Author’s response to reviews

Title: Exploring barriers and facilitators to integrated hypertension-HIV management in Ugandan HIV clinics using the Consolidated Framework for Implementation Research (CFIR)

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Author’s response to reviews:

Dear Dr. Nicole Rankin

Thank you together with the reviewers for reviewing our manuscript extensively. In addition, thank you for the constructive review comments that you gave us. We have made the point by point response to the reviewer comments as elaborated below. Thank you for the consideration. We have tracked all the changes that we have made to this manuscript.

Reviewer comments and responses

Reviewer #1:

Line 218 and 224. The author describe about how they measure influence in line 218 and how to interpret it in line 224. I think you can put them together.

We have put together the two concepts of measuring and interpreting influence: Lines 227-230.

Result.
Line 281, 288, 326, 331. Lack of preparation and initial training, lack of local SOP/guidelines, lack of supervision, could be more related with implementation process

The data elements that were initially related to design quality and packaging have been transferred to the construct of planning under implementation process: Lines 408-425

The data elements that were reported under external policies and incentives in lines 326 and 331 have been included under execution in implementation process: Lines 426-439.

Line 294. In my opinion patient's load is not part of intervention, and doesn't describe intervention complexity. I would use it as part of inner settings.

The data elements related to patient load have been transferred to the inner setting under readiness for implementation in the construct of available resources: Lines 356-361.

Line 301. I think patient needs and resources were not the barriers but rather a challenge that should be overcome by implementing integrated care of HIV and HTN. If the HTN care is not available in low implementing unit, patients were referred to other health facilities, not much is being done in the implementation unit, I think they're more related with adaptability of the intervention in the organization and implementation climate.

We have changed the wording for this construct to fit the definition for “Patient needs and Resources” according to Damschroder et al 2009: “The extent to which patient needs, as well as barriers and facilitators to meet those needs are accurately known and prioritized by the organization”. This is elaborated in lines 296-311.

Patient were not aware about the service, probably it is more related to implementation climate or access to information and knowledge.

Patient knowledge about the HTN services has been transferred to the construct of “access to information and knowledge:” Lines 384-387.

Line 356. Availability of equipment and other supplies to manage HTN, I think, is more related with domain intervention or readiness for implementation, this includes leadership engagement, available resources, and access to information and knowledge.

The response for the above comment is combined with the response below.

Line 363 - 364. In my opinion, the barrier is not available resources, but, for example: lack of functional equipment for measuring blood pressure, delay in medical logistics,

We have revised the wording for the construct of “readiness for implementation” in which the two sub-constructs of available resources and access to information and knowledge were significant. We have also indicated that lack of equipment, inadequate human resources and medicines are barriers for HTN/HIV integration under the sub-construct of available resources. Lines 355-356.
Line 373. BP machine in the clinic breaks down and takes time to get another. This statement I think is more related with inner settings, particularly organization culture.

Results about organizational culture were not significant across the three HIV clinics. We left it out.

Line 376. I think it should be "lack of access to information and knowledge was a barrier…" We have made the revision as required: Line 372.

Figure 1. CFIR domains, you can use the original framework from Damschroder et. al., 2009 as reference.

And i think it would be very helpful if you plot the constructs found in this study to the framework.

We have plotted the constructs found in this study to the CFIR framework presented as figure 1. We have added the reference of Damschroder et al 2009 below figure 1.

Figure 2. It is not common to present a cascade like your figure. Usually you will need to show a lower or similar bar after each indicators. So for example 56.6% were screened, and then 87.6% of 56.6% was diagnosed, 89.6% of those who diagnosed was initiated treatment, 95% of those initiated treatment were retained, 97.8% of those who retained were monitored, and 98.1% who were monitored have their blood pressure under controlled. And to compare achievement for each facility you can use separate vertical bar.

We have revised the graph to present the cascade as required. This is presented as figure 2.

