

Hazard Ratios at ≤ 21 days using Cox Proportional Hazards Regression:

Crude Hazard Ratios		Adjusted Hazard Ratios*	
HR	95% CI	HR	95% CI
1.03	0.84, 1.25	1.08	0.88, 1.32

*Adjusted for CVC risk (low risk as reference, med risk, high risk) and any TPN use

patients (also 42 among unknown or other race). Duration of central-line episode was similar between racial groups (median, 5 days). Black patients were less likely to have medium-risk central lines (34%) compared to white patients (RR, 0.82; 95% CI, 0.79–0.84), but they had a similar frequency of high-risk central lines (21%; RR, 1.0; 95% CI, 1.0–1.1). Compared with low-risk central lines, risk of CLABSI was increased among medium-risk central lines (RR, 1.3; 95% CI, 1.0–1.7) and high-risk central lines (RR, 2.2; 95% CI, 1.8–2.7). CLABSIs were more likely in TPN central lines (RR, 2.3; 95% CI, 1.9–2.7) than others, but they were not more likely among Black patients than White patients (RR, 0.9; 95% CI, 0.1–1.1). In survival analysis, there were 24,700 central-line episodes among Black patients compared to 26,648 episodes among White patients; adjusting for central-line risk and TPN, the risk of CLABSI was similar during the first 21 days of central-line use (adjusted hazard ratio, 1.08; 95% CI, 0.88–1.32) (Fig. 1).

Conclusions: After accounting for central-line configuration, Black patients did not have a higher risk of CLABSI within 21 central-line days. Further evaluation is warranted to assess racial disparities in risks of other healthcare-associated infections and to determine whether a lack of CLABSI-specific racial disparities can be replicated in other regions and healthcare systems.

Disclosures: None

Antimicrobial Stewardship & Healthcare Epidemiology 2023;3(Suppl. S2):s50–s51
doi:10.1017/ash.2023.292

Presentation Type:

Poster Presentation - Poster Presentation

Subject Category: COVID-19

Multidrug-resistant ventilator-associated pneumonia (VAP) before and during the COVID-19 pandemic among hospitalized patients in a tertiary-care private hospital

Alec Ann Alissa Aligui and Cybele Lara Abad

Background: Data on the incidence and outcome of ventilator-associated pneumonia (VAP) and multidrug-resistant VAP (MDR-VAP) among COVID-19 patients are limited. We compared the incidence and incidence density (ie, number of VAP per 1,000 ventilatory days) of MDR-VAP prior to and during the COVID-19 period in an urban, tertiary-care hospital. **Methods:** A retrospective study was conducted to compare the incidence, profile, and outcomes of patients with MDR-VAP during the pre-COVID-19 period (2018–2019) and during the COVID-19 pandemic (2020–2021). **Results:** In total, 80 (22%) of 362 patients developed VAP and were included in the cohort: 27 (33.75%) from the pre-COVID-19 period and 53 (66.25%) from the COVID-19 period, respectively. Most were male [20 (74%) of 27 vs 34 (64%) of 53], with median ages of 66 years (range, 35–90) and 67 years (range, 32–92) in the pre-COVID-19 and COVID-19 periods, respectively. Comorbidities were similar between the 2 periods, except for cardiovascular disease (14 vs 11; *P* = .005) and chronic lung

Figure 1. Identification of Microorganisms responsible for ventilatory associated pneumonia during Pre-COVID 19 period.

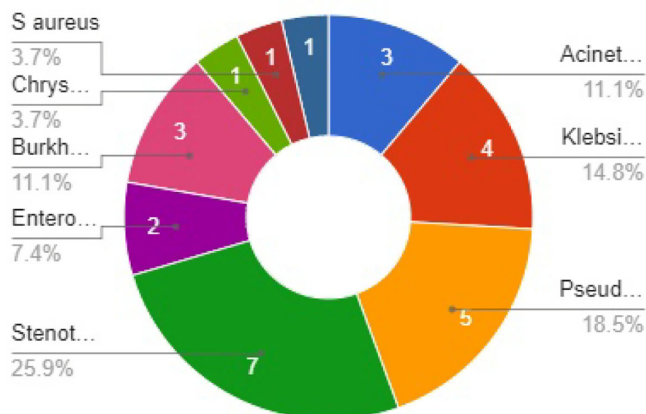
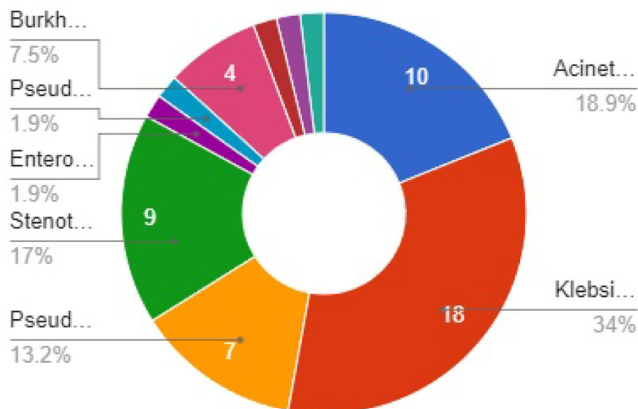


Figure 2. Identification of Microorganisms responsible for ventilatory associated pneumonia during COVID 19 period.



