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# Roles and Experiences of Registered Nurses on Labor and Delivery Units in the United States During the COVID-19 Pandemic

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## Keywords

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## ABSTRACT

**Objective:** To examine the roles and experiences of labor and delivery (LD) nurses during the COVID-19 pandemic.

**Design:** Cross-sectional survey.

**Setting:** Online distribution between the beginning of July and end of August 2020.

**Participants:** LD nurses ( $N = 757$ ) responded to an open-ended question about changes to their roles during the COVID-19 pandemic as part of a larger national survey.

**Methods:** We calculated descriptive statistics on respondents' characteristics and their hospitals' characteristics. We applied conventional content analysis to free-text comments.

**Results:** We derived four major categories from the responses: *Changes in Roles and Responsibilities*, *Adaptations to Changes*, *Psychological Changes*, and *Perceived Effects on Labor Support*. Nearly half ( $n = 328$ ) of respondents reported changes in their roles and responsibilities during the COVID-19 pandemic. They described adaptations and responses to these changes and perceived effects on patient care. Infection control policies and practices as well as the stress of a rapidly changing work environment affected the provision of labor support and personal well-being.

**Conclusion:** The experiences described by respondents conveyed considerable changes in their roles and subsequent direct and indirect effects on quality of patient care and personal well-being. Policies and practices that can facilitate the ability of LD nurses to safely and securely remain at the bedside and provide high-touch, hands-on labor support are needed. The findings of our study can help facilitate the provision of labor support during times of disruption and foster the resiliency of the nursing workforce.

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The World Health Organization (2020) declared COVID-19 a pandemic on March 11, 2020, and the world remains in a public health emergency at this writing. Although data on the health effects of COVID-19 continue to develop, pregnant women and health care workers are particularly vulnerable to the direct and indirect consequences of the disease. Pregnancy is a risk factor for more severe COVID-19 disease, and racial and socioeconomic inequities exacerbate the disease burden among Black and Latina women (Centers for Disease Control and Prevention, 2020). Evidence suggests that women with COVID-19 are at increased risk for preterm births, preeclampsia and thrombotic

events (Jering et al., 2021), and intensive care unit admissions (Delahoy et al., 2020). Nursing personnel, the largest group of health care professionals, are at greatest risk for COVID-19 transmission (Kambhampati et al., 2020). In the context of childbirth, labor and delivery (LD) nurses are frontline workers in the COVID-19 pandemic because of the high-touch, hands-on care required and the inherent exposure to aerosolization and blood products in the second stage of labor (Palatnik & McIntosh, 2020).

The effect of the pandemic on the health care workforce is a priority in health services research (DeCosta et al., 2020). An exploration of the

COVID-19 pandemic on changes in nursing roles and the subsequent effects on patient care and nurses' health and well-being is timely and relevant. [Cohen et al. \(2021\)](#) suggested that studies of the nursing role and the provision of nursing care are significant priorities for improving outcomes and, in turn, addressing disparities in perinatal health. In the international literature, [Kang et al. \(2021\)](#) conducted a qualitative study of 24 LD nurses in South Korea to explore their experiences of providing care during the pandemic. Understanding these experiences is vital to informing emergent policy and practice that can support high-quality LD nursing care during and after times of disruption.

## Background

Concerns about the transmission of SARS-CoV-2 and COVID-19 infection among health care providers and patients prompted hospitals across the United States to enact controversial policies to restrict external labor support to one person per woman in labor. In the early stages of the pandemic, New York City and other locales banned any labor support people external to hospital staff ([Diamond et al., 2020](#)). Limited evidence suggests that these restrictive policies may have detrimentally affected women's childbirth experiences and birth outcomes. In a study of 1,978 pregnant women in Canada, women who reported receiving less labor support experienced increased symptoms of anxiety and depression during the COVID-19 pandemic ([Lebel et al., 2020](#)). Media outlets highlighted increases in elective labor inductions and cesarean births at the start of the pandemic ([Gantz, 2020](#)) and restrictions that prevented women in labor from leaving their hospital rooms ([Gao, 2020](#)), which can minimize the physical movement necessary to facilitate physiologic labor. A key concern is that these visitor restrictions, changes in birth practices, and limitations of space for labor negatively affect the quality of patient care, particularly the provision of labor support.

