Author’s response to reviews

Title: DEVELOPING INTERVENTIONS TO IMPROVE HEALTH: A SYSTEMATIC MAPPING REVIEW OF INTERNATIONAL PRACTICE BETWEEN 2015 AND 2016

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Author’s response to reviews:

Dear Editor and Reviewers,

Many thanks for these helpful comments. We have responded to them below

Reviewer reports

1. Please make it much clearer where this study fits into the pilot and feasibility framework. The journal is interested in intervention development and has published a special series on such studies. It would be helpful to align this study with the papers from the series and the work of O'Cathain's paper also published and highly cited in PFS

We have added two sentences to the background section explaining that there is often an overlap between intervention development and pilot or feasibility testing. We have also directed readers to the special issue of this journal which laid out the field of intervention development, papers
from the series describing development work and to our recent paper published in the journal (O’Cathain et al 2019)

An earlier, highly cited paper published by O’Cathain (who is an author on this paper) was about qualitative research in feasibility studies and does not feel relevant here so we would prefer not to reference it. We do reference a more recent, relevant O’Cathain publication.

Reviewer 1

The investigators describe the results of a systematic mapping review. Please address the following issues.

2. I have concerns with the suitability of the article for this journal. As it is currently written the link between this work and pilot studies is not obvious. Intervention development is an important piece that often precedes piloting, but this work is not positioned in way to inform the readership of this journal.

We have addressed this point by showing the journal’s interest in this topic and describing how it sometimes overlaps with feasibility studies. Please see the above response under Reviewer reports.

3. Otherwise it is written clearly. The methodological choices are justified.

Thank you for these positive comments

4. The conclusions in the abstract do not tie with the material presented. How can this information help future intervention developers?

We have added a sentence to the conclusion of the abstract explaining that future developers can use this work to inform decisions about the process of intervention development.
5. Please provide further details on the "category of published approach taken." Page 5, line 20.

We have clarified that this refers to the eight categories identified in O’Cathain et al’s taxonomy of published approaches to complex intervention development and given examples of these.

6. Write PRISMA in full at first use.

This has been done.

7. Write PROSPERO in full at first use and report the registration number.

This has been done.

8. The section on inclusion and exclusion criteria could be tidied up. For example, the search strategy specifies "English language" so it should not be an exclusion criterion. Since journal articles are part of the inclusion, there is no need to report dissertations, thesis, reports, grey literature as exclusion criteria. Also, if you have "Interventions with a health-related outcome" as an inclusion criterion, you shouldn't have "Studies with no health-related outcome" as an exclusion criterion.

We have removed these exclusion criteria as requested

9. Page 17, line 4: what is a "large minority"?

We have replaced this with the word ‘many’.

10. In the PRISMA diagram, please provide the reasons for excluding the 94 full text i.e. The number of articles for each reason.
This has been done, the reasons given have changed slightly and the reasons ‘not about an intervention’ and ‘not intervention development’ have been merged into ‘not about intervention development’ for clarity.

11. Action 10 addresses piloting and feasibility in part, but this could be highlighted.

We have clarified that this section refers to early work to improve feasibility and that this would come prior to formal feasibility or pilot testing.

Reviewer 2

12. I greatly enjoyed reading this well-written, interesting and useful mapping SR.

Thank you

I have a number of minor comments and queries:

13. - 87 articles were identified and a sub-set of 30 was purposively chosen for detailed scrutiny. Is there evidence of saturation in your analysis?

There was considerable evidence of saturation in our inductively developed thematic framework with no new actions emerging. Despite this we continued to sample some of the smaller categories to search for new perspectives on development and to add richness to the examples within each action. It is possible that by not sampling from each sub category we may have missed an action and we have now stated that as a limitation.

14. - Some sub-sets were not sampled such as: target population centred, others-normalisation process theory, efficiency, theory and evidence framing. Are the authors confident that important actions were not missed?
See our response to the previous comment. It was important to sample from each category which we did. We might have missed an action by not sampling from each sub-category and we have now stated this as a limitation.

15. - A realist approach was used in this review but was not present in Table 1. However, you did find a project which identified programme theory, Ford, 2015 [55]

No realist approaches were included in the review. Ford (2015) was a protocol describing a study using mixed methods to identify programme theory and this was categorised as a pragmatic approach in table 1.

16. - In the identified need action, what about research prioritised and commissioned by the funder (including PPI) such as NIHR HTA programme?

This does not appear in the included papers but certainly happens in practice. We address this now in the limitations section by saying that researchers may not always document everything in their papers, or may wish to follow standard practice in paper-writing so they emphasise the patient or service need for an intervention rather than the commissioning brief. We had to rely on what they reported.

17. - The study flow diagram is uninformative, does not add anything to the subsequent PRISMA diagram, and could be removed.

This has been removed