Reviewer's report

Title: Making sense of implementation theories, models and frameworks

Version: 1 Date: 3 December 2014

Reviewer: Kate Seers

Reviewer's report:

This paper is a discussion of implementation theories, models and frameworks and a development of a taxonomy. It clearly identifies the importance of theoretical underpinning to implementation research. My main problem with this paper is how useful the taxonomy will be as there is so much overlap between categories.

Major Compulsory Revisions

1) It would be helpful to have an indication of how useful your taxonomy is, given the large overlap between categories that you highlight.

2) Please specify how you allocated each theory/model/framework to a category – this step is missing from this paper.

3) It needs to be clear how you decided on the three overarching aims of the theories/models/frameworks. It is important that your rationale for allocating theories/models/frameworks to these groups is very clear. It seems to me, for example, some in the “understand and explain” group also “support implementation”, as well as “evaluate implementation”.

4) There are some sections that make interesting claims, but these are not backed up by references. These include i) the paragraph on p5 starting with “The difference between a theory and a model….,” ii) the following paragraph on frameworks. I was unsure that your statement “implementation science models are more prescriptive than theories used in this field…. “ was accurate without any references to support this statement iii) “Understanding and explaining implementation” heading, 4th paragraph. Starting “the frameworks describe…” You say relevance of the (for the) end user is not addressed in all frameworks, but it would be useful to know which frameworks do address this. iv) Similarly in the following paragraph you make an interesting but unsubstantiated point about the frameworks being applied in a reductionist manner, but references are needed here. v) Final paragraph. You mention that there is a wave of optimism about EB implementation being obtained by use of theory, but don’t back this up with references. They are needed here.

5) “Understanding and explaining implementation” heading, 6th paragraph starting “the context is an integral part...” states that implementation science researchers disagree on how context should be interpreted. It seemed from your argument this was more they defined it differently and use different approaches to assess it rather than actually disagreed. If there is evidence of active disagreement, then this needs to be included here.
6) “Summary” heading 2nd paragraph, you say that “the theories, models and frameworks differ in terms of their assumptions, aims and other characteristics, which have implications of their use” but it seems they are often used interchangeably. If this is the case, it would be helpful to explain exactly what are the implications for their use of your taxonomy.

Minor Essential Revisions
1) Abstract: Discussion. Not clear what “Implementation theories are internally developed by…” means.

2) Understanding and explaining implementation” heading, 7th paragraph. I was unsure how you felt a range of determinant frameworks could be considered meta theories. You mention that they can be linked to classic theories, but I couldn't see how this meant they could be a meta theory. It would be helpful if this was explained.

Discretionary Revisions
I think it would be helpful to use some referenced definitions of a model and a framework.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

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

Declaration of competing interests:
I have been involved in the development of the PARIHS framework which is mentioned in this paper.