Reviewer's report

Title: What is Implementation Science and Why Should I Care? An Introduction for the Non-Specialist

Version: 2  Date: 7 July 2015

Reviewer: Signe Flottorp

Reviewer's report:

This is a well written, relevant, useful and interesting overview on implementation science, based on a workshop at the Annual Meeting of the American Psychological Association August 2014. The executive editors of BMC Psychology invited the submission.

1. Does the debate present a novel argument, or a novel insight into existing work?

No, the debate paper is targeted to non-specialists and presents a synthesis of implementation science background, principles, and methods. The aim is not to present novel insight, but to summarize information on an emerging and quite new research field.

2. Does the debate address an important problem of interest to a broad biomedical audience?

Yes.

3. Is the piece well argued and referenced?

Yes.

4. Do the figures appear to be genuine, i.e. without evidence of manipulation?

Yes.

5. Has the author used logical arguments and sound reasoning?

Yes.

6. Is the piece written well enough for publication?

Yes.

Major Compulsory Revisions

I am happy with the manuscript as it is, and I will not require any major compulsory revision. I will however raise two major issues that you might want to consider:

1. I am ok with the paper being a debate article, not following the traditional research paper format. You have not clearly described the aim of the article, and the methods section is lacking. I think it might be helpful for the readers if you formulated the aim of the paper more explicitly. Although this is not a systematic review, you might also indicate in some more details how you have synthesized
the information, not just stating in the abstract that the synthesis is "based on literature and experience".

2. The paper is quite US/QUERI centred. I still think it is of interest and relevance for an international audience, but it might improve the paper if you could find and use examples and references from other contexts and countries.

Minor essential revisions:

1. I doubt that it takes on average 17 years to incorporate EBPs into routine general practice (p 5 l 78).

2. Some of the references are introduces as examples, using e.g. before the reference numbers in brackets. I find this a bit confusing and not necessary. Readers will understand that most of the references are examples/illustrations of what you discuss in the text.

3. In general, I believe that the text is accessible for non-specialists. The terminology in the field is quite complex, but you have given clear definitions of most of the terms in the text. Maybe you should also define "descriptive methodologies", and give a reference for this term (p 10 l 208).

4. Please provide a reference to the USVA QUERI nomenclature (p 11 l 213….), and please where the citation for the definition of an implementation strategy (l 215 +) ends.

5. Some minor editing issues on p 16:
   • l 333 delete space after ref 47
   • Typo l 337 thRough
   • Add full stop after [49].

6. Reference 53 (EPOC Data collection checklist) does not seem to be an appropriate reference for quality monitoring tools?

7. Regarding types of controlled implementation trials p 17 l 366-368: the main reason for using cluster randomised trials design is to intervene and analyse on the same (cluster) level. The main reason is not to increase power by randomising on group level but measuring outcomes at individual patient level.


9. I found the use of the ref 59 confusing, when you use it to argue that "the assumption that improved processes mean improved outcomes is flawed." You cite a study assessing mortality results from a randomized prostate-cancer screening trial, hence a clinical trial, not an implementation study? We obviously cannot expect improved outcomes from improved processes if we do not have evidence that these processes improve the outcomes. I think a fundamental issue in efforts to implement EBPs is that we should focus the efforts on processes where we have strong evidence that they do more good than harm.

10. Ref 64 (l 452) – please consider using a reference which is accessible outside USVA intranet.
11. P 26 I 556 – what do you mean with "after" here: [after 71, 72]?

**Level of interest:** An article of importance 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