Author’s response to reviews

Title: A qualitative exploration of the discharge process and factors predisposing to readmissions to the intensive care unit

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Author’s response to reviews:

Response to Reviewer Comments

Dear Dr. Paulina Szyszka,

We wish to thank the Reviewers for their insightful comments and appreciate the opportunity to submit a revised manuscript. Please find details of our point-by-point responses to all Reviewer comments below.

Our responses are to the reviewer comments are in green fonts (please refer to attached file titled 'Response to Reviewer Comments'. Changes we have made to the revised manuscript are highlighted in red fonts in this letter and in the revised manuscript.

Regards,

Uchenna Ofoma, MD, MSc
Reviewer Comments:

REVIEWER #1:

Edward Bittner (Reviewer 1): I read with interest the study Ofoma et al which performs a qualitative exploration of factors affecting ICU readmission. The manuscript is well written, employs well founded qualitative methods and provides some novel insight into non-patient related factors that impact the readmission process. I only have a few questions/comments which might be addressed to further enhance this manuscript

Comment 1: Page 4, Line 24-26. Data saturation was the primary determinant of how many interviews were conducted; data collection stopped when no new information was gathered for each of the main themes. Since data was necessary for generation of the main themes this iterative process may be confusing to readers unfamiliar with qualitative methodology. Please elaborate on the methodological approach.

Response 1: Thank you for this important comment. We understand how this peculiarity of qualitative research (which involves simultaneous data collection and analysis) may actually be confusing to the reader.

Manuscript Change: Data Collection/Data Analysis, page 4

We included an introductory sentence to the ‘Data Analysis’ subsection which reads: Data analysis occurred simultaneously with data collection so that emerging concepts could be further explored in subsequent interviews.

Additionally, the statement: “Data saturation was the primary determinant of how many interviews were conducted. When no new information was gathered for each of the main themes generated, data collection was stopped”, has been moved from the ‘Data Collection’ subsection and embedded into the ‘Data Analysis’ subsection.

Comment 2: Page 3, Line 18. The study by Russell et al used patient interviews to identify readmission themes. Was there a reason that patients were not included in this analysis?

Response 2: The paper by Russell et al (as stated in our introductory section), utilized patient interviews, as well as interviews by care providers (none of whom worked in the ICU environment). As stated in the “Background” section of our manuscript, the purpose of our study was to gain further insight about ICU readmissions, using a broader section of “stakeholders”.
We therefore focused on providers who were involved in the longitudinal care and transfers of ICU patients, and who were not included in the study by Russel et al.

Manuscript Change: None

Comment 3: Were there differences in themes identified between different caregiver types, (e.g RN vs MD), experience levels or the different ICUs studied? These differences might be useful for identifying targets for process improvement.

Response 3: Thank you very much (and also to Reviewer 2) for highlighting this. In Table 1, although we outlined the proportions of physicians and nursing providers who identified concepts relating to specific themes, we did not provide a description in our results section. Also, we did not mention differences between physician/nursing provider perceptions in the discussion section of our manuscript.

Manuscript Change : Results Section, page 4

We have added the following descriptive sentence: Factors that were cited by the greatest proportion of interview participants related to Communication (84%) and Discharge decision-making (79%). A higher proportion of nurses than physicians cited factors relating ‘Transitions of Care’ (89 vs 60%) and ‘Discharge decision-making’ (89 vs. 70%). Conversely, more physician than nurses cited factors relating to ‘Undefined goals of care’ (90 vs. 60%) and ‘Communication’ (100 vs. 67%).

Manuscript Change: Discussion Section, page 9, paragraph 2

We added the following:

The perceptions of physicians were mostly concordant with those of nursing staff, with the exception discharge decision-making, where physicians and nurses disagreed regarding the extent to which nursing opinion factored into the decision-making by ICU physicians. Also, while physicians underscored the subjective nature of the discharge-making process as a cause of premature discharge from the ICU, nurses placed more emphasis on ICU occupancy pressures. With regards to the role of undefined goals of care, physicians were more attuned than nurses, to potential barriers that were usually encountered in adequately articulating these goals.
4) While the manuscript provides some general "implications" of the study it would be useful to further elaborate on how the findings could be made "actionable." This would be particularly helpful for others studying their own ICU discharge/readmission processes for quality improvement.

Thank you for this comment. As you rightly pointed out, our original manuscript had an “Implications” section. In this section, we outlined several ways through which health care organizations can reduce readmissions by focusing their efforts at modifying or improving aspects of non-patient factors. Specifically, we suggested that:

i. standardizing of care processes and improving communication between multidisciplinary teams

ii. Formalizing multidisciplinary input into ICU discharge decision-making.

iii. Additional training to improve comfort level of care providers

iv. Engaging institutional stakeholders to raise awareness to the role of organizational factors

v. We further stressed that future quantitative research on ICU readmissions should be approached from a systems perspective, looking at the role of non-patient factors and their relationships to patient factors

Manuscript Change: None

5) There are a few grammatical errors that need correction- e.g Page 4 line 17 "explored", Page 4, line 40 "bests"

Thank you for bringing this to our attention. We have corrected these errors.

