Author's response to reviews

Title: A Realist Review of Interventions and Strategies to promote evidence-informed health care: A Focus on Change Agency

Authors:

brendan g mccormack (bg.mccormack@ulster.ac.uk)
joanne rycroft-malone (j.rycroft-malone@bangor.ac.uk)
kara deKorby (decorbk@mcmaster.ca)
Alison Hutchinson (alison.hutchinson@deakin.edu.au)
Tracey Bucknall (tracey.bucknall@deakin.edu.au)
Bridie Kent (brigid.kent@plymouth.ac.uk)
Alyce Schultz (alyceaschultz@gmail.com)
Erna Snelgrove-clarke (erna.snelgrove-clarke@dal.ca)
Cheyl stetler (cheryl.stetler@comcast.net)
Marita titler (mtitler@umich.edu)
Lars Wallin (lars.wallin@ki.se)
Valerie Wilson (ValerieW@chw.edu.au)

Version: 4 Date: 7 July 2013

Author's response to reviews: see over
Dear Editor,

Please find below our responses to the queries raised by the Editor and by Reviewer 1. We have combined these in the one response. Our responses are in bold print after each query.

QUERY: Please revise the abstract. In line with PRISMA, you should describe the main data sources in the methods. Describe the number of papers screened and eligible papers in the Results. Be more precise about what you found (e.g., rather than "Findings reveal insights into the functioning of change agency... These findings add to the knowledge base in the field...") Acknowledge any key limitations of your methods.

Changes to the abstract have been made

QUERY: Combine the Introduction and Background sections to conform with Journal style. This would also meet an earlier request by one of our reviewers.

Done

QUERY: You use "the term 'evidence informed health care' (EIHC) rather than 'evidence-based health care' to more accurately reflect the reality of professional decision-making, i.e. a range of evidence sources of varying strength have to be balanced when making health care decisions, one of which is research evidence." It is hard to see a real distinction here, especially as the original definition of EBM highlights "the conscientious, explicit and judicious use of current best evidence in making decisions." This involves taking patient preferences and so forth into account. I think we'd both definitely agree that 'evidence-dictated health care' or suchlike would be undesirable. Whatever views we both take on nuances here, it is a possibly distraction from key points of manuscript.

Thank you for raising this issue. We have removed the justification of the 'case' for using evidence-informed healthcare as opposed to evidence-based healthcare as a simple search of the literature shows that these terms are now used interchangeably by a variety of authors and indeed EIHC is more accepted as a term now compared to when we started this work.

QUERY: "Few completed realist synthesis studies have been published, and those that have lack detail about how they applied the principles and approach." This statement requires at least one supporting citation.

We have removed this sentence as more realist syntheses studies have been published since we commenced this work.

QUERY: Revised text on P6: "Insofar as a realist review is undertaken systematically, with the aim of describing impact, the review does address effectiveness, with the processes undertaken similar to that of a systematic review, i.e. a comprehensive search,
screening for relevance and quality in a transparent manner, and data synthesis, in
order to generate findings."

The wording here and elsewhere about 'impact' (e.g. "What is the overall impact of the
change agent intervention on knowledge utilization?") and, now, 'effectiveness'
generated quite a lot of confusion in my mind and that of the second reviewer. I note the
content of Additional File 1: "From a realist perspective, impact is an explanatory
concept with the intention of explaining how particular interventions (known as
mechanisms) perform in certain contexts (settings). It is the characteristics of the
mechanisms as they operate in certain contexts that determine how an outcome can be
explained." Please incorporate this and other definitions within the main text to reduce
this confusion. I certainly think that including 'effectiveness' here is a major hostage to
fortune because this realist review is not designed to judge and synthesize such
evidence in a transparent and reproducible manner.

