Author’s response to reviews

Title: Analysis of the Implementation of a Community Based Intervention to Control Dengue Fever in Burkina Faso

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Author’s response to reviews:

Response to Reviewer #1

Response : First of all, we would like to thank you for the relevant reading work you have done. Thank you for your comments that allowed us to rework our article. These comments will also help us in our future work. Please find in the yellow sections our answers to your questions and comments. Good reception.

Reviewer #1:
The paper was an interesting read, and enlightening to acknowledge a link between CFIR and implementation science. I have read the manuscript with interest and my comments follow.

General

* Line numbering should be continuous. It is difficult to use the line numbering as a reference for comments, if they are not continuous.
  Response : We agree with you all. But it doesn't depend on us. It was generated by the platform for submitting articles to "Implementation Science.

* Please define all abbreviations used in the study at the end of the paper.

* In any article you are telling a story. There is a beginning, the body and the end. Try and give the reader as much information as concisely as you can. As a reader, there are bits of important information missing from sections, like the introduction, which is meant to paint a clear picture of where, what, how, and why. You need to pull a thread through the whole article, for it to feel less disjointed.
  Response : We have tried to take your comments into account by making corrections in the different sections of the article.
Background

* Overall the introduction does not make a strong argument. Add in additional information on the disease and the intervention.
Reponse : Important changes have been made to the introduction. The added parts are in yellow.

* Line 4: what are these initiatives? Elaborate further.
Response : We refer to initiatives that have been developed elsewhere to fight dengue fever. Here are some of them: Community-based dengue prevention programs in Puerto Rico: impact on knowledge, behavior, and residential mosquito infestation; Community-based control of Aedes aegypti by adoption of eco-health methods in Chennai City, India; Community-based environmental management for malaria control. The correction has been made in the background section line 5-6.

* Line 7 and 8: Sentence requires a reference.
Response : With the corrections, this sentence has been deleted.

* Line 33: grammar correction - 'and' missing.
Response : The correction has been made

Methods

* Ethics - Human subject research was conducted and reported; therefore, this study should ideally have ethical clearance.
Response : We have indicated that the research has been approved by the National Health Ethics Committee (« Context », Line 6-7)

* Line 8: adapted - spelling correction

* Line 24: The information about the study population is unclear.
Response : Your comments have been taken into account in line 1-5 in « Study Population section »

* Line 33: and - grammar correction

* Was the CFIR framework a relevant fit for the study? It seems data was forced into the framework. (See comment on line 49 below results.) Were there any other additional, relevant findings, that were not documented because they did not fit into the framework? If additional findings were found, they need to be documented/reported in the results section.
Response : Yes, the CFIR framework was well suited to the study. That's what pushed us to use it. However, we found that not all elements of the framework were not relevant to this study. A number of elements of the framework could not be used. We have not mentioned them here because we are writing another article on this aspect. This article will be submitted in the coming months to the journal Implementation Science. The constructs not included in the study are: Relative advantage, Trialability, Cost, Patients Needs and Resources, Peer Pressure, External Policy and Incentives, Culture, Implementation Climate, Tension for Change, Comparatibility, Relative Priority, Organizational Incentives and Rewards, Goals
and Feedback, Individual Stage for Change, Other personal attributes, External change Agents, Reflecting and Evaluating.

Results

* Line 11: Self-efficacy of what behaviour? The term self-efficacy needs to be related to a behaviour.
Response: This section has been rewritten with your comments in consideration. See page 7.

* Line 11: Should this not read internal context?
Response: That's true. The correction has been made.

* Line 21: facilitator - spelling correction
Response: The correction has been made.

* Line 34: Please re-write this sentence.
Response: The correction has been made.

* Line 45: Define abbreviation

* Line 48: what is emic? Spelling error perhaps.
Response: It's actors perceptions. The correction has been made.

* Line 49: Spelling error – leaders
Ok

* Line 49: There seems to be a mismatch between some of the results headings and descriptions and reporting beneath the heading. Secondly, the descriptions lack depth. State concisely, what you are reporting.
Response: We have taken this remark into account in the rewriting of the section "presentation of results.

