

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

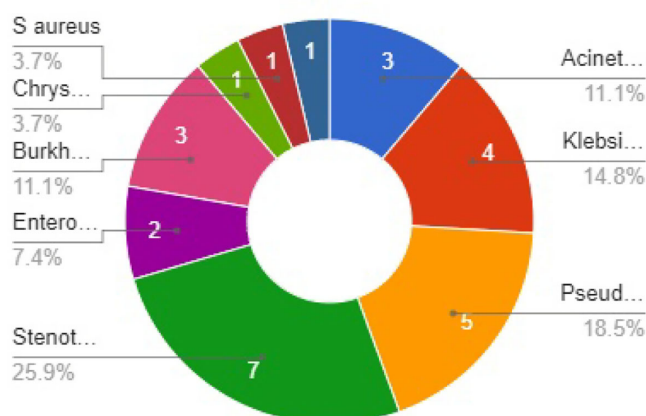
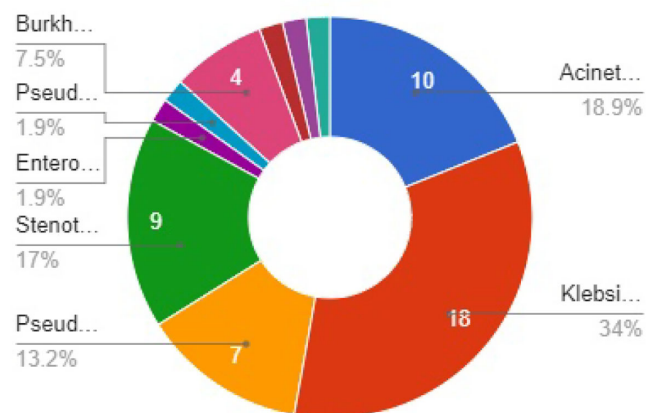


Figure 2. Identification of Microorganisms responsible for ventilatory associated pneumonia during COVID 19 period.



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

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

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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

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

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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