Author’s response to reviews

Title: Factors Influencing the Implementation and Uptake of a Discharge Care Bundle for Patients with Acute Exacerbation of Chronic Obstructive Pulmonary Disease: A Qualitative Focus Group Study

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Author’s response to reviews:

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Rachel G. Tabak, PhD
Associate Editor
Implementation Science Communications

RE: ISCM-D-19-00018: Factors Influencing the Implementation and Uptake of a Discharge Care Bundle for Patients with Acute Exacerbation of Chronic Obstructive Pulmonary Disease: A Qualitative Focus Group Study

Dear Dr. Tabak,

Thank you for your decision regarding the above manuscript. As you will recall, this manuscript presents original research that explored factors influencing implementation and uptake of COPD discharge care bundle items in acute care facilities from the perspective of health care providers and patients. We are convinced, as were the reviewers, that this report would be of interest to the readers of Implementation Science Communications.
My co-authors and I appreciate the detailed comments of the reviewers and we submit the following revision with the changes to the text in red and the responses to the reviewers below. The additional information required has changed the word count; however, the overall length of the manuscript has remained approximately the same.

I will continue to function as the corresponding author and can be reached by telephone (780-492-9351) or e-mail (mospina@ualberta.ca). Thank you for your consideration of this re-submission. If there are any further requirements, please do not hesitate to contact me.

We look forward to your response.

Respectfully submitted,

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ASSOCIATE EDITOR COMMENTS:

1. Thank you for this submission. While this paper is timely and addresses an important topic, revisions based on the reviewer suggestions are needed to make a meaningful contribution to the literature. To address the limited generalizability of the study setting, it is also important for the authors to describe how this work fits in existing literature on discharge plans for COPD exacerbation, and what additional is learned, which can improve implementation

AUTHORS' REPLY:

Thank you for this thorough review of our manuscript. We have aimed to address all reviewer comments and suggestions. We have included a new paragraph in the Introduction to clarify the specific contribution of our research into the COPD discharge care bundles literature and the knowledge gaps that our study aims to fill in, in light of the existing literature on the topic (Lines 93-101): “As COPD discharge bundles have been developed to facilitate transitions of care, their evaluations within trials have shown that actual uptake can be very low [13], necessitating a better understanding of implementation barriers and strategies [10, 14]. The existing literature on implementation of discharge bundles for patients with COPD exacerbations is very limited and knowledge gaps remain regarding the challenges associated with implementing discharge care bundles. Even more limited is the perspective of the patients and practitioners on the barriers and facilitators impacting uptake of the intervention. This manuscript uses the voice of patients and
providers to contribute evidence to a common challenge in a field where a paucity of evidence is available.”

REVIEWER #1:

2. This is a timely and well-written qualitative investigation. There is currently much interest in the delivery of COPD discharge bundles and this study is, potentially, an interesting and original addition to the literature. I have noted the following minor points that I would recommend that the authors address.

AUTHORS’ REPLY:

Thank you for this kind comment. We have endeavored to respond to each of the reviewer’s comments in detail.

3. Abstract: The content in the conclusion of the abstract could be more focused and more specifically reflect the findings of the study

AUTHORS’ REPLY:

Thank you for this suggestion. We have reworded the conclusion in the abstract to more specifically reflect the main study results: “Complexities in process of care was perceived as the most important determinant of COPD discharge bundle implementation. Early engagement of health providers and patients in the uptake of COPD discharge bundle items as well as clear communication between acute and post-acute settings can contribute positively to bundle uptake and implementation success”

4. Line 70-72 please clarify where COPD is the most common reason for admission Do the authors mean worldwide or in Canada specifically?

AUTHORS’ REPLY:

Change has been made to: “COPD is one of the most common reasons for hospitalization in Canada [5]” (Lines 71-72).

5. Please clarify why there were no patient focus groups completed in the rural setting - was this because of practical issues?

AUTHORS’ REPLY:

Patient participants were mainly recruited in urban and rural centres due to the availability of well-established patient support groups. Unfortunately, these resources are non-existent in rural
settings in Alberta, limiting the outreach of rural patients in this research (only one patient lived in a small town, while 13 lived in urban areas. We have included a paragraph in the Study Settings and Participants section to explicitly clarify this (Lines 157-159).

