



## Nursing perspectives on care delivery during the early stages of the covid-19 pandemic: A qualitative study

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### ABSTRACT

**Background:** Research examining RNs' experiences during the COVID-19 pandemic is lacking, thus inhibiting efforts to optimize nursing care delivery and patient outcomes during the current pandemic and future public health emergencies.

**Objective:** To explore the experience of being a registered nurse caring for patients with COVID-19 at an urban academic medical center during the early stages of the pandemic

**Design:** Qualitative descriptive study, guided by Donabedian's Quality Framework for Evaluation of Healthcare Delivery which focuses on structures, processes, and outcomes of care delivery

**Setting:** Urban academic medical center in the northeast United States

**Participants:** Registered nurses cared for or caring for patients with COVID-19, age  $\geq 18$  years old, and English-speaking

**Methods:** Participants were recruited for individual in-person semi-structured interviews. Interviews occurred during March and April 2020 and were recorded and transcribed. Transcripts were analyzed by two researchers using emergent qualitative content analysis to identify themes.

**Results:** Twenty-one registered nurses participated in the study. Three themes emerged from the data, included one relevant to structures and two relevant to processes of care during the pandemic. Registered nurses perceived the clinical context as highly dynamic, but quickly adapted to pandemic-related care delivery. They felt a "sense of duty" to care for patients with COVID-19, despite being fearful of acquiring or spreading infection. Compared to clinical colleagues, registered nurses reported increased patient exposure and performed tasks previously assigned to other clinical team members.

**Conclusion:** Roles and nursing practice processes evolved to meet the demand for care despite challenges. Registered nurses require adequate protection for their frontline role which may consist of increased patient exposure compared to clinical colleagues, emotional support, and clear clinical guidance. A deeper understanding of how a public health emergency, such as the COVID-19 pandemic, affects nursing practice can guide future efforts to optimize healthcare structures, nursing care processes, and patient outcomes. Our study can inform strategies for providing registered nurses with adequate communication, protection, and resources during the COVID-19 pandemic and future similar public health emergencies.

### What is already known about the topic?

- Rigorous and evidence-based approaches to examining registered nurses' experiences during the pandemic has been lacking.

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- Research is needed to optimize healthcare structures, nursing care processes, and patient outcomes during both the current pandemic and future public health emergencies.

#### **What this paper adds**

- Registered nurses, as frontline care clinicians, have been directly involved in the COVID-19 response.
- Our study demonstrates registered nurses' need for clear and comprehensive communication, adequate protective materials, and social and emotional support.
- With attention to optimizing the structures and processes of nursing care delivery during a public health emergency, nursing practice can contribute to improved patient outcomes.

## **1. Introduction**

The COVID-19 pandemic has drastically impacted the global community, with 7.6 million individuals being affected and 423,000 individuals having died worldwide as of June 2020 (Johns Hopkins University, 2020). The global population has experienced hardship related to physical distancing, travel limitations, economic loss, and psychological stress. Local, national, and global efforts have been mobilized in an attempt to minimize the negative effects of the SARS-CoV-2 virus, with healthcare systems mounting an unprecedented response. Further, hospitals have dealt with shortages of equipment and medication, struggled to ensure appropriate staffing, and experienced financial challenges as patients avoided care (Bindman, 2020; Ehrlich et al., 2020; Emanuel et al., 2020; Khullar et al., 2020; Ranney et al., 2020). Registered nurses (RNs) - as the largest component of the hospital workforce (United States Bureau of Labor Statistics, 2020) - have played a critical role in caring for patients during the pandemic and amidst the strains on the healthcare system, yet the experience of the frontline nursing workforce during the pandemic remains unknown.

The COVID-19 pandemic led to an abrupt shift in nursing practice to meet the sudden and increased demand for pandemic-related care. Initial peaks in COVID-19 incidence occurred rapidly and outweighed preparedness measures including the nursing profession's response (Centers for Disease Control and Prevention, 2020; Kasier Family Foundation, 2020). The resulting spike in cases led to specific geographic areas experiencing substantial stress on the healthcare system and subsequent catapult of frontline nursing responsibilities, ranging from mobile COVID-19 testing to delivering high acuity care in intensive care units by RNs with no previous critical care experience (Fraher et al., 2020). The increased nursing role demands occurred amidst a pre-existing nursing shortage of nearly 9 million worldwide (Drennan and Ross, 2019). Rigorous and evidence-based approaches to examining RNs' experiences during the pandemic has been lacking. Evidence is needed to understand frontline nursing efforts to optimize patient care delivery during the pandemic, in order to inform forthcoming peaks in COVID-19 cases and future public health emergencies.

