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Title: Domestic application of lessons learned by Canadian healthcare professionals working in international disaster settings: a qualitative research study
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Reviewer 1: Jasmine Pawa
Institution: University of Toronto and Public Health Physicians of Canada
General comments (author response in bold)

Dear Dr. Pahwa,
Thank you for the time and energy you contributed as a reviewer. We recognize the thought and time you put into your comments and appreciate your engagement.

1. Page 1 - "The potential for disasters and public health emergencies is increasing globally, requiring expertise and capacity to prevent, prepare for, respond to, and recover from these events."
It may be helpful to cite or reference this for more clarity on what is being referred to and over what time period? While the number of disasters and economic impacts is increasing, related deaths may actually be declining (although impact of climate change/planetary health to come not clear)?
We have cited the reference for this statement. We agree that the number of deaths related to disasters might be declining. Still, the number of people affected by disasters or emergencies is increasing, which is an important outcome. Disaster response training of the healthcare workforce is vital to be prepared for future health-related emergencies and natural disasters due to climate change or pandemics like COVID 19.

2. The work flags the COVID-19 pandemic as its main driver but focuses primarily on the health care sector. It may be helpful to also acknowledge the public health service delivery (distinct from the health care sector) and whole-of-government (economic, travel restrictions, etc) that is not within scope for this work. It may also be helpful to include for context the inclusion of "Emergency Preparedness and Response" as one of the six core functions of public health services commonly accepted in Canada and/or indicate a need to collaborate with public health teams in Canada to effectively deliver these services.
Thank you for this helpful comment. We acknowledge the important role that public health has played in responding to the pandemic while collaborating with different levels of government within Canada. We have added the following information to the introduction (page 2).
In Canada, emergency preparedness and response is one of the core competencies of public health professionals. To mitigate the threat of the pandemic, Canada implemented a "whole-of-government" approach that included simultaneous actions in economic, social, and health sectors. Public health has led the collaborative decision-making within the different levels of government by placing measures to increase and protect healthcare capacity. Public health also progressively implemented strict physical distancing measures, masking, lockdowns, quarantine measures, travel restrictions, and bans on non-essential travel. Despite these measures, the pandemic has put healthcare workers in an

unprecedented situation and work under extremely stressful and unpredictable conditions.

3. It may be helpful to add a bit more clarity for what the domestic and international focus/implications are respectively. It appears that those interviewed were deployed internationally and the learnings being discussed are for domestic application? Or the learnings are for both domestic and international application? Were any of the deployments of the individuals referred to within Canada? I'm not sure I've understood this correctly however.

The deployments being referred to are international. The study has tried to explore these experiences and interpret how the lessons learned internationally are applicable domestically. This work is our attempt to highlight the talent and expertise present in Canada, which can be accessed in times of emergency. This expertise can also be used to train the future healthcare workforce in disaster preparedness and response. We have tried to make our language more consistent and clarify this in the text.

4. I noticed that preliminary findings were shared with Canadian Red Cross (CRC) leadership periodically, was their feedback incorporated? Were other methods of triangulation, peer debriefing, etc conducted? It might be good to include a note in the limitations about the role of conventional content analysis as compared to grounded theory or other methods. It may also be helpful to note that 14 of the 18 interviews were individuals working in Ontario - perhaps that reflects the general distribution of Canadian Red Cross staff however?

- **Main themes were shared with CRC leadership. Their feedback provided us with more context and helped us understand specific topics that arose, like how deployment works etc.**
- **We did not use any other methods except for a one-time interview.**
- **Regarding the suggestion that we add a limitation re: conventional content analysis (CCA) versus grounded theory or other qualitative methods, we don't see this as a limitation. In our opinion, CCA is simply a different methodology and is appropriate for the aims and objectives of this study. Sandelowski (2010) describes how descriptive methods (such as CCA) can be more useful for applied health research questions than interpretive methods (e.g. Grounded Theory). In the limitation section, we have added a note about the context-driven nature of qualitative findings and caution re: transferring these findings to different socio-historical or geo-political contexts.**
- **Because recruitment was done through the CRC headquarters in Ottawa, we were able to recruit most participants from the surrounding area. The population of Ontario is also proportionally higher than other provinces, which is reflected in the ERU delegate pool.**

5. The findings of the importance of personal traits really resonates. I understand there is significant existing literature on this in the international context - I wonder if the specific lessons learned for Canada could be more clearly outlined? The relevance of the link to CanMeds did not seem very clear. Nor did the link to adapting to various socio-cultural contexts; perhaps drawing links to literature on the importance/relevance of cultural safety could be helpful. It may be helpful to have a bit more information on what this study adds and what organizations can do differently when responding to pandemics or other emergencies based on these findings. Are there any existing

resources on how an organization may assess for these personal traits outlined that can be flagged?
We have updated the section to imply applications of these findings to Canada more clearly and how these findings are synergistic with CanMeds competencies (page 8). We have also added some references that highlight the importance of cultural competency during disaster response and presented the example of indigenous peoples in Canada (page 9).
We did not come across any existing resources around personality trait assessment but anecdotally know that each organization may use an internal framework.

