

Of these 78 patients, 10 COVID-19–suspect inpatients (12.8%) died. A comparison of COVID-19 suspect inpatients who died versus those who survived is listed in Table 1. COVID-19 was confirmed in 17 patients (21.8%), and the causes for mortality included bacterial infections (8 of 10, 80%) and the noninfectious diseases diagnoses included diabetic ketoacidosis (1 of 10, 10%) and acute coronary artery diseases (1 of 10, 10%). Notably, lower mortality was detected among patients who were diagnosed with viral infections [0 of 10 (0%) vs 34 of 68 (50%); $P = .004$] and patients admitted from the emerging infectious diseases clinic [0 of 10 (0%) vs 29 of 68 (42.6%); $P = .01$] (Table 1). None of healthcare workers (HCWs) in this hospital became infected with SARS-CoV-2 during the study period.

By multivariable analysis, a final diagnosis of bacterial infection (aOR, 13.7; 95% confidence interval [CI], 1.45–89.5; $P < .001$), initial evaluation in the emergency department (aOR, 10.8; 95% CI = 3.6–59.5; $P = .001$), and delayed time to admission (>60 minutes from emergency department or >120 minutes from outpatient departments) were associated with mortality in this unit (aOR, 7.7; 95% CI, 2.44–69.7; $P = .005$). Several processes of care identified as issues among patients admitted to the unit included delays in laboratory procurements (23 of 78, 29.5%), time to admission (49 of 78, 39.7%), and deployment of critical medical measures such as IV fluid and antibiotic administration (4 of 78, 5.1%).

We report a high mortality rate in a COVID-19–suspect unit in a Thai hospital. This mortality rate was 2 times higher than that of medical patients with comparable severity of illness admitted during the same period. This difference was related to several suboptimal processes in the care of patients requiring specialized medical care (eg, acute coronary artery disease, diabetic ketoacidosis, bacterial infections). In a previous report from Thailand, HCWs were overwhelmed with fear and anxiety regarding COVID-19.⁵ Such emotions affect patient care when HCWs are not willing to accept new patients or see admitted patients during epidemics, which may compromise patient safety.⁵ HCWs may be swayed by anecdotal stories that may impair clinical decision making. Anxiety and fear of contagion,

despite the evidence of the effectiveness of personal protective equipment, may alter care.⁵

Despite the limitations of sample size and retrospective design, our study calls for a better emerging infectious disease preparedness plans in hospitals to incorporate the care for patients admitted to the COVID-19–suspect unit who may need special care. They should receive care without delay at the initial evaluation site, particularly the emergency department, before transfer to the COVID-19–suspect unit. Mechanisms for monitoring the processes of care among these patients are critical for their survival. Additional studies to evaluate strategies to improve the quality of care, as well as patient safety during epidemics, are needed.

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Impact of coronavirus disease 2019 (COVID-19) on healthcare-associated infections: An update and perspective

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To the Editor—Infection prevention programs have been consumed by coronavirus disease 2019 (COVID-19) pandemic response efforts. There is concern that preoccupation with

COVID-19 mitigation efforts might affect traditional health-care-associated infection (HAI) surveillance and prevention operations.¹ Evidence surrounding the impact of COVID-19 on traditional infection prevention efforts has been limited to anecdotal data and retrospective studies of highly variable quality.

We conducted 4 PubMed searches on February 4, 2021, utilizing the following search terms: “COVID-19 and healthcare associated infections,” “COVID-19 and central line associated

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Table 1. Key Articles on COVID-19 and Healthcare-Associated Infections

Study Setting/Study Type/Time Comparison	Infection Being Reported	Rate/Baseline Rate	Comments
Outram campus of the Singapore Health Services group (includes the 1,785-bed Singapore General Hospital and other specialist centers in same system) ² Retrospective cohort study. Compared Feb 1, 2020–Aug 31, 2020 (COVID period cohort) vs Jan 2018–Jan 2020 (pre-COVID cohort)	CLABSI, CAUTI, CDI	CLABSI: COVID-period cohort with 0.20 incidents/1,000 device days (down from 0.83/1,000 device days; IRR, 0.24; 95% CI, 0.07–0.57; $P < .05$) CAUTI: No significant change in hospitalwide CAUTI rate CDI: Healthcare-facility-associated CDI did not significantly increase (3.47/10,000 patient days vs 3.65/10,000 patient days pre-pandemic, IRR, 0.95; 95% CI, 0.75–1.20; $P = .66$)	Prior experience with SARS in 2003 led to the early adoption of aggressive infection prevention bundles including universal masking, adequate PPE access. Increased CLABSI and CAUTI bundle adherence noted
Academic tertiary center in Detroit, Michigan ³ Retrospective cohort study; Jan–May 2019 (pre-COVID cohort) vs Jan–May 2020 (COVID period cohort included patients with and without COVID-19)	CLABSI	Average monthly CLABSI rate increased to 1.7 per 1,000 central-line days (from 0.4 per 1,000 central-line days; represents a 325% increase; $P < .01$).	
Large French ICU cohort ⁴ Matched case-cohort study of ICU patients; 235 patients with COVID-19 matched to 235 control patients; patients with COVID-19 included who were admitted between Jan 29, 2020, and Oct 3, 2020	BSI, CLABSI	35 (14.9%) ICU BSIs in COVID-19 group vs 8 (3.4%) in control group ($P \leq .0001$) Only 10 total catheter-related BSIs detected: 8 (3.4%) in COVID-19 group vs 2 (0.9%) in non-COVID-19 group (HR, 2.5; 95% CI, 0.71–8.83; $P = .15$)	
Medical wards in hospital from Rome ⁵ Retrospective analysis; Mar 1–Jun 30, 2020 compared to 2017, 2018, and 2019	CDI	COVID-19-free wards in 2020 with significantly decreased odds of healthcare-associated CDI (incidence per 100 discharges, 0.033 in 2020 compared to 0.066 in 2019; OR, 2.07; $P = .047$)	
Tertiary-care hospital in Madrid, Spain ⁶ Retrospective cohort study; Mar 11–May 11, 2020, compared to same period in 2019	CDI	Incidence density of healthcare-facility-associated CDI: 2.68 per 10,000 patient days compared to 8.54 per 10,000 patient days in control period ($P = .000257$)	