**We have undertaken a general edit of the whole methodology section and
restructured/re-worded according to the recently published RAMESES guidelines
for realist reviews. We have re-worded the research questions as we appreciate
the issues being raised re the problematic focus on 'impact'. Whilst we are aware
that 'impact;' is a focus in realist-focused research we have altered the wording to
that of 'effect'. We have also set this in the context of the standard realist question
(what works for whom etc)**

**QUERY:** not produce evidence of specific impacts of change agents in particular
situations (where impact from a realist perspective is the demonstration of how
particular interventions (known as mechanisms) perform in certain contexts (settings),
but instead provided insights into the conditions necessary for change agents to have
impact on evidence-informed health care." Any epistemological differences aside, this
still comes across as fairly fuzzy. How can you develop and test a theory about
necessary conditions for change without knowledge of relative impact or effects?

**We have changed the wording and generally edited the section and we hope it is
clearer now.**

**QUERY:** Many of the reviews referred to in the introduction appeared outdated to
me. You could cut the Gordian Knot by editing these down and drawing upon this
overview: [http://www.implementationscience.com/content/7/1/50](http://www.implementationscience.com/content/7/1/50) (I know it is from
our journal but I have repeatedly found it handy as a summary in recent times.)

Thank you for this suggestion. **We have replaced outdated references with this
reference in the introduction and background and have added in some more
recent references also:**

   clubs effective in supporting evidence-based decision making? A systematic

to improve the use of systematic reviews in decision-making by health system managers, policy makers and clinicians. *Cochrane Database Syst Rev* 2012, 9: CD009401.

   improving the nursing work environment: A systematic review. *Implementation Science* 2010, 5: 34.
QUERY: On page 10 you state "Given the state of the field, searches were limited to the previous 10 years, which was considered an appropriate timeframe in the search for intervention studies in knowledge utilization." You need to provide a stronger or more transparent justification than 'given the state of the field.' You will have missed a large body of pre-existing work and thinking. I was also unconvinced by your 'catch up' references to the literature (as you promised the first reviewer) in the revised Discussion. I wonder how you missed: Flodgren G, Parmelli E, Doumit G, Gattellari M, O'Brien MA, Grimshaw J, Eccles MP: Local opinion leaders: effects on professional practice and health care outcomes. Cochrane Database Syst Rev 2010, CD000125. I think that pre-existing earlier versions of that Cochrane Review also undermine your revised text on page 6 which states: "In the context of change agency in evidence-informed health care no systematic reviews have been undertaken."

We are aware of the reviews you refer. However the key point here is that there are NO systematic reviews (other than this one) specifically on the term 'change agency'. The reviews you refer to pertain to what can be considered as aspects of change agency, methods used by change agents etc but not of change agency itself.

QUERY: Consider biting the bullet and acknowledging that you will have missed a decent body of work published since 2007. A conservative estimate based upon your own findings is that this would have included around 12000 hits and 25 relevant manuscripts for full data extraction.

We disagree, based on our response to the previous query. Our focus was not on associate terms but on the concept of change agency itself.

QUERY: Given that you claim 'comprehensiveness' in your search, how did you miss this one? Grimshaw JM, Eccles MP, Greener J, Macleann G, Ibbotson T, Kahan JP, Sullivan F: Is the involvement of opinion leaders in the implementation of research findings a feasible strategy? Implement Sci 2006, 1:3. Perhaps you need to tone down claims about comprehensiveness and be more open about limitations.

We raised this query with the information specialist who worked with us on this review and here is their response. We are confident that we were comprehensive, but we have identified the limitation raised by the information specialist in our limitations section.:

