed meta-ethnography journal articles that they consider to be relatively poorly conducted and/or reported and to explain why, as a comparison. We will also search published reviews of meta-ethnographies to identify low quality examples. We will collate a list of seminal and lower quality meta-ethnographies - if necessary advisors will agree a final list of the 10-15 'best' or 'worst' examples of each.

Inclusion criteria

- A peer-reviewed meta-ethnography journal article from any discipline
- Published following Noblit and Hare's 1988 book
- Considered by our expert advisors and/or published reviews of meta-ethnographies to be (a) seminal or (b) to be a relatively poorly conducted and/or reported meta-ethnography.

To analyse the utility of the meta-ethnographies for potential 'professional' end users of meta-ethnography evidence, such as clinical guideline developers, whose needs may differ compared to those using it for academic purposes, we need to identify elements of reporting important to them. We will invite 10 key stakeholders who use evidence syntheses, such as staff from NICE, SIGN, PHE, SPICe, the International Guideline Network (G-I-N), and regional research offices (drawing on our contacts in these organisations and advisory group members) to comment on the identified seminal and poor quality meta-ethnographies' utility for practice and policy. We will send each end user one selected copy of a seminal meta-ethnography and one poorly conducted/reported meta-ethnography (selected for likely relevance to the individual) and ask them for qualitative feedback relating to how useful they found the findings and the way in which the meta-ethnography was reported and how it could have been improved. Data will be collected via email or telephone, depending on the participant's preference, in a semi-structured interview format. The kinds of questions will include: How clearly reported are the meta-ethnography's implications for policy and practice? What, if anything, is missing from the report that you would need to know to be able to implement the evidence/findings? How useful are the meta-ethnography's findings and/or conceptual model and conclusions for policy and practice? What would you change, if anything about the way the findings and conclusions were presented? The content of telephone interviews will be documented via detailed note-taking and issues collated.

Stage 2.1 data analysis

Data analysis of the seminal and lower quality meta-ethnographies will focus on what and how the meta-ethnography authors conducted and reported the complex analysis phases 4-6 of a meta-ethnography. We will identify the range of approaches, compare and contrast their approaches with recommendations and guidance identified from the methodological texts in Stage 1, identify any examples of how seminal texts have advanced the meta-ethnography method, and define good and poor reporting practices. For rigour and to enhance richness of interpretation, three members of the project team with meta-ethnography expertise will contribute to data analysis. The content of telephone interviews with professional end users will be documented via detailed note-taking and the issues collated to identify what represents good reporting to them.

Not all seminal meta-ethnographies will have high quality conduct and reporting and some may have driven subsequent poor practice, so we will differentiate between 'seminal' and 'high quality' meta-ethnographies. We will ask our expert advisors to help define the nature of meta-ethnography, debate the characteristics of a good/poor meta-ethnography and judge how close health-related meta-ethnographies are to Noblit's original approach. We will provide advisors with an outline of initial meta-ethnography quality criteria we developed in our prior systematic review of meta-ethnography reporting quality [3] e.g. possible markers of a good meta-ethnography are that the research aim was conceptual and interpretive so was suited to meta-ethnography, it synthesised conceptual data from primary qualitative studies with the aim of reaching a new interpretation, and it generated theory or a conceptual model. This will help ensure we are sensitive to the original meta-ethnography approach, represent the wider view of good meta-ethnography practice, and strive towards best meta-ethnography practice.

We will record characteristics of the meta-ethnographies in NVivo 10.0 (35) including the authors, title, journal details including article word limit, publication year, the main topic focus and aim of the review, and the number of studies synthesised. Included texts will be qualitatively analysed deductively and inductively. The initial deductive coding frame of analytic categories will be based on the typology identified in Stage 1 and will be refined as we develop new codes inductively from the data. Members of the wider project team will be involved in developing and refining the coding frame. Coded data will be read repeatedly, annotated, and we will write and iteratively revise descriptive memos (analytical notes) to articulate ideas and arguments. We will use the qualitative analysis software NVivo 10.0 (35) to facilitate management and coding of documents. To ensure rigour and richness of interpretation, three reviewers will code data from the meta-ethnographies and work collaboratively on the analysis and interpretation. We are likely to analyse the suitability of the approach for the study aim; the rationale for use of meta-ethnography; how they conducted and reported phases 4 to 6 in the meta-ethnography e.g. the approach to 'translating' the studies into one another; and good practice in any area of doing/reporting a meta-ethnography.

To analyse the utility of the meta-ethnographies for potential 'professional' end users of meta-ethnography evidence, such as clinical guideline developers, whose needs may differ compared to those using it for academic purposes, we need to identify elements of reporting important to them. We will invite 10 key stakeholders who use evidence syntheses, such as staff from NICE, SIGN, PHE, SPICe, the International Guideline Network (G-I-N), and regional research offices (drawing on our contacts in these organisations and advisory group members) to comment on the identified seminal and poor quality meta-ethnographies' utility for practice and policy. We will send each end user one selected copy of a seminal meta-ethnography and one poorly conducted/reported meta-ethnography (selected for likely relevance to the individual) and ask them for qualitative feedback relating to how useful they found the findings and the way in which the meta-ethnography was reported and how it could have been improved.

We will juxtapose our analysis of actual practice in seminal and poorly conducted/reported meta-ethnographies with the recommendations and guidance from Stage 1 to identify commonalities and differences which will allow us to identify good practice principles and to develop standards against which to compare recent meta-ethnographies in Stage 2.2.

