

Impact of Restricted Visitation Policies during the First Wave of the COVID-19 Pandemic on Communication between Critically Ill Patients, Families, and Clinicians

A Qualitative Interview Study

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Abstract

Rationale: Restricted visitation policies during the first wave of the coronavirus disease (COVID-19) pandemic have had a major impact on the ways that intensive care unit (ICU) clinicians communicated with patients and their families, requiring the use of innovative strategies to adapt to new communication structures.

Objectives: The purpose of this study is to describe the impact of restricted visitation policies on communication and to identify strategies that could be used to facilitate better communication within Canadian ICUs from the perspective of those affected.

Methods: We conducted semistructured individual interviews with critically ill patients, their families, and clinicians from 23 Canadian ICUs during the first wave of the COVID-19 pandemic between July 2020 and October 2020. We used inductive thematic analysis to identify relevant themes and subthemes.

Results: Forty-one interviews were conducted with 3 patients, 8 family members, 17 nurses, and 13 physicians. Five themes were identified from the analysis: 1) patient and family psychosocial and information needs; 2) communication tools; 3) quality of communication; 4) changing roles and responsibilities of patients and nurses/physicians; and 5) facilitators or barriers to implementing alternative communication. Participants identified strategies to leverage new videoconference technology and communication structures to preserve the quality of communication.

Conclusions: Our study identified challenges and opportunities related to communication between critically ill patients, families, and ICU clinicians due to the restricted hospital visitation policies during the first wave of the COVID-19 pandemic. The use of videoconference technology and changes to communication structure were important strategies to facilitate effective communication within the ICU.

Keywords: COVID-19; intensive care unit; intensive care; communication; visiting

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Availability of data and materials: The data sets generated and/or analyzed during the current study are not publicly available because they contain personal information but are available from the corresponding author on reasonable request.

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The coronavirus disease (COVID-19) responsible for the current global public health crisis was declared a pandemic by the World Health Organization in March 2020. In an attempt to control the ongoing spread of COVID-19 and conserve personal protective equipment, hospital policies were implemented to restrict hospital visitation in many parts of the world (1). Restricted visitation policies limited human interaction, which drastically changed the way patients, families, and their clinicians (e.g., nurses and physicians) communicate with one another.

Within critical care medicine, in which patient- and family-centered care is foundational to effective communication, restricted visitation policies have shifted how information on serious illness and goals of care is exchanged (2–4). Before the COVID-19 pandemic, flexible visitation policies in the intensive care unit (ICU) were increasingly common and served as a means to cultivate effective communication between patients, families, and clinicians (5). Among family members of critically ill patients, effective communication with clinicians is deemed to be as essential as clinical skills in the care of their loved one (6, 7). For clinicians, the loss of nonverbal cues required for effective communication with families has led to innovative solutions to promote building trustworthy therapeutic relationships (6).

Virtual visitation and telehealth have rapidly developed in various clinical environments, including ICUs, to support and facilitate important conversations between patients, families, and clinicians (8–11). Families of critically ill patients are supportive of these new communication strategies (10). However, the implications of restricted visitation policies and videoconference technology on verbal and nonverbal communication between patients, families, and clinicians in the ICU have not been described. In this qualitative study, we aim to define the impact of restricted visitation policies during the first wave of the COVID-19 pandemic on communication between Canadian critically ill patients, their families, and clinicians.

Methods

Study Design

We used the Consolidated Criteria for Reporting Qualitative Research checklist (*see* Table E1 in the online supplement) (12)

to ensure quality reporting of this study. We conducted interviews from July 17, 2020, to October 8, 2020. The study was approved by the University of Calgary Conjoint Health Research Ethics Board (REB20-0944).

Participant Selection

Participants were eligible if they were English/French-speaking adults (≥ 18 yr), able to provide informed consent, and a patient or patient family member admitted to a Canadian ICU or a healthcare professional working in an ICU during the first wave of the COVID-19 pandemic. We used a convenience sample, recruiting eligible patients and family members through social media posts and from a national online cross-sectional study of public perceptions of the COVID-19 pandemic ($n = 1,996$ participants) whereby participants consented to be contacted for future COVID-19 research opportunities (13). We invited eligible ICU clinicians (nurses/physicians/respiratory therapists) to participate through an e-mail sent via their professional societies (Canadian Association of Critical Care Nurses, Canadian Critical Care Society, Canadian Critical Care Trials Group, and Canadian Society of Respiratory Therapists). All participants provided informed consent before participating in the interview.

