that Hispanic persons had higher risk and that transplant patients had lower risk of testing positive suggests differences in the extent to which each subgroup may have been able to shelter from COVID-19 in the community during this earlier phase of the pandemic. Keeping immunocompromised patients safe from COVID-19 while they undergo longitudinal care involves layered precautions in the hospital and in the community that must evolve in response to evidence and epidemiological trends.

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Presentation Type:
Poster Presentation - Top Poster Award
Subject Category: Diagnostic/Microbiology

Temporal trends in urine-culture rates in the US acute-care hospitals, 2017–2020

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Background: Previously, we reported decreasing postadmission urine-culture rates in hospitalized patients between 2012 and 2017, indicating a possible decrease in hospital-onset urinary tract infections or changes in diagnostic practices in acute-care hospitals (ACHs). In this study, we re-evaluated the trends using more recent data from 2017–2020 to assess whether new trends in hospital urine-culturing practices had emerged. **Method:** We conducted a longitudinal analysis of monthly urine-culture rates using microbiology data from 355 ACHs participating in the Premier Healthcare Database in 2017–2020. All cultures from the urinary tract collected on or before day 3 were defined as admission urine cultures and those collected on day 4 or later were defined as postadmission urine cultures. We included discharges from months where a hospital reported at least 1 urine culture with microbiology and antimicrobial susceptibility test results. Annual estimates of rates of admission culture and postadmission urine-culture rates were assessed using general estimating equation models with a negative binomial distribution accounting for hospital-level clustering and adjusting for hospital bed size, teaching status, urban–rural designation, discharge month, and census division. Estimated rate for each year (2018, 2019, and 2020) was compared to previous year's estimated rate using rate ratios (RRs) and 95% confidence intervals (CIs) generated through the multivariable GEE models. **Results:** From 2017 to 2020, we included 8.7 million discharges and 1,943,540 urine cultures, of which 299,013 (15.4%) were postadmission urine cultures. In 2017–2020, unadjusted admission culture rates were 20.0, 19.6, 17.9, and 18.2 per 100 discharges respectively; similarly, unadjusted postadmission urine-culture rates were 8.6, 7.8, 7.0, and 7.5 per 1,000 patient days. In the multivariable analysis, adjusting for hospital characteristics, no significant changes in admission urine-culture rates were detected during 2017–2019; however, in 2020, admission urine-culture rates increased 6% compared to 2019 (RR, 1.06; 95% CI, 1.02–1.09) (Fig. 1). Postadmission urine-culture rates decreased 4% in 2018 compared to 2017 (RR, 0.96; 95% CI, 0.91–0.99) and 8% in 2019 compared to 2018 (RR, 0.92; 95% CI, 0.87–0.96). In 2020, postadmission urine-culture rates increased 10% compared to 2019 (RR, 1.10; 95% CI, 1.06–1.14) (Fig. 2). Factors significantly associated with postadmission urine-culture rates included discharge month and hospital bed size. For admission urine cultures, discharge month was the only significant factor. **Conclusions:** Between 2017–2019, postadmission urine-culture rates continued a decreasing trend, while admission culture rates remained unchanged. However, in 2020 both admission and postadmission urine culture rates increased significantly in comparison to 2019.

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Figure 1. Estimated Rate Ratios with 95% Confidence Intervals for Admission Urine Culture Rates

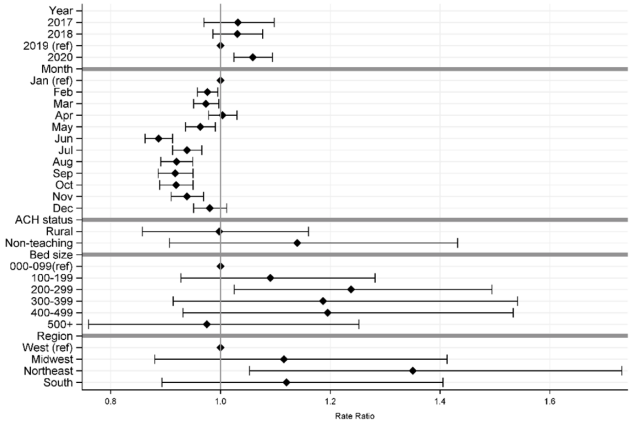
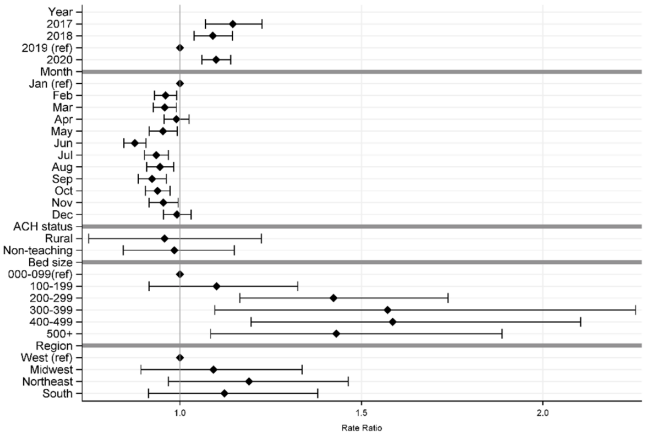


Figure 2. Estimated Rate Ratios with 95% Confidence Intervals for Post-admission Urine Culture Rates



Presentation Type:
Poster Presentation - Top Poster Award
Subject Category: Environmental Cleaning

Is your ice machine really clean? Uncovering the presence of opportunistic pathogens in hospital ice machines

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Background: Ice is used in healthcare facilities for medical purposes and consumption by the medical staff and the patients, but some studies have revealed significant microbial contamination of ice machines leading to nosocomial outbreaks or pseudooutbreaks and infections by opportunistic pathogens, including the fungi *Candida*, the bacteria *Pseudomonas aeruginosa*, and nontuberculous mycobacteria (NTM). Although ice machines are complex devices that are prone to contamination, very little is known about their potential as vectors of infections for populations at risk in hospitals. Only few studies document efficient maintenance regimes, specifically cleaning procedures and microbial indicators that would ensure their safe use. **Method:** In this prospective study, combined samples of water and ice, and drain biofilm samples were collected from 36 ice and cold-water distribution machines of a recently built hospital, for a total of 72 samples. Physicochemical parameters (total and free chlorine, temperature, etc) were measured in water, and several opportunistic pathogens (ie, *Candida* spp, *P. aeruginosa*, NTM) and biological indicators (ie, heterotrophic plate counts (HPCs), total and viable bacteria and enterococci) were monitored in water and ice and biofilm. Culture methods were used for HPCs, *Candida* spp, *P. aeruginosa*, and enterococci, and total and viable bacterial populations were estimated using flow cytometry. NTM were monitored by quantitative polymerase chain reaction (qPCR).