Registered nurses (RNs) are the principal caregivers during childbirth and provide labor support as part of their primary responsibilities. [Burgess \(2014\)](#) operationalized the concept of labor support as some combination of physical or tangible support, emotional support, advocacy, informational support, partner support, and continuous presence. The [Association of Women's Health, Obstetric and Neonatal Nurses \(AWHONN, 2018\)](#) and the [American College of](#)

## Little is known about effects of the COVID-19 pandemic on changes in nursing roles and the subsequent effects on patient care and nurses' health and well-being.

[Obstetricians and Gynecologists \(2019\)](#) issued statements about the importance of the nurse in directing and providing labor support. In a systematic review, [Bohren et al. \(2017\)](#) reported that the provision of labor support was associated with a wide spectrum of positive birth outcomes, including increased rates of spontaneous vaginal birth, decreased incidence of cesarean birth, and positive childbirth experiences. The disruption to health care delivery in response to the COVID-19 pandemic has raised concerns about the provision of this crucial caregiving role of labor support. In a systematic review of the mental health of health care workers during the COVID-19 pandemic, [Sanghera et al. \(2020\)](#) detailed the incidence of depression, anxiety, posttraumatic stress disorder, insomnia, and occupational burnout disproportionately affecting frontline nurses compared to other health care professionals. Our purpose was to examine the roles and experiences of LD nurses during the COVID-19 pandemic.

## Methods

### Design

We used a cross-sectional, self-administered survey that was delivered online. The study was funded by the CRICO/Risk Management Foundation and approved by the Harvard School of Public Health Institutional Review Board.

### Survey Tool

We collected data on respondent, hospital, and LD unit characteristics via a researcher-designed survey. The survey included a measure of factors that are associated with low-risk cesarean birth rates and is entitled the Labor Culture Survey ([Vangompel et al., 2018](#)). We had a unique opportunity to collect the perspectives of nurses in the context of the pandemic because the survey launched after the COVID-19 pandemic commenced in the United States. We added one open-ended question: "How has your role changed as a result of the COVID-19 pandemic? Please provide specific examples." A team of four academic perinatal nursing and midwifery experts reviewed the survey tool, and it was piloted with 10 LD nurses. As a result, we made minor revisions to the content and format of the tool.

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This article is limited to content analysis of the qualitative data from the open-ended question.

### Setting and Participants

RNs employed on LD units in the United States who provided direct care to women during labor and birth at the time of survey dissemination were eligible to participate. A total of 1,276 respondents arrived at the online survey welcome page, viewed the consent information, and agreed to participate. We excluded from the analysis 115 respondents who did not meet the eligibility criteria and 140 respondents who did not complete the survey. The final sample consisted of 1,021 LD nurses, of whom 757 provided responses to the open-ended question.

### Procedures

We disseminated recruitment materials through social media and professional organizations. We posted study advertisements with an electronic link to the survey and quick response code on Facebook, LinkedIn, and Twitter. We also distributed recruitment materials to leaders of state AWHONN sections and the Perinatal Quality Collaborative and requested wide distribution among members. Our purpose was to achieve regional distribution. Information about the purpose of the study, participation in the study, and data use was available on arrival at the survey site. Consent was implied when respondents clicked on the “agree” button and started the survey. To maintain respondent anonymity, we used a separate survey to collect the e-mail addresses of respondents who opted to register for the study incentive, which was a drawing for one of 45 \$100.00 gift cards.

