Peer Review File

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REVIEWER A

Comment 1: The reference to virtual care or virtual health methods is deceiving. This is not about virtual care according to how it is most commonly defined, but about virtual communication between patient and loved one(s). There is also various ways in which this is mentioned: virtual care, virtual healthcare, virtual palliative care, telehealth etc. There are important differences being overlooked here as well.
The discussion introduces literature addressing virtual palliative care and a blended model of care but these would be different than the virtual communication explored in this study.
Reply 1: Thank you for your comments and thoughtful review. We have revised the text with more care given to the language used so that the focus on virtual communication (as a non-clinical aspect of virtual care) is more consistent.
Changes in the text: Pgs 4-5
The rapid expansion of synchronous telephone and video virtual options allowed hospitals and healthcare systems to adapt to the pandemic and provides a unique opportunity to assess the role of virtual care across different systems. It also changed the ways in which communication was managed between patients, providers, and loved ones who could not enter hospital facilities. As such, important questions arise surrounding its utility in contributing to high-quality care for certain patient populations, including those receiving palliative care and patients at the end of life.

A growing body of work has begun to assess the use of virtual care for seriously-ill patients and patients nearing the end of life,[6-9] and the use of virtual technologies for veterans receiving palliative care in particular.[2,10] Recommendations for the role of virtual technologies for patients receiving palliative care during emergencies such as the COVID-19 pandemic are still being evaluated.[10-11] However, several studies have identified strategies using telehealth communication for improving the quality of palliative care by enhancing family engagement when physical visitation is limited.[12-13]

Comment 2: I believe the interviews may have lacked some depth. For example, the participants observations about the concept of trust should've been explored further, particularly given the fact that this objective of this work was to examine 'ways in which virtual care was adapted to deal with emerging challenges. This would be a key area to do more in-depth data elicitation.
Reply 2: We agree that this is an area where future research would be beneficial. Text has been added to the Discussion to note that this is an area for more in-depth research in the future as the overall objective of this study was to better understand the needs and experiences of ICU providers and was not specifically designed to explore trust between patients and providers.
Changes in the text: Pgs 15-16
Participants in this study notably mentioned impacts on the development of a trusting relationship between providers and patients' loved ones. There is an emphasis in existing literature on the involvement of family members and caregivers in goals-of-care conversations, which are critically important for patients receiving palliative care.[10,12,30-31] Because of this, trust building between providers and loved ones when face-to-face communication is limited is an area for future research.

Comment 3: As noted in the limitations – the predominance of surgeons' perspectives and observations is evident, and there are only surgeon's quotes used in 2 of the 3 themes. How does this impact on thematic saturation? Were there unique differences noted between the surgeons and other participants? It would seem that the use of virtual patient-family communication may be differently experienced by those who are in more regular contact with these dyads as well as in assisting or facilitating this communication method.
Reply 3: We have added additional language to the "Limitations" section in order to highlight the predominance of surgeons' perspectives. Because there were only a few participants who were not surgeons, we did not find significant differences between the experiences of surgeons and non-surgeons. We have also added language to the "Limitations" section suggesting the need for future research, which specifically examines this difference.
Changes in the text: **Pg 17**
Surgeon perspectives are predominantly represented. Future studies could emphasize other provider roles, as surgeon perspectives may not fully capture the experiences of other healthcare providers. Future studies on this topic may also benefit from a comparison of surgeon experiences to the experiences of non-surgeons.

Comment 4: Lines 114-116 introduces a secondary matrix analysis but with no further description.
Reply 4: Additional description of the matrix analysis has been added as well as a citation for the use of matrix analyses in qualitative research.
Changes in the text: Pg 8, 21
Secondary matrix analysis of codes related to the COVID-19 pandemic was conducted by one research team member (XXX). All transcript text which had been coded as relating to the COVID-19 pandemic was entered into a descriptive matrix and re-coded for additional emergent themes.[18]

Reference 18. Averill JB. Matrix analysis as a complementary analytic strategy in qualitative inquiry. Qual Health Res, 2022;12(6):855-866.

Comment 5: Not clear on how this was thematic content analysis versus inductive analysis.
Reply 5: Additional text has been added to provide more detail about thematic content analysis, which does involve inductively developing codes while reviewing transcripts. A citation for thematic content analysis has also been added.
Changes in the text: Pg 7, 21
Deidentified transcripts were analyzed using steps informed by thematic content analysis.[17] Two research team members (XXX, XX) initially reviewed and coded five transcripts independently to inductively develop an initial codebook based on recurrent and key themes in the transcript data. The same two research team members then met to discuss the similarities and differences in their coding and used consensus to define codes and develop a preliminary codebook. Following the completion of the codebook, each transcript was then coded by the two team members independently, with regular meetings to synthesize results, discuss codebook modifications, and iteratively assess the ongoing analysis process.

