Reviewer's report

**Title:** Developing theory-informed behaviour change interventions to implement evidence into practice: a systematic approach using the Theoretical Domains Framework

**Version:** 1  **Date:** 31 August 2011

**Reviewer:** Rebecca Lawton

**Reviewer's report:**

This paper presents a four step process for designing an intervention that targets professional behaviour change. The authors use the example of an intervention that was developed as part of the IMPLEMENT trial to illustrate their approach. The process involves using a framework of behaviour change as the basis for identifying the barriers to behaviour change and then developing tailored intervention strategies. It is easy for the reader to navigate through the four steps and to understand how this logical and theoretical approach to intervention development would enhance the quality of behaviour change/implementation interventions and ensure that the content of these interventions is more transparent. However, the operationalisation of this intervention development process within the context of IMPLEMENT is not given sufficient attention meaning that this case study is not as helpful as it could be in demonstrating how the approach was applied in practice. If this could be addressed, together with some minor changes (outlined below) this article will make a useful contribution to the literature and provide helpful guidance to those tasked with designing an implementation intervention.

**Major compulsory revision**

Please be clear about how each of the steps was undertaken in the context of developing the IMPLEMENT intervention.

**Minor essential revisions**

The Abstract does not provide sufficient detail about the theoretical framework, how the steps in the approach were devised or what this meant for the nature of the final intervention.

Please clarify who this approach might be used by. It seems that you are not suggesting that this four step process should be embarked upon unless there are at least some members of the (research) team with explicit knowledge of behaviour change theory.

**Step 2: 1st paragraph.**

There is some fuzzy language in this first paragraph that requires some clarification e.g. 'using pre-determined criteria' and further down in the third sentence 'using a systematic process' Please explain what the criteria are in the
first instance and what the process is in the second.

Step 2: 3rd paragraph
It would help the reader if the 12 domains were listed together with definitions or example interview questions.

It would be helpful to the reader if the authors could provide details here of what the barriers and levers were in the context of the IMPLEMENT intervention.

Step 3
It isn't clear in this section whether a decision was made about which intervention techniques would be used to target the barriers and then the mode of delivery was defined or whether the mode of delivery was decided first and then the intervention techniques that 'fit' with this delivery mode were chosen. I think if pragmatic decisions are made here based on what mode of delivery is feasible within a particular context then this should be made explicit. However, if this is not the 'ideal' method of intervention development then this should also be made clear.

A clearer description of how the chosen techniques e.g. rehearsal and barrier identification were operationalised in the role-play would help the reader here.

Discretionary revisions
The Results and Discussion section is very short. Could the results be described (as indeed some are) within each of the steps and then this section just provides a discussion of the approach and what the advantages and disadvantages were in the context of the IMPLEMENT intervention.

Within the section on potential limitations the authors mention that some of the barriers to change are organisational in nature. Do the authors have any views on whether there might be different stages/phases to an intervention in which organisational barriers are addressed prior to individual level barriers? In our own work on the implementation of NPSA alerts there are certain organisational and process changes e.g. ordering new equipment, changes in recording forms that are necessary to support changes in behaviour and therefore it is sensible that these barriers are addressed first.

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