Reviewer's report

Title: Meta-analysis, complexity and heterogeneity: a qualitative interview study of researchers' methodological values and practices

Version: 0 Date: 14 Feb 2016

Reviewer: Mary Dixon-Woods

Reviewer's report:

This manuscript tackles the question of researchers' values and practices in the context of conducting complex evidence reviews. It starts well, but the high standard set in the Introduction is not maintained. The results section comes across as rather descriptive, and the discussion is disappointing. Despite the emphasis on values implied by the paper's title, it was not clear that the authors had adequately distinguished between values, methodological positions, and practices. No definition of values is offered, and they are not explicitly discussed in the Discussion section. The sampling decisions seem odd given the aim of the paper, and they need to be much more explicitly defended. The Discussion and Conclusions need to be more clearly located in the scholarly literature.

Overall, this paper demonstrates promise, but in its current form it is not fully realised.

Specific comments

P4 - I am not sure that "approaches such as realist synthesis" would describe themselves as informal, as you seem to suggest.

Methods section.

The decision to interview people who were less experienced in systematic review and meta-analysis needs to be better justified. What principles informed this decision? How did you decide how many people to interview? You must give a reference for your analytic method (which seems to be Framework Analysis). You need to explain better what you actually did to produce the analysis. Explain why two interviewers were used for four of the interviews.
Results.

You should summarise participants' level of experience in reviewing. This is especially important given that it would appear that at least some of the comments offered may derive from lack of experience rather than deeply held positions of methodological principle.

Some of the results are interesting but are not as easy to read as I would like, and they tend to fall into a "one person said this, another person said that" format. My preference would be to indent the quotations so they are separated from the rest of the text, and to number the participants so that the range of people cited can be made explicit. It's also important to avoid lapsing into editorialising in this section. A few times I wasn't sure whether you were reporting what participants said or were offering commentary/explanation of your own: see the section on logic models, for example. Make sure you stick consistently to the past tense; on p10 you suddenly move into the present tense.

Discussion

The Discussion should start with a brief, reflective summary of the findings and their implications. Under no circumstances should new data be introduced in this section. All data/quotations used here should be moved back into the Results section.

The Discussion is disappointingly repetitive of the findings themselves. It was not until the fourth paragraph that any serious attempt to theorise appears. It is also disappointing that there is so little attempt to locate the discussion within the literature. I noticed only one reference.

On p11 you talk about "reviews-as-intervention", but it wasn't clear to me that anyone in the study described reviews as an intervention. Some did emphasise that programme theories should be the focus of analysis rather than the intervention, but that's a different matter.

The limitations listed do not include the limitation introduced by the sampling strategy. If your aim was to get to the bottom of what is guiding practices in review, I remain somewhat perplexed by your decision not to interview experienced reviewers who might have been able to offer more expertise-based accounts of what they do and why.

The conclusion - that methodological choices may be influenced by factors concerning the studies to be included in the review and the broader contexts and purposes of the research - is fair enough. But you need to demonstrate more clearly that this really is a novel insight and specify
more clearly what actions should follow. It's important that the reader is not left with a sense of "so what?"

Minor comments

P3 Line 52 The "Therefore" at the beginning of this sentence reads oddly. Perhaps review?

P3 Line 30 This sentence is a bit awkward and not entirely clear. I think you mean "New methodological approaches" not "Novel theoretical approaches".

p6 line 38 What does "sedimentation of history" mean?

**Level of interest**
Please indicate how interesting you found the manuscript:

An article whose findings are important to those with closely related research interests

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?
If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare I have no competing interests.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal.