

agencies. By linking OASIS data with inpatient data from the Medicare Provider Analysis and Review (MedPAR) file, we were able to better quantify infection hospitalization trends and subsequent mortality among HHC patients. **Method:** After stratification (by census region, ownership, and urban or rural location) and random sampling, our data set consisted of 2,258,113 Medicare beneficiaries who received HHC services between January 1, 2013, and December 31, 2018, from 1,481 Medicare-certified HHC agencies. The 60-day HHC episodes were identified in OASIS. Hospital transfers reported in OASIS were linked with corresponding MedPAR records. Our outcomes of interest were (1) hospitalization with infection present on admission (POA); (2) hospitalization with infection as the primary cause; and (3) 30-day mortality following hospitalization with infection as the primary cause. We identified bacterial (including suspected) infections based on *International Classification of Disease, Ninth Revision (ICD-9)* and ICD-10 codes in MedPAR. We classified infections by site: respiratory, urinary tract, skin/soft tissue, intravenous catheter-related, and all (including other or unspecified infection site). We also identified sepsis diagnoses. **Result:** From 2013 through 2018, the percentage of 60-day HHC episodes with 1 or more hospital transfers ranged from 15% to 16%. Approximately half of all HHC patients hospitalized had an infection POA. Over the 6 years studied, infection (any type) was the primary cause of hospitalization in more than a quarter of all transfers (25.86%–27.57%). The percentage of hospitalizations due to sepsis increased from 7.51% in 2013 to 11.49% in 2018, whereas the percentage of hospitalizations due to respiratory, urinary tract, or skin/soft-tissue infections decreased ($p < 0.001$). Thirty-day mortality following a transfer due to infection ranged from 14.14% in 2013 to 14.98% in 2018; mortality rates were highest following transfers caused by sepsis (23.14%–26.51%) and respiratory infections (13.07%–14.27%). **Conclusion:** HHC is an important source of post-acute care for those aging in place. Our findings demonstrate that infections are a persistent problem in HHC and are associated with substantial 30-day mortality, particularly following hospitalizations caused by sepsis, emphasizing the importance of infection prevention in HHC. Effective policies to promote best practices for infection prevention and control in the home environment are needed to mitigate infection risk.

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Presentation Type:

Oral Presentation - Top Oral Award

Subject Category: Outbreaks

A Cluster of Coronavirus Disease 2019 (COVID-19) Cases on an Inpatient Hospital Unit Involving Multiple Modes of Transmission

Kelsey Witherspoon; Michael Haden; Justin Smyer; Jennifer Flaherty; Heather Smith; Nora Colburn; Christina Liscynsky; James Allen and Shandra Day

Background: The Ohio State University Wexner Medical Center identified a cluster of coronavirus disease 2019 (COVID-19) cases on an inpatient geriatric stroke care unit involving both patients and staff. The period of suspected severe acute respiratory coronavirus virus 2 (SARS-CoV-2) transmission and exposure on the unit was December 20, 2020, to January 1, 2021, with some patients and staff developing symptoms and testing positive within the 14 days thereafter. **Methods:** An epidemiologic investigation was conducted via chart review, staff interviews, and contact tracing to identify potential patient and staff linkages. All staff who worked on the unit were offered testing regardless of the presence of symptoms as well as all patients admitted during the outbreak period. **Results:** In total, 6 patients likely acquired COVID-19 in the hospital (HCA). An additional 6 patients admitted to the unit during the outbreak period subsequently tested positive but had other possible exposures outside the hospital (Fig. 1). One patient failed to undergo COVID-19 testing on admission but tested positive early in the cluster and is suspected to have contributed to patient to employee transmission. Moreover, 32 employees who worked on the unit in some capacity during this period tested positive, many of whom became symptomatic during their shifts. In addition, 18 employees elected for asymptomatic testing with 3 testing positive; these were included in the total. Some staff also identified potential community exposures. Additionally, staff reported an employee who was working while symptomatic with inconsistent mask use (index employee) early in the outbreak period. The index employee likely contributed to employee transmission but had no direct patient contact. Our epidemiologic investigation ultimately identified 12 employees felt to be linked to transmission based on significant, direct patient care provided to the patients within the outbreak period (Fig. 1). In addition, 3 employees had an exposure outside the hospital indicating likely community transmission. **Conclusions:** Transmission was felt to be multidirectional and included employee-to-employee, employee-to-patient, and patient-to-employee