Reviewer #2:

General comments

My main comment, however, is the lack of the patient perspective, which is acknowledged in the discussion but the reader is left unsatisfied as there is no sufficient explanation given.

We have given the explanation for the paucity of data on patient perspectives in the limitations of the study: Lines 345-373.

Introduction

* Line 94: Please add a comma and "and" in "guidelines for HIV Care and Treatment, and recommend…"
We have included a comma and the “and” in line 94.

* Line 98: Empirical not "empiric"
We have changed to empirical in line 98

* Lines 100-103: Is the 30% HTN control by PLHIV from both Uganda and Malawi studies or just in Uganda? Is there a reason why the Malawi study is included? Unless the 30% figure is from both countries, you may consider removing reference to Malawi and it may just add to confusion.

We have removed the reference of Malawi since the hypertension control rate in Malawi was less than 30%: Lines 103.

* Lines 104-108. This is a really long sentence describing the retrospective cohort study with a lot of information. Please consider breaking down the information to make it easier for the reader to understand the study and its main results.

We have broken down the sentence into two sentences: Lines 104-109.

Methods

* Line 125: Should the reference for CFIR be #19, not #18?
We have changed the reference for CFIR to 19 not 18 in line 123.

* Line 131: Please remove commas after 'barriers to' and 'facilitators of'
The commas have been removed following barriers to and facilitators of as required in line 132-133.

* Line 152: Add clinic and "each"
We have added the word “clinic” after each as required in line 153.

* Line 154: Has BP been spelled out previously? If not, please do so here.
We have spelt out blood pressure and abbreviated it in brackets as required in line 155.

* Line 164: Has NCD been spelled out previously? If not, please do so here.
Non-Communicable Diseases (NCDs) has been spelt out in line 161.

* Line 175: "accepted" or consented?
We have revised the word to consented in line 177.

* Line 184: Please add 'a': "AKT is 'a' male … "

We have added letter ‘a’ as required in line 185.

* Under the 'data collection' section, please include a sentence on whether all interviews were conducted in English. If not, please include the languages that were used.

All key informant interviews were conducted in English while in-depth interviews and focus group discussions were conducted in Ateso and Japadhola, the local languages. We have included this information in lines 193-195.

After transcribing, all transcripts in Ateso and Japadhola were translated into English. This information is available in lines 198.

* Following the COREQ, please consider providing the following information under the methods section (probably under data collection) about the three authors who conducted the interviews:

  o Relationship with participants: Was a relationship established prior to study commencement? (This is particularly relevant for interviews with DHOs and health facility staff)

The interviewers established a relationship with the DHO and healthcare providers prior to study commencement: Lines 188-189.

  o Participant knowledge of the interviewer: What did the participants know about the researcher? (This is particularly relevant for interviews with DHOs and health facility staff)

The interviewers shared the objectives of the study with the DHO and healthcare providers. This is elaborated in lines 184 to 185.

  o What characteristics were reported about the interviewer/facilitator?

The interviewers had no bias or personal interest in the research: Lines 189-190.

* In data collection: Were repeat interviews conducted?

We did not conduct any repeat interviews: Line 193.

Were participants engaged in reviewing transcripts?

Participants were not engaged in reviewing transcripts: Line 198-199.

* Line 214: Change 'basing' to 'based'
The word basing has been changed to based as required: Line 231.

* Line 236-237: Who are the patient representatives? Were not all participants invited to hear the presentation on the findings?

We presented the findings to healthcare providers and patients who participated in the study at the three HIV clinics and the district: Lines 248 to 249

Results

* Table 2 does not have any descriptive characteristics on the interviewees, particularly the patients. Methods section describes the positions of the KIIIs, but this would be more informative in the table and in the results section. Any descriptive characteristics on FGD and IDI participants such as mean age, sex, years on ART or diagnosed with HIV, years with HTN, etc?

