Reviewer's report

Title: A multidisciplinary systematic review of the use of diagrams as means of collecting data: techniques, benefits and recommendations

Version: 1 Date: 24 September 2010

Reviewer: Andrew Booth

Reviewer's report:

Major Revisions
None

Minor Essential Revisions

1. Is the question posed by the authors well defined?
   The authors face a dilemma as part of the purpose of the review is to define what diagrams have been used for and this militates against a definitive description at the outset. On the other hand they have a clear focus on use of diagrams for data collection purposes that needs conveying to the reader. As a consequence of their leaving their scope open I did not get a true picture of what they were examining until I started to see their Results. To remedy this they could either (i) historically recreate as examples the limited understanding of diagrams and their uses that they had upon commencement of their study or (ii) separate the descriptive content of their review from the subsequent analysis. I would find it helpful to have an early statement to fix the topic in the reader’s mind and to distinguish their topic from other diagrams that they mention but which are subsequently not in their scope e.g. concept maps used by the researcher only. So I would suggest: “For example research participants may be invited by the researcher to draw some map or diagram or to develop or modify a prototypic map supplied by the researcher”. This would make the review topic more concrete and encourage the reader to read on.

2. Are the methods appropriate and well described?
   The Methods conform to accepted standards of systematic review production. They include comprehensive data base searches, data extraction and quality assurance procedures (e.g. use of two reviewers). It would be helpful to have explicit description of inclusion criteria as operationalised by the research team. For example what about participant researchers. Did there have to be some input from research subjects for inclusion etcetera?

3. Are the data sound?
   The data are generally sound. However there should be more Tables of Study Characteristics both descriptive and analytic. The Summary Table One is insufficient as it is a secondary analysis of characteristics and does not link back to specific individual studies. I think that it would have been helpful if the authors had attempted to create some taxonomy or classification to make it clear what
the main families of diagrams were.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?

The authors appear to have followed the PRISMA reporting guidelines quite closely.

5. Are the discussion and conclusions well balanced and adequately supported by the data?

Yes although there should be more attempt at characterising the studies as a body rather than simply highlighting individual study characteristics. It would also be helpful in an article on diagrams to have included either actual examples (subject to copyright permission) or to have reconstructed simulated examples to illustrate their narrative.

6. Are limitations of the work clearly stated?

The authors make it clear that they may have missed much relevant material as published examples in research texts not retrieved by a journal-based strategy.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?

Yes - They identify similarities and differences with a related published systematic review.

8. Do the title and abstract accurately convey what has been found?

Yes

9. Is the writing acceptable?

Yes – Although there are isolated instances of plural nouns being linked to singular verbs an vice versa which betrays a lack of attention at the proof reading stage..

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**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'