Reviewer’s report

Title: Using Qualitative Comparative Analysis (QCA) in systematic reviews of complex interventions: a worked example

Version: 1 Date: 9 April 2014

Reviewer: Andrew Booth

Reviewer’s report:

This is a high quality manuscript in a field that is of considerable methodological interest. The authors provide as clear an explanation of the method as I have yet read and this is amplified with reference to an actual example.

Major Compulsory Revisions

None

Minor Essential Revisions

1. Abstract: “the result of a QCA can take the form of a number of configurations of various participant, intervention, and contextual characteristics which are (or are not) present when the intervention has been successful (or not) in obtaining the desired outcome”. While this sentence captures the variation being tackled within the method it may be clearer by breaking this into two sentences one about the presence or absence of characteristics and one about the success or otherwise of the intervention. In addition the use of brackets overtly interrupts the flow of the sentence so commas may be more elegant stylistically.

2. The “initial theories of change” only appear in the Results paragraph of the Abstract. It might be helpful to introduce them at least briefly in the description of the Methods within the Abstract. I.e. “Having identified initial theories of change we……”

3. “a basket of possibilities” – this metaphor may be unclear especially to non-English readers. As it is not an international standard unit I would recommend an expression that is less colourful but more literal.

4. “as it enables the reviewer to compare the relative effectiveness of different interventions, even if there are no studies which compare them directly” – this makes perfect sense to a reader familiar with network MA. However this might be expressed more clearly “as it enables a reviewer to indirectly compare the relative effectiveness of Intervention A with Intervention C, even where existing studies separately compare Interventions A and C directly with a third Intervention (B)”

5. “many areas of public policy, where complex multi-component interventions are tailored for use in different situations. Here, intervention replication is rare” – It would be helpful to reference the rarity of intervention replication within public policy, particularly given most readers will be more familiar with health/public health review topics.
6. Because “training” is both an adjective and a verb I would suggest for this particular example that you refer to “training of intervention providers” to avoid the possible ambiguity that these are providers of a training intervention.

7. “a common logic discussed in the literature about causation, necessity and sufficiency” – requires at least one reference not necessarily to show it is common but, at least, that it is discussed in the literature!

8. Are these “reviewer messages” or “review messages”? – I tend to think of the messages about the quality of the included studies or the research implications as reviewer (i.e. interpretive) messages but what the review tells us about the interventions as “review messages” i.e. they are less moderated/interpreted.

9. “A parallel with the synthesis of evaluations of complex interventions is clear here, where we often have a limited number of studies, and a large number of possible factors that might explain differences in their findings (e.g. participants, interventions, context, outcome measurement, study design, comparator, etc...)” This reads like a sentence fragment albeit a lengthy one. “We might draw a clear parallel here with….etc” might read more fluently.

10. “part of the Boolean set logic” You use this expression here but then describe Boolean set logic in the following paragraph. It would be helpful to describe the application after the description, not before.

11. “Some have suggested that interventions amongst disadvantaged populations that are completely empowerment-driven will be most effective [9, 10], while others have noted that pragmatic interventions that utilise public involvement to improve them and thus make them more effective.[11]” This sentence seems to have one or more words missing in the latter half.

12. Delete first “is” in: “Membership in the conditions is in this dataset is binary”

13. “varies between the very cautious “subgroups kill people”, and the pragmatic “…and lack of subgroup analysis kills people”. [23]” – this is very difficult for a reader who does not have sight of the cited paper to understand. A couple of “i.e.”s would help here.

14. In a couple of places you offer that QCA may be an “alternative (or adjunct)” as these are not interchangeable it would be helpful to briefly summarise under what circumstances these are most likely to be an “adjunct” and under what circumstances these are most likely to represent a genuine “alternative”.

15. The NIHR should be acknowledged as the source of funding for the wider review.

16. The typography of the references appears uneven (font size?)

Discretionary Revisions

16. “The positive way in which heterogeneity is viewed is also notable; something that is often portrayed as a problem in systematic reviews” – This is an interesting observation which might be slightly expanded to explain that Heterogeneity is typically seen as complicating subsequent explanation whereas in this case it may be viewed as facilitating potential explanation.
Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
'I declare that I have no competing interests'