Data Collection

The interview guides were developed by the research team and pilot tested by research assistants with a patient partner who is a member of the research team, nurse, and physician before their administration. Researchers trained in qualitative methods conducted interviews on the basis of participant preference (e.g., videoconference or phone). The duration of interviews varied between patients/families (1 h) and clinicians (30–45 min). We recorded participants' demographic information after each interview (Files E1 and E2). All interviews were audiorecorded and transcribed verbatim. Interviewers emailed a summary of the interview to each participant for comment or correction.

Data Analysis

Deidentified transcripts were imported into NVivo-12 (QSR International) for analysis. Patient, family, and clinician transcripts were analyzed separately. Each participant group had their own codebook that allowed for the identification of group-specific themes. Data

were analyzed according to Braun and Clarke's inductive thematic analysis approach (14). Four researchers (K.D.K., N.J., K.L.S., and S.J.M.) who were previously trained in qualitative methods and the methodological framework for thematic analysis proposed by Braun and Clarke conducted thematic analysis. Each transcript was coded independently and in duplicate. To ensure researcher agreement on the interpretation of the data, researchers met to discuss overlaps and discrepancies in coding and develop a coding frame that captured important features of their data. Researchers applied those codes to their transcripts. Subsequent meetings focused on clustering codes into themes identified in each participant group. Major themes identified in all three groups were pooled. Triangulation was achieved by having researchers from different disciplines (e.g., nurse, physician, and researcher) review the same transcripts. Rigor was established by addressing credibility with member checking (i.e., participant summaries), addressing dependability through an audit trail and iterative meetings to establish codes, and keeping a reflexive journal. Data analysis occurred concurrently with data collection, in which the list of codes and interview guides were adjusted with new information and insights. The same four researchers applied the coding framework systematically to all transcripts (in duplicate) and met regularly until no new codes were identified and saturation was reached.

Results

We conducted 41 interviews with 3 patients, 8 family members, 17 nurses, 13 physicians, and no respiratory therapists (Table 1). Two patients and five family members were recruited from the national online study, and one patient and three family members were recruited from social media. All healthcare professionals were recruited from their professional societies. When participants were asked how communication changed during the pandemic, a patient perceived communication to be better when families were allowed at the bedside because the spouse could act as an advocate for the patient and ask questions directly to the healthcare team. Other patients and families said the frequency of phone calls and actual conversations were the same, but they missed the in-person interaction. Clinicians reported

that before the COVID-19 pandemic, most communication with family occurred during rounds, in-the-moment updates at the patient’s bedside, or in-person family meetings about patient prognosis. Also, discussions on goals of care were more frequent, were in-person, and often included multiple family members and members of the healthcare team.

Thematic Analysis

Five major themes reached saturation and were generated from the analysis of each participant group: 1) patient and family psychosocial and information needs; 2) communication tools; 3) quality of communication; 4) changing roles and responsibilities; and 5) facilitators or barriers to implementing alternative communication. We present quotations within the text and Table 2 to illustrate each theme/subtheme.

Psychosocial and Information Needs

Restrictions had a negative impact on the ability of patients and families to have their psychosocial and information needs fulfilled. Psychosocial needs included patients feeling

lonely or on edge if they were unable to connect with their families. As one patient described, “I don’t think it impacted me health wise, but it definitely gave me a lonely feeling. Nurses would come in every couple hours. It’d be nice to have some contact in between somebody, especially a family member.”

Family members shared that receiving enough information from the healthcare team would have made them feel prepared for what was going to happen and made them feel less guilty for not visiting (quotation 1 [Q1]). One family member shared, “We all felt badly that we couldn’t see him, and we felt badly that he must have suffered through his last few days and not understanding what was going on around him and why no one was coming to see him. We feel guilty about that.” If families did not receive regular updates, they expressed feeling more worried and panicked (Q2). Physicians shared that families experienced anxiety, distress, stress, concern, and worry when they could not be there with their loved ones (Q3). Moreover, it was difficult to explain critical illness over the phone, and

families had many questions that could not be answered as effectively, which contributed to families’ anxiety. One nurse commented, “It’s hard when they’re not here watching either the progress or the decline . . . it becomes difficult in communicating as much as I can over the phone and try to ease their anxiety over the phone.”

