Author’s response to reviews

Title: How do we strengthen the health workforce in a rapidly developing high-income country? A case study of Abu Dhabi in the United Arab Emirates

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Author’s response to reviews:

Dear Dr. Buchan:

We appreciated all the comments and suggestions, which deserved our deepest consideration. My co-authors and I reviewed the comments and we believe that our manuscript has been much improved as a result of the review process.

The below table provides information on how we have addressed the comments made by Reviewer 1 and Reviewer 2.

<table>
<thead>
<tr>
<th>Comments</th>
<th>Answers</th>
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<tbody>
<tr>
<td>Reviewer 1</td>
<td>This paper is about a case of Abu Dhabi and chronic care. It is an interesting paper about a country which I am learning about and enjoyed reading this. There are several suggestions to strengthen the paper.</td>
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<tr>
<td>We thank Reviewer 1 for the time taken to review our paper and provide us with positive feedback.</td>
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<tr>
<td>Background: This could be re-organised and enhanced to provide context more specifically around the research question, specifically focusing on chronic diseases of the population, and</td>
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chronic diseases workforce, what is known from other countries and what question this research will address and why.

I suggest to explain the context of the UAE where the research is based under a separate heading at the end of the introduction called "The setting of the research".

We thank Reviewer 1 for their comment and suggestion. We have included the heading “the setting of the research” and we have provided a brief overview of the characteristics of the population in the emirate as well as the burden of chronic diseases.

Please see page 4.

Aim - this is unclear and makes it hard to navigate the article. Once the aim is clear, the article can be better organised around that aim. The relationship between the exploration of workforce factors and effective implementation of the CCM needs to be clarified, as currently the article material jumps around a bit probably because the problem being addressed and the aim of the paper need to be clearer.

We thank Reviewer 1 for their comment. We reorganised the article and inserted the clarified aim before introducing the CCM that was used as a tool to identify and propose improvement strategies. The aim of the article is “to contribute to improve the capacity of healthcare workers to reach out to chronic patients through the identified gaps of the Chronic Care Model (CCM) in the primary health care of Abu Dhabi”

Please see page 7.

Methods - a method is not explained so the reader can't assess whether it is appropriate to exploring the aim. How is use and improvement from the CCM being judged?

We thank Reviewer 1 for their comment. The use and improvement of CCM was judged on two previous papers from the same authors referenced in this paper. We conducted a systematic review to highlight the status of the development of the CCM in primary healthcare center in the emirate and a modified Delphi study to identify the priorities and barriers for its development.

Please see page 18 and 19, references 4 and 18.

If this is a case study - you need to explain how you undertook the "case" selection -and elements of the context you are observing, preferably state the theoretical approach, and that this is a single-case study. If doing a one off case study, why is this the best time to look at this "case".
What methods are used to collect data to inform the case - this is not clear in the article nor from what is presented in Table 2. Case studies need to be in-depth and often involve data collection. If no data has been collected then perhaps this is a narrative or a policy analysis? It appears that the analysis is broad, rather than in-depth and related to context, as would be required in a case study. So I suggest consider the method more closely.

We thank Reviewer 1 for their comment. This is a single-case study focusing on the health system of Abu Dhabi emirate. This case was undertaken as the United Arab Emirates has different regulators and providers and the emirate of Abu Dhabi has seen multiple healthcare reforms in the recent decades. Knowing the epidemiological health transition that the emirate has traversed over the past few decades and with the recent World Health Organization call for action on human resources for health this is the best time to ‘look’ into this case. We used the Chronic Care Model to enlighten our results in terms of Human Resources for Health competencies.

Discussion - a range of issues come up in the discussion but this needs to be restricted to reporting on the research findings, specific to the aim which was stated.

We thank Reviewer 1 for their comment.

We reviewed the discussion and we acknowledge that the Patient-Centered medical Home model appears for the first time in the discussion. We have moved the information to the results.

Please see page 7.

Results - on p 8, Table 2, the chronic care model results are explained but the way that these were ascertained is not explained.

We thank Reviewer 1 for their comment. This point was also raised by Reviewer 2. We have clarified how we assessed the results for table 2 by inserting this information in the text.

Please see page 9.
Reviewer 2

This is a very well-written article and I think the subject will be of interest to the readership of HRH Journal. However, there are a few fundamental problems that I would like to see addressed before I can recommend publication:

We thank Reviewer 2 for the time taken to review our paper and provide us with detailed feedback.

The main problem is insufficient detail about how the authors carried out their analysis - it's not clear to me what methods and processes were used to reach the conclusions presented in the paper. On page 8, there is a section beginning "Based on the identified gaps of the CCM...", without any prior explanation about how these gaps were identified. Similarly, table 2 gives a very long list of 'patient interaction issues' without any description of how these issues were identified. I am therefore not in a position to assess the robustness of the conclusions drawn.