Stage 2.2 Audit of published meta-ethnographies

We will audit the literature to examine how published meta-ethnographies perform against the good practice principles and standards identified in stage 2.1. We will identify recent peer-reviewed, health-related or social care meta-ethnographies published between 1994-2015 to identify the most recent practices in meta-ethnography conduct and reporting. No peer-reviewed health-related meta-ethnography journal articles were published before 1994 (10). These meta-ethnographies should have been able to draw on recent advances in qualitative evidence synthesis, meta-ethnography and systematic reviewing.

Stage 2.2 search strategy

We will conduct database searches to identify published, peer-reviewed health-related or social care meta-ethnography journal articles published up to 2015. We are aiming to identify a broad range of recent meta-ethnographies from which to purposively sample articles. Exhaustive searching is not necessary for the purposes of auditing a purposive sample of publications. We will search 6 electronic databases including: MEDLINE, PsycINFO via Health Source: Nursing/Academic Edition; the International Bibliography of the Social Sciences; SCOPUS; Web of Science Core Collection; and CINAHL. We will use the following search terms to search anywhere in the manuscript (terms are based on Medline terms, these will be refined following piloting and will be tailored to each database):

> (metaethnograph* or meta ethnograph* or meta-ethnograph* or “qualitative synthes#s” or noblit) or (((qualitative adj2 (review or systematic or overview)) or (metasynthes#s or meta synthes#s or meta-synthes#s)) and (("third order" adj2 construct*) or ("line* of argument" or "line*-of-argument"))).

We will cross check the retrieved references against the register of meta-ethnographies kept by Cochrane (http://qim.cochrane.org/methodology-register) to ensure we have captured all relevant publications.

Stage 2.2 screening and sampling of articles

One reviewer will perform searches and do initial screening to exclude off-topic texts i.e. those clearly not a meta-ethnography. Two reviewers will screen by title and abstract and, if necessary, by full text to select a purposive sample of meta-ethnographies. If they cannot reach agreement, a third reviewer will also screen the text and the project team will approve the final sample. Our recent pilot work (13) has indicated that we will need to screen the full text of retrieved articles to identify meta-ethnographies because some articles only state in the main manuscript that they have used a meta-ethnography approach and some articles which claim to use meta-ethnography in the abstract have not actually conducted a meta-ethnography. To be relevant to our review, an article must meet all of the following criteria:

- In the title, abstract and/or main manuscript have described their methods as meta-ethnography or as using the methods of Noblit and Hare (1988)
- Be reporting a synthesis of qualitative primary research studies
- Focusing on a topic with a health or healthcare or social care focus
- Published in a peer-reviewed journal
- Published between 1994-2015.

We have estimated from our preparatory work that we will retrieve around 200-250 relevant meta-ethnographies. From these we will purposively select a diverse sample of 40 meta-ethnographies. The purpose is knowledge building therefore purposive sampling is appropriate. The sample of 40 meta-ethnographies will include articles from a range of different journals, with a variety of main focuses (e.g. experiences of a health condition or health service, health professionals’ experiences, health promotion, public health, social care); from authors with a variety of different disciplinary backgrounds (e.g. nursing, midwifery, sociology, psychology, allied health professions, social work); and a range of publication dates between 1994 and 2015. At least two articles will be selected because they are based on longer reports, e.g. reports to funders, to allow us to compare the methodological reporting in the article and report to get insight into the limits imposed by journal formats and word limits. Any overlap between our sample of meta-ethnographies and that of our recent systematic review (13) will build upon our earlier analysis rather than duplicate it.

Stage 2.2 data analysis

We will record the same characteristics of the meta-ethnographies, e.g., title, authors, as for Stage 2.1. Data in the purposive sample of meta-ethnographies will be qualitatively analysed to judge if they meet the standards identified in Stage 2.1. Seven reviewers will apply the standards to the sample, using an Excel spreadsheet template, to judge whether each one fully or partly meets or does not meet each draft standard and give qualitative feedback on the standards and the meta-ethnographies. Two meta-ethnographies will be audited and analysed independently by two reviewers to pilot the standards before the wider team applies them to the whole sample. To ensure rigour and to reach a

richer interpretation, the reviewers will discuss similarities and differences in their audit findings and interpretation and the analysis will be discussed by the wider project team as it progresses.

In order to further refine the draft standards the audit will focus on the key tasks of judging their feasibility and comprehensibility and gathering qualitative feedback on the standards and on good and poor practice in the conduct and reporting of the meta-ethnographies. We will compare standards of conduct and reporting in recent meta-ethnographies to the good practice principles/standards to see whether and how they follow good practice, identify any additional good practices and examples of how the method has been further advanced e.g. in how the analysis processes are reported; identify barriers to quality reporting, e.g. abstract and manuscript word limit, journal reporting templates, how authors apportioned word limit; and common pitfalls, e.g. inappropriate application of meta-ethnography. We will use the findings to refine the descriptions of recommendations, guidance, good practice principles and standards and use these as the basis for drafting a list of potential reporting items and standards relevant to the conduct and reporting of a meta-ethnography which the expert and stakeholder panels will consider and rate in Stage 3.

Stage 2 outputs (combining findings from stages 1 and 2 and expert input) - these will be shared with and considered by the panels in Stage 3.1:

- a report and presentation describing the characteristics of meta-ethnography and the depth and type of reporting for phases 4-6 of meta-ethnography and provisional good practice principles in conducting and reporting meta-ethnography
- draft standards and items for the reporting guideline.

