

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Joint international consensus statement on crowdsourcing challenge contests in health and medicine: Results of a modified Delphi process
AUTHORS	Han, Larry; Tang, Weiming; Ritchwood, Tiarnay; Day, Suzanne; Wei, Shufang; Bao, Huanyu; John, Randall; Kpokiri, Eneyi; Mathanga, Don; Awor, Phyllis; Juban, Noel; Arroyave, Diana; Ambil, Vibhu; Xiong, Yuan; Oppong, Emmanuela; Tucker, Joseph

VERSION 1 – REVIEW

REVIEWER	Wang, Lingling Beijing Institute of Technology
REVIEW RETURNED	01-Mar-2021

GENERAL COMMENTS	<p>This study meaningfully addresses a significant problem facing now worldwide. It is an interesting topic, which describes a consensus development process and presents the final statement as a tool for informing crowdsourcing approaches to health and medical research. There are some suggestions that need to be addressed by the authors before publication.</p> <ol style="list-style-type: none"> 1. In general, the paper is well written, but it lacks a clearer scientific contribution. 2. What's the relationship between crowdsourcing and health? Why crowdsourcing is better than other tools? It should be addressed in Section 1. 3. Some approaches in the "Evaluating challenge contests" (Lines 50, Page 8) are common sense. Could authors offer quantitative and qualitative evaluation related to medical issues? 4. The conclusion part should be more detailed, such as future directions, limitations. 5. There is missing a paper structure in section 1, for example, section 2 ..., section 3..., etc.
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REVIEWER	Johnson, Andrew M. University of Western Ontario, Health Studies
REVIEW RETURNED	05-Apr-2021

GENERAL COMMENTS	<p>This is an interesting and well-written paper - and is a particularly good exemplar of a Delphi study. I have only four concerns that can likely be addressed through the inclusion of additional information within the methods section.</p> <ol style="list-style-type: none"> 1) No information is provided, concerning the documentation of consent by the individuals participating in the study. I assume that the authors either took the view that (a) the experts involved in the panel were commenting privately on areas within their professional
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	<p>expertise and therefore informed consent was not required; or that (b) participants provided implicit consent through the completion of the online questionnaire. I would be of the opinion that (b) is more appropriate than (a), but regardless, the authors may want to include additional information within the methods section, to indicate how they managed informed consent.</p> <p>2) It was unclear to me as to whether or not survey respondents were provided with detailed information concerning the “item” for inclusion in the guidelines. For example, in considering the item “appropriateness of challenge contests”, did the participants receive (at any point) the detailed paragraph that the authors present at the bottom of page 6? Did the participants receive the information that is presented in Table 3? Or was this information assumed, owing to the fact that the participants are considered to be experts in this domain? Or was this information further discussed during the detailed interviews, after the online questionnaire was analyzed? I assume the latter, but this could be made more explicit within the paper.</p> <p>3) Looking at the items in Table 2, it is unclear as to whether or not survey respondents were asked about challenge contests in particular, or crowdsourcing in general. All of the items appear to ask about “crowdsourcing”, rather than “challenge contests”. Again, perhaps this was discussed in greater detail at the in-person consensus conference, but this should be made more explicit.</p> <p>4) Finally, I would have liked to see additional information concerning the review that was carried out at the in-person meeting. I would also have liked to see additional information concerning the summarizing of the questionnaire results that was mentioned as the final step of the process. Is that summary this manuscript? Or was there an additional attempt at securing consensus regarding the final product of the consensus-building exercise?</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer 1: Dr. Lingling Wang, Beijing Institute of Technology

Comment: “In general, the paper is well written, but it lacks a clearer scientific contribution.”

Response: We have added further details to the Introduction on the scientific importance of consensus statement development for implementation of crowdsourcing challenge contests, namely the ability to mitigate risks associated with inconsistent application of crowdsourcing methodologies, to enhance the reproducibility and rigor of crowdsourcing challenge contests, and to bolster trust in this innovative methodology among both health researchers and public stakeholders.

Comment: “What’s the relationship between crowdsourcing and health? Why crowdsourcing is better than other tools? It should be addressed in Section 1.”

Response: We have revised the introductory section to further highlight the contributions and value of crowdsourcing approaches, with specific examples from the literature demonstrating the effectiveness of crowdsourcing to both develop innovative solutions and engage community stakeholders.

Comment: "Some approaches in the "Evaluating challenge contests" (Lines 50, Page 8) are common sense. Could authors offer quantitative and qualitative evaluation related to medical issues?"

Response: We have expanded this section to include further details (with examples) on the contributions that evaluating challenge contests can have for health research, including assessing the reach and level of public interest in the health problem targeted by the contest, as well as the extent to which a crowdsourcing challenge contest presents a viable stakeholder-driven alternative to "top-down" (i.e. expert-driven) development of solutions to health problems.

