Table 1.

Infection	Pre-Pandemic			Pandemic		
	Facilities	Incidence	95%-CI	Facilities	Incidence	95%CI
CDI	398	0.59*	0.57-0.62	382	0.56*	0.54-0.59
MRSA-BSI	398	0.73*	0.66-0.82	382	0.82*	0.73-0.92
VRE-BSI	397	2.51†	2.18-2.89	383	3.53†	3.11-4.01

* → Standardized·infection·ratio¶
† → Infections·per·100,000·patient·days.¶

use and reuse) or overuse with multiple gown and glove layers, and antimicrobial prescribing changes during the COVID-19 pandemic might increase healthcare-associated infection (HAI) incidence and antimicrobial resistance. We compared the incidences of *Clostridioides difficile* infection (CDI), methicillin-resistant *Staphyloccocus aureus* bloodstream infection (MRSA BSI), and vancomycin-resistant enterococci bloodstream infection (VRE BSI) reported by California hospitals during the COVID-19 pandemic with incidence data collected prior to the pandemic. **Methods:** Using data reported by hospitals to the California Department of Health via the NHSN, we compared incidences in the second and third quarters of 2020 (pandemic) to the second and third quarters of 2019 (before the pandemic). For CDI and MRSA BSI, we compared the standardized infection ratios (SIRs, based on the 2015 national baseline), and we calculated the *P* values. No adjustment model is available for VRE BSI; thus, we measured incidence via crude incidence rates (infections per 100,000 patient days). We calculated incidence rate ratio (IRR) with 95% CI for VRE BSI. To examine the possible effect of missing data during the pandemic, we performed a sensitivity analysis by excluding all facilities that had incomplete data reporting at any time during either analysis period. **Results:** Incidence measures and numbers of facilities contributing data in prepandemic and pandemic periods are shown in Table 1. There were no statistically significant changes in SIRs at $P = .05$ for either MRSA BSI or CDI between the prepandemic and pandemic periods (MRSA BSI $P = .17$; CDI $P = .08$). Crude VRE BSI incidence increased during the pandemic compared to the prepandemic period (IRR, 1.40; 95% CI, 1.16–1.70). Excluding facilities with incomplete data had minimal effect. **Conclusions:** We found insufficient evidence that MRSA BSI or CDI incidence changed in California hospitals during the pandemic relative to the prepandemic period; however, there was a significant increase in the crude incidence of VRE BSI. Next, we will include interrupted time series analyses to assess departure from long-term trends, including a risk-adjusted model for VRE BSI. Additionally, we will evaluate for changes in central-line–associated bloodstream infection incidence and antimicrobial resistance among HAI pathogens.

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Secondary Bacterial Pneumonias and Bloodstream Infections in Patients Hospitalized with COVID-19

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Background: Patients hospitalized with COVID-19 are at risk of secondary infections—10%–33% develop bacterial pneumonia and 2%–6% develop bloodstream infection (BSI). We conducted a retrospective cohort study to identify the prevalence, microbiology, and outcomes of secondary pneumonias and BSIs in patients hospitalized with COVID-19. **Methods:** Patients aged ≥18 years with a positive SARS-CoV-2 real-time polymerase chain reaction assay admitted to 4 academic hospitals in Atlanta, Georgia, between February 15 and May 16, 2020, were included. We extracted electronic medical record data through June 16, 2020. Microbiology tests were performed according to standard protocols. Possible ventilator-associated pneumonia (PVAP) was defined according to Centers for Disease Control and Prevention (CDC) criteria. We assessed in-hospital mortality, comparing patients with and without infections using the χ^2 test. SAS University Edition software was used for data analyses. **Results:** In total, 774 patients were included (median age, 62 years; 49.7% female; 66.6% black). In total, 335 patients (43.3%) required intensive care unit (ICU) admission, 238 (30.7%) required mechanical ventilation, and 120 (15.5%) died. Among 238 intubated patients, 65 (27.3%) had a positive respiratory culture, including 15 with multiple potential pathogens, for a total of 84 potential pathogens. The most common organisms were *Staphylococcus aureus* (29 of 84; 34.5%), *Pseudomonas aeruginosa* (16 of 84; 19.0%), and *Klebsiella* spp (14 of 84; 16.7%). Mortality did not differ between intubated patients with and without a positive respiratory culture (41.5% vs 35.3%; $P = .37$). Also, 5 patients (2.1%) had a CDC-defined PVAP (1.7 PVAPs per 1,000 ventilator days); none of them died. Among 536 (69.3%) nonintubated patients, 2 (0.4%) had a positive *Legionella* urine antigen and 1 had a positive respiratory culture (for *S. aureus*). Of 774 patients, 36 (4.7%) had BSI, including 5 with polymicrobial BSI (42 isolates total). Most BSIs (24 of 36; 66.7%) had ICU onset. The most common organisms were *S. aureus* (7 of 42; 16.7%), *Candida* spp (7 of 42; 16.7%), and coagulase-negative staphylococci (5 of 42; 11.9%); 12 (28.6%) were gram-negative. The most common source was central-line–associated BSI (17 of 36; 47.2%), followed by skin (6 of 36; 16.7%), lungs (5 of 36; 13.9%), and urine (4 of 36; 11.1%). Mortality was 50% in patients with BSI versus 13.8% without ($p < 0.0001$). **Conclusions:** In a large cohort of patients hospitalized with COVID-19, secondary infections were rare: 2% bacterial pneumonia and 5% BSI. The risk factors for these infections (intubation and central lines, respectively) and causative pathogens reflect healthcare delivery and not a COVID-19–specific effect. Clinicians should adhere to standard best practices for preventing and empirically treating secondary infections in patients hospitalized with COVID-19.

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COVID-19 Contact Tracing in a Pediatric Hospital: Maximizing Effectiveness Through Specialized Team and Automated Tools

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Background: In their interim infection prevention and control recommendations for the coronavirus disease 2019 (COVID-19) pandemic, the Centers for Disease Control and Prevention (CDC) recommend that healthcare facilities have a plan to identify, investigate, and trace potential COVID-19 exposures. In an academic hospital, the scale of such tracing is substantial, given that medically complex patients can have dozens of staff contacts across multiple locations during an encounter. Furthermore, the family-centered care model employed by pediatric institutions precludes visitor exclusion, further complicating tracing efforts. Despite this complexity, tracing accuracy and timeliness is of paramount importance for exposure management. To address these challenges, our institution developed a contact-tracing system that balanced expert participation with automated tracing tools. **Methods:** Our institution's contact-tracing initiative includes positive patients, parents and/or visitors, and staff for the enterprise's inpatient, procedural, and ambulatory locations at the main campus and 4 satellites. The team consists of 11 staff and is overseen by an infection preventionist. For positive patients and parents and/or visitors, potentially exposed staff are automatically identified via a report that extracts staff details for all encounters occurring during the patient's infectious period. For positive staff, trained contact tracers call the staff member to determine whether mask and distancing practices could result in others meeting CDC exposure criteria. Any potentially exposed healthcare workers (HCWs) receive an e-mail that details exposure criteria and provides follow-up instructions. These HCWs are also entered into a secure, centralized tracking database that (1) allows infection prevention and occupational