### Data Analysis

We calculated descriptive statistics on the respondent and hospital characteristics and used content analysis to analyze the qualitative data provided by the 757 respondents who answered the open-ended question. Content analysis is one research method used to systematically and objectively describe words and phrases in communication text by creating categories or a group of content that shares a commonality (Krippendorff, 2018). We used a conventional or inductive approach, in which responses were analyzed to allow meaning to emerge rather than fitting responses into preconceived categories (Hsieh & Shannon, 2005). Using an iterative approach, the first (E.K.G.) and last authors (J.K.E.) repetitively read the verbatim written comments about role change during the COVID-

19 pandemic. The first author (E.K.G.), a certified nurse-midwife and nursing PhD student, read the responses to gain general insight and an initial understanding of similarities and differences. The responses were then reread to condense their meanings and construct an initial list of codes. The last author (J.K.E.), a nurse scientist with more than 10 years of experience in mixed-methods research, reviewed the codes with their associated meanings. The first and second authors developed the code list and refined the codes iteratively until they reached consensus. The first author then applied the corresponding code or codes to each response, checking samples of the coding with the second author to ensure consistent application of the coding schema. After the initial coding, we merged similar codes and abstracted them into four main categories. We coded each response with one or more of the main categories, calculated the frequencies of the categories, and identified exemplar quotes. Trustworthiness was ensured by adhering to a predetermined, iterative analysis procedure. The analysis was managed with NVivo 12, a qualitative content analysis software (QSR International, 2018).

## Results

### Sample Characteristics

Table 1 summarizes the characteristics of the respondents and the hospitals. The majority of respondents were between the ages of 25 and 54 years (71.3%), self-identified their race/ethnicity as non-Hispanic White (79.0%), and held Bachelor of Science in Nursing (BSN) degrees or higher (77.6%). A third of respondents (31.4%) had more than 15 years of intrapartum nursing experience, and close to 10% of respondents had less than 2 years of intrapartum nursing experience. Respondents worked predominantly in urban (47.3%) or suburban (42.8%) settings, in community hospitals (58.4%) and academic medical centers (37.9%) that provided Level III or Level IV neonatal intensive care (55.0%). Respondents were from the West (29.7%), Northeast (27.5%), South (24.8%), and Midwest (18.0%) geographic regions of the United States.

### Response Characteristics

The responses to the open-ended question varied from single phrases to several lengthy sentences. We developed four major response categories through content analysis: *Changes in Roles and Responsibilities*, *Adaptations to Changes*, *Psychological Responses to Changes*,

**Table 1: Personal and Hospital Characteristics for Respondents (N = 757)**

Characteristics	n (%)
Personal	
Age, years	
18–24	20 (2.6)
25–34	203 (26.8)
35–44	237 (31.3)
45–54	180 (23.8)
55–64	100 (13.2)
65–74	14 (1.9)
Prefer not to respond	3 (0.4)
Race	
American Indian or Alaska Native	49 (6.5)
Asian	12 (1.6)
Black or African American	44 (5.8)
Native Hawaiian or Other Pacific Islander	28 (3.7)
White	598 (79.0)
Prefer not to respond	26 (3.4)
Ethnicity Hispanic or Latina/Latino	
Yes	103 (13.6)
No	634 (83.8)
Prefer not to respond	16 (2.1)
Missing	4 (0.5)
Highest level of nursing education	
Diploma of nursing	32 (4.2)
Associate Degree in Nursing	138 (18.2)
Bachelor of Science in Nursing	453 (59.9)
Master of Science in Nursing	119 (15.7)
Doctor of Nursing Practice	13 (1.7)
PhD or equivalent	2 (0.3)
Intrapartum experience, years	
<2	75 (10.0)
2–5	187 (24.7)
6–10	166 (21.9)
11–15	91 (12.0)
>15	238 (31.4)
Hospital	
U.S. Region	
Midwest	136 (18.0)
Northeast	208 (27.5)

(Continued)