6. I think it would have been helpful to have more included on reflexivity. For example, how do the interests of the Red Cross as an organization accessing funding and delivering services connect to an academic paper that could be seen to be assessing and learning from its team members responses.

Some comments I have found helpful on reflexivity are excerpted below.
"Reflexivity generally refers to the examination of one's own beliefs, judgments and practices during the research process and how these may have influenced the research. If positionality refers to what we know and believe then reflexivity is about what we do with this knowledge. Reflexivity involves questioning one's own taken for granted assumptions. Essentially, it involves drawing attention to the researcher as opposed to 'brushing her or him under the carpet' and pretending that she or he did not have an impact or influence. It requires openness and an acceptance that the researcher is part of the research (Finlay 1998)." (Education Studies, University of Warwick. "Reflexivity." Last updated Oct 9, 2017. Accessed from https://warwick.ac.uk/fac/soc/ces/research/current/socialtheory/maps/reflexivity on April 5, 2021).
Thank you for this information. We found it very helpful. We have added the following statement on reflexivity in the methods section (page 5).
All team members (L.R., M.V., M.H., L.S., S.So., N.A., A.H., S.Sh.) reviewed the emerging themes and supporting quotes to draw interpretations from the study findings and discuss "reflexivity" to consider how our roles, positions, perspectives, and the relationship with CRC impacted our analysis.

7. If space is an issue, I wonder if the sentences about student research assistants could be removed.

8. Also noted a few minor grammatical issues throughout.
Sorry for the oversight; we have corrected these in the text.

9. Page 10 - "Overall, this study illustrates that many Canadian physicians and healthcare workers have acquired individual skills and team capacities essential for effective disaster response."
I wonder if might be good to reconsider or rephrase this statement, that it draws conclusions beyond those learned from the interviews?
We agree with your critique and have rephrased the statement accordingly.

10. It would also be helpful to have a bit more detail on which professional training programs are being considered here - graduate training, health care provider training, specific professional training, diploma courses, …?

We have added more information about the types of training programs (page 9).

Thank you again for all of the work on this research and the opportunity to share a few thoughts. Qualitative research on these topics, both from the perspective of those responding and also members of the general public impacted by the response, seems very valuable.

Reviewer 2: Dr. Mike Webster
Institution:
General comments (author response in bold)

[Editor's note: for specific areas to address in your revision, please see "starred comments" below.]

Does the background accurately represent current knowledge in this field?
- yes. this narrative needs expanded for organizations like the CRC and other NGOs operating in Canada. Particularly in remote regions of Canada, lessons carried over from international disaster efforts will have domestic applications; especially as related to identifying training gaps, support of workers, and culturally bridging disaster management from urban to rural/remote contexts. The author(s) demonstrate clear understanding of this in methodology and referenced literature.

Do the authors explain why they conducted the study?
- clearly. while it appears that the sample size could be expanded and diversified among health professionals, the participatory nature of the research provides directions for further research.

Is there a clear research question?
- yes. the problem is identified clearly.

Is the study design appropriate?
- the design of this study for participatory research through interviews seems appropriate for the identified research problem.
*** It is not entirely clear to me how participants were selected....for instance how many nurses vs physicians vs logisticians. Did participants deploy in similar international disaster settings or were there marked differences in the environment, local language/culture, duration of deployment, among other potential differences? Was this accounted for with participant selection and/or bias?***
Thank you for your comments, Dr. Webster,
We did not have any specific inclusion criteria except for delegated must have worked with CRC-Emergency Response Unit in the past five years and were able to participate via telephone or in-person by meeting at CRC headquarters in Ottawa. We invited all the interested delegates to participate in an interview regardless of their occupation or role in CRC. We also did some purposive sampling where we targeted delegates to ensure we had some physicians, nurses, administrators and leadership representation. The participants were deployed to many different regions abroad; some were deployed to the same regions for a similar duration. The consensus between participants was that no matter which region they were deployed to, they faced similar issues like cultural differences, logistical challenges and emergency situations that they needed to navigate. We

found similar data in previous literature (Oldenburger et al., 2017). We have added text to clarify these concerns and also alluded to this in the limitation section.

Are the results reasonable? Interesting? Surprising?
- the results are a reasonable reference for developing domestic disaster response by providing data that international deployments can provide insights as well as being an area to recruit suitable staff. However, the results do not seem surprising.

Is the interpretation supported by data in the results?
- yes. the author(s) do a commendable job to support the interpretation

Do tables and figures accurately represent the data? Would some other visual be more helpful?
- data is presented clearly and easy to access

Are any important limitations not mentioned?
- data was only collected from Red Cross workers.

Did you spot any fatal flaws? That is, errors you do not believe the authors could overcome. Please explain clearly.
- no fatal flaws or errors

For whom are these findings relevant?
- primarily physicians and nurses in field hospital settings in disasters. Possibly first responders as well, but there is little direct data that is relevant to them

Do the authors place their findings in the context of the literature?
Yes.