“For practical reasons, patients were not enrolled in rural health care facilities due to the lack of availability of research staff and well-established patient support groups in these settings”

We have acknowledged this as a limitation in the generalizability of our results (Discussion section, lines 499-502): “The patients sampled had access to specialists (pulmonologists/respirologists), were attached to primary health care providers and were participating in pulmonary rehabilitation programs or support groups in large urban and regional health centres. This group does not likely represent all individuals living with more advanced COPD, those living in rural areas…”

6. Please could the authors add some detail as to why thematic analysis was selected?

AUTHORS’ REPLY:

Thank you for this suggestion. We have expanded our description of why thematic analysis was selected in the “Data Analysis” section and provided supporting references (Lines 186-190): “Focus group verbatim transcripts were coded using NVivo 11 qualitative analysis software [22] and prepared for thematic analysis. Thematic analysis is a foundational method of qualitative analysis for identifying, organizing, describing, and reporting themes found within qualitative data [23, 24]. This analytical approach is a useful method for examining the perspectives of different research participants (i.e., health providers and patients [24, 25]).”

7. There is a typo in line 212 ‘s’

AUTHORS’ REPLY:

Thank you for catching this typo. ‘s” has been removed from the sentence.

8. The supporting quotation in lines 337-339 is a little confusing and perhaps needs some additional context in the text so that the reader can understand it’s relevance.

AUTHORS’ REPLY:

Thank you for this suggestion. We have provided some clarification so understand the context in which this quotation/statement was made (Lines 361-364): “Most people (...) as soon as their cough starts to improve they are not going to stop (therapies). They realize this is how it works, this is why it does that, I have to continue for it to keep working. (A comment regarding the probability that once people see an effect from their therapies, they are more likely to continue using the therapy)”.

AUTHORS' REPLY:

Thank you for identifying these errors. Change has been made to “patients’ willingness or refusal”, “Provider attitudes”, “Patient attitudes” and “System attitudes”

10. There's a mistake in the presentation of a reference in line 430 (ON/UK?)

AUTHORS' REPLY:

Change has been made to “UK”

11. Line 463: the authors suggest that a limitation of their study is that it was "…conducted prior to finalization and implementation of a provincial standardized COPD discharge care bundle. It would be helpful to reader if the significance of this was clarified.

AUTHORS' REPLY:

We have expanded a description of the exact stage of the project to clarify that the focus groups were conducted prior to the implementation of the care bundle: (Lines 111-115): “Briefly, the broader project was planned to develop a COPD discharge bundle (as part of an end to end pathway) to be implemented in both ED and acute inpatient settings across the province, and evaluate its effectiveness in reducing ED and hospital readmissions and improve patient-centered and economic outcomes” Also Lines 122-125: “Consensus was used to finalize the content of the evidence-based COPD discharge bundle and prior to its evaluation via a stepped wedge trial (ClinicalTrials.gov Identifier: NCT03358771), this qualitative research was conducted as part of the knowledge translation strategy to inform provincial implementation” [16].

12. Table 2: Please clarify what is meant by FG05 and FG09. I presume this refers to 'Focus Group”?

AUTHORS' REPLY:

The reviewer is correct. We have replaced FG05 and FG09 with “Focus Group #9” and “Focus Group #5” in the footnotes of Table 2.

13. Figure - the quality of this image is not optimal - can this be improved?

AUTHORS' REPLY:

We have provided a new Figure 1 with better resolution.
REVIEWER #2:

14. Thank you for asking me to review this paper about COPD post discharge bundle of care. The paper is interesting and the findings have the potential to be of use to other groups planning a similar project. I think it would benefit from more detail especially in the results section to really add to the broader research discussion on this type of topic.

AUTHORS’ REPLY:

Thank you for this suggestion. We have made changes throughout the Results section to expand the presentation of the results.

