Review Protocol

Systematic appraisal and synthesis of qualitative research on GPs experience of patients with multimorbidity.

Objectives (defining the focus)

1. To search the medical and grey literature in a systematic way to retrieve qualitative research studies addressing difficult decisions encountered by GPs in the medical management/prescribing for patients with multimorbidity.

2. To appraise the quality of studies retrieved using the CASP criteria for appraising qualitative research

3. To conduct a synthesis of retrieved studies using the meta-ethnographic method

4. To interpret the synthesized literature in a way which will define what is known on this topic in a generalizable way

5. To develop and refine future research questions from this synthesized literature, that will address clinical needs in this area.

As per Estabrooks et al, the review question is focused on similar populations (GPs) or general themes (management of MM). [i] The concepts are otherwise allowed to emerge from the data however.

Design

Systematic appraisal and synthesis of qualitative research.

Sampling.

As purposive/ theoretical sampling has not been validated, a thorough search of relevant databases, grey literature, hand searching of relevant journal and references of included studies was completed to garner all relevant studies in this area. This comprehensive approach reduced the risk that any relevant data was excluded.

Search Strategy

•   Electronic searches of specialist databases :EMBASE, Medline, CINAHL, PsychInfo ,ASC, Social Science Citation Index using both database specific search terms and validated methods for retrieving qualitative studies.

•   Supplemented by searches of databases of grey literature, contacting other qualitative health researchers in relevant areas, searching reference lists of studies retrieved

Determining what is relevant

•   Citations that are returned from our search strategy will be title scanned.

•   The abstracts will be read for papers with relevant titles.

- Full papers will be retrieved for papers with relevant abstracts or potentially relevant or ambiguous abstracts (Atkins et al, 2008) .

- Full papers will be reviewed by two researchers.

Inclusion criteria

Papers involving all of the following will be included

1)   Studies using recognised qualitative research methods

2)   Participants are General Practitioners (or any practitioner who fulfils the role of a GP/primary care physician / family physician etc)

3)   Papers that concern multi-morbidity or multiple chronic diseases where there is no index disease, or one is not considered more important than the others

4)   Papers that involve qualitative data gathering (interviews / focus groups etc) on the management of multimorbidity. Papers that described broad views or overviews of MM were excluded. (The primary focus is to review the literature on medications management in multi-morbidity, but papers with a broader focus were included in the search to increase the number of relevant papers retrieved.)

Making decisions on inclusion: Citations that are returned from our search strategy will be title scanned. The abstracts will be read for papers with relevant titles. Full papers will be retrieved for papers with relevant abstracts or potentially relevant or ambiguous abstracts. (atkins 2008)[ii]. Full papers will be reviewed by two researchers. Inclusion criteria are papers involving all of 1) the use of recognised qualitative research methods 2) participants were General Practitioners (or any practitioner who fulfils the role of a GP/primary care physician / family physician etc) 3)on the management of patients with multi-morbidity (or multiple chronic diseases where there is no index disease, or one is not considered more important than the others) 4) on the topic of medications management and prescribing.

Quality assessment

Quality assessment will performed using the CASP tool. The quality assessment will be used when evaluating the contribution of different papers to the synthesis findings, and to describe the range of quality that exists for the papers included. Quality appraisal will not be used to exclude studies that otherwise meet the inclusion criteria.

Data Extraction

Data on the main themes/ methods/ quality/ ethical procedures/study design/settings will be extracted. One researcher will extract data from all studies and a second researcher will extract data from a selection of studies, to assess data extraction reliability. The main themes (FOI and SOI) will be recorded as verbatim extraction where possible to limit the loss of important detail. Themes will be extracted only from finding that are relevant to our particular research question rather than from the paper as a whole (ie difficult decision making/prescribing in patients with multi-morbidity rather than experience of multimorbidity overall).

- Source data = text (documents)

- Source material = conceptual

- Key method = translation

- Final product = interpretation

Synthesis strategy

The synthesis will be undertaken using the7 step meta ethnographic method (details below). An interpretive approach rather than an integrative approach will be used in the syntheses. Concepts will not be specified a priori , and will not be rigidly defined in order to squash findings into. They will be evolutional throughout the synthesis, shaped by the data from primary studies. Interpretative synthesis involves techniques to identify related concepts in the original studies, which are then reworked and reformulated to extend theory and develop new constructs. Integrative approaches on the other hand involve quantification and systemic integration of data.

Data analysis/synthesis

To translocate study themes between studies, the major themes from each study will be recorded in a grid. These themes will initially be generated from FOI (first order interpretations) or participants views. Comparisons will be made between studies for recurring concepts (which may include similar or disparate findings) and absences of these concepts. Overarching themes that encompass the major findings from all studies will be thus constructed.