**Table 1: Continued**

Characteristics	n (%)
South	
South	188 (24.8)
West	
West	225 (29.7)
Area	
Urban	358 (47.3)
Suburban	324 (42.8)
Rural	75 (9.9)
Type	
Academic medical center	287 (37.9)
Community hospital	442 (58.4)
Other	28 (3.7)
Ownership structure	
For profit	153 (20.2)
Private nonprofit	398 (52.6)
Government owned	91 (12.0)
Uncertain	115 (15.2)
ANCC Magnet designation	
Yes	367 (48.5)
No	390 (51.5)
Annual birth volume	
<200	30 (3.9)
200–499	115 (15.2)
500–999	112 (14.8)
1,000–2,499	195 (25.8)
>2,500	293 (38.7)
Uncertain	12 (1.6)
Level of neonatal care	
Level I, well-newborn nursery	127 (16.8)
Level II, special care nursery	208 (27.4)
Level III, NICU	314 (41.5)
Level IV, regional intensive care unit	102 (13.5)
Uncertain	6 (0.8)

Note. ANCC = American Nurse Credentialing Center.

and *Perceived Effects on Provision of Labor Support*. Table 2 presents the frequency of the coded categories. Although the spontaneous responses convey a range of meanings, most respondents ( $n = 393$ ) described changes in their roles and responsibilities during the COVID-19 pandemic; presented personal and professional responses and adaptations to these changes

**Table 2: Representation of Response Categories Across Study Sample (N = 757)**

Category	<i>n</i>	%
<i>Changes in Roles and Responsibilities</i>	328	43.3
<i>Adaptations to Changes</i>	215	28.4
<i>Psychological Responses to Changes</i>	221	29.2
<i>Perceived Effects on Provision of Labor Support</i>	262	34.6

Note. Each response was coded with one or more categories.

(*n* = 436); and/or offered evaluations on the effect of changes on patient care (*n* = 252), in particular, the provision of labor support. To illustrate the key findings, select quotations from respondents provide details about their nursing education, years of experience as an LD nurse, and type of hospital and setting in which they worked.

#### *Changes in Roles and Responsibilities*

Nearly half of respondents (*n* = 328) reported direct and indirect changes in their roles and responsibilities as a result of vast changes in the structure and delivery of maternity care during the COVID-19 pandemic. They described “picking up” additional duties, such as phlebotomy and housekeeping, that other hospital staff completed before the start of the pandemic. One respondent shared how extra tasks were incorporated into the nursing role during the pandemic to reduce exposure of staff:

Nurses are expected to carry out additional roles. After delivery, we mop the floors, because housekeeping isn't expected to come into a COVID+ room. Also, lab technicians are refusing to come into the rooms and asking the nurse to go in and perform the draws. (Associate Degree in Nursing [ADN], 6–10 years of experience working at a suburban community hospital)

Although acknowledging the need to reduce infection risk on the unit, respondents reported that these additional responsibilities increased demands on their time; took them away from the bedside; and distracted them from providing direct patient care, including labor support. As one respondent described, reductions in staffing due to task shifting influenced care provision: “Our staffing has dramatically been decreased so that our labor nurses can help throughout the rest of the hospital. This has placed an immense strain on our ability to perform labor support”

(BSN, 6–10 years of experience working at an urban academic medical center).

Respondents also reported being assigned to other hospital departments to provide care on COVID-19 units during a surge or to conduct COVID-19 screenings on other units, requiring them to join unfamiliar teams. As one respondent discussed, “On this unit it's now mandatory that we float to other units if needed, including COVID units. We are all expected to take on more responsibilities in an effort to help other team units within our hospital system” (ADN, 11–15 years of experience working at a suburban community hospital).

In addition, respondents frequently commented on changes in their roles and responsibilities that affected the staffing and nurse–patient ratios on their units. When nurses took on ancillary responsibilities or were rotated away from their units, the nurses remaining on the unit faced an increase in patient care demands: “Staff has been taken from unit to screen temps in hospital lobby, so we are working with less staff but now just as busy as before COVID” (BSN, 11–15 years of experience working at an urban academic medical center).