All participants described families’ information needs. Sometimes it included assurance that the patient was clinically stable and that the healthcare team was taking care of them or that their loved one did not die alone (Q4). Other family members wanted more medical information (Q5). Clinicians found it challenging to provide families with adequate information sharing suited to the family’s information needs (Q6). One family member, who is a healthcare professional, believed knowing how the healthcare team works (i.e., when rounds occurs) would help families be less frustrated when no one answers their phone calls to the ICU. Other family members said it would be helpful if there was a way to communicate when family can call (e.g., written material with the best times to call).

Table 1. Participant characteristics

| Characteristic | Patients (n = 3) | Family Members (n = 8) | Physicians (n = 13) | Nurses (n = 17) |
|---|------------------|------------------------|---------------------|-----------------|
| Age category, yr, n (%) | | | | |
| 20–29 | — | 1 (12.5) | — | 4 (23.5) |
| 30–39 | — | — | 5 (38.5) | 7 (41.1) |
| 40–49 | — | 3 (37.5) | 6 (46.2) | 3 (17.6) |
| 50–59 | 2 (66.7) | 2 (25) | 2 (15.4) | 2 (11.8) |
| ≥60 | 1 (33.3) | 2 (25) | — | 1 (5.9) |
| Sex (female), n (%) | 1 (33.3) | 5 (62.5) | 3 (23.1) | 16 (94.1) |
| Province, n (%) | | | | |
| British Columbia | 2 (66.7) | — | 1 (7.7) | 3 (17.6) |
| Alberta | — | 2 (25) | 5 (38.5) | 3 (17.6) |
| Saskatchewan | — | — | — | 1 (5.9) |
| Manitoba | — | — | — | 3 (17.6) |
| Ontario | 1 (33.3) | 4 (50) | 3 (23.1) | 4 (23.5) |
| Quebec | — | 1 (12.5) | 3 (23.1) | — |
| Nova Scotia | — | 1 (12.5) | 1 (7.7) | 2 (11.8) |
| New Brunswick | — | — | — | 1 (5.9) |
| Newfoundland | — | — | — | — |
| Territories (Northwest Territories, Nunavut, and Yukon) | — | — | — | — |
| Ethnic origin, n (%)* | | | | |
| Other North American | 1 (33.3) | 5 (62.5) | 17 (56.7) | — |
| East and Southeast Asian | — | 1 (12.5) | 2 (6.7) | — |
| British Isles | 1 (33.3) | 1 (12.5) | 10 (33.3) | — |
| Western European | 1 (33.3) | 1 (12.5) | 2 (6.7) | — |
| South Asian | — | — | 2 (6.7) | — |
| Eastern European | — | — | 1 (3.3) | — |
| Employment status, n (%) | | | | |
| Full-time | 1 (33.3) | 3 (37.5) | 13 (100) | 14 (82.4) |
| Part-time | — | 1 (12.5) | — | 3 (17.6) |
| Retired | 1 (33.3) | 1 (12.5) | — | — |
| Not working (disabled, caregiver) | 1 (33.3) | 3 (37.5) | — | — |

*Participants self-selected their ethnic origin, and as such, responses are not mutually exclusive and add up to >100%.