Reviewer #2:

Marcelline Harris (Reviewer 2): This is an interesting and very well written paper. The authors note that clinical decision tools have failed to reduce rates of readmission to ICUs from general care units. In this study, investigators 'step back' and qualitatively explore, from the perspective of physicians and nurses, factors that contribute to readmissions to ICUs.

Overall, the findings are plausible, and resonate with common experiences. The implications are clearly stated, and follow from the reported findings. There are a few minor revisions needed that would strengthen the paper.
Comment 1: The description of procedures used in data analysis is somewhat incomplete. Specifically, the authors indicate that the 'broad categories' that were constructed during the transcript review were 'systematically reviewed to establish core concepts and themes. After broad themes were identified, all interviews were reviewed again for the presence of each theme and to further characterize the range of responses within each team'. Who reviewed the interviews, and what defined a team? This is not described.

Response 1:

Thank you for pointing this out. We apologize for the confusion. It appears that we utilized the terms ‘categories’ and ‘themes’ interchangeably and understand how this may have been confusing for the reader. We have appropriately revised the specific paragraph you highlighted as well as the rest of the manuscript to consistently make the reader understand that ‘themes’ are higher in order than ‘categories’.

Manuscript Change: Data Analysis, page 4

Revised statement reads as follows:

Coding involved reading each transcript and putting like elements of text into broad categories, which were then systematically reviewed to establish core concepts and themes. Data saturation was the primary determinant of how many interviews were conducted. When no new information was gathered for each of the main themes generated, data collection was stopped. After broad themes were identified, all interviews were reviewed again for the presence of each theme and to further characterize the range of responses within each theme.

Manuscript Change: Data Analysis, page 4

The word ‘team’ was a spelling error that was actually supposed to be ‘theme’. We corrected that

Manuscript Change: Rest of Manuscript

Elsewhere in the manuscript, we have revised the numbered Categories 1 -5 to Themes 1 – 5.

Comment 2: It is not clear why some quotes are classified as a specific theme within a specific category. For example, category 2 (process factors), theme: transitions of care, 2nd quote. It is not clear why this couldn't have been categorized as an organizational factor, and theme of
resource constraints. Authors should provide some explanation of the attributes/characteristics of each category and theme within the category that guided their decision making.

Response 2: Thank you for this insightful comment. We understand that several factors may appear to overlap with respect to themes. As stated in our methods section, the representative quotes that we abstracted and reported in the manuscript were ascribed to themes, in such a way that they best represented the experiences that the participants were trying to narrate.

For example, under ‘Transitions of Care’, we understand how the second specific factor that we described — extended wait times due to unavailability of non-ICU beds — may be viewed as an organizational factor. However, what the participant was trying to describe here was the variability in waiting time (a process), rather than the unavailability of beds, which is a resource constraint that was described separately under ‘Organizational factors’.

Comment 2: Table 1 suggests there are interesting differences between physicians and nurses on several factors. This is not discussed in the paper, and related to the first bullet it is not clear that any nurses were involved in reviewing the responses prior to final assignment to categories and themes. Subsequently, it is not clear if these differences reflect true differences in the perspectives, or potentially reflect the filter of the physician authors of the paper.

Response 2: Thank you for highlighting the need to discuss differences between physician and nursing perceptions. This was also brought up by Reviewer 1 (under comment number 3), where we addressed it. However, we would like to clarify that Table 1 does not necessarily suggest differences in physician/nursing responses. It only indicates the respective proportions of physicians and nursing participants who cited specific factors during the interview. We however agree that the perspectives that we described in our manuscript may have been biased by the physician viewpoint.

Manuscript Change: Results Section, page 4

We have added the following descriptive sentence: Factors that were cited by the greatest proportion of interview participants related to Communication (84%) and Discharge decision-making (79%). A higher proportion of nurses than physicians cited factors relating ‘Transitions of Care’ (89 vs 60%) and ‘Discharge decision-making’ (89 vs. 70%). Conversely, more physician than nurses cited factors relating to ‘Undefined goals of care’ (90 vs. 60%) and ‘Communication’ (100 vs. 67%).

Manuscript Change: Discussion Section, page 9, paragraph 2
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The perceptions of physicians were mostly concordant with those of nursing staff, with the exception discharge decision-making, where physicians and nurses disagreed regarding the extent to which nursing opinion factored into the decision-making by ICU physicians. Also, while physicians underscored the subjective nature of the discharge-making process as a cause of premature discharge from the ICU, nurses placed more emphasis on ICU occupancy pressures. With regards to the role of undefined goals of care, physicians were more attuned than nurses, to potential barriers that were usually encountered in adequately articulating these goals.

Manuscript Change: Limitations Section, page 11

We added the statement:

Lastly, the interpretation of expressed experiences of study participants may have been biased from the perspective of the physician authors.

Comment 3: Again, this is an interesting paper, well written, and the recommendations above are 'minor' not major with respect to recommended revisions.

Response 3: Thank you very much for reviewing our paper and for improving it significantly by way of your comments and suggestions.