Author’s response to reviews

Title: Supporting the use of research evidence in decision-making in crisis zones in low- and middle-income countries: A critical interpretive synthesis

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Re: Supporting the use of research evidence in decision-making in crisis zones in low- and middle-income countries: A critical interpretive synthesis

Dear Dr. Rosanna Gonzalez-Mcquire,

Thank you for your feedback regarding our manuscript (HRPS-D-19-00211). We have responded to the identified revisions below. All changes are now reflected in revised version of the manuscript.
Reviewer #1: General comments and minor changes

1. Dear Team, I really enjoyed this article and believe it makes a valuable contribution. Occasionally I didn't understand quite what was being said and some more details / definitions etc would help. This might in part have been because the figures were all at the end and not supporting the text as I read. I have included comments on the pdf and hope you find them helpful.

Response to Reviewer: Thank you for taking the time and effort to review our manuscript. We greatly appreciate your helpful feedback and have addressed all your minor comments in the revised manuscript and detailed here in this response to reviewers’ letter.

2. Whilst I realize that the health field is implied by the name of the journal, you don’t actually specify that you are focusing on health-related decisions at any point. It would help to indicate this early on in the abstract and the background / scope.

Response to Reviewer: We agree with the reviewers comment and subsequently added “health-related decisions” in the abstract under Background and in the Background section of the manuscript.

3. There’s a break missing before the ‘Methods’ heading

Response to Reviewer: Thank you for raising this, it seems to be a printing issue. We will make sure we keep an eye out for it when we receive the proofs for approval.

4. It took me a while to find this question, which surprised me a bit. I expected it to be made clearer earlier. Perhaps needs to be in bold? And perhaps worth repeating within the methods section?

Response to Reviewer: We agree with the reviewers comment and subsequently repeated our compass question in the first sentence of our methods section and bolded it in our background section.
5. I would expect to see at least one of the search strings reported somewhere - in an appendix or available online as supplementary material. I think the readers will be interested to see it, especially given that this approach is quite unusual.

Response to Reviewer: We agree with the reviewers comment and subsequently provided a table as supplementary material outlining our initial database search strategy.

6. I'm wondering how crisis zones in LMICs were defined? By country? Or by zones within countries? I can’t find any definition - I think it would be helpful.

Response to Reviewer: We agree with the reviewers comment and subsequently added a paragraph in the Background section of the revised manuscript, page 5, providing several defining characteristics of how we defined a crisis zone.

Reviewer #2: General comments and minor changes

1. The research question concerns strategies to facilitate/stimulate the use of existing evidence and points to barriers to using this available evidence. Much of the article deals with tools to access the evidence info, but not on the quality of this evidence (as indicated) - and more importantly, it does not look into other push & pull factors outside available evidence. The political agenda's set by donors and United Nations are arguably more influential and are not based on evidence but rather political framing. Recent examples are the integrated approach framework (UN and others), donor policies concerning fragile & conflict affected states (or similar terms), the health securitisation agenda etc. Arguably these have much more influence on the orientation and choices taken in crisis situations. I would argue these are not necessarily evidence based but serve broader development and political agenda's and are therefore one of the important factors NOT to use available evidence. Interventions during crisis are to a large extent determined by the funding available and thus the preferences of donors. Not only implementers but also researchers adopt the policy language and sometimes get specific funding to rather support instead of critically look at these policies. It would therefore have been useful to at least mention this strong force in the policy arena and examine its effect on using or not available evidence during crisis.
Response to Reviewer: Thank you for taking the time and effort to review our manuscript. We greatly appreciate your helpful feedback and have addressed all your comments in the revised manuscript and detailed here in this response to reviewers’ letter.

We agree with the reviewer’s comments in regards to the influence of political agenda’s in crisis zones. We indicated in our manuscript on pages 16 & 17 that: “Our review recognizes that decisions are not determined by evidence alone, but rather alongside professional opinion and other inputs to decision-making. This is why in the political system, we proposed strategies such as stakeholders dialogues that allow the research evidence to put alongside the tacit knowledge and real world views and experiences of front line staff (82)”.