Table 2. Exemplar quotations for themes

| Quotation Number and Participant Group | Subtheme | Exemplar Quotation |
|--|---|--|
| Patient and family needs | | |
| Quotation 1 Family member | Psychosocial needs, information sharing | "But I didn't feel like I had enough information from the medical team . . . I needed more information. I tend to be that kind of person. I'm not afraid of science. I want to know. [chuckles] Let me know what's going on. Odds are I probably won't understand the terminology that you've thrown at me. I just need to know where things are, and I think it's that it was more the facts are the facts, which helped a little bit with the guilt. But still, it probably would've helped a bit more at the time." |
| Quotation 2 Family member | Information sharing | "Well, I mean, I live alone. So it was hard not being able to go there and get more information. So it certainly, you know . . . I was here rolling around the house just being probably more worried and panicked because of the lack of knowing than having to be able to go in and see him. I mean, I still would've been worried and panicked, but do you know what I mean, in a different way?" |
| Quotation 3 Physician | Information sharing | "It was quite difficult when families were distressed, especially for a COVID-19 patient where . . . you had a patient whose wife is at home, quarantined, isolated, old, hearing news from someone that she doesn't know about her husband who's in critical condition in the ICU." |
| Quotation 4 Family member | Importance of communication | "To already feel so distanced, and then not being able to get through to someone that I just want to know if he's okay, or had a good night, whatever you can tell me. Because we weren't allowed ourselves in there, we have no assurance that that was actually done for every person that needed it or should have had some sort of somebody there so that they knew that they didn't die alone, that people cared for them and that even if they didn't understand that it wasn't possible for us to be there, at least they weren't alone. We have no assurance that that was actually done. Obviously, there's no video of it." |
| Quotation 5 Family member | Importance of communication | "But I really needed some feedback on what was going on with him medically. Which I really didn't get anything, other than the test that was canceled. And I found out the test was canceled, not from the doctor, but from the nurse. And she had no idea why it was canceled. . . . Now I'm even more concerned. I'm like, 'What's going on?'" |
| Quotation 6 Nurse | Importance of communication | "But I think it's made it super challenging to really know what people want and not having patients, family members come in and be able to be assured that we're doing what we're doing right, we can't 24/7 keep people informed as much as we'd love to." |
| Communication tools | | |
| Quotation 7 Family member | Mode of communication | "And at least in the ICU, they tried . . . I think with me on two occasions, to use an iPad for communication. And I could see my mom's face, she perked right up. And as soon as she saw me, I could see she perked up. 'Oh, it's so nice to see you and nice to chat with you.' But that really meant a lot to her." |
| Quotation 8 Family member | Mode of communication | "I know they had started to offer things like Facetime, and I didn't have access to that." |
| Quotation 9 Physician | Mode of communication | "I think that there's more of an opportunity, probably, to do that sort of stuff even post-COVID, is to use those alternate tools of communication if family can't always be there, and long-distance family, right? How often do you have the family that's in California or the family that's in Europe or in Asia and being able to communicate via video conference?" |
| Quotation 10 Physician | Mode of communication | "They didn't get along so the [parent and sibling] of the patient were in person in the room and the partner, who the family did not like whatsoever, was on Zoom. We actually positioned it so I was sitting facing the [parent and sibling] and then the Zoom camera or computer was between us. . . . Every single time the partner would speak, you would see the [parent and sibling] throw their arms up and roll their eyes. I told the social worker at the end of the meeting, That worked perfectly because [the partner] couldn't see that. They couldn't see [the partner]. It actually probably mitigated a lot of arguments that could have happened." |
| Quotation 11 Physician | Mode of communication | "The patient can be on the video even if they're in an ICU and not able to communicate that well themselves. And sometimes I will try to set that up so I can talk to the family first and then put it with the patient and then maybe talk to them again." |
| Quotation 12 Nurse | Audio and/or video quality | "We just recently got an iPad for the unit. So we at least have an ability to have video chats with family. So we set it up for the patient and assuming that their family also has an iPad or something of that nature, which is not always the case, that they can at least have face-to-face videos." |
| Quality of communication | | |
| Quotation 13 Nurse/Physician | Loss of visual cues | "I mean, even on Zoom, it's a bit clunky. I can't read your body language the same." |
| Quotation 14 Physician | Communication content | "I think the biggest downside to that is that I didn't know exactly what the residents were saying to the family. I couldn't micromanage them like that. In terms of if there were ever misunderstandings, I wasn't able to clarify it at the time, but I think that was the only practical way to keep everyone involved." |

(Continued)

Table 2. (Continued)