Reference 17. Vaismoradi M, Jones J, Turunen H et al. Theme development in qualitative content analysis and thematic analysis. J Nurs Educ Pract 2016;6(5):100-110.

Comment 6: In Line 149 the topic of a flawed health care system is introduced but very little to follow. Also line 150 refers to challenges with no further description or narrative to say what these are. It is left to a quote that also does not describe what this is referring to.
Reply 6: Given the lack of additional data to support this finding, we elected to remove this quote and its description.
Changes in the text: Removed from text.

Comment 7: The method section does not in fact, provide a research design. Instead it describes recruitment, data collection and analysis but in pieces, not in a succinct description.
Reply 7: Additional language has been added to the Methods section summarizing the research design. In addition, the Methods section has been reorganized, including the addition of a "Participants" subheading.
Changes in the text: Pgs 5-6
Study design

This project used an exploratory qualitative research design utilizing data derived from semi-structured qualitative interviews conducted with XXX Administration (XXX) providers between April 2021 and March 2022. Exploratory qualitative designs have been recommended for studies on topics which have not been thoroughly described in the literature because it allows a researcher to investigate multiple areas of a single topic (Hunter 2019).

Comment 8: The interviews were piloted but no further information re whether there were modifications (and why was this data not used?)…also not piloted with surgeons, who were the predominant participants.
Reply 8: Additional information has been added to the Methods to clarify that content changes were made to the guide based on the pilot interviews. Because the content of the guide was changed, pilot data derived from interviews, which used the original guide were not included. The guide was not piloted with surgeons because we did not anticipate that surgeon participants would significantly outnumber participants with different roles.
Changes in the text: **Pg 7**
Due to changes to the content of the guide based on pilot feedback, pilot data were not included for analysis.

Comment 9: There is regular reference to "roles" where it would seem to be more suitable to use the word "tasks". "Disruption of roles" is a theme but then the description goes on to mention disruption to regular expectations. The quote about holding one's hand, rubbing their back and making a patient feel comfortable – how is this not a task for a health care provider? I believe there is more underlying this message (ie not enough time, adding to workload) Instead the next line (line 147) refers to this an extra role?
Reply 9: The term "roles" was used because of its frequency in literature about the COVID-19 pandemic. To avoid confusion, "roles" has been changed to "roles and responsibilities" when appropriate.
Changes in the text: Changes throughout manuscript where appropriate.

Comment 10: There is not a strong enough rationale for the third theme given the focus on virtual communication. The virtual communication context may have uniquely contributed to patient isolation – a very important area that needs more in-depth description; not having family at end-of-life is indeed isolating and this is not a novel finding.
Reply 10: Language in this section has been developed to include more about the connection between the virtual communication context and patient isolation.
Changes in the text: **Pg 12-14**
Patient isolation

In the participant interviews, the most discussed impact of the COVID-19 pandemic was the emotional impact of physical isolation on patients, even when virtual communication methods were available to them. For many participants, this was discussed in the context of ensuring that a patient had a "good death." Several participants said that the physical presence of loved ones was important for any death to be considered a "good death."

Comment 11: Would be beneficial to know why this study was exempt from Institutional review since human subjects are included? (Institutional is spelled wrong in line 90)
Reply 11: The spelling error has been corrected and text was added to clarify that this was determined to be minimal risk human subjects research that fell into one of the exemption categories in the federal IRB regulations, and a citation has been added if readers would like to read the wording of the regulations.
Changes in the text: Pg 6
The XXX Healthcare System Institutional Review Board (XXX) deemed this study to be minimal risk human subjects research exempt from full review under federal Institutional Review Board regulations.[15]

Reference 15. U.S. Department of Health and Human Services. *Institutional Review Board (IRB) Office: Exemptions (2018 Requirements)*. 2021. 45 CFR 46.104. Accessed August 21, 2024. https://www.hhs.gov/ohrp/regulations-and-policy/regulations/45-cfr-46/common-rule-subpart-a-46104/index.html

Comment 12: Why are the participants demographics distilled down to White and non-Hispanic?
Reply 12: The original intent was to simplify the demographics listed in-text since readers can refer to Table 1 for more demographic detail. However, to avoid confusion, additional demographics have been added to the text.
Changes in the text: Pg 8
When asked to describe their race or ethnicity, 71% of participants identified as white (n=34), 15% identified as Asian (n=7), 8% identified as Black or African American (n=4), and 6% identified as Hispanic (n=3).