15. There needs to be a clearer discussion of the exact stage of the project. It was not clear to me if the focus groups occurred pre-implementation and were to be used to guide a strategy or whether they had followed a trial of implementation. At times it read to me as though it were the former and then the latter. This should be clarified because it is essential to the understanding of the results.

AUTHORS’ REPLY:

We have expanded a description of the exact stage of the project to clarify that the focus groups were conducted prior to the implementation of the care bundle: (Lines 111-115 and Lines 122-125). See reply to comment #11.

16. Abstract - I think the abstract could be improved with some more detail in the results. The results section doesn't really tell people a clear summary of what you found - it is quite vague. Perhaps describe the 4 themes rather than just say there were 4.

AUTHORS’ REPLY:

Thank you for this suggestion. We have reworded the results section in the abstract to describe the 4 themes identified. Change has been made to: “Health care providers and patients identified four factors that can challenge the implementation of COPD discharge care bundles: process of care complexities, human capacity in care settings, communication and engagement, and attitudes and perceptions towards change. Both health care providers and patients recognized process of care complexity as the most important determinant of the COPD discharge bundle uptake. Processes of care complexity include patient activities in seeking and receiving care, as well as practitioner activities in making a diagnosis and recommending or implementing treatment. Important issues linked to human capacity in care settings included time constraints; high patient volume and limited staffing. Communication during transitions in care across settings and patient engagement were also broadly discussed. Other important issues were linked to patients’, providers’ and system attitudes toward change and level of involvement in COPD discharge bundle implementation”. (Lines 38-48)
We have also reworded the conclusion in the abstract to more specifically reflect the main study results (see our reply to comment #3).

17. I appreciate that this is my own personal bias but I have a comment about the bundle which seems to me to be a checklist. A "bundle" implies that not only is there a checklist but the things that a recommended are actually available. The first 4 things are really checklists that pre-discharge things have been done, which is fine. 5 assumes that there is a PR program available locally that people can access and that the wait list is not very long. 6 - there is no information about what anyone does if they identify frailty and comorbid conditions - too often you see in clinical practice that people do the screen for this and then don't do anything about it or like PR it assumes there are services to refer to and often the problem is these services are inadequate. What happens if frailty is identified? A bundle seems as though it should not only be a checklist but system so that the services identified as needed are available locally and have capacity to take new referrals otherwise the bundle will have limited effect. Some of this is discussed in the results but it could be more detailed.

AUTHORS’ REPLY:

A bundle is a structured, evidence-based way to improve processes of care and include a small number of care actions/interventions that are offered in a package (see definition at Resar R, Griffin FA, Haraden C, Nolan TW. Using care bundles to improve health care quality. IHI Innovation Series White Paper. Cambridge: Institute for Healthcare Improvement; 2012). The assumption is that, when performed collectively, it will help to improve patient outcomes. A checklist would include a mix of “critical” and “not critical” set of processes and recording of other non-intervention elements. Rather, a bundle includes care processes that are based on evidence and that all are required in the implementation of the bundle.

Checklists are used to promote compliance with best practices of COPD discharge and thus, may be an important component of the bundle; however, checklists are not bundles per se. Research supporting the development of our bundle include a systematic review of the effectiveness of COPD discharge care bundles (Ospina et al, Thorax 2017), and a Delphi-consensus process in which the critical elements of the bundle were selected by a group of experts (Ospina et al BMJ Open Respir Res 2018).

18. I assume people were recruited from sites where the bundle had been implemented. This is not clear in the methods or results section. It is not clear to me if this qualitative study is pre-implementation and will be used to guide implementation or if it is post implementation following a trial. This should be clarified because it provides important context for the paper. In the discussion they talk about early adopters so it is still not clear to me if this is a post-implementation qual study.

AUTHORS’ REPLY:
We clarified in the Methods section (Lines 111-115 and Lines 122-125) that the study was conducted prior to implementation of a provincial standardized COPD discharge care bundle. Participants were recruited before the bundle had been implemented across the province. Our comment regarding “early adopters” refers to individual dispositions toward change and not actual behaviours.