We considered nursing care during the COVID-19 pandemic via the lens of the Quality Framework for Evaluation of Healthcare Delivery (Donabedian, 2005). The Donabedian framework demonstrates that patient outcomes are influenced by clinical care delivery structures and processes - both of which have been directly impacting COVID-19 pandemic outcomes. For patients who become acutely ill, the structure - or the physical and contextual factors of care delivery - entails treatment environments including hospital infrastructure and practice policy. Hospital structures, particularly in areas with high numbers of COVID-19 cases, have experienced shortages of critical supplies (e.g., N95 masks), clinicians taking on new roles (e.g., retired clinicians returning to work in new locales on short notice), and a need to rapidly deploy new chains of commands (e.g., need to work more directly with public health departments) (Bauchner et al., 2020; Cao et al., 2020; Cavallo et al., 2020). Processes, or the acts of healthcare delivery from providers to patients, have also been directly impacted during COVID-19. The pandemic led to changes in clinical care processes such as new policies (e.g., wearing a surgical mask in a hospital at all times) and new modes of interaction (e.g., tele-medicine for routine care visits) (Bauchner et al., 2020; Cao et al., 2020; Cavallo et al., 2020). The aforementioned changes in structures and processes may affect patient outcomes, including care perceptions, morbidity, and mortality, related to COVID-19. Research examining RNs' experiences during the COVID-19 pandemic is lacking, thus inhibiting efforts to optimize healthcare structures, nursing care processes, and patient outcomes during both the current pandemic and future public health emergencies.

## **2. Methods**

Study reporting was guided by the Consolidated Criteria for Reporting Qualitative Research (COREQ) guidelines (Tong et al., 2007).

### **2.1. Aim**

The aim of this study was to explore the experience of RNs caring for patients with COVID-19 at an urban academic medical center during early stages of the pandemic. (Of note, this study is part of a larger parent study that examined the experiences of interdisciplinary healthcare workers [e.g., RNs, patient care technicians, pharmacists, physicians, respiratory therapists]; this study focuses on RNs only.)

### **2.2. Design**

This qualitative descriptive study (Sandelowski, 2000, 2010) was conducted in an urban setting in the northeastern region of the United States. Methods entailed individual one-time semi-structured in-person interviews and took place at a private location at the

medical center. Interviews were conducted by a female PhD-prepared nurse researcher with expertise in qualitative methods (SA). An interview guide that included 19 open-ended questions, each with associated prompts, was used. Prior to interviewing, the interview guide was reviewed and revised by the research team and pilot tested with three healthcare workers at the medical center. Interviews took place during March and April of 2020, lasted approximately 20 min, were audio recorded, and transcribed verbatim. Participants completed a demographic questionnaire that assessed age, race/ethnicity, gender, education, years in profession, hospital unit, and years in current position.

### 2.2.1. Theoretical framework

This study was guided by the Quality Framework for Evaluation of Healthcare Delivery (Donabedian, 2005) and the Resilience Framework for Public Health Emergency Preparedness (Khan et al., 2018). The Quality Framework informed the interview guide, data analysis (described below), and the research question, including the rationale for exploring structure- and process-based aspects of nursing care. The Resilience Framework was used to guide coding for data analysis (described below) that explored the impact of a public health emergency, such as global pandemic, on the healthcare workers' experiences.

### 2.3. Participants

During March and April of 2020, SA recruited RNs in-person via purposive convenience sampling. Recruitment was conducted on hospital units where patients with COVID-19 were receiving care. Recruitment entailed approaching the potential participant, introducing self, briefly describing the study, and inviting the individual to participate. To ensure a broad variety of perspectives, RNs in emergency room, critical care, medical-surgical units, and float pool were eligible to participate. Individuals were eligible if they were an RN that cared for or was caring for patients with COVID-19, aged  $\geq 18$  years, and English-speaking. Snowball sampling was used to recruit additional participants. No specific number of participants was targeted because power analysis is not appropriate for qualitative research (Vaughn et al., 1996), however a sample of approximately 15 was hypothesized to reach data saturation and thus a tentative target sample size.

