

10%). The most frequent infection-related calls were about tuberculosis (17%), gram-negative organisms (14%), and influenza (9%). During the COVID-19 period, the median monthly call volume increased 500% to 368 per month (range, 149–829). Most (83%) were COVID-19 related. The median monthly number of COVID-19 calls was 302 (range, 45–674). The median monthly number of non-COVID-19 calls decreased to 56 (range, 36–155). The most frequent call sources were inpatient units (57%), outpatient clinics (16%), and the department of public health (5%). Most calls concerned isolation and precautions (50%) and COVID-19 testing (20%). The mean time required to respond to each question was 10 minutes (range, 2–720). The biggest surges in calls during the COVID-19 period were at the beginning of the pandemic (March 2020) and during the hospital peak COVID-19 census (November 2020). **Conclusions:** In addition to supporting a proactive COVID-19 response, our IPC program experienced a 500% increase in consultation requests. Planning for future bioemergencies should include creative strategies to provide additional resources to increase response capacity within IPC programs.

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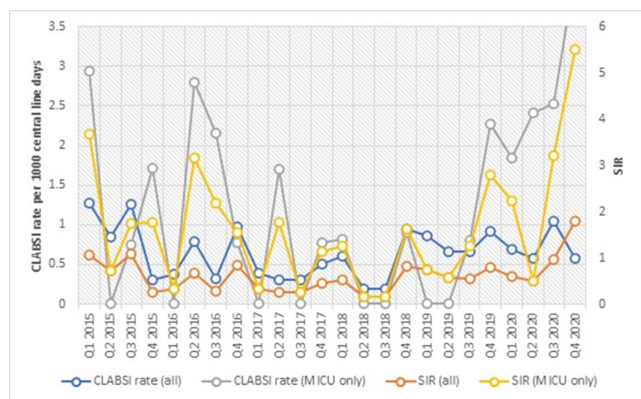
Poster Presentation

**Subject Category:** COVID-19

**The Impact of Coronavirus Disease 2019 (COVID-19) Pandemic on Device-Associated Healthcare-Associated Infection**

Minji Kang; Sharen Henry; Elizabeth Thomas; Doramarie Arocha and Julie Trivedi

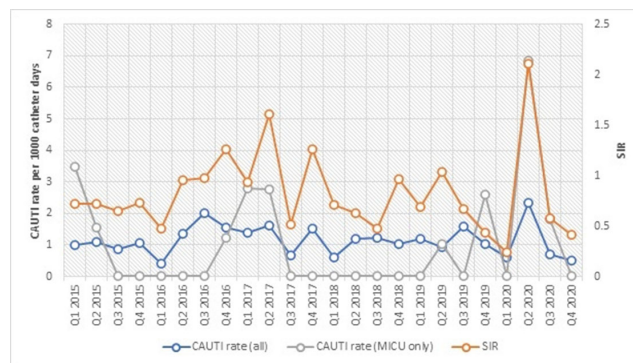
**Background:** The impact of the coronavirus disease 2019 (COVID-19) pandemic on healthcare-associated infection (HAI) is not yet known. Diversion of resources from traditional HAI surveillance and prevention efforts toward institutional COVID-19 response, along with decrease in patient contact due to fear or required quarantine or isolation, may have increased HAI rates. In contrast, increased compliance with hand hygiene and personal protective equipment may have decreased HAI rates. **Methods:** We sought to determine the impact of COVID-19 pandemic on healthcare-associated central-line-associated bloodstream infection (CLABSI) and catheter-associated urinary tract infection (CAUTI). CLABSI and CAUTI rates and standardized infection ratios (SIRs) reported to the NHSN from the first quarter of 2015 to the fourth quarter of 2020 were obtained for the entire facility and for the medical intensive care unit (MICU), which was converted during the pandemic to an intensive care unit solely for critically ill patients with COVID-19. Changes in CLABSI and CAUTI rates and SIRs before the pandemic (Q1 2015 to Q4 2019) and during the pandemic (Q1 2020 to Q4 2020) were assessed using an independent-sample *t* test. **Results:** The CLABSI rate was unchanged, with a mean (SD) of 0.64 ( $\pm 0.34$ ) CLABSIs per 1,000 central-line days before the pandemic and 0.72 ( $\pm 0.22$ ) during the pandemic ( $P = .62$ ) (Figure 1). The SIR remained stable