19. The results seem to skim over the issues a bit. It would have been nice to have some evidence presented that showcased / highlighted practical examples of the implementation. The patient sample would have been better if it had included patients who had experienced the use of the template and how it impacted their care. The TDF was used to inform the guide and it would have been useful to use in the results more as it brings together many of the issues presented nicely - it might have provided a clearer framework for the analysis and presentation of the results.

AUTHORS' REPLY:

Because focus groups were conducted prior to COPD care bundle implementation, we cannot showcase any practical examples in this paper.

Regarding the application of the Theoretical Domains Framework; the supplementary file 2 describes how the TDF was used to organize the topic guide for the focus groups. We did not use a deductive approach in which the TDF domains would be used as themes and data directly coded into the themes. Rather, the thematic approach intended to identify patterns or themes within the qualitative data that is not tied to a particular epistemological or theoretical perspective.

20. The results section describing the participants does seem to repeat what is in the tables and could be reduced to provide more space for the detailed qual findings.

AUTHORS' REPLY:

Thank you for this suggestion. We have removed repetitive content in tables and the text for the description of study participants (Pages 10 and 11)

21. I think the process of care section in particular there could have been more detailed. It seems to skim over things a bit, I would have thought there would have been much more to present here. Likewise, capacity seems very brief - knowing the context where I work, this section would have been much richer. These comments focus mostly on who would complete the checklist and there is little presented as to who would follow-up on the things identified and capacity to provide the necessary care. The engagement section would benefit from more detail.

AUTHORS' REPLY:
We have expanded the description of challenges related to processes of care (Pages 12-14), human capacity (pages 14-16), and communication and engagement (Pages 16-17) and added more details regarding the participants’ responses. Even though we agree with the reviewer that this section would have been much richer, the description of the results directly reflect the themes identified by the study participants. We tended to avoid speculation regarding the results and had our analysis and identification of themes guided by the emerging data.

22. If the results section had more detail then it would enable you to make much tighter conclusions from your research.

AUTHORS' REPLY:

We made changes to the description of the results that expect to clarify the study conclusions. More details on follow-up and capacity to provide the necessary care was added in the Discussion section. In addition, the discussion related to the engagement theme has further details added (Lines 430-433): “Interestingly, acute care providers did not see patient engagement having an impact on bundle implementation; with bundle initiation occurring in the acute care setting, the opportunity to improve the patient experience across the continuum of care is limited.”

23. 76-77 - for what conditions? Looks like one of the refs is for COPD the other pneumonia - might be good to quality this in this sentence.

AUTHORS' REPLY:

Change has been made to: “when implemented in hospital settings for diverse patient populations, particularly in critical care of mechanically ventilated patients” (Lines 79-80)

24. 101 - it this a 7-item check list?

AUTHORS' REPLY:

We have reworded the description of a 7-item COPD care bundle to avoid confusions with a checklist (Lines 115-116): “Details of care bundle development are described elsewhere [10, 15] and resulted in a COPD discharge care bundle that includes seven interventions”. See also our reply to comment #17 regarding differences between care bundles and checklists.

25. The patient participants were PR graduates and care support group members - they might be more engaged then other people discharged with COPD.

AUTHORS' REPLY:
We agree with the reviewer on this appreciation. We have added this observation to the description of the study limitations, particularly regarding the challenges for generalizability of the results (Lines 495-499): “As patient participants were recruited from well-established patient support groups and some were graduates from PR programs, it is likely that their level of knowledge, engagement, and compliance differ from other patients discharged with COPD that have not accessed these programs”.

26. Line 430 - Reference to London - confirm which London it is

AUTHORS’ REPLY:

Change has been made to “UK”

27. Table 1 - what is a licensed practical nurse - is this a practice nurse?

AUTHORS’ REPLY:

Licensed practical nurses (LPNs) is a term used in Canada and USA to differentiate nurses based on their training and level of responsibilities. LPNs usually receive briefer post-secondary training (~two years) and are responsible for providing relatively basic nursing care; they usually work under the supervision of RNs. On the other hand, RNs usually receive longer training (~four years) and are responsible for administering medicine to patients in addition and coordinating treatment plans. Both are directly involved in care of patients, families, and groups in a variety of health care settings.