### 2.4. Data analysis

The audio recordings were transcribed professionally, de-identified by SA, and reviewed for accuracy by all researchers. One member of the research team (KS) open-coded three transcripts and developed a codebook. While coding was inductive, the process was guided by Quality Framework for Evaluation of Healthcare Delivery via development of codes related to structures and processes. Two researchers (AN and KS) coded all transcripts to ensure inter-coder reliability. Analysis entailed content analysis, with the transcript being the unit of analysis (Hsieh and Shannon, 2005). Codes were grouped into emergent themes, and the team discussed coding and emergent themes at weekly team meetings. Analysis continued until interviews presented no new data, themes encompassed all data, and additional theme development was no longer occurring (Fusch and Ness, 2015; Guest et al., 2006). NVivo 12 was used for codebook management and data analysis (QSR International, n.d.).

### 2.5. Validity, reliability, and rigor

Procedures for credibility, transferability, dependability and confirmability were incorporated throughout the research process to ensure trustworthiness. Procedures included taking field notes, consideration of negative cases, and maintenance of an audit trail (Golafshani, 2003; Patton, 1999).

### 2.6. Ethical considerations

The study received Institutional Review Board approval from the medical center and all participants provided written informed consent.

## 3. Results

Twenty-one RNs participated in the study. Most identified as female (90.5%) and Black/African-American (52.4%). The majority held a Bachelors of Science in Nursing (81.0%) and had  $7.9 \pm 6.6$  years of nursing experience (Table 1). Three themes emerged from the data (Table 2), including one relevant to structures and two relevant to processes of nursing care during the pandemic. Related to structures, participants experienced the care context as incredibly dynamic. Related to processes, participants felt a duty to care for patients with COVID-19 and adapted their care to meet the needs of both patients and the abnormal care structures. In addition, their evolving roles left them on the frontlines of patient care, as other healthcare staff modified care protocols or shifted routines to remote care delivery.

### 3.1. Structures: adjusting to a dynamic COVID-19 context

Overwhelmingly, the most common description of the COVID-19 context was that of rapid change. Participants spoke extensively about how information, policies, and procedures were frequently changing, at times contradictory, and occasionally seemed to lack a grounding in the evidence:

**Table 1**  
Participant demographics (N = 21).

Characteristic	N (%)
Gender (n [%])	
Male	2 (9.5)
Female	19 (90.5)
Age (mean±SD)	33.5 ± 7.3
Race/Ethnicity	
Black/African American	11 (52.4)
Hispanic	3 (14.3)
White	7 (33.3)
Level of Nursing Education	
BSN	17 (81.0)
MSN	4 (19.0)
Practice Area	
Emergency Department	6 (28.6)
Float Pool	7 (33.3)
Intensive Care	4 (19.0)
Medical Surgical	4 (19.0)
Years in Practice (mean±SD)	7.9 ± 6.6

“...I do attest that a lot of the preparation has been far more throwing everything at the wall to see what will stick. Regulations for personal protective equipment have been changing. We have a lot of propaganda from both sides where there’s plenty of masks and, at the same time, we need to start being very stringent with masks.” (RN #2014)

Many found the dynamic context compounded their feelings of fear, including fear of contracting COVID-19 themselves or spreading the infection to family at home. Some mentioned having difficulty staying abreast of the large number of informational emails from hospital leadership. Most took the changes in-stride, yet noted their efforts to be aware of the evolving situation. Many described resources from the hospital, and most felt that they had access to relevant protocols and policies. Experts such as nurse managers, nurse educators, or infectious disease physicians were often sought out and appreciated as sources of in-person information. Some participants expressed sympathy for leadership amidst the dynamic situation and a recognition that “they are doing the best they can,” but others felt frustrated.

“My experience with that is not so great because the first two weeks that COVID was coming out we had [a hospital administrator] come around and just being like, ‘You don’t need any other mask but the droplet mask.’ Just completely reinforcing that over and over again. The CDC says this. You don’t need anything but the droplet mask. He literally – I saw him scold people. Like take that off – take that out of your pocket. You don’t need the N95. You don’t have patients on aerosolization. There’s no point in you having that, and then, to get an email from that same man two weeks later being like, ‘Everybody wear N95s. COVID rule out, [Patient Under Investigation] - You name it - wear your N95.’...Why did we not just start with all the protection?” (RN #2015)

Float pool RNs felt particularly challenged by the changing situation. Many seemed to feel lost in the shuffle of changing information and as if they remained in the dark about what to do and where to get help, despite often caring for patients with COVID-19.