**Figure 1.**

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**Figure 2.**

at 0.54 ( $\pm 0.29$ ) before and 0.96 ( $\pm 0.59$ ) during the COVID-19 pandemic ( $P = .25$ ). However, CLABSI rate in MICU increased significantly from 0.92 ( $\pm 1.00$ ) to 2.75 ( $\pm 1.00$ ) ( $p < 0.01$ ), along with SIR from 0.81  $\pm$  0.89 to 2.53  $\pm$  1.07 ( $p < 0.01$ ) (Figure 1). CAUTI rate was unchanged with 1.17  $\pm$  0.38 CAUTI per 1000 catheter days per quarter before, and 1.04  $\pm$  0.87 during COVID-19 pandemic ( $p = 0.64$ ). CAUTI SIR remained stable at 0.82  $\pm$  0.31 before and 0.83  $\pm$  0.86 during COVID-19 pandemic ( $p = 0.96$ ). CAUTI rate in MICU was 0.78  $\pm$  1.20 before and 2.17  $\pm$  3.24 after COVID-19 pandemic ( $p = 0.45$ ) (Figure 2). **Conclusions:** Although our institutional CLABSI and CAUTI rates and SIRs remained unchanged, our medical intensive care unit, which housed our critically ill patients with COVID-19, experienced significant increases in CLABSI rate and SIR. This finding is likely multifactorial in the setting of overextended nursing staff, use of prone position, and challenges of infection prevention efforts under isolation precautions.

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Poster Presentation

**Subject Category:** COVID-19

**The Impact of COVID-19 on Patient Safety: A Survey of Acute-Care Registered Nurses in New Jersey**

Monika Pogorzelska-Maziarz; Mary Lou Manning; Angela Gerolamo; Mary Johansen; Irina Grafova; Suzie Crincoli and Pamela de Cordova

**Background:** As the world grapples with the pandemic of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), it is important to consider the full impact of coronavirus disease 2019 (COVID-19) on healthcare delivery. Evidence from outbreaks of novel H1N1 and Ebola indicates that response to these types of outbreaks requires extraordinary resources, which are diverted from routine infection prevention and control activities. However, little is known about the impact of COVID-19 on adherence to patient safety protocols in hospitals, including infection prevention and control activities. We have described the reports of acute-care registered nurses (RNs) in adhering to patient safety protocols while delivering care to COVID-19 patients. **Methods:** In October 2020, we conducted a cross-sectional electronic survey of all active RNs in the state of New Jersey who provided direct patient care in a New Jersey hospital in an emergency or adult inpatient unit during the onset of the COVID-19 pandemic. **Results:** More than 3,027 RNs participated in the survey, for a 15% response rate based on number of eligible RNs. Moreover, 15% of respondents reported that they tested positive for COVID-19 during the initial peak of COVID-19 in New Jersey (March–June 2020). Most RNs reported that the number of patients they were assigned during the first peak of the pandemic affected their ability to adhere to patient safety protocols (eg, deep-vein thrombosis screening, central-line bundles, pressure ulcer prevention). In open-ended responses, they shared that being understaffed, the extra time it took for donning and doffing of PPE, the lack of access to ancillary staff (ie nursing assistants,

runners), and the need to cluster care affected the quality of care. A nurse working in the intensive care unit (ICU) lamented, “We were sometimes given 4–5 ICU patients who were very sick and required a lot of care. Shortcuts had to be taken to prioritize the most important needs. Sometimes IVs remained longer than desired. Foleys remained in longer. To avoid PPE shortages, we didn’t go into the rooms nearly as much as we normally would, [and] things got missed.” Feelings of being overwhelmed and helpless permeated the nurses’ comments. **Conclusions:** When caring for COVID-19 patients, frontline nurses struggled with adherence to necessary patient safety protocols, which ultimately disrupted care delivery. Future research should quantify the extent to which the COVID-19 pandemic affected care delivery, including adherence to patient safety protocols among frontline providers.

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#### Presentation Type:

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**Subject Category:** COVID-19

#### COVID-19 Vaccine Readiness Among Acute-Care Registered Nurses in New Jersey: Results of a Statewide Survey

Monika Pogorzelska-Maziarz; Mary Lou Manning; Angela Gerolamo; Mary Johansen; Irina Grafova; Suzie Crincoli and Pamela de Cordova

