Author’s response to reviews

Title: Assessing Core, e-Learning, Clinical and Technology Readiness to Integrate Telemedicine at Public Health Facilities in Uganda: A Health Facility – Based Survey

Authors:

Vincent Kiberu (vmicheal@yahoo.com)

Richard Scott (ntc.ehealthconsulting@gmail.com)

Mars Maurice (mars@ukzn.ca.za)

Version: 1 Date: 27 Nov 2018

Author’s response to reviews:

We wish to thank the reviewers for their helpful comments and thoughts. These comments have strengthened the paper. Below we respond to each comment, indicating our response and corrections.

REVIEWER 1

1. I don't see a correlation coefficient to support the result that "A weak but positive correlation existed…."

Response

We have included the results to support the statement on Page 14, para one, as follows: “Significant positive correlations were found between ICT equipment and budget, quality of service (p=0.003), access to Internet connectivity (p<0.001) and between ICT quality of service and access to network connectivity (p<0.001).”

2. Introduction: What does "according to literature prevalence:" on p4 mean? It is not clear.

Response

The authors of the referenced review paper placed the readiness themes in a rank order based upon the prevalence they saw of each theme presented in the literature they analysed. The sentence has been clarified as follows:

‘A recent review of eHealth readiness frameworks suggested a rank order of readiness themes based on the frequency of their occurrence in the literature analysed: Technological readiness,
core/need/motivational readiness, acceptance and use readiness, organisational readiness, IT skills/training/learning readiness, engagement readiness, and societal readiness [14].’ (Page 4, lines 2-3).

3. What telemedicine is included in the Uganda context? Could some examples of telemedicine in these settings be given?

Response

New sentences providing examples have been inserted, together with a new reference [20] to exemplify the eHealth status in Uganda; page 5, para 2

“Despite this, the use of e-health, and of ICT for communication in and between HFs, in Uganda has recently been documented [19, 20]. For example, within the past 5-10 years, a variety of e-health and telemedicine initiatives have been trialled. These include m-health tools such as WinSenga (a foetal heart rate monitor using a smart phone), Matibabu (a non-invasive malaria test), Text to Change (an SMS-based app to scale up HIV/AIDS awareness and promote HIV counselling and testing), a disease surveillance and medication tracking tool, a local EMR at an HIV/AIDS clinic, and videoconference-based exchanges with Universities in the USA for research, education and clinical practice [20]. However, ....”

4. There is a good description of health care in Uganda which is helpful to the reader unfamiliar with this context (p4).

Response

This observation is appreciated.

5. Methods: How was recruitment conducted for surveys and focus groups? More detail is needed.

No audio recording were made of the FGDs ‘Written notes were made of the discussions because participants had reservations about audio recording.’ How was this compensated for? What rigour was there to ensure correct note taking and that nothing was missed?

Response

Sampling for surveys participants was by convenience (convenience sampling being a type of non-probability sampling where the sample is simply drawn from the part of the target population close at hand.)This has been clarified in the Methods section (page 6, para 2) as follows:
“The technology readiness questionnaire was distributed to managers and physicians in-charge who were conveniently selected. The core, e-learning, and clinical questionnaire was pre-tested for validity/consistency with 10 HWs at a HC-IV in Mukono district in the Central region of Uganda. It was then distributed to doctors, nurses/midwives, public health officers (PHOs), and allied healthcare workers at the different facilities who were also selected by convenience sampling.”

For the focus group participants it had already been noted on p7, first paragraph that “Convenience sampling was used to select the OPD patients …”.

With regard to note-taking, the notes of a second person (assistant) were consulted and compared to ensure accuracy and completeness of the FGD notes. This information has now been inserted into the text (page 7, second para) as follows:

“Contemporaneous notes from the moderator and an assistant were used to ensure key points of the discussion and quotes were correctly and accurately documented”.

6. Reference is made to ‘unified theory’ on page 13 in the discussion. Otherwise, there is no theoretical framework used. I think the project lends itself to a framework such as the health beliefs model or similar framework as the study is an investigation of people's awareness of telehealth willingness to change behaviors in relation to a health technology.

Response

Our reference in the paper is to the fact that ‘no generic framework or underlying unified theory has been reported’ in the field of e-health readiness. Had such a theory been available, it would have been applied to this study.

We would respectfully disagree with the reviewer in that this study was not addressing ‘willingness to change behaviours in relation to a health technology’. As the title indicates, it was intended only to assess whether or not readiness for specific domains existed in these settings. We hope this clarifies and satisfies the reviewers comment.

7. What is the technology assessment model page 14? It needs a reference. Is this a theoretical framework?

Response

A brief description of the model and a reference [22] has been provided (Page 15 first full para.) as follows:
“…. in a Technology Acceptance Model (TAM) study; TAM refers to an information systems theory that models how users come to accept and use technology, based on their perception of its usefulness and ease of use [24].”