In addition, in Table 2 under Political system, Interests, we highlighted that a barrier to evidence use include: “- Different actors lobbying government about preferred disaster management approaches based on organizational interests instead of using existing research evidence to clarify a problem, frame options, and address implementation considerations alongside other factors that influence decision-making (Initiates, January 2016, Lee, 2016a)”. This highlights some of the key barriers to support evidence use in crisis zones.

2. The other issue is there is no specific definition provided for ‘crisis’ in the selection of articles and evidence. Furthermore the use of the wide term ‘crisis' complicates drawing conclusions for the entire group. Natural disasters are not epidemic outbreaks, nor conflict. Each of them has very specific restrictions, eg the use of government health systems during a conflict in which the government is party to has important implications eg South Sudan or Yemen. Even during outbreaks this becomes an issues, such as in North Kivu, DRC.

Response to Reviewer: We agree with the reviewers comment and subsequently added a paragraph in the Background section of the revised manuscript, page 5, providing several defining characteristics of how we defined a crisis zone.
3. There is a methodological problem in the review in the grouping/compiling of crisis in any Low & middle income country. Not only is it recognised now that country's GDP-classification is unhelpful to base decisions on in determining health needs assessments and interventions, using averages based on experiences/evidence from such a wide range of countries makes it difficult to draw conclusions from. If there is one guiding principle recognised in crisis interventions, it's that context matters enormously and interventions need to be adapted to the specific contexts.

Response to Reviewer: We agree with the reviewers comment that “context matters enormously and interventions need to adapted to the specific contexts”. We highlighted this in our manuscript on page 4 stating: “Decision-making is complex, both because it is context dependent and because it is often influenced by the need to act quickly in sometimes less than ideal situations with relatively little access to information. Recognizing this complexity, evidence-informed decision-making has been described as an approach that aims to ensure that decisions are influenced by the best available research evidence, while acknowledging the other factors that influence it (17). These other factors include institutional constraints, interests, ideas such as values, and external factors like the election of a new governing party. In spite of these complexities, strengthening the use of research evidence in decision-making holds the promise of achieving better use of limited humanitarian aid resources”.

In addition, under Future Research on page 18 we indicate that: “Future studies could apply our theoretical framework in purposively sampled crises, examining specific facilitators of and barriers to research evidence use in decision-making and which of any strategies are used to leverage the facilitators or address barriers. This would be beneficial in drawing lessons from the framework’s application and in identifying gaps in the framework that need to be addressed. Additionally, future studies could apply the strategies in one or more of the four involved systems to examine whether and how they increase the prospects for evidence use in crisis zones. This could potentially better inform the design of future strategies to support the use of research evidence in such situations.” The goal would be to adapt the strategies we proposed in our study to specific contexts, as indicated in our manuscript.

4. In the article there is an important source of information left out beyond the ones mentioned, namely standards and guidelines based on evidence and past experience, from specific agencies (WHO, UNICEF, OXFAM, MSF) and/or agency groups (e.g. refugee health manual). The closest mentioned to this are the 'professional opinion' and 'experts' but this seems only to speak about individuals present or involved in the crisis itself.
Response to Reviewer: We agree with the reviewer’s comment and this is in our Discussion section of our manuscript we stated that: “Our review recognizes that decisions are not determined by evidence alone, but rather alongside professional opinion and other inputs to decision-making. This is why in the political system, we proposed strategies such as stakeholders dialogues that allow the research evidence to put alongside the tacit knowledge and real world views and experiences of front line staff (82).” In addition, we employed the following article selection criteria, as outlined in our manuscript on page 8: “For inclusion, the documents had to provide examples of strategies, facilitators and/or barriers to evidence use in crisis zones in LMICs.” We also provided definition of research evidence on page 8: “For the purpose of article selection, we defined research evidence as the output of research that has been conducted in a systematic way and reported in a transparent manner. Our definition of research evidence includes evidence described in both empirical papers (e.g., observational studies, surveys and case studies) and conceptual papers (e.g., theoretical papers). It also includes both primary studies and secondary research (e.g., systematic reviews and other forms of evidence synthesis). We distinguish such research evidence from other types of information, including data, tacit knowledge or ordinary knowledge (23), and stakeholder opinions.”.