Stage 3. Agreeing guideline content [RQ 4]

Recommended good practice in developing research reporting guidelines involves expert input and the use of expert consensus in agreeing their contents (33). This is the approach we will adopt. For further rigour and to ensure guidelines useful to the NHS and patients, we will include an extra element which other reporting guideline developers have not done, which is to include in the consensus process an equal proportion of other key stakeholders/potential users of meta-ethnographies including the public and patients, policy makers, clinical guideline developers, commissioners of meta-ethnographies, and clinicians. The Stage 3 research question is: what is the consensus of experts and other stakeholders on key standards and domains for reporting meta-ethnography in an abstract and main report/publication?
Stage 3 has two parts:

- Stage 3.1. Online expert and stakeholder workshop to further develop and generate potential items for inclusion in the reporting guideline that will be subsequently rated in online Delphi studies.
- Stage 3.2. Two online Delphi studies to reach consensus on the items (generated in Stage 3.1) to be included in the reporting guidelines.

Stages 3.1 and 3.2 are described in depth below.

Stages 3.1 & 3.2. Sampling and Sample

We will recruit two main groups of participants: (a) 45 academic experts and (b) 45 other key stakeholders who use synthesised evidence i.e. professional evidence users and patient and public representatives. Previous reporting guidelines have been successfully developed with a total of 30 participants (33).

Academic experts
We will purposively recruit an international, multi-disciplinary panel of 45 methodological experts in qualitative evidence synthesis and meta-ethnography via professional networks, inviting authors of key texts and asking experts to suggest participants ('snowballing'). We will email 65 experts to invite them to participate in both stages 3.1 and 3.2. We anticipate a recruitment rate of 70% (N=45) and attrition of 33% during stages 3.1 and 3.2 (based on recruitment rates for Delphi studies to develop other qualitative evidence synthesis guidelines (31,32)) giving a final sample of at least 30. An expert participant will be defined as an individual who meets at least one of these criteria:

- An academic with a reputation in qualitative evidence synthesis including, but not limited to, meta-ethnography
- Author of a meta-ethnography or a methodological text in qualitative evidence synthesis or meta-ethnography considered by peers to be seminal
- Experience of producing reporting guidelines for other qualitative evidence synthesis approaches
- Expertise in critical appraisal and evaluation of qualitative research studies
- Editors and editorial board members of journals that publish meta-ethnographies and qualitative evidence syntheses e.g. Qualitative Health Research, Social Science and Medicine, Health Services Research.

Other key stakeholders
We will purposively recruit a diverse UK sample of 45 key stakeholders including 22-23 public/patient representatives (aged ≥16) and 22-23 other stakeholders (potential professional users of qualitative evidence synthesis) to take part in the panel. Patient and public representatives: members of the public and patients and their representatives will be identified and invited through voluntary and patient organisations, such as the Scottish Health Council, Asthma UK, and Healthwatch and Public Involvement Association (HAPIA). Many of them will be recruited through adverts so we cannot specify the expected recruitment rate. Professional evidence users (e.g. clinical guideline developers, policy makers) will be identified through relevant organisations such as the Scottish Intercollegiate Guideline Network (SIGN), Healthcare Improvement Scotland (HIS), NICE, the Scottish Parliamentary Information Centre (SPICe), the International Guideline Network (G-I-N), and regional research offices through our existing networks. We do not intend to recruit patients and the public from outside the UK reflecting NIHR's focus on benefit to UK patients and health services. However, for an international perspective we will liaise with the Cochrane Consumer Network, with which we have links. By email, telephone and in person, we will approach 60 professionals to recruit 22-23 (anticipated recruitment rate of around 40%). We anticipate attrition of 33% during Stage 3 resulting in a final sample of at least 30 key stakeholders (in addition to the academic participants). For all types of stakeholders we will also draw on our existing contacts and networks, our advisory group's networks, 'snowballing' and on adverts to recruit participants.

Participants should meet at least one of these criteria:

- Works for a government or non-government organisation that uses synthesised evidence on health/social care, or develops or disseminates evidence-based health/social care guidance and advice
- Commissions qualitative evidence syntheses
- Works in a role related to use of research evidence for health/social care policy or practice
- Clinical guideline developer
- Distils evidence for policy makers
- Health or social care policy maker
- Uses synthesised evidence or synthesises evidence in a professional non-academic capacity
- A member of the public or a patient or informal carer with an interest in health or social care research evidence or who is a lay member of a clinical guideline development and funding panel.

Stage 3.1. Online workshop

In an online workshop lasting 3-4 hours, we will interact with the panels of experts and other stakeholders to discuss good and best practice and to further develop the draft standards and items for the reporting guidelines and agree their wording. A single rather than multiple workshops has the benefit of letting all participants hear and respond to all the other participants' views. However, if necessary, we will run two similar workshops in order to accommodate panel members based in different time zones. We have selected an online format for inclusivity of participants, efficiency and economy – this avoids the need for the international panels to travel to a face-to-face meeting in the UK (which could discourage international participation), should make scheduling of the meeting easier, and reduces financial costs significantly. We have experience of running online seminars.

Procedure
This workshop will underpin the reporting guideline development and ensure that the panels have up-to-date knowledge about meta-ethnography and the quality of its reporting. This is an online equivalent to the face-to-face expert meeting recommended for reporting guideline development (33), however our approach differs because we are including a broad range of stakeholders including patients and the public, not just academic experts. We anticipate that only 40-50% of the 90 panel members will be available to participate on the day.