Articles should have been picked up one or both of two ways: 1) indexing terms used by the database, and 2) our own keyword terms developed by the group. I incorporated both types into the search strategy for each database. However, when I look this article up on PubMed, sadly it has not been assigned any MeSH headings. This means that it has not been indexed with ANY terms from Medline’s/PubMed’s indexing system. A similarly dismal picture is likely to be the case (but I’d have to check) for the other health databases. So either the person reading it for indexing had no idea where to place it, or it was simply missed somehow and was not indexed appropriately. You can see this yourself if you go into the article record on PubMed.
and select 'Medline' view in the display settings (top left corner of record). Look for the tag "MH", which denotes the MeSH headings assigned to the record. To respond fully re: this, I'd have to look up the article in each database which I could do later. This is the problem with these articles being poorly indexed, because then your search strategy becomes much more reliant on keyword terms of your own making. So in terms of those, I can see that we did search “opinion leader” as the first line of our Medline (and other database) search strategies as you can see below, and so this article SHOULD have been picked up this way given it was added into PubMed in 2006 (I confirmed this with the DA, DCOM, MHDA dates in the record). It would be really surprising if somehow this one was in our results set and the assigned reviewers BOTH Screened over it given the authors and title are quite clearly related. At times Medline has records that are revised, but the last revised date on this one is 2009, so I don’t think it was offline for revision but that would have been a very unlucky coincidence. I’d have to contact the NLM to see whether they have any insight, if the article doesn’t appear in our saved database searches. What we usually say about these situations is that we attempt to make our search strategy as sensitive as possible (and erred on the side of sensitivity as opposed to specificity) but we find that when an area of literature is as poorly indexed as KT (as shown in Ann McKibbon’s paper), it is difficult to design a perfect search strategy. Searching aside, we did also get the list out to the entire group which at the time must not have been aware of this relatively newish (less than a year on PubMed) paper. The article was published in Impl Sci in Feb 2006 and indexed in PubMed in May 2006 (http://www.implementationscience.com/content/1/1/3) and focuses on the feasibility of a tool for identifying opinion leaders. So yes, it was relevant and I can see how it was missed by indexing terms and by the group task to identify missing and important, but I am still not sure how it was missed by our keyword search.

QUERY: I think it would be helpful for readers to have the CMO configuration embedded in the main text rather than as a Figure.
Done

QUERY: I’d also like you to respond to the re-review. Whilst you obviously cannot say everything about how you arrived at 'change agency,' some further explanation would help make this much more of a standalone publication.
We have edited this text and added in some more explanation/justification.

In addition, the first reviewer made the following comments:

QUERY 1) There is still no justification or theorisation about change agency in relation to knowledge utilisation. Whilst change agency appears to have emerged as a theory during the review process, it nonetheless needs unpacking more in the introduction and background sections. The authors need to make a clearer case for change agency being a worthy topic for a realist review. I note that this justification comes across more clearly in the abstract, but is still missing in the main body of the paper. As a reader, it is not clear what the overall purpose of the paper is.

We have added in some text re change agency and included our definition.
QUERY 2) The research questions need to be phrased as realist review questions (what works, in what circumstances, for whom etc.). The research questions as currently phrased appear to be traditional systematic review questions. The purpose of the paper would appear clearer and I would have more confidence in their description of the review as 'realist' if they were to alter this. The inclusion of an additional file clarifying the terms in the research questions would be unnecessary if this point were addressed.

**We have altered the research questions as outlined earlier**

QUERY 3) The inclusion of figure 3 helps to situate the review as 'realist' but it is still difficult to follow the realist line of argument in the main text. As an example of how to report mechanisms and their outcomes, I suggest the authors read the recent SDO report by Ruth Harris and colleagues which focuses on interprofessional teamwork across stroke care pathways (this can be found on the HS&DR website). The study included a realist review of interprofessional teamwork.

**We disagree with this comment. The methodology paper associated with this paper and which has been previously published in Implementation Science is referenced in the new RAMESES guidelines as an example of good practice is Realist Synthesis. We have corresponded with the editor regarding this issue. However, we have altered some of our headings and structure to more accurately reflect the RAMESES Guidelines now that these are published.**

QUERY 4) I found the additional file 3, outlining the seven step approach confusing and difficult to follow. The authors should give a streamlined version of this in the main body of the text.

**We disagree with this comment as we believe that this information really supports what we have done and is helpful to the reader as it takes one set of data through the whole process. We have checked this out with colleagues not involved with the review as 'naive readers' and they appreciated this file as a worked example. We have made some amendments to the text.**

*Professor Brendan McCormack*

*On behalf of the RESIS team*

*July 2013*