5. It’s strange to see that under political systems there is mainly reference to national government level tasks. International politics play a major role - beyond the international humanitarian aid which is included.

Response to Reviewer: We agree with the reviewers comment and on page 11 of our manuscript, we stated: “The political system refers to the various actors at the government level tasked with setting laws that pertain to the health, international humanitarian aid, and health research system.”

In addition, we capture international politics in our study in Table 2, under Interests by stating that: ”- Different actors lobbying government about preferred disaster management approaches based on organizational interests instead of using existing research evidence to clarify a problem, frame options, and address implementation considerations alongside other factors that influence decision-making (Initatives, January 2016, Lee, 2016a)”. 
6. The definition of health system on page 10 under line 201 seems to refer mainly to implementing capacity and moreover seems in contradiction of the frequently used terminology of 'fragile states', which indicate government unable or unwilling to provide basic social services to their population.

Response to Reviewer: We agree with the reviewers comment and in our definition of health system, on page 11, we indicate that: “The health system refers to Ministries of Health and health organizations that when well-functioning are able to get the right programs, services, and drugs to those who need them.” We provided further explanations of how we analyzed the facilitators and barriers at the health, international humanitarian aid, and health research system according to arrangements that were informed through an established health systems taxonomy that includes: governance (i.e., who can make what types of decisions to support evidence use), financial (i.e., understanding how funds can be channeled in ways that support evidence use), and delivery (i.e., infrastructure to support evidence use) (33).”

7. A similar remark can be made on the use of 'humanitarian aid system', focusing on delivery of services. It would have been useful to mention at least some of the principles of humanitarian aid that guide interventions in crisis situation -focusing on people and the most vulnerable first and foremost and operating with impartiality, independence, neutrality etc.

Response to Reviewer: We agree with the reviewers comment and subsequently added a sentence on pages 11 & 12 stating the reviewer’s helpful comment: “Some of the principles of the humanitarian aid system that guide interventions in crisis zones include focusing on the most vulnerable population first and operating with impartiality, independence, neutrality, etc.”

8. Another point is the fact that often in crisis decisions need to be made while dealing with a high degree of uncertainty. This implies dealing with unknowns and also regular/fast revision of decisions during crisis as additional/different information appears. This is also left out of the article.
Response to Reviewer: We agree with the reviewers comment and included a paragraph under Background section of the manuscript, page 5, stating that: “There are several defining characteristics of a crisis situation. First, events that led up to a crisis situation are often unexpected. Second, the crisis event creates uncertainty with what the future holds under this new unexpected event. Third, the crisis event is seen as a threat to the important goals of security and sustainability of a normal structure. Recent humanitarian crises — be it the Ebola epidemic or the Syrian refugee crisis — have placed considerable stress on health systems that are not fully equipped to deal with such crises. For all these reasons, it is important that we start to think how can we build effective humanitarian systems that are able to respond to crises. What makes decision-making in crisis situations unique is the high levels of stress, often in intense and sometimes dangerous situations. Research evidence can help decision-makers respond in a timely manner in such situations.”

In addition, we included the following sentence on pages 20-21 stating that “future studies could apply the strategies in one or more of the four involved systems to examine whether and how they increase the prospects for evidence use in crisis zones. This could potentially better inform the design of future strategies to support the use of research evidence in such situations and contribute further to our understanding of what types of influence each strategy could be expected to have if successfully implemented in different systems and for different types of crises.”

9. In the selection of articles 1 in 4 is discarded, which seem high. Most articles that speak about 'success' deal with information sharing (such as Haiti example on page 13) but do not indicate any evidence of improved outputs of the emergency response by the use of this information.

