Reviewer’s report

Title: The SMART personalised self-management system for congestive heart failure (CHF PSMS): Results of a realist evaluation

Version: 1 Date: 18 August 2014

Reviewer: Marcus Bloice

Reviewer’s report:

1. Is the question posed by the authors well defined?
Yes, the abstract and title describe the question the authors wish to address adequately. The arguments provided in the Introduction are sound and well thought through.

2. Are the methods appropriate and well described?
Overall, the paper is well written and the methods seem appropriate for the goal of the experiment. The methods are well described overall. However, the “Realist evaluation methodology” contains many abbreviations, making it awkward to read. That said, given the topic of the section this seems difficult to avoid.

While this paper is very thorough and its methodology is sound, the results do not strike me as particularly significant. The methodology of the experiment, for example the use of the TELER method, may be more of interest to readers than the actual results, which say that there was increased heart failure related knowledge in those with the lowest baseline scores and that daily walking was also seen to have been encouraged by the CHF PSMS system. The paper, in my opinion, may more be suitable for researchers in HCI or Usability Engineering.

3. Are the data sound? & 4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
The data are presented appropriately. An issue arises with regard to the recruited sample, as is mentioned in the ‘External validity and limitations’ section (see point 6).

5. Are the discussion and conclusions well balanced and adequately supported by the data?
See point 6.

6. Are limitations of the work clearly stated?
Yes. A major issue regards the fact that the sample used in the study was not representative of the contextual factors highlighted as being important when developing the CMO hypotheses.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
Yes.

8. Do the title and abstract accurately convey what has been found?
Yes.

9. Is the writing acceptable?
Yes, the paper is well written.

Discretionary Revisions
None.

Minor Essential Revisions
Line 112 of the manuscript contains a hyphen at the beginning of the sentence which should be removed: “-Self monitoring is therefore a...”.

Major Compulsory Revisions
Considering the scope of this journal, it is not unreasonable to expect a separate section on the software development of the two applications described (the mobile device’s software and the touch screen device’s software). Some technical description of the software would also be appropriate, including some general description of the software, such as the platforms supported (from Figure 1 it seems that the mobile application runs on Android, however it is not clear as to what platform the touch screen application runs on) as well as some more detailed text regarding programming languages and technologies/paradigms used. Also some text regarding the availability of the software, such as whether its source is freely available and under what licence terms, should be provided.

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 declare that I have no competing interests.