Author’s response to reviews

Title: Improving Local Health through Community Health Workers in Cambodia: Challenges and Solutions

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Author’s response to reviews:

Thank you for the review and recommendations which we have addressed and responded to below and in the revised paper. We hope you find these satisfactory and that the article is now ready for publication.

Reviewer #2: Significant improvement. all the major omissions have now been corrected. This is much more interesting to read and is now worthy of publication.

Couple of minor typo type amendments needed;

Page 4 line 11. I think you mean homogeneous rather than homogenous This is now corrected

Page 22 line 40, maybe add support as well as training. Thanks this has now been added

Page 24 lines 20 - 22 Sentence start Though, current systems of CHW ... Does not make sense. Not sure if there is something missing, or more of a punctuation error. Have altered this by removing the word ‘though’
Page 24 line 32. Refers to insights shown in the solutions table - give the number for the table. This has now been added.

Page 24 lines 42. The word 'are' is now missing between solutions and not, also need a comma after 'or if they are, it is ...' These has been altered.

Limitations section

Page 25 Sentence on third line down beginning 'However, the study presents ...' is repetitious, not needed and is not a limitation, so take out. Corrected.

Page 25 Suggest change this could be open to bias to 'this could create bias.' Adjusted now.

Conclusion section

Page 25 suggest adding the word potential to first sentence, adding a full stop at end and new sentence. 'So clearly have a potential role in improving community health. However, without ...' Altered.

Page 25, line 43 need to add the word ans '... part of a long-term ongoing strategy and so they may ...'

Page 25 line 49 last sentence remove their replace with CHWs ability. Altered.
Reviewer #3: The authors have made a number of important edits and additions to the paper that have improved it. However, certain issues remain and need to be addressed before the publication can be accepted.

1. Cambodia is NOT a low income country anymore. As of the time of publication in 2017 it is a lower-middle income country and the wrong World Bank references are cited for this. Please see (and cite) the correct reference: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups. This has now been updated.

2. The wording that describes Kratie and Mondulkiri has been improved, but still contains no reference to these provinces being home to the largest population of ethnic minority groups in the country. Please add this, as later there is reference to "Khmer" and "Muslim". This has now been added with a reference.

3. Please revise the wording "three Khmer research assistants" to clarify--are these Cambodians who are ethnically Khmer/who speak Khmer? Later you note that there are Muslim and Khmer ethnic communities, though perhaps Cham would have been more accurate? Perhaps you mean to say that "three Cambodian research assistants who conducted qualitative work in Khmer language"?? I have altered this to reflect accordingly. Also, given that many people in the study sites of these provinces speak languages other than Khmer (ethnic minorities) it will be important to note that the participants were all Khmer speakers, or if not, how you overcame this limitation to qualitative research. Please include this in the methods section. The participants were all Khmer and this has been made clear.

3. In these provinces of Cambodia, religion and ethnicity (especially for ethnic minority) are strongly linked with all facets of health and access to services, as well as community relations around accessing health--this has been documented previously in the literature.
It is an important issue and if the researchers did not include information on any of this in their data collection, it should be listed in the limitation section as a major limitation. Religion and ethnicity linked to Muslim or Khmer has been added, no indigenous participants took part.

4. Characteristics of focus group and interview participants should be moved to the Findings section. This is moved, and unfortunately do not include any information on ethnic group or religion, previously mentioned. Religion has now been added to each table.

5. The information on coding and analysis is still too sparse. There is no citation or reference to a checklist for qualitative research such as COREQ or CASP. I have added the CASP checklist. More detail should be added on what is meant by "thematic open coding" and a clearer citation provided to a reference here (rather than a textbook which lists multiple methods and theories). A reference has now been added.

6. In what way were findings "triangulated" using this data--method triangulation, analysis triangulation? There is controversy over the use of the term "triangulation" to address validity. I have removed the term triangulation and replaced it with ‘comparing the emerged coding’s together and in relation to the entire data set’. Following your advice I feel this describes the process better and I have included a reference. Again, a reference and more specific wording should be used, given that this is the main technique used for the analysis of the manuscript data and that there are many different ways to analyse qualitative data--the reader wants to know what method was used. As above.

7. Despite the author's response, there is no information provided on audio recording or transcription--how the focus groups and interviews were recorded (by audio, notes, who wrote the notes, etc..). This is an important omission. It is hoped that this sentence describes the process. ‘The RAs interviewed ten CHWs in Khmer, which were translated into English during the interview to allow for timely responses by the UK researcher. The
UK researcher recorded answers in written format during the process.’ Also this ‘As described above, the collection and analysis of data began in the focus groups where participants collectively summarised and agreed on key solutions to identified problems and recorded them on flip charts. Involving participants in the analysis process is common in descriptive qualitative approaches and is stated to add depth and quality to the analysis process [61]. In addition, data analysed in the focus groups, researcher notes and written answers to interviews were analysed by the UK based researcher. Following familiarisation, preliminary categories based on annotated notes were developed as the conceptual building blocks from which to construct theoretical structures. Data was coded by transferring data sections to the appropriate theme or sub-theme and then comparing the emerged coding’s together and in relation to the entire data set [61]. The data was then re-contextualised in terms of the themes, developing sub-themes where necessary [61, 62]. A thematic table was developed in MS Word and used to synthesis the findings [7, 63].

8. It is unacceptable for quotes to have no attribution to individuals, including non-identifying participant characteristics. This is a must and the paper should not be published without these. The reader should be given information about the individual from whom the quote comes, such as age, home province, job role/years in job, and other data on the participant. If this is missing from the data set it could indicate the researchers may not have been careful enough in their data handling. This detail has now been added.

8. The authors have not mentioned the COREQ checklist nor any alternative like the CASP checklist to address lack of detail and explicit information on the qualitative methodology, and this must be done. Then it should be mentioned that this has been done in the manuscript, and a reference to that checklist should be included. This is now included.