Response to Reviewer: We highlighted on page 8 that: “We assessed the relevance of included studies in the synthesis. For the purposes of this interpretive review, we applied a low threshold of relevance to maximize the inclusion and contribution of a wide variety of papers that address the objectives of this synthesis (24). We did not perform an appraisal of quality because the core objective is the development of a theoretical framework based on insights and interpretation drawn from relevant sources, rather than those that meet particular quality criteria.”
In addition, as part of our article selection detailed on page 8 of our manuscript, “We excluded the following types of articles: 1) focused on translating clinical research into practice; 2) focused on translating health knowledge to citizens (e.g., patients, members of the public); 3) focused on information systems that deal with raw data and not research evidence; and 4) deemed to be fatally flawed (as determined by an adapted version of the criteria proposed by the National Health Service National Electronic Library for Health for the evaluation of qualitative research, which assess the appropriateness of the aims and objectives and of the research design, etc.).”

10. A selection bias is worth mentioning that research in highly insecure contexts is less available, as often researchers face difficulties to access these places, and therefore 'acute crisis' situations are likely to be less represented.

Response to Reviewer: We agree with the reviewers comment and subsequently added in the Discussion section of our manuscript, under Strengths and Limitations, the following: “In addition, literature stemming from highly insecure contexts were less available as often researchers have difficulty conducting research in such settings.”

We appreciate the reviewers comment and we included the following paragraph in our Discussion section of the manuscript, page 19, stating: “Despite our best efforts to examine evidence use in crisis zones, we were unable to make assertions on how context influences the application of strategies to support evidence use in crisis zones in different systems. For example, it is considerably easier to convene a stakeholder dialogue to inform policy options within a relatively stable county (i.e. for Syrian refugees in Lebanon), rather than attempting to convene dialogue in the midst of war zones, outbreaks or natural disasters. However, the findings presented in this study serve as a foundation for research that aims to explore the impact of context on strategic outcomes related to evidence use/uptake.”

11. A further complication is that the search and therefore most articles reviewed date from before April 2017, i.e. before the Istanbul summit on Humanitarian Aid that declared an intention towards new ways of working. This makes the review probably less relevant as it illustrates exactly the first point mentioned i.e. that evidence is not the basis guiding interventions in crisis situations, but rather political agenda's.
Response to Reviewer: We acknowledge the reviewer’s comment about the Istanbul summit on Humanitarian Aid declaring an intention towards new ways of working. We highlight in our discussions section that: “Our conceptual framework offers a window into the continued progress regarding both the conceptual and practical implementation of strategies to support evidence use in decision-making in crisis zones.” In addition, we highlight in our manuscript that: “strategies are needed to support the use of the vast pool of high quality and locally applicable research evidence”. In addition, under Implications for policy and practice, we believe that: “The results of our study may enable different actors in crisis zones to reflect on how they can utilize their professional position to support the use of evidence in decision-making, both in the system within their sphere of at least potential control and in the other systems that may be within their sphere of influence. For example, policy-makers in the political system can engage researchers in the health research system to help facilitate a stakeholder dialogue. We recognize that asking these actors to adopt or adapt established strategies and develop new ones that address all the barriers and leverage all of the facilitators is a big challenge to undertake. Our hope is that our framework and strategies serve as the starting point for incremental change to occur over time with the goal of getting closer to addressing the evidence needs of decision-makers in crisis zones.”

12. The 2 strategies that are put forward ie stakeholder dialogues and evidence briefs, would merit further discussion, especially in terms of how to protect independence and objectivity of these processes. There is no mention of ‘vested interest’ from the health system and other actors in the grouped stakeholder discussion, with a reluctance to change that might affect these vested interests and/or push certain political agenda's.

Response to Reviewer: We agree with the reviewers comment that “vested interest from the health systems and other actors” might influence stakeholder dialogues and evidence briefs synthesis processes. We raised in our manuscript under Future Research that: “future studies could apply the strategies in one or more of the four involved systems to examine whether and how they increase the prospects for evidence use in crisis zones. This could potentially better inform the design of future strategies to support the use of research evidence in such situations.” Our hope is that by applying the strategies proposed from our new conceptual framework, we will be able to draw “lessons from the framework’s application and in identifying gaps in the framework that need to be addressed”.