8. Was any attempt made at validating the surveys used?

Response

Yes. This has been clarified by inserting on p6 para 2 the following sentence: “The core, e-learning, and clinical questionnaire was pre-tested for validity/consistency with 10 HWs at a HC-IV in Mukono district in the Central region of Uganda.”

9. Results: I don't see the 'themes' and subthemes arising from the FGDs referred to in the methods section.

Response

These themes and subthemes are identified in Table 3 (p24). Reference has now been made to these themes and subthemes in relation to Table 3 in the Results Section (page 9, second line) as follows:

“… were further analysed according to several themes and subthemes identified in Table 3.”

10. Discussion: This is generally good. Very good reference to the literature is made. The authors do not stray from discussing the results of this study. However, other studies in LMIC need to be emphasized.

Response

This observation is appreciated.

Regarding the comment about emphasis of LMIC studies (opposite) and the comment below (#11), these have been jointly responded to by inserting the following on page 14, para 2:

“Relatively few e-health or telemedicine readiness studies have been conducted in the developing world. Whilst every country is different, with different health systems, burdens of disease, health needs, infrastructure and political agendas, the key findings of such studies are quite similar. For example, in Palestine m-health approaches were regarded as a promising strategy (for mental health treatment interventions [21]) while an assessment of telemedicine readiness at public health facilities in Addis Ababa, Ethiopia, showed the degree of readiness for telemedicine varied (from a weak rating for technology readiness, to a strong rating for organisational readiness [22]).”
11. A study in Mauritius (p14) is mentioned as (is) a study in Lebanon (P15). Are they similar settings with similar infrastructure and resource challenges to Uganda?

Response

Please see above. Comments 10 and 11 were responded to together.

12. There is no strengths and limitations section.

Response

A sub-section on “strength and limitations” has been inserted (page 18).

13. What future research should be undertaken in this field?

Response

We have included a statement at the end of the conclusion (page 18, final para) as follows:

“This work provides a foundation for further studies on readiness to implement other aspects of e-health (beyond telemedicine) in Uganda and other developing countries.”

14. Conclusion: This is clear

Response

Thank you.

15. References: No page numbers in ref 2

Response

Thank you. A complete reference with page numbers has been inserted. For details please refer to ref 2.

In addition, a thorough review of the references has been completed and adjustments made in accordance with author guidelines.
1. This is a well written manuscript with the purpose clearly spelt out. It makes a good read and fits the scope of the BMC Health Services journal. I trust the theme of the paper is substantively relevant especially so for sub-Saharan Africa with dire issues around shortages in health work force. The logic flow is consistent, and the background sets a good stage for the rest of the paper. The methods section is adequately covered, with the results appreciable with adequate diagrams and explanations. The discussion section seems adequate and the conclusion is justifiable from results arrived at.

Response

Thank you

2. Beyond these, I believe there are few areas which require clarifications. Starting from the topic itself, I wonder if the paper considers the readiness to integration or the readiness for integration. This is because readiness to integration connotes willingness, while readiness for integration is indicative of preparedness.

Response

Perhaps we caused some confusion with the title of the paper. This paper set out to understand how ready Uganda’s public health sector is to use telemedicine. In this case, we feel ‘readiness to integrate’ is the appropriate term, and a term that we (and we believe the ‘readiness’ literature) equate to preparedness (a ‘state’), not willingness (a ‘behaviour’) - “integrate”: combine parts into a whole”. It may be that this is moot, and cannot be resolved here. We have modestly adjusted the title to better reflect our intentions:

“Assessing Core, e-Learning, Clinical and Technology Readiness to Integrate Telemedicine at Public Health Facilities in Uganda: A Health Facility – Based Survey”

3. Another thing is that the reader may be at a loss as to how the 4 readiness domains, and not others, considered by the paper to be essential to the Ugandan context were arrived at (Pg. 4, line 9).

Response

Prior review of the literature on eHealth readiness assessment frameworks revealed core, clinical, eLearning readiness and technology readiness as critical domains in assessing eHealth readiness in developing countries which are of a similar setting to Uganda. This insight has been inserted in the text (p 6, first para) as follows:

“Prior review of the literature on eHealth readiness assessment frameworks had revealed these four domains to be critical in assessing eHealth readiness in developing countries.”
4. Around the discussion, on Pg. 14, line 11, 'Technology Acceptance Model study' sounds a bit arbitrary but I suggest this should be better explained and/or referenced.

Response

This has been responded to in response to Reviewer 1’s comment #7. A brief description has been provided, and a reference added.

5. Finally, I find that this particular study in part has been described elsewhere in the article 'Assessment of health provider readiness for telemedicine services in Uganda' by same authors and hope it doesn't constitute any copyright infractions.

Response

This concern has been addressed in a separate e-mail communication with Dr. Zalm dated 4 November 2018 (Response to "from Editor to Author BHSR-D-18-00763"). They are distinct papers and there is no issue.

6. Aside these clarifications, I believe this paper merits publication.

Response

Thank you