**Background:** The coronavirus disease 2019 (COVID-19) vaccine is an important intervention to control the COVID-19 pandemic. As the most trusted profession integral to providing care to patients across all care settings, nurses play a critical role in educating patients regarding the SARS-CoV-2 vaccine. However, little is known about the readiness of registered nurses (RNs) to receive the vaccine. **Methods:** In October 2020, prior to FDA approval of vaccines, we conducted a cross-sectional electronic survey of all active registered nurses in the state of New Jersey. The eligibility criteria included providing direct patient care in a New Jersey hospital in an emergency or an adult inpatient unit during the emergence of COVID-19 (March 2020). **Results:** In total, 3,027 RNs completed the survey (15% response rate). When asked whether they plan to get vaccinated, 27% of RNs responded yes, 30% responded no, and 43% were undecided. Among those RNs who reported that they were planning to get vaccinated, their main reasons for their willingness to receive the vaccine included (1) wanting to protect themselves and their families (95%), (2) wanting to protect the community at large (76%), wanting to protect their patients (75%), the belief that life won’t get back to normal until most people are vaccinated (72%), and the belief that getting vaccinated is the best way to avoid getting seriously ill from COVID-19 (67%). The main reasons reported for not planning to or being undecided about getting vaccinated included the belief that the vaccine will likely be developed too quickly to be safe (81%) and concern about the side effects from the vaccine (74%). RNs also reported being in a low-risk group for becoming seriously ill (12%) and having had COVID-19 (8%) as reasons for planning not to get vaccinated. In open-ended responses, participants also discussed several additional issues driving vaccine hesitancy: their lack of trust in the political process, planning to become pregnant or currently pregnant or breastfeeding, questions about effectiveness of the vaccine and long-term side effects, and the need for more information before making a decision. **Conclusions:** This cross-sectional study of all acute-care RNs in the State of New Jersey was conducted prior to the FDA approval of COVID-19 vaccines. The results outline factors driving vaccine hesitancy among RNs. Although vaccine efficacy data and approval by the FDA may have alleviated some of these fears, immunization programs for healthcare workers and the public should focus on dispelling myths about vaccine development and side effects.

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#### Optimizing COVID-19 Symptom Screening in the Pediatric Population

Geena Zhou; Prachi Singh; Emily R. Perito; Naomi Bardach; Nicole Penwill; William Burrough; Ann Cheung; Margaret Nguyen; Shalini Mittal; Grace Cheng and Mia-Ashley Spad

**Background:** Research analyzing COVID-19 symptom screening has primarily focused on adult patients. In efforts to safely reopen schools, symptom screeners are being widely utilized. However, pediatric-specific outpatient data on which symptom combinations best identify children with COVID-19 are lacking. Such data could refine school symptom screening by improving screener sensitivity and specificity. In this study, we assessed the frequency of symptoms and symptom combinations in children tested for SARS-CoV-2 in outpatient settings. We aim to contribute to the optimization of pediatric COVID-19 screening questionnaires, to ultimately minimize both COVID-19 transmission in schools and missed school days. **Methods:** We conducted a retrospective analysis of outpatient symptoms screens, SARS-CoV-2 test results, and demographics of children ( $\leq 18$  years) tested for SARS-CoV-2 between March 30 and November 30, 2020, at 3 UCSF-affiliated COVID-19 outpatient screening clinics in northern California. Those with incomplete symptom screens,  $>7$  days between symptom documentation and test, and invalid test results were excluded. **Results:** Of 473 children tested at 1 site, 21 children had positive SARS-CoV-2 results and 452 children had negative results (4.4% positivity rate). Moreover, 85.7% of SARS-CoV-2-positive children had a known exposure to COVID-19 (Table 1). Of SARS-CoV-2-positive children, 61.9% had  $>1$  symptom. Also, 52.4% of SARS-CoV-2-positive children had at least 1 symptom (fever, cough, or loss of taste or smell) versus 62.8% of SARS-CoV-2-negative children (Table 2). Runny nose or nasal congestion was the most frequently reported symptom in the SARS-CoV-2-positive group (47.6%) as well as the SARS-CoV-2-negative group (58.6%). Also, 14.3% of SARS-CoV-2-positive children had eye redness or discharge versus 3.1% of SARS-CoV-2-negative children. Isolated runny

Table 1. Demographics of 1 site cohort

Characteristics	Positive SARS-CoV-2 Result (N=21)	Negative SARS-CoV-2 Result (N=452)
Sex, female (%)	61.9%	45.1%
Age, yrs (med, IQR)	4 (11)	4 (6)
<b>Age Group*</b>	—	—
Age 0-4 yr	52.4%	94.7%
Age 5-10 yr	4.8%	25.0%
Age 11-13	14.3%	8.4%
Age 14-18	28.6%	11.7%
<b>Ethnicity (%)</b>	—	—
Hispanic or Latino	28.6%	17.9%
Not Hispanic or Latino	66.7%	77.9%
Unknown/Declined	4.8%	4.2%
<b>Race (%)</b>	—	—
White	52.4%	52.2%
Other	23.8%	16.8%
Asian	9.5%	19.2%
Black or African American	4.8%	5.8%
Native Hawaiian, other Pacific Islander, Alaska Native, or American Indian	4.8%	1.1%
Unknown/Declined	4.8%	4.9%
<b>Language Preference (%)*</b>	—	—
English	90.5%	98.7%
Spanish	9.5%	0.4%
Other	0.0%	0.9%

\*Chi-square test  $p < 0.05$