#### *Adaptations to Changes*

Respondents (*n* = 215) described how they adapted their workflows to the COVID-19 pandemic's effects on changes in roles and responsibilities. Respondents “clustered” or grouped care tasks to preserve personal protective equipment (PPE) and limit the risk of infection while caring for patients who were COVID-19 positive or under evaluation for the infection. The adaptations in care delivery and work processes necessitated more time for preparation and, in turn, resulted in less time providing direct patient care “With COVID patients we need to cluster care to preserve PPE. So less ‘popping in’ and more planning for care” (Master of Science in Nursing [MSN] degree, >15 years of experience working at a rural community hospital). Another respondent

commented on PPE as a barrier to even entering a patient's room: "If a patient is suspected of having COVID-19 or tested positive, it is much more difficult to care for them due to clustering care and the time spent donning and doffing PPE" (BSN, <2 years of LD experience working at an urban academic medical center). Finally, one respondent reported that clustering care became the policy on their units to preserve PPE: "It takes a long time to enter a COVID room, and we are told by management to cluster care to avoid excessive use of supplies" (BSN, 6–10 years of experience working at an urban academic medical center).

Respondents discussed the additional expectation that they "police" patients and support people to enforce infection control practices, including monitoring adherence to proper mask wearing, ensuring proper handwashing, and conducting signs and symptoms assessment: "We now have to screen/monitor and temp check the support person(s) and 'police' proper masking protocol for patient and support person" (MSN, >15 years of experience working at a suburban community hospital). Respondents recounted feeling particularly responsible to assess for COVID-19 signs and symptoms among their patients' support people, who did not have to submit to required COVID screening at their hospitals:

We do still allow one support person to stay in attendance, and I find that has been one of our issues is to ensure they are wearing their masks at all times and not symptomatic, as we sometimes have COVID results on our patients but not the partners. (BSN, 11–15 years of experience working at a suburban community hospital)

Through the emphasis on the impossibility of maintaining proper infection control or social distance during labor, the words of one respondent captured the challenges facing LD nurses as frontline workers at greater risk for COVID-19 infection:

In order to properly support the laboring woman and her support person, we cannot social distance, and mom can't always keep the mask on during labor. We have become more reluctant to engage with our patients because that means being unable to maintain social distancing. (MSN, >15 years of LD experience working at a suburban community hospital)

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**Most respondents described role changes, uncertainty, hypervigilance, burnout, and the perceived effects of these factors on the provision of labor support.**

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### *Psychological Responses to Changes*

Respondents ( $n = 221$ ) frequently commented on their psychological responses to the rapid changes in hospital policies, clinical guidelines, and infection control protocols related to the COVID-19 pandemic. Uncertainty arising from incomplete information about virus transmission and unpredictability in work routines were common experiences among respondents. One respondent expressed that uncertainty and communication overload challenged her capacity to provide care consistent with current protocols: "Very unsure of what to do. Not consistent with protocol. So many changes and numerous e-mails—it is hard to keep track of what to do. When there are so many changes—after a while I don't really care" (Doctor of Nursing Practice [DNP], >15 years of experience working at a suburban community hospital).

Respondents reported feeling especially cautious and attentive under conditions of uncertainty, increased infection control requirements, and rapidly changing hospital policies, and hypervigilance was a salient experience: "Vigilance in protecting myself and patients with PPE and protocols regarding COVID-19—positive patients and patients in general" (BSN, 2–5 years of experience working at a suburban community hospital). Respondents also frequently commented on the source and manifestations of their experience with stress. An explicit source of stress was an inadequate PPE supply or poorly implemented use of PPE:

The most difficult aspect of this pandemic has been the lack of adequate PPE. Reusing surgical masks and N95s, having to order off-brand gowns and shoe covers, and using house-made hand sanitizer has had a toll on all providers. Unfortunately, there is no end in sight for us, even as the state opens up and the public thinks the pandemic is behind them (BSN, <2 years of experience working at an urban academic medical center).