| Quotation Number and Participant Group | Subtheme | Exemplar Quotation |
|--|--|--|
| Changing roles and responsibilities | | |
| Quotation 15 Family member | Patients as family communicators | "Working with the public and having information relayed, from [elderly] [family members], that it's their [family member] in the ICU, that's where I would say, the F-minus in a rating got, was information was very difficult to get, and information came through very tired, sleep-deprived, [elderly] [family members] with their [family member] in an ICU." |
| Quotation 16 Nurse | Shifting responsibility across healthcare team | "I think in general, a huge responsibility on the bedside nursing staff to make sure that everything was as transparent as it could be over the phone, even though they can't see them." |
| Facilitators or barriers to implementing alternative communication | | |
| Quotation 17 Family member | Time constraints | "And then it's like, 'Sorry, we don't have the time,' and that's the best answers I got. Some of them it's like, 'Stop calling. We don't have time to waste.' They're supposed to have sympathy and understand. They're about the care of the patients. That's not caring for your patient, for not allowing them to have a contact, at least by voice." |
| Quotation 18 Physician | Miscommunications | "The patient was not speaking neither English nor French. It was very difficult to communicate with her and, despite having Zoom, it was very difficult. So we allowed the patient's son to come to visit her." |
| Quotation 19 Family member | Additional supports | "A person available to speak to the patients if their families could not visit, and to encourage them to use the technology, to walk them through it, to guide them in the use, to make them more comfortable with it. I don't know about other people, but our father being of an earlier generation, doesn't use technology very much, not even the telephone. So he doesn't get the full advantage of what possibilities there could be for connection with the family." |
| Quotation 20 Physician | Additional supports | "If you had on rounds a computer on wheels and you could have people slotted in to come on to rounds at a particular time, that would be great, and then they could be there virtually as they would be normally. We haven't operationalized that almost ever because of the uncertainty about exactly the time and don't want to make people wait and then a little bit the technology with speakers and video cameras and stuff. So we've not done that but it would be something that would be a look to the future that we could conceivably do. But it would require us to be probably much more attentive to the schedule of patient to patient to patient than we are right now." |

Definition of abbreviations: COVID-19 = coronavirus disease; ICU = intensive care unit.

Communication Tools

Participants described changes in the mode of communication from the typical verbal in-person communication to virtual communication and commented on the audiovisual quality of communication delivery. Some families described how communication with their loved ones using tablets was better than phone calls. One family member described how her mom appreciated the virtual visit (Q7). Although many patients had their personal devices to text or call friends and family members, virtual visits were not available to or appreciated by everyone (Q8). Two family members did not have access to a phone that was compatible with videoconference technology and relied on phone calls, or the patient was unable to use the phone (e.g., unconscious, not tech savvy, or too weak to hold phone). Despite imperfect access to videoconferencing tools, families and patients believed that these tools were useful for communication. Clinicians reported a higher reliance on technological aids (i.e., tablets) and videoconferencing platforms that were provided by the hospital or, at the beginning of the pandemic, used their personal devices. These communication tools were used to facilitate family visitation,

family meetings with physicians, and, in one circumstance, virtual translation for American Sign Language. Physicians felt that technology made it easier to have group discussions when friends and families did not live in the same place or if there were difficult family dynamics (Q9 and Q10). They also liked that tablets allowed family members to see their loved one or the face of the nurse or physician who is taking care of their loved one (Q11).

Participants described the challenges with inconsistent Wi-Fi connections, their mobile phone dying (and no access to a charger), or poor mobile communications in the ICU. Clinicians described challenges with the audiovisual quality (e.g., background distraction/noise, poor-quality microphones, and unreliable audio and/or video quality) as well as the quantity of available technological aids available to families to facilitate visitation (Q12). One physician described challenges during a family meeting: "Either I was facing the camera and facing away from the people in the room or I was facing the people in the room and not looking at the camera. It was hard to hear the person on the other phone, who I believe was literally sitting in a car outside of the hospital."

Quality of Communication

Participants described the impact of restricted visitation on the quality of communication. Family members shared that they received different pieces of information, depending on who they spoke with. Clinicians perceived the loss of face-to-face communication as being detrimental to communication because of missing visual cues and a lack of body language (Q13). Clinicians reported feeling that they were not able to deliver difficult news well over the phone because they could not express compassion and empathy without body language. One physician commented, "When you have family that was a bit distressed, it was a bit, it was quite a challenge to be . . . to interact with them, to say that you care, that you're sorry. And I mean, there's obviously even with Zoom, I mean, you cannot touch someone, you cannot hug them . . . your body language was just not a useful tool in those circumstances while it is usually the case."

Physicians often delegated family updates to residents but shared that, although the delegation was practical, they did not know what residents were saying to the family (Q14). In addition, communicating with multiple family

spokespersons on the phone was perceived by nurses to reduce the quality of communication because nurses were not able to recall what and with whom communication had already happened.

Changing Roles and Responsibilities

Participants described the changing roles and responsibilities with respect to communication. This included patients providing updates to their family members who were at home, which some participants felt was not appropriate and could potentially lead to misinformation. A family member described getting information from their loved one, who was an older patient who was “very tired and sleep-deprived” (Q15), and felt it was inappropriate. A patient updated their wife but was worried they were missing important information or not asking the right questions to the healthcare team. They described, “It’s a little bit worrisome, right, because I had a stroke before. I might forget to tell them something, right. They might want to do something, and I could get confused and wrong.” Nurses described feeling an increased sense of responsibility in ensuring communication was occurring with families and that the communication was transparent (Q16).

