Reviewer’s report

Title: A mixed methods investigation of surrogate end-of-life decisions among older adult partners

Version: 0 Date: 22 May 2019

Reviewer: Natalie Ernecoff

Reviewer's report:

To the Authors: Thank you for your thoughtful mixed-methods paper on surrogate decision making motivation and simulated decisions. I think the ideas in this paper are intriguing. I thought the paper was well-structured, clear, and added value to scientific understanding. I provide specific comments, below.

MAJOR COMMENTS:

Methods: Did you assess at baseline whether dyads had previously discussed their decision-making preferences? I'm curious whether surrogate decisions generally mapped onto previously expressed preferences, or whether they were making a best-assessment based on knowing the person. This could impact interpretation of the results.

Methods: Please describe the baseline data you collected in Methods. E.g., demographic information. Your sentence from Results, "The proportion of participants with children…" Should be in Methods. It would have been nice to have a structured way to capture these data, if indeed it was all dependent on free response.

Table 1: Please provide numbers in addition to percentages and label whether parentheticals are the range or inter-quartile range.

Methods: Please provide additional details about your coding process and inter-rater reliability. How were coders trained? Were transcripts double-coded (more than one coder per transcript)? How did you confirm coding was robust and consistent over time?

Results, Quantitative analysis: I recommend not leading with the outlier.

Results, Quantitative analysis: I recommend using caution with p-values in such a small and convenience sample. Perhaps describe the quantitative results in words, as a narrative more than statistical output?

Results: Please describe in the sentence what direction the results were in, not just that they were/were not significant. For example, page 11, line 53 and page 12, line 1.
Results, Surrogate accuracy: The concept and definition of surrogate accuracy you are using here is an interesting one, if I am understanding your methods correctly. First, you ask Partner 1 what they would want for themselves (among other things). Then, you ask Partner 2 (among other things) what decision they would make for Partner 1. Then, you compare those, and Partner 2's response (on average) is more aggressive than Partner 1's response was for themselves.

I think it is reasonable to identify this discordance. It is a bit biased against Partner 2, because Partner 2 doesn't explicitly know Partner 1's preferences going into the experiment. At the least, per my previous comment, I do not see evidence that you captured whether the two partners had had such conversations at baseline. We know empirically that many people do not discuss their preferences with their surrogate decision makers, so they may be making a best informed guess based on their knowledge of the patient as a person. This nuance may be worth noting in Discussion, if I am correctly characterizing the experiment.

Secondarily, I'm not sure "accuracy" is the best word to characterize what you are measuring, though I can't think of a better one.

Your finding that, on average, surrogates were consistently more aggressive when compared to their decisions for themselves is still quite interesting.

Results, Surrogate accuracy: I would rephrase page 15, line 11. If you are basing results on the p-values, it is not statistically significant, therefore the results do not indicate surrogate were less likely to be accurate across different types of outcomes.

Figure 3: I like your coding framework and your Figure 3. You are rather comprehensive and straightforward.

Results, Page 16, Line 21: It took me a few reads to understand this sentence. Can you please clarify the text?

Discussion: I would lead your discussion with your most salient findings, which I do not think is what you have here. Per my comment above, the first sentence of your discussion is statistically inaccurate. The second sentence of your discussion has, to me, what the big take-away is.

Discussion: Per my (perhaps excessive) discussion of surrogate accuracy, above, I recommend more caution with claims about substitute judgement (page 24, line 4). This paragraph gets to some of my concerns, though could be expanded, I think.

Discussion: Maybe also include a citation for "previous concerns about surrogates' ability to fulfil the substituted judgement standard…"

Discussion: Your discussion of qualitative findings is thorough and quite long. If you need more word space, I might recommend consolidating some here.

Discussion, Page 27, Line 7: The first sentence of this paragraph could use some more context. Can you describe the theories and why they are not complex enough for the reader.
MINOR COMMENTS:

I believe the first "for" on page 11, line 17 is a typographical error.

Please add a label for the units on the vertical axis of Figure 2.

You're missing a close single quote (') inside the parenthetical on page 14, line 9.

Page 15, line 17: "surrogated" should be "surrogate."

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Unable to assess

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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