From Stages 1 and 2's findings we will present relevant background information on qualitative evidence synthesis and the characteristics of meta-ethnography; a summary of evidence on meta-ethnography guidance, practice and reporting; and suggest specific reporting guideline standards and items that are being proposed for rating in the Delphi studies along with relevant empirical evidence and justification.

Data collection and analysis
Presentations will be followed by open debate, questions, brainstorm, exchanges of views and knowledge, and discussion (33) and we will explore the definition of a meta-ethnography, how close standards and items are to best practice and whether further improvement is needed. We will solicit comments on the utility of meta-ethnography reports for improving clinical practice and intervention implementation from other stakeholders. Participants will have

the opportunity to suggest further guideline standards and items for inclusion in the Delphi studies, identify and combine duplicative standards/items, and revise the wording of items.

Two members of the project team will take turns to take detailed minutes of the workshop discussions and with participant consent we will also audio-record the meeting as a back-up. We will systematically record and thematically analyse panel members' feedback on the proposed guideline standards and items, noting if they are an academic expert or other stakeholder. We will create a summary of issues, topics and themes structured according to the seven key phases in meta-ethnography conduct and a list of standards and items for potential inclusion in the reporting guideline to be taken forward to the online Delphi studies. This list will be circulated to the panels prior to the start of the Delphi to agree and finalise wording of items. After conduct and analysis of the workshop we will discuss the findings with Professor Noblit so that he can inform, challenge and/or ratify our findings.

Stage 3.2. Online Delphi studies.

Delphi is a group consensus-reaching method, originally developed by the RAND Corporation in the 1950s (36), that presents questionnaires in a series of rounds, each one based on feedback from respondents' responses to the previous version of the questionnaire (37). The Delphi study method has been used extensively in healthcare research and in guideline development (38-40). A key advantage of the Delphi method is that the anonymity of participants' responses avoids peer-group pressure to conform to the majority view (which can happen with other consensus approaches –such as the nominal group technique and consensus conferences) so it encourages honest, unbiased opinions. Also it does not require face-to-face interaction which would be challenging with a geographically-spread panel. The aim of these Delphi studies is to achieve expert and/or key stakeholder consensus on the content of the reporting guidelines. The studies will determine what are the most important items to include in a reporting guideline covering the abstract and main manuscript.

Sample and sampling

See pages 11-12 for details of the expert and stakeholder panels. We anticipate that 30 out of 45 (60/90 overall) participants will complete all rounds in each Delphi, a sample comparable to published Delphi studies. If more participants complete, the online administration results in minimal extra work.

Procedure

We will run two separate but related Delphi studies in parallel - one for academic experts and one for other stakeholders. By carrying out two separate studies, we will ensure that we can differentiate between and so represent both groups' views, so that items of importance to both groups will be included in the guidelines. If we ran only one Delphi study we would be unable to discern which type of participant made up the majority vote for any item, e.g. an overall majority (dominated by academics) may have voted against including an item, but most other stakeholders might have voted to include the item. Having two Delphi studies also lets participants in each panel compare their own response to that of their peers when deciding whether to revise their previous responses. The two Delphi studies will involve participants rating the same guideline items and the procedure of the Delphi studies will be exactly the same for each participant group**.**

We will use a web-based platform developed at the University of Stirling by co-applicant ED and researcher KS specifically for online Delphi studies. The platform is not profit making, there is no charge to use it, and there are no plans to commercialise it - costs are solely for set-up/administration of the studies. It has been piloted for acceptability and usability and successfully used in previous Delphi studies (41,42). This web-based platform has efficiency and economic advantages over standard Delphi study methods: its combination of automatic reminders, collation, analysis and feedback functions cannot be found in other generic electronic survey tools (such as Survey Monkey) and it considerably increases efficiency by reducing the administration and manual analysis that is normally required between Delphi study rounds. Rates of study participation are comparable to paper-based administration methods (41).

The researcher will send each potential participant an email inviting them to participate in the study. This will include the Delphi platform web address, and a password and unique identifier to use to log in to the website. Upon logging in, the participant is presented with the questionnaire and, if they are returning to the site, the values they have already entered. When participants log into the website to start rounds 2 and 3 they see the same items they rated in the previous round plus any additional items subsequently suggested by participants and get feedback on the previous round: they see the most popular response, their own previous response, and the relative frequency of responses for each item. Participants can save their responses during each round, enabling them to complete the questionnaire in more than one sitting.

The Delphi platform enables data between rounds to be presented to participants visually in the form of a colour histogram or 'heat map' (see Figure 4), overcoming some of the known limitations of using measures of central

tendency (43) when feeding back results to participants (e.g. when the median score disguises that consensus is polarised). The histogram for each item presents participants with information on their own response choice in the previous round, the frequency with which each of the four responses was chosen by the whole panel in the previous round (the depth of colour super-imposed on the response scale indicates relative frequency), and the choice that they have made in the current round. This enables participants to easily compare their responses to the consensus in the previous round and to then either confirm or update their response. Figure 4 gives an example histogram showing the frequency with which each of the four responses was chosen in a previous round (the darker the shade of green, the greater the number who selected that response; the lighter the shade of green, the fewer the number). The grey circle shows the choice that the current participant made in the previous round and the green circle shows the choice that they have made in the current round (in round one each box is white because no previous selections have been made).

Figure 4. An example from the Delphi website of a colour histogram of previous responses.

Data collection

Data collection will take 12 weeks in total and takes place over three rounds (each lasting four weeks). Having three rounds avoids excessive participant fatigue and maximizes the potential to reach consensus amongst participants (43). Electronic reminders will be sent automatically to participants two weeks after the commencement of each round, and also shortly before the end of the round to individuals who have not yet completed the round. These reminders state the final date by which the current round must be completed.