disease (14 vs 9; $P = .0012$), which decreased significantly from the pre-COVID-19 period to the COVID-19 period. Only 15 (56%) of 27 versus 37 (70%) of 53 patients developed MDR-VAP during the pre-COVID-19 and COVID-19 period, with incidence densities of 19.3 of 1,000 and 27.8 of 1,000 ventilator days ($P = .0371$), respectively. The median length of stay prior to VAP for the pre-COVID-19 and COVID-19 periods were 17 and 10 days, respectively ($P < .0001$). Extended-spectrum β -lactamase (ESBL) resistance increased significantly from 1 (3.7%) of 27 before COVID-19 to 15 (28.3%) of 53 during the COVID-19 period. Carbapenem-resistant Enterobacteriaceae (CRE) resistance was higher before COVID-19 than during the COVID-19 period: 15 (56%) of 27 versus 10 (19%) of 53. In both periods, *Klebsiella pneumoniae* and *Acinetobacter baumannii* were the most common pathogens isolated. Mortality was high in both periods at 93% and 83%, respectively. Only female sex was associated with MDR-VAP in the COVID-19 period on multivariate analysis (OR, 3.47; 95% CI, 1.019–11.824; $P < .047$). **Conclusions:** The frequency of VAP and MDR-VAP increased during the COVID-19 period, despite a shorter median hospital stay. Mechanisms of resistance differed in the pre-COVID-19 and COVID-19 periods. Mortality with VAP was extremely high. The factors associated with increased risk of VAP and COVID-19 need to be studied further, and measures to prevent VAP should be prioritized.

Disclosures: None

Antimicrobial Stewardship & Healthcare Epidemiology 2023;3(Suppl. S2):s51–s52

doi:10.1017/ash.2023.293

Presentation Type:

Poster Presentation - Poster Presentation

Subject Category: COVID-19

Identifying COVID-19 clusters in Tennessee long-term care facilities based on weekly staff vaccination rates

Marissa Turner; Ashley Gambrell; Erin Hitchingham and Simone Godwin

Background: In September 2021, the CMS mandated that long-term care facility (LTCF) healthcare workers be vaccinated for COVID-19 unless medically or religiously exempt. Vaccinating healthcare workers reduces transmission of COVID-19 among patients and workers, reducing the risk of illness among residents and patients. We examined the relationship between COVID-19 clusters and staff vaccination rates in Tennessee LTCFs. **Methods:** COVID-19 cluster data were collected using REDCap from January 3, 2021, to September 25, 2022, and LTCF vaccination rates were collected from the NHSN. Clusters were identified in facilities with 2 or more cases. The staff vaccination rate 2 weeks prior to the cluster was used, accounting for the lag time between vaccination dose and reaching full immunity. We selected 75% as the critical immunization threshold. The facility case rate was calculated per 100 beds. A test was performed to determine whether reaching the critical vaccination threshold was associated with cluster occurrence. The relationship between vaccination rate and case number was tested using Pearson correlation. Statistical analyses were conducted using SAS version 9.4 software. **Results:** The average staff vaccination rate when NHSN first required long-term care facilities to report rates rose from 47% in June 2021 to 83% in September 2022. In total, 806 clusters were identified with 20,868 combined weeks from all facilities being reported after merging facilities' weekly vaccine percentage rates with cluster data. Most weeks from all facilities did not identify a cluster ($n = 20,064$, 96.15%) and did not meet the critical immunization threshold ($n = 11,050$, 52.95%). The association between a cluster occurring and a facility meeting the threshold was significant ($\chi^2 = 5.41$; $df = 1$; P 95% CI, .7327–.9740). The Pearson correlation coefficient between vaccination rate and case number was 0.05560 ($P = .2894$). **Conclusions:** There was a significant association between facilities not reaching the immunization threshold and presence of a COVID-19 cluster. The facility case rate was not correlated with staff vaccination rate; however, a limitation of this analysis was that resident vaccination was not tested. Another limitation was that medical and religious exemptions could not be differentiated. Healthcare staff should consider getting vaccinated, if able, to reduce the risk of COVID-19 and to keep staff and residents safe from COVID-19.

Disclosures: None

Antimicrobial Stewardship & Healthcare Epidemiology 2023;3(Suppl. S2):s52

doi:10.1017/ash.2023.294

Presentation Type:

Poster Presentation - Poster Presentation

Subject Category: COVID-19

Utilizing data to foster equity in infection prevention outreach among skilled nursing facilities in Michigan

Christine White; Michael David and Ruben Juarez

Background: Since October 2020, the Infection Prevention Resource and Assessment Team (IPRAT) has provided infection prevention guidance and support to congregate-care settings throughout Michigan. Specifically, outreach to skilled nursing facilities (SNFs) in response to reported positive COVID-19 resident and staff cases. Case rates provide limited data and do not factor in additional variables, such as staffing shortages, geographical location, or access to supplies, which can increase the vulnerability of staff and residents to outbreaks. To facilitate equitable outreach, a risk assessment was developed using variables related to infection prevention and poor COVID-19 outcomes utilizing local, state, and federal data reporting websites. **Methods:** A retrospective data review of IPRAT's electronic data repository was performed, and 2 distinct periods were identified between November 6, 2020, and December 5, 2022. Outreach method 1 involved only using case counts from November 6, 2020, to September