Facilitators and Barriers

Participants described facilitators or barriers to communication. Barriers described by families included not being listed as the contact person on the medical chart or not being released information before the healthcare team verified that they were related to the patient (i.e., a necessary step to preserve patient confidentiality that families felt was unnecessary). Physicians also shared that it was difficult to identify who the correct person was to contact. Other common barriers included busy ICU staff who were unable to facilitate a phone call between families and their loved ones or when families were unable to contact a nurse to get an update (Q17).

Physicians described the barriers for facilitating virtual visits, which included the number of critically ill patients (vs. the number of available devices); resources required to set up calls; coordination of multiple people’s schedules; late arrival to the virtual meeting because of clinical demands; ethics, privacy, and confidentiality (e.g., videoing someone who cannot consent); and equity issues (i.e., not all patients had access to personal devices). Clinicians described

communication barriers in which English was a second language, despite the availability of translation language services (Q18). Patient clinical circumstance was also described as a barrier to communication, as some patients in the ICU were not capable of communicating because of sedation or intubation.

Participants suggested strategies that could potentially improve communication. These included a point person within the healthcare team (e.g., social worker, ICU navigator, medical student, or resident) who would facilitate communication (e.g., schedule and set up virtual visits) or be responsible for family education and support and act as an information liaison between the family and more-senior clinical team members to offer clarifications and facilitate more in-depth, reliable communication. A family member suggested that this person could support patients who are not comfortable with technology (Q19). A physician suggested that a computer on wheels would be helpful for families to attend rounds virtually, although the logistics of this could be complicated (Q20). Table 3 provides a summary of identified barriers and strategies suggested by participants to address the perceived barriers to effective communication between critically ill patients, families, and clinicians.

Discussion

This qualitative study describes how communication occurred between critically ill patients, their families, and clinicians during the first wave of the COVID-19 pandemic when visitation was limited. Some form of restricted visitation policies was present across most hospitals in Canada, with all stakeholders reporting changes to communication. Our results suggest that the implementation of restricted visitation policies affected multiple facets of communication for all stakeholders. With changing roles and responsibilities and ongoing patient and family needs, participants described strategies they used and suggested new strategies to preserve the quality of communication on the basis of new technological tools and communication structures.

The COVID-19 pandemic transformed the way in-hospital communication occurs, with an emerging reliance on telehealth communication and the use of telemedicine

to deliver health care (8–11). The World Health Organization defines telehealth as the “delivery of healthcare services where distance is a critical factor by all healthcare professionals using information and communication technologies for the exchange of valid information” (8, 15). It is possible that the use of videoconferencing in hospital-based communication could extend beyond the pandemic, which is supported by several recent studies that report on the benefits of virtual visits during the COVID-19 pandemic (9, 16, 17). Virtual visits are convenient and can improve access when families live far from hospitals or have responsibilities that make it difficult to visit (e.g., dependents or work) or other barriers (e.g., mobility issues or no transportation to the hospital). Clinicians interviewed during this study shared how virtual visits can be beneficial, such as including families and friends who lived far from the hospital during family conferences or facilitating family visits when difficult family dynamics made it impossible for families to be in the same room. Patients appreciated seeing the faces of their family members and having these surrogate face-to-face visits, and clinicians perceived that families appreciated seeing the face of the clinicians caring for their loved ones. Moreover, seeing the patients’ clinical condition primed families for difficult discussions related to goals of care or end of life.

In the delivery of critical care medicine, the COVID-19 pandemic has required rapid implementation of innovative telehealth strategies to maintain patient- and family-centered care under restricted visitation policies. Despite the use of virtual platforms across Canadian ICUs, patients, families, and clinicians faced barriers preventing regular incorporation of virtual visits. A recent study conducted before the COVID-19 pandemic used telemedicine for parents’ participation in pediatric ICU rounds or at their child’s bedside to overcome barriers parents faced such as work demands, transportation barriers, and having to care for dependents (18). Parents reported that these telemedicine encounters provided them with reassurance and improved communication with the healthcare team. Like the current study, the study team experienced similar barriers such as audio/visual difficulties and intermittent Wi-Fi connectivity. Although telemedicine was feasible, the video encounters were facilitated by the study team, and participants were provided with tablets preloaded with