In each round a set of provisional items (agreed in Stage 3.1) will be presented on the Delphi website. Each participant will be asked to rate how much they agree (on a four- point Likert-type scale 1= very unimportant, 4=very important) that the item should appear in the guideline (the item's importance). Participants will have the option to state that they have no expertise related to any item listed. Participants will have the option to add items which they consider important in round 2 that are not already listed in round 1. Having a four-point scale will allow us to differentiate sufficiently between items in order to identify which are the most important to include in the guideline. Also, by not having a mid-point on the scale, we avoid the situation where a panel reaches a consensus at a mid-point on a scale of 'neither important nor unimportant' which would mean that the item met neither the inclusion nor the exclusion criteria. Qualitative feedback on the guideline items will be collected including suggestions for additional guideline items.

Data analysis

Inter-round data analysis is completed automatically and fed back to participants during the subsequent round in the form of colour histograms (see Figure 4). Following completion of round three (the final round), we will prepare descriptive statistics of the ordinal data (frequencies/ percentage of responses) showing the level of consensus for each item for each study. We will have two final sets of consensus ratings from the two parallel Delphi studies. We will use non-parametric inferential statistics (the Wilcoxon Signed Ranks Test) to assess whether there is a statistically significant increase in consensus for item importance between rounds for each study. Items with a final consensus level of ≥70% (for very important/important response categories) in *either* of the Delphi studies (i.e. items considered important by a majority of *either* group) will appear in the guidelines (41,42). An item/standard will only be excluded from the guidelines if neither group rated it as important/very important. This means that as long as an item is considered important to include by ≥70% of participants in at least *one* of the participant groups then it will appear in the guidelines. Stage 3 output: We will produce the final version of the meta-ethnography reporting guideline standards and items (the 'guideline statement'). Final results will be fed back to the panels via email.

Stage 4. Develop explanatory document, NIHR report template and dissemination [RQs 1, 2, 3 & 4]

We will produce a detailed explanatory document to accompany the guideline items drawing on findings from Stages 1-3. One of the purposes of the explanatory document is to explain to journal editors and authors the importance of following the guideline recommendations to encourage its use (33). The explanatory document will provide detailed rationales and evidence for all of the eMERGe guideline items and standards. For each item, the document will include (a) an example of good reporting from a published paper, and (b) the scientific background and rationale for including that information in a published article. The document will be published simultaneously along with the guideline items (the 'guideline statement'). We will circulate the document to the expert and stakeholder panels for comments and feedback prior to journal submission.

We will promote guideline adoption by journals and NIHR. This will be facilitated by having journal editors on the expert panel. We will ask journal editors to make a clear statement of how the journal expects authors to use the guideline, what level of adherence is required, to consider asking authors to state how their article meets the guideline items and by asking peer-reviewers to use them as part of their review. We will ask journals to notify us when they endorse the reporting guideline to help us to document and track all endorsements.

Based on the contents of the reporting guidelines and explanatory document we will develop an NIHR report template for commissioned meta-ethnographies in consultation with NIHR staff. The current template for evidence syntheses and systematic reviews is designed for syntheses of quantitative studies such as systematic reviews of intervention effectiveness. We will also produce a range of other project outputs, described in more detail below.

Stage 4 output: a published eMERGe reporting guideline including a 'statement' and detailed explanatory document, an NIHR report template for meta-ethnographies, project report, journal articles, eMERGe guideline training materials, and dissemination workshop.

Dissemination and Projected Outputs Plan

This study will develop reporting guidelines for meta-ethnographies and publish them in an open-access academic journal and create an NIHR template for meta-ethnography reports. We will publish a full report in the NIHR HS&DR Journal and at least 2 further journal articles.

Outputs: 1.eMERGe reporting guidelines consisting of a statement and an accompanying explanatory document (comparable to CONSORT, PRISMA or RAMESES) that make explicit the required depth and detail of reporting for meta-ethnography for use by researchers, research funders, journal editors, students and supervisors, and evidence users e.g. clinicians, policy makers. We will publish the guidelines in an open-access academic journal and ensure they are widely adopted for use by key journal editors, authors and peer-reviewers. 2. an NIHR report template for meta-ethnographies. 3. Peer-reviewed journal articles on: (a) the findings of the systematic review and audit of meta-ethnography practice; (b) the guideline development process. 4. Presentations of findings at conferences and training events. 5. A workshop for professional users of qualitative evidence syntheses. 6. Online training materials to support use of the reporting guidelines. (For details of 2-6, see dissemination section).

Dissemination of the study and its findings will be via: our host institutions' and partner patient and public involvement organisations' websites, social media and networks; the eMERGe project website and project advisory group; the EQUATOR (Enhancing the QUAlity and Transparency Of health Research) international network, the comprehensive online database of reporting guidelines; our links with the Cochrane Qualitative Research methods group (JN and our advisors Andrew Booth and Ruth Garside are members); the NMAHP RU Newsletter, sent to all NHS Boards in Scotland via the Directors of Nursing and Directors of Allied Health Professions; CHAIN (Contact, Help, Advice and Information Network) online network of 13,000+ practicing health care professionals, researchers and educators; JISCmail national academic mailing service; the Scottish School of Primary Care network; the Royal College of Nursing research bulletin; and qualitative research online forums; the International Guideline Network (G-I-N). We will negotiate to get the guidelines adopted by the editors of journals that publish meta-ethnographies who can request authors to comply with and peer reviewers consult the guidelines.