Respondents recounted being forced to reuse PPE and expressed concern about the

diminished effectiveness of reused PPE in protecting them from COVID-19 infection. They reported feeling personally unsafe and worried about becoming infected: “Also, the emotional stress of not having the testing we need, the PPE that we need, and worrying that you will catch the virus” (BSN, <2 years of experience working at an urban academic medical center).

Some respondents provided comments consistent with the definition of burnout. In the International Classification of Diseases, *burnout* or *chronic workplace stress* is defined as “feelings of energy depletion or exhaustion, increased mental distance from one’s job, or feelings of negativism or cynicism related to one’s job; and reduced professional efficacy” (World Health Organization, 2019). For example, one respondent vividly described her experience working during the pandemic and the effects on her personal health and patient care:

Difficult to breathe, dizzy, frustrated, scared. Poor sleep. My overall health in general has decreased, making me less available to my family and my patients. I am still providing for my patients and for their safety and well-being. I’m having difficulty going beyond. (BSN, >15 years of experience working at a government-owned suburban hospital)

The culmination of extra and shifting job responsibilities, greater nurse-to-patient staffing ratios, additional infection control practices, and concerns for reduced standards of care were all cited as reasons why some LD nurses are leaving the profession during the COVID-19 pandemic:

Many nurses have left the bedside. We have so much demanded of us anyway, then to have constant COVID changes and extra duties plus additional “normal” hospital changes. It feels like too much. Our hospital has been short-staffed and far from AWHONN staffing guidelines, but we keep getting more and more demanded of us at work. If our night shift crew didn’t stay over, we would have ratios of three labor patients to two nurses many days. But managers and admin[istrators] refuse to get us staff because they claim they are not making budget. So nurses are leaving in droves, and our code whites [maternal hemorrhages] and other codes are skyrocketing. (BSN, 2–5 years of experience working at a suburban academic medical center)

### *Perceived Effects on Provision of Labor Support*

Respondents ( $n = 262$ ) consistently commented on how COVID-19–related changes affected patient care, particularly the amount of time they had available to spend at the bedside providing labor support. In some cases, respondents reported an increased opportunity to provide labor support. Among these responses, a common sentiment of personal responsibility emerged, in which respondents focused on patient well-being in the context of visitor restrictions, widespread patient anxiety, and constraints on movement outside the labor rooms:

We [the nurses] have become more of the emotional support because of the prohibitive rules on visitation. We are also actually in the patient rooms more because of the new rules. We have to provide anything and everything for both the patient and her support person, as we no longer allow them to leave their room to go for food or drinks and such. We are the patients’ partners, their moms, their doulas, and in the end their friends. We encourage and cheer them on. We also commiserate and cry with them when things don’t go as planned (ADN, <2 years of experience working at an urban community hospital).

In some cases, respondents commented that visitor restrictions, which resulted in fewer external support people present in a labor room, reduced distractions and improved their ability to focus on patient-centered care:

I feel as though I am able to provide better patient care and give a safer and more excellent experience because of the visitor allowance being only one person at the bedside for non-COVID patients. It allows me to focus on the patient instead of the support people and all of their requests and needs (ADN, 6–10 years of experience working at a suburban community hospital).

Several respondents detailed hospital policies mandating that continuous blocks of time be spent in patient rooms. This required time at the bedside was an attempt to preserve PPE and to diminish cross-staff and cross-patient contact, particularly among patients known or suspected to have COVID-19 infections: “With suspected or confirmed COVID-19 laboring



mothers, we are required to stay at bedside with the mother in 4- to 6-hour increments to decrease use of PPE" (BSN, 11–15 years of experience working at a suburban community hospital).