Note. CLABSI, central-line-associated bloodstream infection; CAUTI, catheter-associated urinary tract infection; CDI, *Clostridioides difficile* infection; BSI, bloodstream infection; IRR, incidence-rate-ratio; PPE, personal protective equipment; HR, hazard ratio.

bloodstream infections,” “COVID-19 and *Clostridioides difficile* infections” and “COVID-19 and catheter associated urinary tract infections.” In total, 43 relevant articles were retrieved; of these, only 10 reported on our outcomes of interest. The reported data were limited to retrospective cohort studies of variable quality. Key representative studies are included in Table 1.2–6 Within these limitations, these data show an increase in bloodstream infections (BSIs) in hospitals that experienced a breakdown in infection prevention best practices during COVID-19 surges while also demonstrating a decrease in *Clostridioides difficile* infection (CDI) rates.

A health system in Singapore reported a significant reduction in central-line-associated bloodstream infection (CLABSI) rates during the pandemic compared with prepandemic rates.² The authors note that prior experience with severe acute respiratory syndrome (SARS) in 2003 led to the early adoption of enhanced infection prevention strategies. In contrast, other hospitals reported that COVID-19 negatively impacted infection prevention practices

and observed increased BSI rates.^{3,4,7} Suboptimal nurse-to-patient ratios, barriers to accessing personal protective equipment, and barriers to performing hand hygiene were reported, as well as increased blood culture contamination rates.^{3,4,7} Data related to catheter-associated urinary tract infections (CAUTIs) are more limited. A single study from Singapore reported no change in CAUTI rates.² Although not peer reviewed, the Association of Professionals in Infection Control and Epidemiology conducted a survey in which 21.4% of respondents noted an increase in CAUTIs during the pandemic and another 27.8% noted an increase in CLABSIs.⁸ Among the 3 studies included in Table 1 reporting comparative data on CDI rates, either a reduction in CDI rate or no change in CDI rate was observed.^{2,5,6}

Although the data are limited, at least 1 health system with robust outbreak preparedness was able to mitigate the impact of the COVID-19 pandemic and actually reported a significant reduction in CLABSIs. Conversely, multiple other health systems that reported a breakdown in infection prevention best

practices reported increases in BSIs. Ultimately, our understanding of the impact of the COVID-19 pandemic on HAIs will be limited, due in part to the relaxation of mandatory reporting requirements during the pandemic.¹ Data on healthcare-associated non-central-catheter-associated BSI rates will be particularly limited because reporting in the United States is not mandated.

Currently, the full scope of the impact of COVID-19 on HAIs is unclear. However, important opportunities exist for health systems (both on the local level and nationally) to utilize their experiences during the current pandemic to bolster infrastructure and to robustly prepare for and quickly respond to future pandemic threats.

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Outbreak of endemic carbapenem-resistant *Acinetobacter baumannii* in a coronavirus disease 2019 (COVID-19)–specific intensive care unit

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To the Editor—Mechanical ventilation is part of the supportive care arsenal used for patients admitted to intensive care units (ICUs). Currently, with the worldwide coronavirus disease 2019 (COVID-19) pandemic, many patients present severe pulmonary symptoms, and the use of mechanical ventilation has increased dramatically.¹ Although life saving, mechanical ventilation use can lead to ventilator-associated pneumonia (VAP), with high mortality rates, especially when multidrug-resistant bacteria (eg, *Acinetobacter baumannii*) are involved.^{2,3}

Cases of *A. baumannii* infection were recently reported in COVID-19 patients.^{3,4} In Iran, *A. baumannii* comprised 90% of coinfections with severe acute respiratory coronavirus virus 2 (SARS-CoV-2), with mortality rates up to 100%.³ In Israel, Gottesman *et al*⁴ described an outbreak (5 cases) of carbapenem-resistant *A. baumannii* (CRAb) in 2 wards of a COVID-19 hospital. To the best of our knowledge, ours is the first study to report a

monoclonal outbreak of an endemic CRAb strain in a new COVID-19 ICU, presenting a series of 14 cases.

Due to the COVID-19 pandemic, a tertiary teaching hospital in southern Brazil expanded the number of beds from 123 to 173 to treat COVID-19 patients. All new beds were physically isolated from the other hospital wards. Of the new beds, 20 were in an ICU with 2-bed rooms.

The outbreak occurred between September to December 2020 in this new ICU (Fig. 1). Cases of the present study were defined as all patients with positive SARS-CoV-2 RNA by the RT-qPCR method and a positive culture for CRAb. Bacterial identification and antimicrobial susceptibility testing results were obtained with a BD Phoenix automated system (Becton-Dickinson, Franklin Lakes, NJ). All isolates were typed by the enterobacterial repetitive intergenic consensus-PCR (ERIC-PCR) technique.⁵ BioNumerics version 6.5 software (Applied Maths, Sint-Martens-Latem, Belgium) was used to analyze band patterns. Isolates with a Dice similarity coefficient ≥ 0.93 were classified as belonging to the same cluster.

In total, 14 cases were included in the study (Fig. 1). The mean patient age was 60 years, with male patients predominating (64%). The median duration of the ICU stay was 24 days (interquartile

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