We will present findings at an international academic conference, the International Institute for Qualitative Methodology's Advances in Qualitative Methods conference (Canada); the international Health Services Research Evidence-based practice conference (UK) which has a policy and practitioner audience; and at the Royal Society for Public Health's Public Health International Conference (UK). We will offer to present the findings and guidelines at an established national course on qualitative evidence synthesis. We will run a workshop for policy makers and other professional users of health-related evidence syntheses such as NICE, the Cochrane collaboration, SPICe, Public Health England, the NHS Centre for Reviews and Dissemination, SIGN, and Healthcare Improvement Scotland. We will also produce online training resources and materials in the form of podcasts and PowerPoint presentations for researchers and other users in how to use the reporting guidelines.

Plan of Investigation and Timetable

Summary timetable
Total 24 months duration.
Months 1-5. Stage 1. 5 months duration.
Months 3-12. Stage 2. 9 months duration (with 2 month overlap with stage 1).
Months 11-18. Stage 3. 7 months duration (with 1 month overlap with stage 2).
Months 19-24. Stage 4. 6 months duration.

Detailed timetable
Month 0. Recruit research fellows.
Ethical approval
Months 1-2. Apply for ethical approval for Stage 3.
Participant recruitment
Months 2-11. Recruit panel members (experts and other stakeholders) for Stage 3 and set workshop date.

Stage 1. Identifying recommendations and guidance
Months 1-5. 5 months duration. Systematic scoping review of recommendations and guidance in conducting and reporting meta-ethnography.

Stage 2. Defining good practice principles and standards
Months 3-12. 9 months duration (with 2 month overlap with stage 1). Review and audit to examine reporting practice in published MEs.

Stage 3. Agreeing guideline content
Months 11-18. 7 months duration (with 1 month overlap with Stage 2). Online workshop and online Delphi consensus studies.
Month 12. Apply for substantial amendment to ethical approval for Stage 3 (to approve content for workshop and Delphi studies).
Stage 3.1. Online stakeholder workshop
Months 12-13. Prepare presentations of evidence and draft guideline items. Run online expert/stakeholder workshop and analyse data.
Stage 3.2. Online Delphi studies
Months 14-18. Prepare and run Delphi studies. Months 15-17. Online Delphi studies data collection phase. Month 18. Delphi final data analysis.

Stage 4. Develop guideline explanatory document, report template and dissemination
Months 9-24. Prepare publications including journal articles and conference presentations
Months 19-22. Develop, submit for publication and disseminate explanatory document to support guideline statement
Months 22-23. Develop NIHR report template, develop training materials for eMERGe guideline use, workshop for professional users of evidence syntheses e.g. policy makers.
Months 22-24 - Prepare final report.

Table 1. Detailed eMERGe project timetable

Month	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Appoint research fellows																									
Apply for ethical approvals for Stage 3																									
Stage 1																									
Stage 2																									
Ethics amendment																									
Recruit panel members																									
Stage 3																									
3.1 Prepare & run workshop																									
3.1 Analyse data & draft items for Delphi																									
3.2. Run Delphi studies																									

3.2. Delphi studies data collection																								
3.2. Delphi final analysis																								
Stage 4																								
Develop explanatory document																								
Develop NIHR report template																								
Develop training materials																								
Dissemination workshop																								
Prepare publications & conference presentations																								
Prepare final report																								

Project Management

The study will be sponsored by the University of Stirling. EF (chief investigator) will maintain oversight of the whole study. A study management group, including all study co-applicants and the research fellows and chaired by the CI (EF), will oversee the study. The study management group will meet on 12 occasions, i.e. every two months, in 8 face-to-face and 4 conference call meetings. Interim Skype meetings of the study management group will be held as necessary during crucial phases of the study e.g. when producing output from each stage of the study. In addition, the CI will meet with the co-applicant leading the current stage of the project and the research fellows weekly to monitor study progress. We have been awarded DECIPHer affiliated status and will report our performance and impact to them annually.
Two experienced research fellows will be employed half-time for 24 months to undertake the day-to-day tasks involved in conducting the study. They will both be based at the University of Stirling, their working hours will overlap for ease of co-working, and both will be line managed by the CI.

We have several objective measures of success within the project lifetime, e.g. publication of the guidelines in a peer-reviewed journal; NIHR's acceptance of a meta-ethnography reporting template; journal endorsement of the guidelines; and the ability to recruit to and so run the dissemination workshop for professionals. We will comply with NIHR requirements for 6-monthly progress reports and report performance/ impact annually to DECIPHer (Development and Evaluation of Complex Interventions for Public Health Improvement) to which we have affiliated status. In the interim the research team will monitor budgets and progress supported by our institutions.

The Project Advisory Group, for which we have already recruited 18 eminent academics with QES expertise, up to six patients/members of the public (three already recruited) and in addition patient/public representatives including agreed representatives from Asthma UK (Scotland), Healthwatch and Public Involvement Association (HAPIA), the Scottish Health Council, and other stakeholders including agreed representatives from The Scottish Parliament Information Centre (SPICe) and Healthcare Improvement Scotland, will hold two independently chaired meetings with the research team over 24 months. There are 3 key areas the PAG will advise on: (1) methodological issues, (2) study conduct, (3) project dissemination. The chair will be a person independent from the co-applicants and their institutions with the necessary skills to act as chairperson. The proposed monitoring will ensure that a high quality study is delivered on time and within budget.