While enabling one-on-one patient care, this mandated or dedicated time in one room reduced the availability of nurses to work as a team providing hands-on labor support: "Would be more available to help other nurses with hands-on labor support but now try to limit time spent in more than one patient room to decrease cross-contamination" (MSN, 11–15 years of experience working at a suburban community hospital).

Respondents reported feeling unaccustomed to implementing newly created and rapidly changing infection control protocols, including prolonged use of PPE while caring for women in labor. These new processes also led to perceptions of delayed patient care:

Having to think about protecting ourselves with PPE before entering a patient room during an emergency. It is not in our nature to pause and don PPE before entering a patient room to assist in resuscitation efforts. . . . We are also limiting how many people rush into a room for a deceleration. Prior to COVID, all available nurses would go running. Now, only two to three will go in depending on the situation just to limit staff exposure to potential COVID patients" (MSN, 2–5 years of experience working at a suburban community hospital).

Respondents also emphasized that PPE hindered their ability to communicate and form connections with their patients, which they believed affected the provision of labor support: "I nurse the monitor more than I do the patient. I am unable to build the rapport with my patients that I did before having to wear a mask all the time. Can't get a full communicative picture" (BSN, 2–6 years of experience working at a suburban community hospital). One respondent summarized her perceptions of how these barriers affected patient care: "I think patient care has suffered because most nurses who would normally stay at the bedside are now leaving their patients more frequently" (ADN, 2–5 years of experience working at a suburban academic medical center).

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### **Policies that foster resilience in the health care workforce are necessary to prevent poor perinatal outcomes and increase the retention of nurses with LD expertise.**

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## **Discussion**

Our findings provide a description of the experiences of LD nurses during the COVID-19 pandemic in 2020 across the United States. Respondents highlighted how the pandemic forced alterations and adaptations for nurses and their practice on LD units. Diversion and overburden of nursing staff, as well as new infection control practices, potentially affected the provision of labor support. Rapidly changing hospital policies and protocols contributed to new roles and responsibilities and required adaptations to routine care delivery processes. Uncertainty, hypervigilance, and stress were common psychological responses to these changes, with reports of nurses leaving the profession due to burnout. Our findings also showed that the increased need for PPE was a tremendous challenge to the provision of direct patient care.

The findings of our research are consistent with a recent qualitative study of 24 LD nurses in South Korea (Kang et al., 2021) and studies on the experiences of the acute care nursing workforce in the United States during the COVID-19 pandemic (Arnetz et al., 2020; Iheduru-Anderson, 2021; Schroeder et al., 2020). Kang et al. (2021) reported that LD nurses felt increased stress, burnout, concerns for their personal safety, and a desire for more mental health resources and staffing support. Researchers who investigated the experiences of the general acute care nursing workforce found that nurses reported hypervigilance and increased stress in response to the rapidly evolving infection control information about SARS-CoV-2, availability of PPE supplies, and personal safety concerns (Arnetz et al., 2020; Iheduru-Anderson, 2021; Schroeder et al., 2020). A fundamental concern is that nurses who experience the strains of the COVID-19 pandemic will leave the profession, which will further exacerbate the nursing shortage in the United States, and an estimated half-million nursing jobs will go unfilled by 2030 (Zhang et al., 2018).

Our findings provide insight into the role of LD nurses during the COVID-19 pandemic in the United States. Several respondents reported positive effects of the pandemic-specific changes to visitor restrictions in labor—specifically, that

policy changes resulted in conditions that enabled them to provide more dedicated labor support and increased emotional presence for women in labor. However, a larger proportion of respondents reported disruption of labor support and perceived lower quality of care for women, particularly in response to changes in the role and responsibilities of LD nurses. A qualitative study on the experiences of 15 women's health nurses working in Washington State during COVID-19 reported a similar finding. The nurses in this study underscored that administrative and policy changes in their workplaces due to the pandemic had negative effects on the provision of care and patient outcomes (Altman et al., 2021).

