Table 1 Rate and Rate Ratios (RR) of Central Line-Associated Bloodstream Infections by Race and Ethnicity

Race/Ethnicity	Total CLABSIs (n)[1]	Rate[2]	RR[3]	95% CI	p-value[4]
White	179	0.85	Reference	——	<0.001
Black	145	1.08	1.27	1.02-1.58	
Hispanic/Latino	27	1.21	1.43	0.95-2.14	
Asian	5	0.76	0.89	0.37-2.17	
American Indian/Alaska Native	1	0.26	0.31	0.04-2.22	
Native Hawaiian/Pacific Islander	1	1.87	2.20	0.31-15.71	
Other	92	1.52	1.79	1.39-2.30	

[1]Total number of CLABSIs over the surveillance period by race/ethnicity.
[2]Rates of central line-associated bloodstream infection per 1000 device days.
[3]White was the reference group for RR comparisons.
[4]Overall p-value by chi-square listed with the reference group.

Table 2 Rate and Rate Ratios (RR) of Catheter-Related Urinary Tract Infections by Race and Ethnicity

Race/Ethnicity	Total CAUTIs (n)[1]	Rate[2]	RR[3]	95% CI	p-value[4]
White	101	0.89	Reference	——	0.07
Black	74	1.26	1.42	1.05-1.92	
Hispanic/Latino	8	0.87	0.97	0.47-2.00	
Asian	7	2.21	2.49	1.16-5.36	
American Indian/Alaska Native	1	0.62	0.69	0.10-4.97	
Native Hawaiian/Pacific Islander	0	0	0	0	
Other	42	1.35	1.52	1.06-2.18	

[1]Total number of CAUTIs over the surveillance period by race/ethnicity.
[2]Rates of catheter-related urinary tract infection per 1000 device days.
[3]White was the reference group for RR comparisons.
[4]Overall p-value by chi-square listed with the reference group.

catheter-associated urinary tract infection (CAUTI) rates per 1,000 device days. Data for adult patients admitted to an academic medical center between 2018 and 2021 were stratified by 7 racial and ethnic groups: non-Hispanic White, non-Hispanic Black, Hispanic/Latino, Asian, American Indian/Alaska Native, Native Hawaiian/Pacific Islander, and othe. The "other" group was composed of bi- or multiracial patients, or those for whom no data were reported. We compared the CLABSI and CAUTI rates between the different racial and ethnic groups using Poisson regression. **Results:** Compared to non-Hispanic White patients, the rate of CLABSI was significantly higher in non-Hispanic Black patients (1.27; 95% CI, 1.02–1.58; $P < .03$) and those in the "other" race category (1.79; 95% CI, 1.39–2.30; $P < .001$, respectively), and these trends increased in Hispanic/Latino patients (Table 1). Similarly, Black patients had higher rates of CAUTI (1.42; 95% CI, 1.05–1.92; $P < .02$), as did Asian patients (2.49; 95% CI, 1.16–5.36; $P < .02$), and patients in the "other" category (1.52; 95% CI, 1.06–2.18; $P < .02$) (Table 2). **Conclusions:** Racial and ethnic minorities may be vulnerable to a higher rate of patient safety events, including CLABSIs and CAUTIs. Additional analyses controlling for potential confounding factors are needed to better understand the relationship between race or ethnicity, clinical management, and healthcare-associated infections. This evaluation is essential to inform mitigation strategies and to provide optimum, equitable care for all.

Presentation Type:
Poster Presentation - Oral Presentation
Subject Category: Respiratory Viruses
Assessing alternatives to HEPA air purification requirements to reduce viral pathogen transmission in healthcare HVAC systems

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Background: High-efficiency particulate air (HEPA) filters are currently recommended when using recirculated air to eliminate the risk of pathogen transmission such as SARS-CoV-2 from one patient care area to the next. We tested the efficacy of lower-grade air filters in eliminating airborne virus transmission. **Methods:** We conducted an experiment in 2 adjacent exam rooms in an unoccupied hospital emergency unit. The HVAC system contained a 15,000-cubic-feet-per-minute rooftop air handler. All outside air and exhaust dampers were closed during the trial (full air recirculation). We conducted experiments in 3 tests arms with varying grades of MERV filters (AAF Flanders, Louisville, KY): (1) control without filters, (2) MERV8+14 filters, and (3) MERV8+16 filters. We repeated 20-minute virus challenge runs 3 times per test arm. Live attenuated influenza vaccine (2 mL LAIV, FluMist Quadrivalent 2020/21, AstraZeneca, Wilmington, DE), was aerosolized into the HVAC system via a commercial nebulizer. Air was sampled using 3 six-stage Andersen air samplers placed in the center of the adjacent room. Environmental particle counts were collected using a particle counter (PEC-PCO-1, PCE Americas). **Results:** Concentrations of viral RNA were determined by qPCR, and viral concentrations (vg/mL) in each stage of each arm were compared directly. Pairwise comparisons of the virus and particle burdens across each stage of each test arm were made using a general linear model. LAIV was detected in the control arm at a virus burden of 2,277 vg/mL, indicating a >6.5 log reduction of the virus released in the HVAC system (8.8×10^9 total vg). In the second arm, the MERV8+MERV14 filters demonstrated in a 13-fold decrease in viral burden compared to the control arm (mean virus burden: 169 vg/mL, p Our study demonstrates that viral containing particles can be transported via a hospital HVAC system from one patient room to the next. Considering the decrease in detectable virus within the HVAC system, the combination of MERV8+MERV16 filters reduced the virus burden reaching an adjacent room to levels well below the human infectious dosages for influenza and other highly infective viruses. **Conclusions:** Our findings indicate that MERV8+MERV16 filters provide protection against virus transmission through HVAC systems and are a cost-conscious alternative to HEPA filters.

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Poster Presentation - Oral Presentation
Subject Category: Respiratory Viruses
Clinical factors associated with antibiotic de-escalation after a positive multiplex molecular respiratory panel

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Background: Under ideal circumstances, multiplex molecular respiratory panels can support early all discontinuation of unnecessary antibiotics by facilitating diagnosis of viral infection. Our goal was to identify clinic situations in which a positive respiratory panel was associated with antibiotic de-escalation. We focused on gram-negative antibiotics in recognition of the urgent threat posed by gram-negative resistance. **Methods:** The sample included hospitalized adults tested by respiratory panel while receiving gram-negative antibiotics at the University of Maryland Medical Center from 2015 to 2020. Only the first respiratory panel performed during hospitalization was included. The primary outcome was the combination of a positive result on respiratory panel indicating detection of a viral pathogen and de-escalation of gram-negative antibiotics. De-escalation was assessed