Currently a third (6/18) of our expert advisors are from outside the UK including Canada, Norway, Belgium, Australia, and the USA. We will continue to recruit and ensure we have wide international representation. We will also use the Cochrane Qualitative and Implementation Methods Group's (applicant JN is co-convenor) JISCMail list of methodologists globally to check international relevance of our findings.

Ethical Issues

Stages 1 and 2 of the study are deemed exempt from the need for ethical approval (personal communication J Evans 3.3.15, School of Health Sciences Research Ethics Committee, University of Stirling). There are ethical issues relating

to stage 3 of the study - the consensus study involving a workshop and Delphi studies - which involves three main types of participants: expert academics, lay people including patients, and other stakeholders who use evidence syntheses in a professional capacity. Invitations to participate will be sent via email and through patient organisations. We will provide all potential participants with a letter of invitation, a study information sheet and give them the opportunity to ask us questions about the study before they decide to take part or not. Participation in the online workshop and Delphi studies will be taken as participants' implicit consent. Participants will be told in the information sheet and verbally at the start of the workshop that we will audio-record the workshop and might use anonymised verbatim quotations in project publications (unless they prefer to be identified), and that they can choose not to participate if they do not want to be recorded. Participants will be told that they can retract their contributions to the workshop and that they can withdraw from the study at any time and that this will not affect their work or health care. We will agree with participants at the outset how their intellectual contribution to the research will be recognised in project outputs such as publications.

It is unlikely that the research topic will cause emotional distress to participants or researchers. There is a slight possibility that participants and researchers with experience of a health issue might become upset if the research causes them to reflect on any of their experiences related to use of research evidence that had been upsetting. We will provide participants with a list of potential sources of support and offer them the option to take a break from or discontinue their participation. Researchers will receive regular supervision and debrief sessions.
Lay participants will also be offered reimbursement for their time in line with INVOLVE good practice guidance.
We will seek ethical review for stage 3 - the consensus study involving a workshop and Delphi studies - from The School Research Ethics Committee in the School of Health Sciences at the University of Stirling. We will apply for this following the project start date during Stage 1 of the project. We will then apply for an amendment to our ethics application after Stage 2 once we have developed the draft guideline standards and items to be considered and rated by participants during the Delphi consensus studies.

Patient and Public Involvement

Aims of active involvement in the project: to ensure that the eMERGe reporting guidelines are relevant, accessible and useful to all key stakeholders including patients and the public.

Description of patients, carers and the public to be involved: We will recruit patients, carers, and members of the public aged ≥16 who have an interest in health or social care research evidence or who are lay members of clinical guideline or funder panels and their representatives from non-government organisations (NGOs) that use synthesised evidence on health/social care, or develop or disseminate evidence-based health and/or social care guidance and advice. We have already recruited one member of the public and two patients and professional patient representatives from the Healthwatch and Public Involvement Association, Asthma UK (Scotland), and the Scottish Health Council to be members of our project advisory group (PAG).

Methods of involvement: patients, carers, the public and their representatives from NGOs will be members of our PAG which will meet twice and also communicate and give feedback on specific issues via email in the interim. We have already recruited 5 such individuals (details above) and intend to recruit a further 3 to 4 individuals. Twenty-three carers, patients, the public and their representatives from NGOs will also be invited to be research participants in Stage 3 to agree the reporting guideline contents taking part in an online workshop and Delphi consensus study. Training will be provided to enable their full participation.

Roles and Responsibilities of Project Team

Our multi-disciplinary research team, which has a history of prior successful collaboration, has extensive expertise and in-depth understanding of qualitative evidence synthesis and meta-ethnography (JN, NR, RJ, EF), Cochrane systematic reviews (JN, RJ, RT), non-Cochrane systematic reviews (EF, NR, MM, ED), consensus methods (ED), qualitative methods (EF, MM, JN, RJ, NR), quantitative methods (EF, ED, MM), and project management (all). We have backgrounds in social science (EF, MM), health professions (NR, JN, RJ, ED), information science (RT), and health services research (all). The team of competent, credible experts is experienced in conducting large-scale research studies using mixed research methods. Our combination of skills, expertise and our professional networks will enable us to deliver this mixed methods project to develop accessible, relevant and usable meta-ethnography reporting guidelines for international use. We are capable of delivering a robust methodology, making decisions on contentious issues regarding the development of reporting guidelines, and complex analysis related to the advanced qualitative method of meta-ethnography. Having such a project team (as well as involvement of key stakeholders) when developing reporting guidelines is key to ensuring the guidelines are accepted, endorsed and implemented by direct end users. Incorporating a range of different methodological perspectives amongst co-applicants (and a variety of other stakeholders) from the project outset will maximise the likelihood that the guidelines will be adopted, rather than contested, by all sections of the typically divided qualitative evidence synthesis community.

Emma France: CI. Academic and commercial project management skills; meta-ethnography, non-Cochrane systematic review and mixed method study expertise; skills in qualitative and quantitative research methods. Responsibilities: overall project management and administration, manage research team including two research fellows (RFs), lead Stages 1, 3.1 and 4, assist with recruitment of research participants for Stages 2 and 3 and project advisors, co-analyse publications for Stages 1 and 2, develop draft guideline items for Stage 3, overall responsibility for project outputs, present at conferences.

Nicola Ring: conducts and teaches QES, co-authored a Health Technology Assessment (HTA) report on QES methods (23), experience of SIGN guideline development and implementation, expertise in auditing against standards (key to the Stage 2.2 audit) and in linguistic analysis critical for a nuanced understanding of the meta-ethnography literature (in Stages 1 and 2) in which there is currently no agreed shared terminology. Responsibilities: lead Stage 2 and analyse and interpret data in Stages 1 and 2; produce and deliver project training materials for academic use of eMERGe guidelines and for lay project advisors in understanding academic research (e.g. qualitative research, systematic reviews), the role of advisors and how to participate in PAG meetings.

