Author’s response to reviews

Title: Identification and weighting of kidney allocation criteria: a novel multi-expert fuzzy method

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Dear Dr. Alison Cuff,

We are grateful to have been given the opportunity to revise our manuscript entitled "Identification and weighting of kidney allocation criteria: a novel multi-expert fuzzy method" (MIDM-D-18-00478R1) for BMC Medical Informatics and Decision Making. We have made every attempt to ensure that the reviewers' comments have been adequately addressed in the revised manuscript. We believe these revisions have resulted in a significantly improved manuscript. Our responses to the reviewers’ comments are listed below.

Thank you again for consideration of our revised manuscript.

Yours Sincerely,

Mohammad Mehdi Sepehri

AUTHORS’ RESPONSES TO THE EDITOR’S COMMENTS
Editor’s Comment: I look forward to publishing your article once you have addressed the minor comments below. I much enjoyed reading it.

Authors’ Response: We would like to thank you for your precious time and consideration. We appreciate the positive feedback from the editor.

We have addressed all of the comments offered by the Reviewers. We honestly feel that his/her insightful suggestions helped us in improving the manuscript. Reviewer’s original comments are listed below followed by our response to each comment.

AUTHORS’ RESPONSES TO THE REVIEWER 2’S COMMENTS

We thank you for the time and energy expended on our behalf. Your constructive feedback provided us a great opportunity to improve our manuscript. Below, you will find our responses to your comments.

1. Reviewer’s Comment:

Figure 3:
- Change "PRA" to "PRA>80%"
- Change "Waiting time" to "Waiting time (per year)"
- Change "Medical urgency" to "Medically urgent"

Authors’ Response: Thank you for this observation. The correction has been made (Figure 3).

2. Reviewer’s Comment:

The new sentence (row 257) "When there is an emergency patient..." is unclear. Consider revising to make it more clear.

Authors’ Response: Thank you for your comment. We rewrote these sentences (Methods, kidney allocation criteria Section, lines 257-259, page 10).

3. Reviewer’s Comment:

Regarding the average waiting time comparisons in Table 8, your response to my comments about the method used for this evaluation helps me better interpret the results. The results aren’t suggesting the average waiting time will decrease significantly on average, but rather that the developed model uses previously accrued waiting time less for prioritizing patients than the current model (ostensibly because other factors such as medical urgency play a larger role). If you agree with my interpretation, consider explaining this concept in the results on page 20 to help ensure readers don't misinterpret results.
Authors’ Response: We agree with your comment and, therefore, added some statements to explain this concept (Model evaluation Section, lines 473-480, page 20-21).

4. Reviewer’s Comment:

Table 9 is much improved. However, it would seem more clear if Patient ID was replaced with Patient Rank (current system) and "Ranks" renamed "Patient Rank (proposed model)". Patient Rank (current system) would be used for sorting.

Authors’ Response: As you suggested, we renamed "Ranks" to "Patient Rank (proposed model)". (Model evaluation Section, Table 9, page 22).

But Patient ID was not replaced with Patient Rank (current system), because only the six first priorities in the existing system are ranked for each donated kidney (which is referenced in the text: page 4, line 89) and the remainders are not ranked. So this information was not available to be added the table.

Thank you again for your precious time and consideration. We much enjoyed reading your constructive and detailed comments.