Finally, reports that PPE affected patient communication and the provision of timely care raised additional concerns about the safety and quality of care. Nursing care during childbirth inherently involves high-touch, hands-on care of women in labor. Delays in care due to additional infection control and PPE practices required during the pandemic can have negative effects on birth outcomes, because there is an acute need to rapidly recognize and respond to sudden changes in maternal vital signs, fetal heart rate tracings, precipitous births, or obstetric emergencies.

### Limitations

Our study has limitations and strengths. A major limitation is that responses to a single, open-ended question preclude the ability to follow up on the meanings of respondents' comments to develop a more nuanced understanding of their experiences. However, the survey format allowed time for respondents to consider the question and perhaps provide a thoughtful, reflective answer. Another limitation is our lack of data collection on the number of unique hospitals represented in the survey sample. Strengths of this study include a large sample of RNs in one nursing specialty with geographic representation from across the United States among a wide range of hospital settings. Our sample also had racial/ethnic diversity, with 21% of respondents self-reporting a race and ethnicity other than non-Hispanic White. This compares to the 19.2% of nurses in a national sample survey of RNs in the United States (Smiley et al., 2018).

### Implications

Our findings suggest that the COVID-19 pandemic had a substantial professional effect on LD nurses in 2020 and caused disruption to the provision of labor support. Negative workplace experiences

among nurses are associated with poorer quality of care, increased incidence of adverse events among patients, and professional burnout (Schuster & Dwyer, 2020; Woo et al., 2020). Less time at the bedside and delays in care are associated with negative labor and birth outcomes (Simpson & Lyndon, 2017). Our study suggests a need to determine how the COVID-19 pandemic and related changes in the practices and the well-being of nurses have affected perinatal outcomes in the United States. A promising instrument to measure possible effects on care is the Perinatal Missed Care Survey, which evaluates missed nursing care of women during labor and birth in hospitals and serves as an indicator of nursing care quality (Simpson et al., 2019).

The lessons learned from the experiences of nurses and midwives during past infectious disease outbreaks, such as Ebola, H1N1, and SARS, suggest that enacting policies to address resilience in nurses can help decrease burnout rates, enable coping skills, and increase retention in the profession (Shorey & Chan, 2020). In her theory of resilience, Polk (1997) offers a framework for conceptualizing the individual, psychosocial, and professional factors that enhance or impede resilience. She outlined four patterns of resilience that provide useful constructs for the implementation of policies and practices to promote resilience. In a recent Cochrane review, Pollock et al. (2020) defined *resilience* as "the ability to cope with the negative effects of stress" (p. 2) and emphasized the significance of incorporating resilience-based interventions to strengthen health systems during pandemics. Examples of these interventions include harnessing resources to support the implementation of adequate nurse staffing and a sufficient supply of PPE, which can increase workplace safety and ensure better patient outcomes. Practical considerations to enhance resilience for nurses include providing hazard pay, scheduling flexibility with shorter shifts, setting clear workplace expectations, and instituting workplace interventions to address stress and burnout (Shorey & Chan, 2020).

### Conclusion

Our findings highlight the experiences of LD nurses during the COVID-19 pandemic, including their personal well-being and perceived effects on the quality of patient care. LD nurses are on the front lines of care delivery and are critical to optimizing perinatal care and outcomes (National Academies of Science, Engineering, and Mathematics, 2020).

Listening to LD nurses offers critical insights that can inform strategies for providing nurses with adequate supports, protection, and resources during future public health emergencies. The implementation of best practices to foster health system resiliency and protect the personal safety and well-being of frontline workers is essential to the provision of quality care. Further research is warranted into how perinatal outcomes, quality of care, and nurse retention rates were affected by changes in hospital policies and practices in response to the COVID-19 pandemic.

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## CONFLICT OF INTEREST

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