Table 3. Identified barriers to effective communication and suggested mitigation strategies

| Participant-identified Communication Barriers | Strategies to Improve Communication |
|--|--|
| Time constraints for clinicians (e.g., physicians and nurses) to update families | Use an ICU navigator (e.g., liaison, social worker, medical student, resident) to facilitate communication, set up virtual visits and family meetings, provide family education and support, and act as an information liaison between the family and more-senior clinical team members |
| Miscommunications (e.g., describing patient's clinical condition over the phone) | Facilitate adequate videoconferencing technology tools (e.g., iPads, Facetime, Skype) to enable the family to see the clinical condition of the patient, ensure communication occurs between the family and more-senior members of the clinical team, and use an ICU navigator to offer clarifications and facilitate more in-depth reliable communication |
| Risk of confidentiality breaches | Policy definitions for privacy-protected virtual visitations and/or family conferences |
| Access to additional technology supports for communication | Procurement of additional tablets or temporary communication devices for families to facilitate equitable access; device on wheels during patient rounds to include families virtually; free and reliable Wi-Fi |

Definition of abbreviation: ICU = intensive care unit.

the applications to support video encounters and with a cellular plan. Introducing telemedicine for families' participation in rounds in a critically ill adult population would need to overcome the challenges itemized in this current study: family and clinicians' daily working schedule, access to devices, poor audio/visual quality, and ethics/privacy considerations. To overcome these barriers, it would be useful to have a dedicated person to schedule and facilitate video encounters. There should be an agreed-on virtual meeting platform (or available devices preloaded with the virtual platform), which is compliant with the jurisdiction's information and privacy laws. For the best view of rounds, the videoconference technology should be attached to a cart with wheels so that it can be easily moved around and give the best view of the patient or healthcare team. In addition, there should be a high-quality external microphone and speaker that provides the best audio. Virtual visits or rounds attendance could mitigate family anxiety and distress due to intermittent opportunities for updates on their hospitalized loved ones not only during periods of restricted visitation but also when families are unable to visit (19). However, families should be informed that, given the acuity of an ICU, specific rounding times cannot be guaranteed.

Strengths and Limitations

There are several strengths of this study, including the multidisciplinary research team with patient partners, researchers, physicians,

and nurses working together to design and pilot the interview guides. There are also limitations to this study. The study findings are likely not generalizable and are limited to settings like Canada where 24-hour visitation was available before the COVID-19 pandemic. As this study also explored the impact of restricted visitation policies in the broader experience of patients, families, and clinicians, it is possible that important communication-related themes may have been missed. However, thematic saturation was reached for the major themes. In addition, the number of patient/families who participated was lower than that of healthcare professionals. It is possible that key perspectives from all stakeholder groups may not have been identified, given that the motivation to participate in this study may have been impacted by both positive and negative experiences with restricted visitation policies. However, we included unique viewpoints to ensure that a breadth of experience was represented. Lastly, we did not purposively sample to achieve representation of sex, gender, age, and ethnicity. Most of our participants were of North American or European descent, and as such, we may have missed perspectives of patients and families from a diversity of both ethnic and socioeconomic backgrounds, which may have missed the direct impact of communication to patients and families who do not speak English or patients and families who did not have access to their own personal devices. Future studies are needed to describe how the COVID-19 pandemic impacted the persistent racial and ethnic

disparities in the quality and outcome of communication between patients, families, and physicians (20, 21). Recruitment of healthcare professionals via convenience sampling may have limited the recruitment of those with unique perspectives of the impact of restricted visitation, who may have been unavailable to participate because they were working in the ICU.

Conclusions

Restricted visitation policies enacted during the first wave of the COVID-19 pandemic had negative psychosocial impacts on patients, their families, and the healthcare professionals who care for them. Potential solutions to preserve the fundamental components of patient- and family-centered care delivery included the rapid incorporation of new videoconference technology. However, videoconferencing technology was an imperfectly implemented solution. The ongoing use of telehealth and new audiovisual technology platforms are important tools that warrant further consideration to facilitate effective communication within the ICU. ■