### 3.2. Processes: adapting to the pandemic

Participants began to evaluate their role in COVID-19 care delivery during early stages of the pandemic, describing conversations with friends or family, watching the news, or hearing informal conversations about hospital preparation. Most participants considered their role in the pandemic with equanimity; they realized they were going to be delivering care to patients with COVID-19 and accepted the role as their duty. Some participants reported anxiety initially but then their anxieties alleviated after talking to a leader, such as a nurse manager, who assured readiness. For example, one RN, upon receiving an assignment to care for a patient with COVID-19, reported her reaction as:

“Wow, COVID-19, wow. What do I do?” Yes, I was informed prior to that, but I listened, I paid attention, but I didn’t have a patient. So, immediately, when I was told I had a patient that was positive, I went to the supervisor, and I said, ‘Okay, what specific instructions do I need to follow?’ and she went over everything.” (RN #2008)

Participants’ comfort increased after caring for their first patient with COVID-19, whereas others experienced no anxiety and felt comfortable from the start. Many described an increased sense of teamwork among staff, with team members helping one another and feeling that “we are all in this together.” As the volume of patients with COVID-19 increased, RNs quickly adapted to their new reality with many expressing that, other than the time taken to don and doff PPE, their clinical care processes were largely unchanged. Minor changes including developing strategies to make care more efficient, such as clustering care or having a “runner” outside the room for supplies, but most felt that caring for a patient with COVID-19 was no different than taking care of any other patient in isolation. One RN noted that “I don’t think [my role] has changed much. We’re still caring for our patients. We’re just gowned up and taking more precautions not to spread it to ourselves or not to spread it to other people” (RN #2016).

**Table 2**

Themes, with illustrative quotes, resulting from interviews with registered nurses (N = 21) caring for patients with COVID-19 at an urban academic medical center in the northeastern United States during early stages of the COVID-19 pandemic (March and April 2020).

Theme	Quote
<p><b>Adjusting to a Dynamic Situation</b>  <i>The participants' described a hospital environment in which rapid change was the defining characteristic. At first, many found the frequent flux to be stressful.</i></p>	<p>"I think that honestly, [the nurses managers and directors] are doing what they can because things are changing constantly for all of us, and them included, so sometimes, it can be frustrating for things to change so quickly, but it's nobody's fault. I think they're doing the best they can given the circumstances that we're in right now, and they're doing a good job of keeping us updated. They're giving us the communication as it comes." RN #2018</p> <p>"When we are told that we don't have enough supplies. When that happens, burnout is going to be a problem for me because the moment we have a policy that says, you need to wear an N95 mask into the patient's room and there is no N95 mask, I'm going to get pissed. I'm going to get really pissed. I would like to be able to take old masks. I would like to be able to recycle them, follow online guidelines with turning an oven on to 158° and letting the masks sit in there for 30 min. They won't let me. Everyone is stressed about this." RN #2014</p> <p>"I feel like those changes that happen, but then I didn't really hear about until after the fact. Every day it changes. Earlier last week we were saving the masks and gowns. The next day, I come – not masks and gowns. The masks and shields. The next day I come in, we're throwing them away. But yet I hear [one unit] was transferring [glasses], you clean off your glasses and you give it to the oncoming nurse, you know? And so, it's confusing when one floor is doing one thing, another floor is doing another. We hear we have enough PPE. We just pray that we're getting correct information from management about that. They're telling us to stop saving it and just throw it away because we don't want to be in New York down the road, where we're using the same N95 for the entire week." RN #2015</p> <p>"Yeah. I feel like we went over our PPE and everything, and the hospital's been sending out a lot of emails saying kind of what the protocols are, so I feel like I was prepared. Now, I feel like there's been a little bit of changing information, but I feel supported and like I'm ready to take care of the patients." RN #2001</p> <p>"So, I think this was the week we found out we would be a COVID-designated unit. I think one morning I woke up and I looked at the news and I started crying because I'm like, 'Oh my gosh, this is crazy. I might be exposed to this. How am I gonna deal with this?' I shed a tear. I said a prayer. And since then, I've been great." RN #2013</p> <p>"So, I mean at first, you see everything happening. I saw everything happening in China. Then we heard that it was spreading. We saw on the news that there were some cases that were coming to the United States. Then people started making trajectories about how the United States would get as bad as Italy. And immediately, it clicks something might be brewing. I think maybe about two to three weeks ago we found out that our unit would be one of the designated COVID units and eventually all of our beds would be filled with these types of patients." RN #2013</p>
<p><b>Understanding and Adapting to the Pandemic</b>  <i>Participants began to process that they would be caring for patients with COVID-19 by monitoring external sources of information, such as the news. Once they began caring for patients, they made minor adaptations to their care, including working more closely with other team members, but largely went about their duties as normal.</i></p>	<p>"Process is – the biggest thing for me – and really, for all of us – is to cluster care as much as possible, which is tough because sometimes, when you wanna go in and check on a patient, it's not always appropriate with the COVID patient. The goal is to cluster your tasks as much as possible, and from there, you have to maintain your distance, which stinks, but we now have phones, which is nice, so you can call in and get updates from the patient, make sure they're still doing okay." RN #2018</p> <p>"But now our volume is smaller but it's a different type of busy, where you can't just walk into a patient's room, hand them water if they're a PUI for a rule-out, like COVID. You need to get all gowned up, waste all of the PPE just to hand them a cup of water. So, it's a different type of thinking to make sure that you have everything in your room before you even go in." RN #2016</p> <p>"If I'm having a bedside procedure before like an echocardiogram, I will call the department and it will be expressed to me, "We're going to wait until the COVID results come back before we do anything." The same thing applies to EEGs, and in one case, dialysis, everyone is very hesitant to get into the room, and it frustrates physicians in the process." RN #2014</p>
<p><b>The Duty to be on the Frontlines</b>  <i>Participants felt a sense of duty to care for patients with COVID-19, despite concerns about personal risk. Many felt proud of their role. However their care processed left them on the frontlines more than usual, especially very early in the pandemic as other healthcare workers developed workflows for minimizing exposure.</i></p>	<p>"...As a nurse, I'm here to care for these patients regardless of whether they're COVID or not. I'm here to care for patients." RN #2003</p> <p>"Yeah because you're like, essentially, the physician's eyes on the patient, then, because if that person's not going in, you're like, well, I have been in and I'm continuing to go in. I'm just not going to not give care to this patient." RN #2009</p> <p>"I was not alarmed nor was I upset, I think it was just a reality, it just reminded me as a nurse how dangerous what we do can be. So, I was not upset or anything, as I said, it was just a reality. We have a situation now, and as part of my profession, it is expected that I would treat people with different diseases and ailments. And unfortunately, we have one such as the COVID-19 that I have to attend to. But I was not upset or anything; it was just, 'Okay.'" RN #2008</p> <p>"The feeling that I had was really proud, proud that we are here to take care of the patients, we are being given an opportunity to take care of these very sick patients. And the patients are scared, they're scared, so it's our job to take care of them, you know, to our level best. And so, I'm very proud to be able to take care of the patients." RN #2010</p>