* Table 3 does not make sense. I question the appropriateness of the quantitative measures, in a qualitative research.
Response: We are inspired by a method that has already been used by Damshroeder and his colleagues in the article found in the link below.
https://implementationscience.biomedcentral.com/articles/10.1186/1748-5908-8-51
The purpose of using a scoring grid is to facilitate consensus among participants through the assignment of a score. Focus groups and individual interviews were used to collect stakeholders' perceptions of each construct used. It was therefore the choice of method that forced the use of quantitative data in this study.

Discussion

* The discussion seems to focus on the framework, rather than on implementation.

* Line 5: what and why is this obvious?
Response: We did not understand this comment well.
Response: First of all, we would like to thank you for the relevant reading work you have done. Thank you for your comments that allowed us to rework our article. These comments will also help us in our future work. Please find in the yellow sections our answers to your questions and comments. Good reception.

Reviewer #2: Overall: I appreciate the application of CFIR for the understanding of implementation effectiveness in this context to complement the previously published literature about the program. However, I find it lacking in terms of the analytics. I find that I keep reading that the program was well implemented and locally developed and adapted, with challenges in community and government support. But I don't find that the analysis reveals more to help us really understand the why and the how of the implementation. There are often statements made in the results that are not substantiated with evidence or data. I would like to see a re-work of the analysis section to really highlight the perceptions of the informants on each construct and how and why they reflected on each. It may help to attach the questionnaires used in the interviews and focus groups to understand how they were asked about each. It also feels as though the authors themselves are reflecting on the program rather than using the informants' experiences with lines like "we know that...". I would like to see a paper more grounded in the data, reflecting on the data. Specific comments on each section are included below. Note that I refrained from commenting too much on the discussion as I would rather review that section after a re-work of the analysis and discussion sections.
Background
In line 4, after you state the problem is growing, I would also add in a sentence that describes the importance of finding contextually-appropriate, highly effective interventions that can be implemented efficiently in these settings. This sets up the argument for why you would want to explore not just implementation fidelity and effectiveness, as you already have, but the implementation processes. Then, when you say that effectiveness is established, I think you should make the point more clear that those looking to learn from these strategies do not necessarily have guidance on what are critical to implementation success--and this is why you are exploring the topic.
Response : Changes have been made to the first paragraph to take into account your comments. The yellow parts are the additions that have been made. See background section page 3)

Line 15: Why has the surveillance system only registered Dengue since 2014? Does this have any bearing on the interventions that have already been used in Burkina Faso to address the issue? Presumably that means that perhaps without knowing the scope of the issue interventions have not been successfully at addressing it (or not existent at all). I would address either at the end of this paragraph of at the start of the next what has been done already in the country and if any of those interventions or policies have been evaluated.
Response : It should be noted that before the dengue epidemic in December 2014, political and health authorities had developed very few activities on this disease. One could even say that nothing has been done in this direction. It was therefore in 2015 that an action plan was developed and implemented at the same time as the intervention covered by this article was taking place. This explains the fact that not enough information was available on what had been done about this disease in Burkina Faso.

The third paragraph should be broken up: I would suggest first describing the intervention - not the supplementary piece, that is fine, but where it was implemented, for how long, what are the key activities. Then you can talk about the characteristics that make it unique (participatory approach, community engagement). It is easier to comprehend that sort of information when you have already laid out the core components.
Response : The last paragraph has been divided in two as indicated in the commentary. You can see this on page 10

Methods
Context
Line 54 and 57: can you clarify the size of the catchment area where the program was implemented? Also, with the description of activities it is unclear how the 1 KM radius operates--meaning if there are community based activities, were they only done within the 1 KM? or it is assumed that people living only within 1 KM of health centres were exposed? Clarifying this will help us understand exposure and scope of the intervention.
Response : The program was implemented within a 1 km radius of the health center. This means that all activities were limited to this area. Indeed, it is with regard to the financial resources available that this choice was made. It is therefore the populations living in this chosen area that have benefited from the programme's activities.
Can you describe who the facilitators are? Also what is the monitoring committee? What do they do? How are all of these participants in the interventions selected? This will help us understand also those that are selected for the study.
Response: The facilitators are men and women who have been chosen from among the members of the associations working in the area to participate in the implementation of the activities. Based on their experience and availability, they were chosen to join the project's field team.