Jane Noyes : specialises in evidence synthesis and methodology and methods development and evaluation, co-chair of Cochrane Methods Executive, lead convenor of Cochrane Qualitative and Implementation Methods group, major publisher of meta-ethnographies as editor of Journal of Advanced Nursing, member of international collaboration to synthesise evidence to inform the WHO global guideline on task shifting http://optimizeMNH.org, member of NICE methodological hub consortium, contributor of synthesised evidence for two NICE guidelines. Developed consolidated criteria for reporting qualitative research (COREQ). Co-facilitates an internationally-recognised QES course (ESQUIRE) that features meta-ethnography. Responsibilities: specialist methodological input to analysis and interpretation in Stages 1, 2 and 4 crucial for analysing the complex meta-ethnography approach, assist with identifying and approaching expert participants for Stages 2 and 3, assist with promotion of guidelines to journals through her professional networks.

Ruth Jepson: previous Cochrane Collaboration systematic reviewer of intervention effectiveness, conducts and teaches QES, co-authored a HTA report on QES methods (23). Her expertise in quantitative reviews will ensure we consider the full range of alternative views and procedures (quantitative as well as qualitative) for literature identification and searching in the guidelines. Her QES teaching expertise is key to producing effective eMERGe guideline training materials. Responsibilities: text screening, data analysis and interpretation in Stages 1 and 2, contribute to Stage 3.1 online workshop, produce and co-deliver project training materials on the Delphi and how to participate in it, for qualitative synthesis course about the eMERGe guidelines and for dissemination workshop for professional end users of the guidelines e.g. policy makers.

Ruth Turley: systematic reviewer in SURE (Support Unit for Research Evidence) and DECIPHer (Development and Evaluation of Complex Interventions for Public Health Improvement), searching co-ordinator for Cochrane Public Health Group, lead/contributor of QES to three NICE guidelines. RT is an information searching expert so will ensure all relevant literature sources are identified in Stages 1 and 2. Responsibilities: advise on and oversee design and conduct of Stage 1 and 2 literature search strategies to support RFs.

Margaret Maxwell: highly experienced qualitative researcher and project manager of mixed methods studies, experience of conducting systematic reviews including realist synthesis, previous member of SIGN guideline development group. Responsibilities: support and mentor EF in her role as CI, contribute qualitative and project management expertise to all stages, contribute to analysis of Delphi quantitative data.

Edward Duncan: expertise in Delphi technique and mixed methods studies, developed web-based platform for bespoke online Delphi studies. Responsibilities: assist and advise on preparation of draft reporting guideline items for Stage 3, oversee and advise on and analyse Stage 3 workshop and Delphi studies.

All co-applicants will attend project meetings, contribute to all project outputs including reporting guidelines and explanatory document, NIHR report template and to dissemination including conference presentations, training materials for guideline use and journal articles.

Kevin Swingler, Computer Scientist, University of Stirling: administer and maintain Delphi website and studies for 5 months - set up the studies e.g. tailor the response scales for the project, create participant log-in accounts, input guideline items to be rated, provide user support of the system to up to 90 users, deal with participant queries, initiate 2 new rounds for each study, monitor participation/completion rates, prepare summary of detailed results following each round.

Two research fellows: will conduct day-to-day project tasks for Stages 1-4. Achieving the skills mix required in one RF is unlikely for the study's mixed methods design which includes systematic reviewing, QES, meta-ethnography and Delphi studies - and systematic review processes (publication screening and analysis) require two research fellows. Systematic reviews and QES are advanced research methods so experience needed is commensurate with post-doctoral level. Below is an indication of how the skills mix might be split between the research fellows.

- Research fellow 1 (50%, 24 months): experience of systematic reviewing, qualitative and quantitative research. Will be lead RF on Stage 1 systematic scoping review and analysis of Stage 3.2 Delphi consensus studies and contribute to recruitment, data collection, analysis and producing outputs in Stages 1-4.
- Research fellow 2 (50%, 24 months): expertise in qualitative literature reviewing, qualitative research and QES. Will be lead RF on Stage 2 review and audit of literature including stakeholder interviews, Stage 3.1 online workshop and contribute to recruitment, data collection, analysis and producing outputs in Stages 1-4.

They will collaborate with each other and the wider team on each stage to achieve the project outputs (e.g. to double/triple screen and analyse texts in Stages 1 and 2, recruit participants for Stage 3). Furthermore, since each stage builds on the previous one, their continuous involvement over 24 months will ensure the successful day-to-day running of the project.

Secretarial support (8%, 24 months): assist with organisation of 14 meetings, 2 workshops and stakeholder training for Stage 3 research participation, routine and participant recruitment correspondence, other project administration. It is more cost-effective for these tasks to be done by a secretarial grade with the relevant skills and expertise than by the project team.

Research fellows and the secretary will be based with the CI within the Chief Scientist Office Nursing, Midwifery and Allied Health Professional Research Unit (NMAHP-RU) at the University of Stirling where they will be in day-today contact with the CI in addition to having more formal weekly project supervisory meetings. University of Stirling has an annual formal appraisal system for all staff that line managers conduct. The NMAHP-RU provides opportunities for professional and personal development, such as in-house training in research methods and presentation skills. KS will be located in computing science and supervised through their management structures.

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