Comment 13: Quote in Line 169-171: This is not intuitive and taken out context, it needs more interpretive explanation and description by the researcher(s).
Reply 13: Text has been added to explain the participant's quote.
Changes in the text: Pg 10
One participant called for allotted time for making phone calls because, although increased phone calls were beneficial for patients who were otherwise isolated from their loved ones,

they created an additional burden for providers because of the disruption to the providers' workflow.

> *"We realize that telephone phone calls are work…So, [we need] supported institutional time for it, number one. Number two, institutionalizing the demand for communication [is needed].." (Surgeon, female, 47)*

In this quote, the participant called for protected time in providers' schedules to make phone calls on behalf of patients. She also said that she believes that, at an institutional level, policies could be put in place to prioritize helping patients contact family members.

Comment 14: Line 182: syntax error.
Reply 14: Text has been edited for grammar.
Changes in the text: Pg 10
Some participants believed that phones and virtual communication effectively maintained providers' relationships with patients' loved ones, but others did not find it sufficient, especially for building trust.

Comment 15: There are two quotes related to trust but not sure what is to be distinctly gleaned from each.
Reply 15: Language has been added to the section on "Communication and rapport building" in order to better explain the meaning of these quotes.
Changes in the text: Pgs 10-11
A common theme in participant interviews was that pandemic policies, which limited staff interaction with patients' loved ones, were detrimental to communication and rapport building**.** Some participants believed that phones and virtual communication effectively maintained providers' relationships with patients' loved ones, but others did not find them sufficient, especially for building trust between providers and family members. For example, one surgeon described how fewer in-person interactions meant fewer opportunities for family members to come to trust care providers through witnessing the effort staff put into patient care.

> *"The most emotionally disturbing to me is that we have much less interactions with family...Once the family sees how much every single detail is addressed and how much you really try hard to help the patient, everything else becomes very, very easy. Now people start to trust you, they understand that you are really caring, that you hopefully know what you're doing." (Surgeon, male, 58)*

Similarly, another surgeon echoed these sentiments when she described that she felt it was easier for family members to trust their loved one's provider when the family members were able to witness more of the care the patient received. She did not think Zoom calls provided the same opportunity.

> *"When possible, we use Zoom calls because at least we can have some interaction with the families. But there's so much to be said for having the families observe the great care that they get, and the caring staff members and it builds the trust. I think that the trust is not nearly as strong in this COVID era." (Surgeon, female, 50)*

Comment 16: Line 233 – what is "it" referring to?
Reply 16: Text has been added to clarify the quote.
Changes in the text: Pg 13
"It's definitely more depressing [for patients to be alone]. I wonder if, likely outcomes would probably be better if family could be involved. Just be around…It just causes general tensions

because people are a little more panicky when , you know, 'I'm used to having my wife always around me. Why can't she be here?'" (Surgeon, male, 38)

Comment 17: Line 267-268 – not clear.
Reply 17: Text has been edited for clarity.
Changes in the text: Pg 15
While training of health care providers is a commonly suggested facilitator for the successful integration of virtual care,[23] any intervention must take into consideration the existing burden of provider workload. Awareness of how the integration of virtual options could increase pressure on providers or add to their workload is critical for the sustainability of any intervention.

REVIEWER B

Comment 1: The paper lacks detailed descriptions of the specific methods of synchronous communication used in the institution. This includes the technologies and platforms implemented, as well as the protocols for their use. The paper provides an overview of the types of synchronous communication practiced, mentioning the use of real-time video calls and phone calls to facilitate live interactions between patients and their family members. However, it does not go into detailed descriptions of the specific platforms or technologies used, nor does it elaborate on the implementation process or the institutional protocols governing these communications.
Reply 2: Text has been added to the Introduction, which specifically names some of the primary technologies and platforms used within this healthcare system. Because implementation of modalities and policies for their use varies so greatly across facilities, it's difficult to provide more specific detail within the scope of this paper. Specifying the facilities participants work at in order to describe their policies could make it possible to identify some of the participants. However, we have made an effort to specify which technologies are being referenced in quotes whenever possible.
Changes in the text: Pg 4
Within the XXX system, this infrastructure includes a wide variety of modalities (e.g., VA Video Connect, Doximity, FaceTime) and digital health tools (e.g., mobile applications). At the onset of the pandemic, XXX leadership directed facilities to rapidly switch from face-to-face visits to telehealth, and actual transitions and implementation varied by facility needs and resources (Tubbesing).

Comment 2: The study predominantly represents the perspectives of surgeons, which may not fully capture the experiences of other healthcare providers in medicine such as nurses, physician assistants, and other specialists involved in palliative care.
Reply 2: The text in the "Limitations" section has been edited to note that participants' experiences may not capture the experiences of other healthcare providers because most participants were surgeons.
Changes in the text: Pg 17
Future studies could emphasize other provider roles, as surgeon perspectives may not fully capture the experiences of other healthcare providers.

