Reviewer’s report

Title: The Person-Based Approach to Optimising the Acceptability and Feasibility of Interventions

Version: 3 Date: 6 July 2015

Reviewer: Peter Craig

Reviewer’s report:

The paper reports three case studies to illustrate the use of a person-based approach to developing behaviour change interventions for people with a chronic illness (asthma or diabetes). There is a strong case for using such approaches to develop interventions that rely on positively engaging patients, because many trials of impeccably evidence- and theory-based interventions turn out to have disappointing results.

Major compulsory revisions

(1) The first illustrative case study is the least convincing of the three, and does not fully exemplify the first stage of the approach set out in table 1. It seems to have been largely based on existing evidence and expertise within the research team; there was no formal synthesis of the existing evidence and no qualitative research to elicit user views. The description of the process tails off into a discussion of the difficulty of managing large research teams. This is an issue for any multidisciplinary study, and it is not clear why it should be seen as a particular problem in applying a person-based approach.

(2) The status of the approach set out in Table 1 is unclear: are all the activities essential to any person-based approach, or is it a menu that researchers can choose from according to the stage of development of their intervention, state of the existing evidence base, etc?

(3) The use of the term ‘feasibility’ is problematic. The three case studies focus on intervention development, which is only one (important) aspect of trial feasibility. Even allowing for the varying use of the terms ‘pilot’ and ‘feasibility study’ in the literature, the case studies are not feasibility studies in any conventional sense. What is meant by feasibility of intervention components is also unclear. In relation to the activity planner (Illustration 3), it seems to refer to the validity of a self-report measure of activity, rather than to the feasibility of implementing the measure.

(4) The approach described is not really an optimisation process, and might be better termed a way of improving the acceptability of interventions. An optimisation process would involve testing a large number of variants of an intervention, as in the MOST approach, or a long series of development-testing cycles. It is questionable whether optimisation is even relevant to acceptability or feasibility: presumably development would stop once an adequate level was attained?
(5) Some details of the methods used in the case studies are unclear: what kind of review was undertaken for Illustration 1? On page 4 the authors simply say 'we used existing ... literature' but the conclusions (pp10-11) refer to a literature review. In illustration 3, how was the validity of user reports of physical activity assessed (p9), and how did the researchers know that it improved after the planner was modified?

**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.