13. For the evidence briefs - and especially making them rapidly available - these might be certainly useful, but their usefulness will critically depend on who is translating this research into context-specific recommendations. It's not entirely clear to me if the authors suggest that this 'translation' should be done rather by academics than by the professional experts mentioned above?

Response to Reviewer: We agree with the reviewers comment and subsequently added the following sentence to address the reviewers helpful suggestion stating on page 13: “The developers of evidence briefs should consider whether they or another group are better positioned to produce the evidence briefs and conduct the policy dialogues”.

14. Future research might include some classification of the available evidence in terms of strength, usefulness and applicability, as this will determine critically its use.

Response to Reviewer: We agree with the reviewers suggestion that future research might want to include evaluation of the strength, usefulness, and applicability of the available evidence. For our study, we indicate on page 8 and 9 under methods that: “We did not perform an appraisal of quality because the core objective is the development of a theoretical framework based on insights and interpretation drawn from relevant sources, rather than those that meet particular quality criteria.”

15. Another methodology could be to interview people on the wider process and their experience during a recent crisis they lived through and check if they felt there was willingness to use evidence (compared to other guidance/influence), evidence on what issues would have been useful, what sources of info they used, how did they apply it/or not and why (not).
Response to Reviewer: This is a great suggestion by the reviewer. Our team did conduct such study that was recently published by Health Research Policy and Systems journal. We conducted 31 interviews with participants either currently working or have worked within the last year in a crisis zone where we investigated the information needs of stakeholders working in crisis zones, the types of information they use, and the sources for obtaining the information. The study provided valuable insight on how best to meet stakeholders working in crisis zones knowledge needs. The reference to our study is: “Khalid, A. F., Lavis, J. N., El-Jardali, F., & Vanstone, M. (2019). Stakeholders’ experiences with the evidence aid website to support ‘real-time’ use of research evidence to inform decision-making in crisis zones: a user testing study. Health Research Policy and Systems, 17(1), 1-14.” The study can be found at: https://rdcu.be/bZXVW

16. Taking into account the above, the proposed framework seems at the same time too narrow (not including international political agenda's) and too general (too wide range of types of crisis with little specific context factors).

Response to Reviewer: We appreciate the reviewer’s comment and we included the following paragraph in our Discussion section of the manuscript, page 19, stating: “In addition, despite our best efforts to examine evidence use in crisis zones, we were unable to make assertions on how context influences the application of strategies to support evidence use in crisis zones in different systems. For example, it is considerably easier to convene a stakeholder dialogue to inform policy options within a relatively stable county (i.e. for Syrian refugees in Lebanon), rather than attempting to convene dialogue in the midst of war zones, outbreaks or natural disasters. However, the findings presented in this study serve as a foundation for research that aims to explore the impact of context on strategic outcomes related to evidence use/uptake.”

We also included the following paragraph in our Discussion section of the manuscript, page 19, to strengthen the added value of our study by stating: “Within humanitarian aid research, this study the first to explicitly focus on the four interconnected systems — political, health, international humanitarian aid, and health research. Research to date has tended to take a broader, non-system specific approach to examining evidence use in crisis zones. This makes it challenging to identify which system the strategies to support evidence use are best handled by and, within a system, which actor is best suited to implement the strategies. The systems level analysis explored in this study contributes to alleviating this challenge by focusing on each system specifically, and the actors that can exert influence on supporting evidence use within them.”
In addition, we stated in our manuscript, page 20, that: “What is currently missing from the theory is specific strategies to support evidence use in crisis zones that leverage the facilitators and address the barriers to evidence use within different systems (e.g., political, health, etc.). This study offers a new conceptual framework that addresses this gap by identifying and helping to explain the strategies that can be employed to integrate the use of evidence more systematically in crisis zones.”

Finally, we also state on page 20 that, “Our hope is that our framework and strategies serve as the starting point for incremental change to occur over time with the goal of getting closer to addressing the evidence needs of decision-makers in crisis zones.” Finally, this study examines evidence use in crisis zones at a system level putting forward actionable strategies at different system levels to improve evidence use in crisis zones.

Sincerely,

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