SOIs will be extracted as author interpretations. TOIs will be generated by combining the FOIs and SOIs across studies. The combination of TOIs will allow a line of argument to be constructed.

- Stages one and two: coding text and developing descriptive themes

    - Identifying the 'findings'

    - Line-by-line coding

    - Developing descriptive themes

- Stage three: generating analytical themes (In the light of the review question)

Meta-ethnography – the seven steps

The steps

1.   Getting started – what does my specific research question aim to answer? What contribution will it make to current debates in this field?

2.   Deciding what is relevant to the initial interest – N&H stated that the scope of a ME will be more restricted than that of a narrative review, to avoid making gross generalisations across disparate fields. Includes several distinct processes such as i) defining the focus ii)locating relevant studies iii)making decisions on inclusion iv)quality assessment.

Sampling may be conducted theoretically until saturation is reached, but it is not possible to establish the population of studies from which to sample without first identifying all relevant studies.

3.   Reading the studies – careful reading to identify main concepts/ study setting/study participants/ the nature of the study/ the type of scenario discussed.

Look at the different contributions of each study to the review – do some have more important findings than others? (in narrative synthesis this would be termed weighting).Consider this contribution in terms of the studies quality/validity/trustworthiness also. Studies can be grouped together according to common/shared perspective or setting or context, guided by the research question.

Is reasonable to add some kind of quality assessment into this stage.

Busse recommends that in reporting the results of a systematic review a summary discussion section should be provided including the following :

• Methodology of the synthesis used (especially focusing on its limitations and their

influence on the results)

• Evidence used (quality, validity, generalisability) – with emphasis on the possible sources

of bias from the sources of evidence used and their potential influence on results of the

synthesis

• Assumptions made

• Discrepancies and uncertainties identified (the way that any discrepancies in findings

between included evidence were dealt with in the synthesis should be discussed and

wherever the evidence is weak or non-existent, areas where future research is needed

can be highlighted)

• Expected changes in technology or evidence (e.g. identified ongoing studies)

• Aspects that may have an influence on the implementation of the technology and its

effectiveness in real settings

• Such a summary would enable the analysis of robustness to temper the synthesis of

evidence as well as indicating how generalisable the synthesis might be.

4.   Determining how studies are related – Consider the relationships between the concepts arising from each study. Look for recurring concepts. Be explicit in how the concepts from different papers relate to each other. Draw a grid which includes details of study setting and design: important contextual information for the synthesis. First order meanings = everyday understandings

of ordinary people. Second order meanings = Constructs of the social sciences. The key explanation (second order interpretation) of each paper is also recorded as a finding.

5.   Translating the studies into each other (aka constructing a common rubric across studies – a form of content analysis – identifying the same themes that are expressed differently) - consider each cell of the grid in turn. Identify the actual key concepts in the paper. Is each concept encompassed by a key concept used to label a row of the grid? Some row key concept titles were taken directly from one paper. Make sure that the key concepts from each individual paper are encompassed by the grid at the end.

6.   Synthesizing translations – Not mechanistic. Read the concepts and interpretations from the grid and see how these relate to each other. Group similar findings together then see how these groupings relate to each other.

Noblit and Hare identify two different types of 'translation':

1. Reciprocal translation (accounts are directly comparable)

2. Refutational translation (the accounts are oppositional)

Can a line of argument be constructed? The line of argument describes all the concepts in a paragraph; breakdown of the principal features of the line of argument are reflected in the third order interpretations (TOIs). TOIs are generally expressed as a testable hypothesis. TOIs are consistent with original results while also extending beyond them. TIOs justify the claim the ME achieves more than a traditional review, but in relation to a more focused question.

7.   Expressing the synthesis – depends on who you are targeting: clinicians/researchers/policy makers.

Checking the synthesis with authors of primary studies: In the context of their meta-ethnography of qualitative research Britten et al suggest consulting the authors of included primary studies in order to test the validity of the interpretations developed during the synthesis and the extent to which they are supported by the primary data. This is most likely to be useful where the number of primary studies is small but the authors of the primary studies may have useful insights into the possible accuracy and generalisability of the synthesis.

Expected output of research

1. Qualitative research synthesis to be published in peer reviewed journals

2. Comprehensive description of work that has been conducted in this area

3. New interpretation across studies to highlight generalizable findings, and outlying findings

4. Direction on the next steps/research required to improve the quality of medicines management in patients with multi-morbidity, and inform the next stage of a PhD thesis/research project.

5. Presentations of the synthesis findings to different audiences.

[i] Estabrooks. Qual Health Research 1994

[ii] Atkins S et al. Conducting a meta-ethnography of qualitative literature: Lessons learnt. *BMC Medical Research Methodology* 2008, **8**:21