The monitoring committee is a body composed of religious and customary leaders, heads of associations to support the implementation of project activities. Its main role was to facilitate the implementation of activities through public awareness and technical support to facilitators.

A specific criterion was not used for their selection to participate in the study. All interested parties were asked to participate in the focus group and interviews. The objectives of the study were explained to them beforehand.

Conceptual framework

In line 9 when you say "framework designs" I think you mean constructs? Could you perhaps list those constructs that you omit? This will be important to address in the discussion: either those that you omit because they aren't relevant, or those that you would have if you had the data but couldn't--these are more important as they are similar to having missing data. What would you have or could you have possibly learned that might influence the final conclusions that you could not because you didn't have data?"

Response: we found that not all elements of the framework were not relevant to this study. A number of elements of the framework could not be used. We have not mentioned them here because we are writing another article on this aspect. This article will be submitted in the coming months to the journal Implementation Science.

"Study Population"

I think perhaps the description of those who are part of each of these groups should go under the intervention description section in the background. Here what I would want to know is how did you select among those? What criteria did you use to be a respondent, for each type of methodology used? For example, who did you speak with in an interview, and who did you have in focus groups? Was everyone included (which seems like it is the case now)?

Response: All those involved in the implementation of the intervention were involved in the study. Everyone participated in the focus group. On the other hand, for the interviews, the 5 participants were chosen on the basis of their behaviour during the focus groups. The team decided to have in-depth discussions with the people who actively participated in the focus group. This criterion made it possible to select three participants from the group of facilitators and two from the group of members of the monitoring committee. Some changes have been made to this section on page 4.

Line 24 - is steering committee the same as monitoring committee?"

Response: It's the same thing. It's a mistake that's been fixed.

"Data Collection Methods"

In lines 43-44 you describe a stakeholder consensus, but it is unclear to me when this happens, since it precedes development of qualitative tools. You should spell out the full process--who are the stakeholders, what role do they play, and where do they fit within the overall data collection process?"

Response: Our first step was to get the participants to assign a score to the different constructs. At this stage, they discussed in the different groups to agree by consensus on a score that was assigned to each construct. Following this step, focus groups were organized to
allow participants to explain to the research team the reasons for choosing the different scores.

Results

In general I find the results rather basic in their explanation and lacking more of the analysis I would like to see. For example, the authors write that the program was (adaptable, had origin at the community, etc) and then state "this positively influenced the implementation" - but it leaves me asking: how? why? how did respondents perceive this? Sentences are written as factual statement rather than reminding us where these conclusions come from, and how they relate across participants. I think the whole section could use a re-work with consideration to framing it as results from respondents' comments rather than statements of conclusion without link to where the information is coming from. Also, I think some of the concepts are not as intended with CFIR. 1.2 I understand as the quality of the evidence of the intervention - as in, what was the evidence behind this intervention before it was started? How did participants perceive the effectiveness of home to home messaging rather than spraying? I think it is important to substantiate any claims you make in this section with quotes, yes, but also with a succinct description of the stakeholders comments about the themes related to each construct you identify. Line 61 is a good example of what I mean: the perceived and experienced simplicity...now, tell us why and how this was the case.

Also, in line 8-9 you state that there is little difference in scores - then why use them at all? I think actually with a range of 4 be design there is going to be minimal difference, but you actually do have differences in some rows: 1.3, 3.1, 3.3, 3.5, 4.2, 5.4 - I think you need to reflect on these differences and help us understand the value of the scoring in the analytic process."

For the construct "quality and strength of the evidence" I am not sure the way you frame it is what is intended. From the Damschroder article, the authors write "Evidence strength and quality Stakeholders' perceptions of the quality and validity of evidence supporting the belief that the intervention will have desired outcomes. Sources of evidence may include published literature, guidelines, anecdotal stories from colleagues, information from a competitor, patient experiences, results from a local pilot, and other sources" - in what ways did you informants reflect on the quality of the evidence for the intervention activities?

Response : Importants changes have been made in the "Results" section to take into account your comments. See pages 5, 6, 7, and 8.

Line 11 should be Internal
Response : The correction have been made.