Comment 3: All participants were from a single healthcare system (XXX), which may limit the generalizability of the findings to other healthcare settings with different structures and resources.
Reply 3: Text has been added to the "Limitations" section to clarify that the nature of the healthcare system may limit generalizability of the findings.
Changes in the text: Pg 17
Additionally, all participants were providers within the XXX healthcare system, which differs from other health care systems and therefore may limit the generalizability of the findings to other healthcare settings with different patient populations, structures, and resources.

Comment 4: The use of convenience sampling may introduce selection bias, as participants who chose to participate might have had particularly strong opinions or experiences related to virtual care.
Reply 4: The overall goal of the study was to capture provider experiences in the surgical ICU, so while we agree that selection bias may occur due to convenience sampling, recruiting providers with strong opinions or experiences related to ICU care would still be relevant for the study goals. We have added text to the Limitations section to note that convenience sampling can lead to selection bias.
Changes in the text: Pg 17
The use of convenience sampling can introduce selection bias, so future studies may benefit from a purposive sampling strategy to ensure greater variety among participants.

Comment 5: The demographic data shows a majority of participants were white and non-Hispanic, which may limit the applicability of findings to more diverse populations.
Reply 5: Text has been added to the "Limitations" section to note that the majority of participants were White and non-Hispanic, which may limit applicability to more diverse populations.
Changes in the text: **Pg 17**
Similarly, the majority of participants are White and non-Hispanic, which may limit applicability to more diverse populations.

REVIEWER C

Comment 1: It would have been helpful to have more variety in provider occupation. I agree that one of the limitations of this study is that majority of interviews were from surgeons. I would have liked to see more variety in the providers. For example, there was only 1 anesthesiologist, 1 internist and 1 resident interviewed for this study even though in critical care units surgeons are not the only physicians providing care. Would consider a larger sample size that would adequately reflect the different medical providers who provide care in the ICU.
Reply 1: Language has been added to the "Limitations" section to highlight the importance of future research using purposive sampling to ensure a greater variety of professional roles.
Changes in the text: Pg 17
Limitations
This study has several limitations. The use of convenience sampling can introduce selection bias. Therefore, future studies may benefit from a purposive sampling strategy to ensure greater diversity among participants. Surgeon perspectives in this study are predominantly represented. Future studies could emphasize other provider roles, as surgeon

perspectives may not fully capture the experiences of other healthcare providers. Future studies on this topic may also benefit from a comparison of surgeon experiences to the experiences of non-surgeons.

REVIEWER D

Comment 1: Line 182-183 The sentence is not grammatically correct:
Reply 1: Text was edited for grammatical correctness.
Changes in the text: Pgs 10-11
Some participants believed that phones and virtual communication effectively maintained providers' relationships with patients' loved ones, but others did not find them sufficient, especially for building trust between providers and family members.

Comment 2: Line 262: Did you mean required even more work than usual?
Reply 2: Text was edited for clarification.
Changes in the text: Pg 15
The disruption of preexisting roles sometimes required more work than usual, creating an additional burden for providers.

Comment 3: A stronger transition is needed between the paragraph ending on line 289 and the one beginning on line 290. To improve the flow from one paragraph to the next, consider restructuring the topic sentence or developing a new topic sentence highlighting the main point of the paragraph on line 290.
Reply 3: Text has been edited to provide a stronger transition between these two paragraphs.
Changes in the text: Pg 16
In addition to maintaining communication between patients and family members, when considering the quality of a patient's death during the pandemic, participants were particularly distressed in cases where patients died without loved ones present.

Comment 4: At line 307, consider adding the header 'Limitations' with a little more content.
Reply 4: A "Limitations" header was added and the paragraph has been expanded based on reviewer comments.
Changes in the text: Pg 17
Limitations
This study has several limitations. The use of convenience sampling can introduce selection bias. Therefore, future studies may benefit from a purposive sampling strategy to ensure greater diversity among participants. Surgeon perspectives in this study are predominantly represented. Future studies could emphasize other provider roles, as surgeon perspectives may not fully capture the experiences of other healthcare providers. Future studies on this topic may also benefit from a comparison of surgeon experiences to the experiences of non-surgeons. Similarly, the majority of participants are white and non-Hispanic, which may limit applicability to more diverse populations. Additionally, all participants were providers within the VA healthcare system, which differs from other health care systems and therefore may limit the generalizability of the findings to other healthcare settings with different patient populations, structures, and resources. However, we aimed to recruit providers from hospitals

in settings which varied by location, size, and patient population to include a variety of perspectives, and findings of this study can build on work conducted outside of VHA settings.