Reviewer’s report

Title: Reducing the time-lag between onset of chest pain and seeking professional medical help: a theory-based review

Version: 2 Date: 27 November 2012

Reviewer: Vivian Welch

Reviewer’s report:

Thank you for the opportunity to review this paper. I think this article is an important contribution to the area of theory-based review. However, I am concerned that the authors do not describe or discuss the appropriateness of their methods for answering their primary question about how to design effective interventions, and some aspects of the methods are described in insufficient detail (eg data extraction, quality appraisal, data synthesis). I do think that these aspects can be clarified.

1. Is the question posed by the authors well defined? yes
2. Are the methods appropriate and well described? Unclear their appropriateness to answering the research question
3. Are the data sound? yes
4. Does the manuscript adhere to the relevant standards for reporting and data deposition? No, suggest more detail is needed about data extraction and synthesis methods
5. Are the discussion and conclusions well balanced and adequately supported by the data? There are some confusing statements, described below which I think can be clarified.
6. Are limitations of the work clearly stated? No, in particular, there is insufficient detail about the eligibility criteria and reasons for excluding 17 studies
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 Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?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? No, they do not address the question posed in the purpose of the study about how to design effective interventions
9. Is the writing acceptable? yes

- Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore)
p.4, 6th line, need comma after “in response to some of these criticisms”

- Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
- Major Compulsory Revisions (which the author must respond to before a decision on publication can be reached)

- On page 4, the purpose is stated as: “The aim of this work was to adopt a theory-based evaluation approach to further illuminate the question of why people having a heart attack delay seeking professional medical help, and how effective interventions may be best designed to address this.” However, it is not clear how the methods described will be able to relate theories identified to “how effective interventions may be best designed to address this”. Was this part of the data extraction process?

- It is good to see an assessment of quality of the included studies, and the attempt to put all studies on a similar 4 point scale is attractive. However, it is not clear how this quality assessment informs the interpretation of results. Also, there is no rationale given for the choice of these categories, based on prior or other existing quality appraisal scales. It would help if the authors could provide more justification for why existing tools are insufficient, and how this quality appraisal is used in the interpretation of results.

- Later in data synthesis, the authors state: “It aimed to identify and synthesize theories, assumptions and hypothesised mechanisms within the set of papers.” It is not clear how the paper answers the question about how best to design interventions based on this data. Are the theories interpreted in the context of the outcome data? And, if there is no attempt to relate theories to outcomes of studies, then what is the basis for only including articles that were included in the previous review, rather than searching more broadly for theories of behaviour change and treatment seeking delay?

- The data extraction is not clear. Do the authors only extract data on assumptions? Or do they also collect data on outcomes (eg success/failure), context, process of implementation etc that may relate to the theories and assumptions?

- It is not clear why 17 papers were excluded. How was theoretical perspective defined for excluding these papers on the basis they “lacked theoretical perspective”? A table of excluded studies with reasons would be helpful in clarifying this.

- The use of the terms “standard” and “conventional” systematic methods (p.4) are not sufficient to allow the reader to replicate this work nor understand the methods. The inclusion criteria and the process for screening should be described in more detail. For example, were articles screened by two independent reviewers? Also, what were the eligibility criteria for the populations of interest, settings, outcomes? This may affect the pool of papers for assessment of theoretical perspective and needs to be described in sufficient detail in the methods, as well as potentially discussed in results if these eligibility criteria may have influenced the types of theories identified.

- The results section includes only 1 table of results with the author, study design
and quality grading (1-4 stars). It is difficult to appraise the relevance of these studies without any data on the population, intervention, outcomes of interest and comparator, and setting in which the intervention occurred. Perhaps this information is published in the prior systematic review and could be referenced?

The results section lists the theories found and gives nice examples of how they were used to explain reasons for delay in seeking treatment. However, it is unclear from this list of results how these theories relate to characteristics of interventions designed to influence delay in seeking treatment, which was one of the purposes of the paper.

The discussion section is a bit disappointing in that it does not appear to use the data collected on theories and assumptions to propose how interventions should be designed or which intervention studies need to be carried out to fill the gaps in the evaluation literature.

“This review found a predominance of work using survey and qualitative study designs, with only a single RCT.”- is this because RCTs were excluded for this review due to lack of theoretical discussion/perspective, or are there really few intervention RCTs in this area? I think the paper needs to describe more detail about the excluded studies, and also why there are so few RCTs identified.

-the discussion is unclear where it states: “Conventional systematic review protocols using an inclusion criterion of controlled studies would therefore have a very limited pool to draw upon, limiting the ability to draw conclusive findings. By adopting an alternative theory-based approach we argue that this review has been able to make a valuable contribution to knowledge in the field. The authors state that studies were only included if they were identified and included in a prior systematic review by the second author (4)- was this prior review “conventional”? It included a breadth of study designs because all of the paper in this “alternative theory based review” were identified in the previous systematic review. I find these statements confusing and contradictory.

-The discussion and conclusion would be more helpful to researchers and practitioners if it could suggest what types of interventions are likely to address the barriers identified, based on the data collected in this study.

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: no competing interests