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References

- 1 Public Health Agency of Canada. From risk to resilience: an equity approach to Covid-19. 2020 [accessed 2021 July 23]. Available from: <https://www.canada.ca/en/public-health/corporate/publications/chief-public-health-officer-reports-state-public-health-canada/from-risk-resilience-equity-approach-covid-19.html>.
- 2 Back A, Tulskey JA, Arnold RM. Communication skills in the age of COVID-19. *Ann Intern Med* 2020;172:759–760.
- 3 Davidson JE, Aslakson RA, Long AC, Puntillo KA, Kross EK, Hart J, *et al*. Guidelines for family-centered care in the neonatal, pediatric, and adult ICU. *Crit Care Med* 2017;45:103–128.
- 4 Hart JL, Turnbull AE, Oppenheim IM, Courtright KR. Family-centered care during the COVID-19 era. *J Pain Symptom Manage* 2020; 60:e93–e97.
- 5 Canadian Foundation For Healthcare Improvement (CFHI). Re-integration of family caregivers as essential partners in care in a time of Covid-19. 2020 [accessed 2021 July 23]. Available from: https://www.cfhi-fcass.ca/docs/default-source/itr/tools-and-resources/bt-re-integration-of-family-caregivers-as-essential-partners-covid-19-e.pdf?sfvrsn=5b3d8f3d_2.
- 6 Marra A, Buonanno P, Vargas M, Iacovazzo C, Ely EW, Servillo G. How COVID-19 pandemic changed our communication with families: losing nonverbal cues. *Crit Care* 2020;24:297.
- 7 Di Bernardo V, Grignoli N, Marazia C, Andreotti J, Perren A, Malacrida R. Sharing intimacy in “open” intensive care units. *J Crit Care* 2015;30: 866–870.
- 8 Lieneck C, Garvey J, Collins C, Graham D, Loving C, Pearson R. Rapid telehealth implementation during the COVID-19 global pandemic: a rapid review. *Healthcare (Basel)* 2020;8:517.
- 9 Hollander JE, Carr BG. Virtually perfect? Telemedicine for Covid-19. *N Engl J Med* 2020;382:1679–1681.
- 10 Sasangohar F, Dhala A, Zheng F, Ahmadi N, Kash B, Masud F. Use of telecritical care for family visitation to ICU during the COVID-19 pandemic: an interview study and sentiment analysis. *BMJ Qual Saf* 2021;30:715–721.
- 11 Fang J, Liu YT, Lee EY, Yadav K. Telehealth solutions for in-hospital communication with patients under isolation during COVID-19. *West J Emerg Med* 2020;21:801–806.
- 12 Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care* 2007;19:349–357.
- 13 Parsons Leigh J, Fiest K, Brundin-Mather R, Plotnikoff K, Soo A, Sypes EE, *et al*. A national cross-sectional survey of public perceptions of the COVID-19 pandemic: self-reported beliefs, knowledge, and behaviors. *PLoS One* 2020;15:e0241259.
- 14 Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol* 2006;3:77–101.
- 15 World Health Organization. Telemedicine: opportunities and developments in member states: report on the second global survey on eHealth. 2010 [accessed 2021 June 24]. Available from: <https://apps.who.int/iris/handle/10665/44497>.
- 16 Woong NL, Ekstrom VSM, Xin X, Lim C, Boon ESK, Teo SWJ, *et al*. Empower to connect and connect to empower: experience in using a humanistic approach to improve patients’ access to, and experience of, care in isolation wards during the COVID-19 outbreak in Singapore. *BMJ Open Qual* 2021;10:e000996.
- 17 Estella Á. Compassionate communication and end-of-life care for critically ill patients with SARS-CoV-2 infection. *J Clin Ethics* 2020;31:191–193.
- 18 Yager PH, Clark M, Cummings BM, Noviski N. Parent participation in pediatric intensive care unit rounds via telemedicine: feasibility and impact. *J Pediatr* 2017;185:181–186.e3.
- 19 Rose L, Yu L, Casey J, Cook A, Metaxa V, Pattison N, *et al*. Communication and virtual visiting for families of patients in intensive care during the COVID-19 pandemic: a UK national survey. *Ann Am Thorac Soc* 2021;18:1685–1692.
- 20 Martin KD, Roter DL, Beach MC, Carson KA, Cooper LA. Physician communication behaviors and trust among black and white patients with hypertension. *Med Care* 2013;51:151–157.
- 21 Mack JW, Paulk ME, Viswanath K, Prigerson HG. Racial disparities in the outcomes of communication on medical care received near death. *Arch Intern Med* 2010;170:1533–1540.