### 3.3. Processes: duty to be on the frontlines of care delivery

Participants expressed an overall sense of duty to care for patients with COVID-19, and that RNs must care for sick patients regardless of the cause of the patient's illness. However, participants experienced a sense of isolation and an increased responsibilities on the frontlines, as other members of the clinical team sought to minimize exposure. For example, dietary staff stopped delivering trays to patients with COVID-19 and RNs brought the patients their meals; respiratory therapists stopped administering nebulizers on certain units so RNs administered nebulizers; and environmental services staff cleaned patient rooms less often thus prompting RNs to empty trash bins. Participants also reported that physician teams no longer rounded within patient rooms and thus the RN was asked to provide updates on the patients' status to the team. Participants reported other clinicians being hesitant to enter the rooms of patients with COVID-19, though this decreased over time. For example one RN described a situation very early in the pandemic:

"I think the only traumatic experience I had was when I had a rapid response on a patient under investigation [for COVID-19]...the patient became unresponsive, and I called the rapid response and nobody wanted to come into the room. This was in the very, very beginning of COVID, and I was in the room by myself, not a [patient care technician] because I wasn't assigned my own tech, not the rapid nurse because she kind of was just talking to me by the door and telling me what to do, and that was a little scary because I said, 'Why does nobody want to come in here?'" (RN #2003)

Most participants expressed that, as time passed, other clinicians became less hesitant to engage with patients with COVID-19. Participants did not express positive or negative emotions about taking on such a frontline role compared to others, and in fact many described feeling proud of being an RN on the frontlines. However some expressed concern about their elevated risks. One RN noted:

"The first week that COVID hit the hospital and there was like so much up in the air about proper PPE. I knew physicians that didn't even go in the room because if they didn't have N95 masks available to them, they would not enter the room. That was just another thing for nurses to be like...'if your doctors aren't going to the room, why would you expect us nurses to want to go into the room?'" (RN 2009)

## 4. Discussion

To our knowledge, this is the first qualitative study to examine RNs' experiences during the COVID-19 pandemic at an urban academic medical center. Our findings demonstrated that RNs overwhelmingly perceived the care context as dynamic and uncertain. Yet as RNs realized that they would be caring for patients with COVID-19, they quickly evaluated and adjusted their clinical practices to meet the demands for care. Despite minor changes such as clustering care and wearing additional PPE, they felt as if they were going about their job as normal. Many felt a sense of duty to care for patients with COVID-19 and ended up on the frontlines even more than normal as other team members limited engagement. The experience of caring for patients during the pandemic led to a variety of feelings, including fear, pride, and connection with team members. Considered collectively, our findings highlight important implications for supporting structures and processes related to nursing care delivery during public health emergencies.