We have presented the characteristics (mean age, distribution by sex and occupation) of participants in table 2. However, we did not collect data on duration of ART and years when HTN was diagnosed.

* Line 280 - should the colon be a period? I'm not following this sentence.

The colon has been replaced with a period as guided. However, this sentence has now been included under the construct of implementation climate and sub-construct of planning: Lines 413 to 414.

* There is inconsistency throughout this section on calling the clinics a clinic, site, or facility. I would suggest picking one and staying consistent in the narrative.

We have replaced all the above names with “HIV clinic” throughout the manuscript.

* Line 410: remove "a" before health care providers.

We have removed “a” before healthcare providers: Line 427.

* Was there any feedback from participants when the results were shared? A description of this would be appropriate in the results section.

We have provided the feedback from study participants: Lines 440 to 449.

Discussion:

* Line 472: "perfectly" is a strong claim. I would suggest using "well aligned"

We have used “well aligned” instead of “perfectly.” Line 505.
* Line 482 mentions that patients were not aware of integrated HTN/HIV services but I didn't see this as a finding described in the results section. There are only two mentions of patients in the results section which I found very minimal considering the discussion paragraph.

We have removed the statement mentioned above since it was not evident in the results section.

* Paragraph starting on line 515: Can you provide some context to these recommendations within existing guidelines that were mentioned in line 93 by the WHO and MOH? Under the study setting that describes the clinics, it was described that they are "mandated" to provide NCD screening and management. It would be helpful to have some of these recommendations circle back to gaps in these guidelines and where they are not realistically addressing realities on the ground.

We have provided the recommendations within the context of WHO and MoH guidelines: Lines 547-557.

* Lines 529-532 - I am not sure I understand why there is such a paucity of contributions from the patients interviewed when the number of patients involved is so high, yet the findings revolve around 11 key informants, all health care providers. The reader is left with a really big gap in understanding the patient perspective and is not clear why this is the case given the design of the study.

We have included an explanation for paucity of contributions by patients as part of limitations of the study: Lines 566 to 573.

* The discussion needs further limitations of the study described.

Limitations of the study are presented in the discussion: Lines 566 to 573.

Reviewer #3:

* This is a paper with clear methods and results. My main concern is the complex nature in the way the results have been presented both in the abstract and lines 245 - 258. They would be confusing to lay persons including policy makers and health care workers. Despite some explanation in the appendices, the use of phrases like, "distinguishing performance weakly" need adequate comprehension. The authors should review such terms like; distinguishing and non-distinguishing performance, negative and positive influence, weak and strong. I would propose the authors incorporate a lay summary just explaining the barriers and facilitators, and how were they linked to performance of the clinics.

We have included table 4 which has the barriers and facilitators explained in relation to the significant CFIR constructs.

Lines 258-272 and abstract provide a simplified summary of results.
* It is good that the authors have explained what CFIR is in the background. It will be helpful if they provide additional information on and justify why they decided to use it compared to other methods, its relevance to the study and how/why they decided of the 17 constructs out of the 39.

We provide the reason for choosing the CFIR and not other frameworks. This is elaborated in lines 123 to 128.

We explain in the methods that we assessed all the 39 CFIR constructs; lines 131-132. However in the results section, we mention that 17 constructs emerged to be relevant to either barrier or facilitator for HTN/HIV integrated care; line 258.

* In the methods, there is an expression that the authors used both deductive (based on CFIR) and open coding. Open coding is not coming out clearly in the results. What has been presented is solely based on the use of the CFIR framework. Were there any other issues that came up as barriers and facilitators despite those depicted from the 17 constructs?

We used the deductive (CFIR based) method to develop relevant codes and themes. We have revised this in lines 206 to 207.

* Other minor comments; nothing mentioned about FGDs in the abstract and remove the full stop after the word 'previously' on page 471.

We have mentioned the focus group discussions in the abstract. In addition, we have removed the full stop after the word ‘previously’ in line 504 as requested.