Comment: "The conclusion part should be more detailed, such as future directions, limitations."

Response: We have expanded the limitations section to include further details as per the Editor's similar feedback, as well as a statement on future directions.

Comment: "There is missing a paper structure in section 1, for example, section 2 ..., section 3..., etc."

Response: The chosen subheadings for each main section of the manuscript are based on formatting guidelines outlined in the BMJ author instructions. We were unable to find examples of previously published BMJ articles that include section numbers for each subheading in the manuscript, and as such we have not revised the subheading titles in our resubmission.

Reviewer 2: Dr. Andrew M. Johnson, University of Western Ontario

Comment: "No information is provided, concerning the documentation of consent by the individuals participating in the study. I assume that the authors either took the view that (a) the experts involved in the panel were commenting privately on areas within their professional expertise and therefore informed consent was not required; or that (b) participants provided implicit consent through the completion of the online questionnaire. I would be of the opinion that (b) is more appropriate than (a), but regardless, the authors may want to include additional information within the methods section, to indicate how they managed informed consent."

Response: Informed consent was obtained from all participants of both the online and in-person surveys. For individuals participating in the online survey, electronic informed consent was obtained in lieu of written consent. Written consent was obtained from all participants of the survey administered in-person at the 2-day workshop in Uganda. We have added a description of these consent processes to the Methods section.

Comment: "It was unclear to me as to whether or not survey respondents were provided with detailed information concerning the "item" for inclusion in the guidelines. For example, in considering the item "appropriateness of challenge contests", did the participants receive (at any point) the detailed paragraph that the authors present at the bottom of page 6? Did the participants receive the information that is presented in Table 3? Or was this information assumed, owing to the fact that the participants are considered to be experts in this domain? Or was this information further discussed during the detailed interviews, after the online questionnaire was analyzed? I assume the latter, but this could be made more explicit within the paper."

Response: We thank the reviewer for this opportunity to further clarify our methods. Given that participants were all experts in the field of crowdsourcing or had used crowdsourcing in their own research, we did not provide participants with detailed background on each item. Survey respondents were presented with a series of statements pertaining to different phases of organizing, and were

asked to indicate the extent to which they agreed with each statement. This information is provided in Supplemental Material 1. Table 3 was not provided to participants as a part of the survey. We have added additional text to the Methods section to clarify what information was presented to survey participants.

Comment: “Looking at the items in Table 2, it is unclear as to whether or not survey respondents were asked about challenge contests in particular, or crowdsourcing in general. All of the items appear to ask about “crowdsourcing”, rather than “challenge contests”. Again, perhaps this was discussed in greater detail at the in-person consensus conference, but this should be made more explicit.”

Response: This is an excellent clarification to make, and we thank the reviewer for pointing out this potentially confusing use of “crowdsourcing”. To clarify: in the initial online survey, respondents were asked to consider crowdsourcing approaches as a whole – without specifically being requested to consider crowdsourcing challenge contests. This was in order to allow for participation from a broad range of experts who had used various forms of crowdsourcing previously – not only challenge contests. However, in administering the survey to in-person participants of the workshop, it was made explicit to participants that the term “crowdsourcing” used throughout the questionnaire should be considered to refer specifically to crowdsourcing challenge contests. We have revised the Methods section to indicate this, and have also added text to clarify that in the final consensus statement, “crowdsourcing” is a shorthand for crowdsourcing challenge contests specifically.

Comment: “Finally, I would have liked to see additional information concerning the review that was carried out at the in-person meeting. I would also have liked to see additional information concerning the summarizing of the questionnaire results that was mentioned as the final step of the process. Is that summary this manuscript? Or was there an additional attempt at securing consensus regarding the final product of the consensus-building exercise?”

Response: We have included the longer version of the considerations as Supplement 3. This included more detailed information about each of the steps. The consensus product is this manuscript.

VERSION 2 – REVIEW

REVIEWER	Wang, Lingling Beijing Institute of Technology
REVIEW RETURNED	05-Sep-2021

GENERAL COMMENTS	The authors have well addressed all of my concerns raised last time, therefore I would like to recommend its publication. Minor revision: Some typos and mistakes exist in the manuscript. It is suggested to rectify them and to double check the whole manuscript to avoid these errors.
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REVIEWER	Johnson, Andrew M. University of Western Ontario, Health Studies
REVIEW RETURNED	10-Aug-2021

GENERAL COMMENTS	The study justification is well-presented within the manuscript, and the methods are clearly described. A Delphi survey method is well-suited to the task of generating a consensus statement, and the results are well-organized within the manuscript. Finally, the
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	discussion follows clearly from the results. In sum, I have no concerns, and would recommend the publication of the paper.
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