Our results highlight a key aspect of nursing that continues to hold true during a pandemic - RNs are on the frontlines of care, perhaps even more than other team members. In our study, RNs described a duty and a preparedness to care for patients with COVID-19 despite lack of comprehensive knowledge about the disease and concerns about personal health and family. While RNs may accept their role during a pandemic as their duty, it remains important to consider the need for their protection, especially given that they may take on roles previously performed by other colleagues. As other members of the healthcare team re-evaluated needs for direct engagement with patients and as hospitals sought to minimize the number exposed, RNs maintained direct care delivery with minimal changes in practice. While RNs did not express negative feelings about their role, their experience raises the importance of ensuring RNs are provided with protocols, support, and appropriate staffing. Offering such protections is both practical - ensuring RN preparedness - and ethical - supporting frontline clinicians. Hospital leadership can consider how to provide RNs with necessary resources given their potential increased exposure and workload during public health emergencies.

The experience of RNs in this study highlighted the need for clear and consistent communication during a dynamic pandemic context. Many participants understood why communication was frequently changing, yet at times felt disoriented by the rapid flow of information. Float pool RNs in particular described a need for clarity. Such a finding is not surprising, given prior work about the need for clear communication in health emergencies (Khan et al., 2018). Clear and consistent communication not only supports nursing morale but also their ability to care for patients using evidence-based practices. Lessons learned about communicating during the COVID-19 pandemic can inform future efforts for emergency preparedness. Hospitals can consider what type of communication worked well, what didn't work well, and how communication plans can be developed for future pandemics. While email is an attractive mode for clear and rapid dissemination of information, study findings highlight the importance of in-person expert sources of information and that float, temporary, or travel/contract RNs, without a core group of in-person colleagues, may feel less prepared for the challenges of a public health emergency.

RNs experienced a range of emotions during the pandemic, speaking to the need for their psychosocial and emotional support. It is possible that certain RNs may not recognize or prioritize their own need for support, given the hectic experiences of the pandemic. Thus providing support to all RNs, rather than only those who seek out resources, may be an optimal approach. Further, support efforts can also capitalize on the teamwork that arises during a pandemic, such as by offering group-level resources (e.g., unit-level stress debriefs guided by a psychologist) that allow staff members to engage with support together.

Future research on RNs' experiences during the covid-19 pandemic is needed. Public health emergencies are rare but have substantial implications for morbidity and mortality of millions of individuals; thus proactive efforts to investigate, understand, and explore are critically important. Our study can suggest future avenues of study. For example, future research could examine how strategies suggested by our study lead to improvement in patient outcomes. For example, quantitative studies could assess if and how different methods of communication about rapidly changing care protocols are associated with reduced patient morbidity. Further, future research can explore RNs' perspectives on what format, content, and delivery methods for emotional supports would be useful and desirable during a public health emergency. In addition, future studies could examine both how RNs' experiences are similar or different in different settings (e.g., public health clinic versus hospital), across nations, and as the pandemic progressed.

#### 4.1. Limitations

Our study has strengths and limitations. Strengths include a theoretically guided approach to inform research activities and data collection, setting in an urban academic medical center on the frontline of COVID-19 care, and engagement with RNs in a variety of care settings. Limitations include that findings were focused only on one hospital and at the early stages of the pandemic; a study with multiple sites or of longer duration may have led to different findings.

#### Conclusion

The COVID-19 pandemic presents a public health emergency unmatched in recent history. Millions have been impacted via the direct or indirect effects of the disease. RNs, as frontline care clinicians, have been directly involved in the COVID-19 response and have received unprecedented levels of media and public attention. Our study examining RNs' experiences demonstrates a need to deliver clear and comprehensive communication, protect staff, and provide social and emotional support. With attention to optimizing the structures and processes of nursing care delivery during a public health emergency, nursing practice can contribute to improved patient outcomes.

#### Declaration of Competing Interest

None

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