Reviewer's report

Title: Implementation of a Multidisciplinary Discharge Videoconference for Children with Medical Complexity: A Pilot Study

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Reviewer: Carolyn Foster

Reviewer's report:

Summary

This is a mixed-methods study of the implementation of a multidisciplinary discharged intervention for children with medical complexity (CMC) at a single academic institution. The study had low adoption but did have qualitative findings that present important information. The authors nicely articulate the ways in which the intervention was beneficial to care but also challenges in its implementation that are important for the field. These sorts of innovations are very much needed in the field of CMC care and I applaud the authors for studying it.

Overall Comments

The study design is appropriate - although I do have some questions about why cost was only defined in provider time. The authors are limited in their quantitative analysis by the low N and did as best they could with what they had. For example, the authors did a very nice job references the method frameworks they built their study upon. However, since the N is small in this study, a bit richer description of how the procedures/set-up occurred would be helpful so that others could replicate it. My recommendations for changes are meant to be helpful in improving the paper's readability and relevance; I look forward to seeing the revision.

Specific Comments by Section

Abstract

1. The setting would be helpful to mention in the abstract if room allows.

2. More importantly there needs to be some presentation of the denominator of the results - when I first read the results "9% of eligible" I wasn't sure who was included; I think if you rewrite lines 35-37 to be clearer it would help.
3. This is a small thing: Use consistent capitalization after the ":". For example, you capitalized "All hospitalists…" After "Acceptability:…" but did not capitalize the B in "barriers included…" after "Feasibility: …"

Introduction

No suggestions - this was well reference and the problem and gap was set up nicely.

Methods/Results

1. Procedures: Line 91 - the start of the sentence "Time of conference…" reads awkwardly. Would recommend rewording as something like - The time of day…

2. Procedures: Lines 91-100 - Since the N is small in this study, a bit richer description of how the set-up occurred would be helpful so that others could replicate it. Was the laptop on a wheelable frame? How did everyone face the video or just the parent? How was it set up in the room so that the experience was shared? Did you do it after rounds or as part of rounds? How did the PCP and public health nurses set up the software (was it free?) and did they have to do it ahead of time (what was involved in that)? Maybe a diagram or photo would be helpful or something like a logic diagram that shows all the pieces that need to be in place for a successful execution of this intervention would add a lot to make this paper of high-value to others.

3. Data collection: Lines 103-107: How long after the actual conference were the participants interviewed (i.e. getting at recall bias)?

4. Data collection: Line 108 - Typically interview guides are attached as an appendix. I apologize if I missed this, but I think it should be included if it isn't already.

5. Outcomes: Line 114 Regarding the cost outcome, while I agree provider time is an important it is not the only cost - what about the cost of the equipment and the software? Cost to the parents?

6. Outcomes: Line 116-117 starting with "These outcomes were…” - I don't think you need this line and can just reference the previous sentence with (12). This will give you more words back to provide richer description of the procedures.

7. Analysis: Small thing: Move the reference (13) currently on line 125 up to be on line 122 when first mentioned at the end of the sentence "…thematic content analysis."
8. Adoption: While the authors do a nice job of giving the numbers for why the patients who were approached did not participate, the numbers are lacking for why the number of eligible patients were not approached --- it would help if in the methods you include what you determined eligibility to be because it seems like the approach is way too low.

a. Specifically: What were the numbers for line 132-133: for those &lt;3 days (n=?) and &gt;7 days (n=?) and attending did not respond (n=?)? I would include this in the text and in the consort figure (it's currently missing).

b. Also, I don't understand how being &gt;7 days out made a patient ineligible. Why didn't you just go to them in a few days closer to discharge?

9. Results: lines 141 and 151 - I was confused when reading the Header for "Acceptability" to not include parents and patients and then saw it came later. At least if you keep the Acceptability sections separate I would suggest not putting cost in between (so reader doesn't have to think about acceptability in one and then another group) or consider adding the participate type to the header.

10. Results: The quotes were chosen well though I struggled a bit with the first quote for the transparency. Overall though well done. If you need to save word count you can cut out some of the phrasing and add more [ ] and "…", for other edits.

11. Results: lines 212-217; Feasibility: I think the article is missing out on having not interviewed the PCPs who didn't want to schedule. I realize they cannot do it now, but what sorts of practices (private vs. public pay, small vs. large) were the participating PCPs vs. non participating PCPs (?maybe a stat or two there if N is still not too low).

Discussion

12. Overall the discussion does a nice job of addressing the key system barriers to implementing an intervention like this. I do think though that the discussion would benefit a bit more by synthesizing WHY the elements of communication (such as PCP comfort and having a physical exam) would provide value to the health care system beyond just that is was acceptable especially since it wasn't adopted widely had some feasibility issues - to convince payors in particular we need to connect WHY the PCP and other participants' perception and comfort is important for meaningful health and utilization outcomes. For example, did it mean the PCP was less likely to send the patient back to the ED? Did it avoid medications errors if everyone was on the same page? We live in a pay climate where unfortunately liking something won't be enough. If the results had any of this I would add that in and highlight it more in the discussion as I think it would make a bigger case for this intervention to be paid for.
13. It wasn't clear enough to me why the patients who were ineligible were ineligible (See comment 8 above), and perhaps the authors could articulate a different way they would screen and approach participants again in a larger trial so they not have such a drop out between "eligible" and "approached". - i.e. Line 235-237 could be expanded a bit. If I was a reviewer for a grant this would be paramount for me to fund a larger trial.

14. Lines 268-270: Would recommend adding in future work to interview/engage non-adopters to understand the barriers more.

Overall well done and looking forward to the revision.

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