We thank Reviewer 2 for their comment.

A previous systematic review from the same group of authors identified the gaps of the CCM in the primary health care clinics in the emirate of Abu Dhabi. These gaps are related to the six elements of the CCM that are not yet being considered or fully implemented. In this present paper, from a literature review, informal talks with experts and the author’s knowledge in the area we tried to complete the gaps and relate it with the required HRH competencies.

I would also like to see the discussion and conclusions section making a much clearer link between what the study found and what the Abu Dhabi health system should be doing better or differently in relation to HRH.

We thank Reviewer 2 for their comment. We reorganized the discussion to make it clearer.

Please see page14.

Page 5, line 20: I would like to see a short discussion about how Abu Dhabi may be similar or different to the other emirates with respect to health workforce and health outcomes, to help the reader gauge the extent to which the conclusions of this study may be generalised to the rest of the UAE and/or other contexts.

We thank Reviewer 2 for their comment and suggestion. As per both reviewers’ suggestions, we included a heading “the setting of the research” after page 5 line 20. We gave a brief overview of the characteristics of the population in the emirate comparing to Dubai and the entire country, as well as the burden of chronic diseases.
Please see page 4.

Page 6, line 12: Reference 12 is quite recent - it's good practice to reference the original source of CCM

We thank Reviewer 2 for their comment. We have amended it for the original paper of Wagner and colleagues, where they define the CCM.

Please see page 6, reference 12.

Page 6, lines 27-30: The references given here are rather old. Is there any more recent literature describing applications of the CCM? If not, you should defend why it remains relevant, e.g. quote evidence that it has become mainstream.

We thank Reviewer 2 for their comment. We have inserted two recent references (from 2015 and 2018) in the given statements.

Please see page 7.

Page 7, line 25/Figure 1: It's not clear how you have defined over- and under-supply. What is the denominator for the percentages? At present the paper does not present compelling evidence of over- or under-supply. The reader is just being asked to take your word for it.

We thank Reviewer 2 for their comment. First of all we would like to acknowledge that in June 2018 the New Capacity Master Plan of Department of Health Abu Dhabi was released and we updated Figure 1 with the most recent data. We did not define the categories of supply. These categories are defined by the Department of health in their report, and the categories changed between the data from 2015 and 2016. We inserted a sentence explaining this to the readers.

Please see page 9, Figure 1.

Figure 1 needs axis labels.

We thank Reviewer 2 for their comment. We have inserted the labels in figure 1.

Please see page 9, Figure 1.
Page 7, line 51: Explain why having a higher % of expatriates is a problem for the health system, and quote evidence. Is it because of language barriers, cultural barriers, lack of acceptability, high turnover rates, poor quality, or what?

We thank Reviewer 2 for their comment. We have inserted a sentence on the clarifying this topic.

Please see page 9.

Table 1: I suggest the total column show absolute numbers rather than percentages. Otherwise it's not clear what the % represents and the non-statistical reader may misinterpret the figures in this column. Why are there NAs in the first column? Also, enter zeroes rather than leaving blank cells.

We thank Reviewer 2 for their comment. We proceeded to the suggested changes in table 1: we have inserted numbers instead of the percentages, zeroes in the black cell, and we add in the note that “NA= Not Applicable. There is no data on the number of the professionals per 10,000n population”.

Please see page 8, Table 1.

Table 1: It seems odd to include alternative practitioners. Who are they? Are they properly licensed, regulated health professionals in this context? If not, I question why they are included. If they are, then this should be pointed out so their inclusion can be defended.

We thank Reviewer 2 for their comment. The alternative practitioners are listed as healthcare workers in the Abu Dhabi Health Statistics 2016 document, but are not described. For example, technicians operating lasers working at beauty clinics need to be licenced by the Department of Health Abu Dhabi and we expect that they are the mentioned alternative practitioners. But, as we have no more information and reflecting on the Reviewer’s comments, we agreed to remove alternative practitioners from Table 1.

Please see page 9.

Figure 2: How did you determine the size of the gap and therefore the size of the bubbles? This methodology needs to be explained somewhere in the paper.

We thank Reviewer 2 for their comment.
The size of the gap was determined according to the number of strategies of the Chronic Care Model’s elements that were not addressed in the primary health care. We expanded this method.

Please see page 12.

Page 11, line 35: Provide a reference for the statement that chronic disease prevalence is projected to increase.

We thank Reviewer 2 for their comment. We inserted the reference on the mentioned sentence.

Please see page 13.

Thank you for providing us with the opportunity to submit an improved version of our manuscript to BMC Human Resources for Health.

Kind regards,