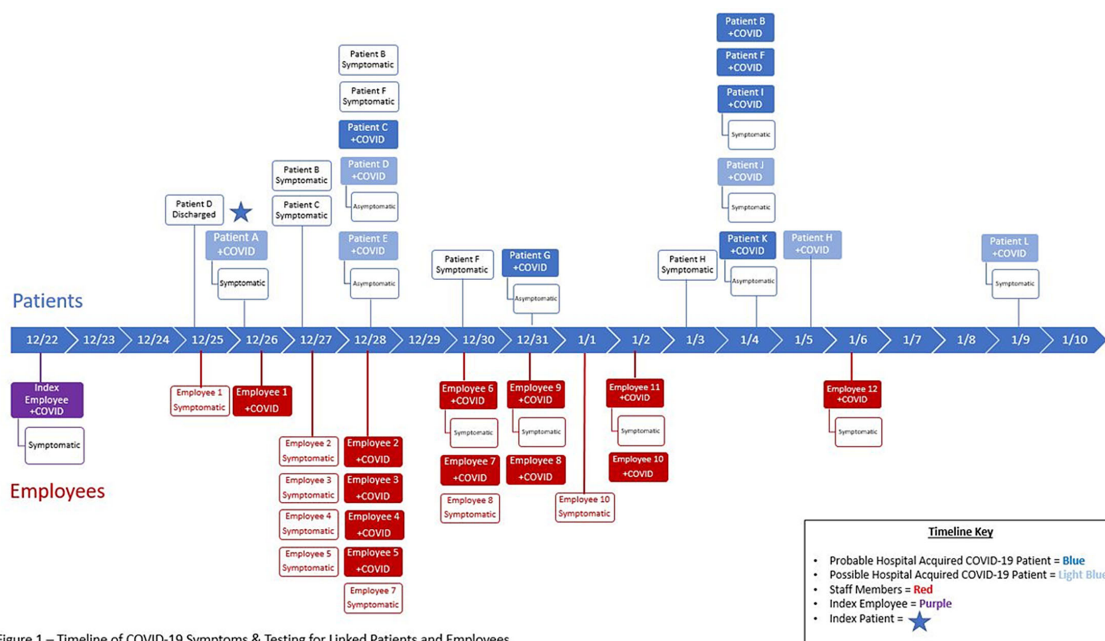


Figure 1 – Timeline of COVID-19 Symptoms & Testing for Linked Patients and Employees

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transmission in the setting of widespread community transmission. Interventions to stop transmission included widespread staff testing, staff auditing regarding temperature and symptom monitoring, and re-education on infection prevention practices. Particular focus was placed on appropriate PPE use including masking and eye protection, hand hygiene, and cleaning and disinfection practices throughout the unit. SARS-CoV-2 admission testing and limited visitation remain important strategies to minimize transmission in the hospital.

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Oral Presentation - Top Oral Award

Subject Category: Surveillance/Public Health

Automation of Healthcare-Associated Infections (HAIs) Areas for Opportunity Through the Use of Technology

Meri Pearson

Background: A large healthcare system in Georgia implemented an enhanced electronic infection surveillance system that is incorporated into the electronic medical record (EMR). Prior to the implementation of this electronic infection surveillance system, the infection prevention (IP) team performed healthcare-associated infection (HAI) surveillance through a locally created system that did not interface with their EMR. Each HAI identified undergoes a robust analysis for opportunities depending on the infection type by manual abstraction from the EMR, which is stored in a spreadsheet. One disadvantage of this spreadsheet is that only 1 person can enter data at a time. The coronavirus disease 2019 (COVID-19) pandemic has presented many challenges for healthcare facilities including shifting resources from HAI prevention programs. These programs include the investigations performed to identify risk factors that can aid in preventing future infections. Due to the necessity to increase efficiency in the current pandemic, the IP team proposed using technology to automate our HAI investigation process. **Method:** The IP team and the business intelligence (BI) team met to determine whether data completed in the electronic infection surveillance system could flow into an interactive data visualization software that is currently used for other HAI prevention dashboards. The existing spreadsheet was reviewed to select variables essential for HAI investigations and for which the data existed in the EMR. The BI team worked to find the correct data tables within the EMR so that the data could automatically refresh daily in the data visualization software. **Result:** The BI team was able to correctly identify variables used in the previously manual HAI investigation process within the EMR to interface with the data visualization software. This automation of investigations allows quick analysis of trends and areas of opportunity to prevent future HAIs. **Conclusion:** This utilization of technology can be applied to other healthcare facilities with similar software systems to streamline IP workflows. The automation of quickly and efficiently recognizing areas of opportunity allows IPs more time to facilitate the prevention of HAIs in other ways.

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Presentation Type:

Poster Presentation - Top Poster Award

Subject Category: Antibiotic Stewardship

Implementation of an Antibiotic Timeout at Veterans' Affairs Medical Centers (VAMC): COVID-19 Facilitators and Barriers

Jorie Butler; Joshua Judd; Cassie Goedken; Vanessa Stevens; Nui Brown; Michael Rubin and Matthew Goetz

Effective stewardship strategies such as an "antibiotic timeout" to encourage prescriber reflection on the use of broad-spectrum antibiotics are

critical to reduce the threat of multidrug-resistant organisms. We sought to understand the facilitators and barriers of the implementation of the Antibiotic Self-Stewardship Timeout Program (SSTOP), which used a template note integrated into the electronic health record system to guide decision making regarding anti-methicillin-resistant *S. aureus* (MRSA) therapy after 3 days of hospitalization. We conducted interviews at 10 Veterans' Affairs medical centers (VAMCs) during the preimplementation period (N = 16 antibiotic stewards) and postimplementation (N = 13 antibiotic stewards) ~12 months after program initiation. Preimplementation interviews focused on current stewardship programs, whereas postimplementation interviews addressed the implementation process and corresponding challenges. We also directly asked about the impact of COVID-19 on stewardship activities at each facility. Interviews were transcribed and analyzed using consensus-based inductive and deductive coding. Codes were iteratively combined into barrier and facilitator groupings. Barriers identified in the preimplementation interviews included challenges with staffing, the difficulties of changing prescribing culture, and academic affiliates (eg, rotating physician trainees). Facilitators included intellectual support (eg, providers who understand the concept of stewardship), facility support, individual strengths of antibiotic stewards (eg, diplomacy, strong relationships with surgeons), and resources such as VA policies mandating stewardship. By the postimplementation phase, all sites reported a high volume of COVID-19 cases. Additional demands were placed on infectious disease providers who comprise the antibiotic stewardship teams, which complicated the implementation of SSTOP. Many barriers and facilitators mentioned were similar to those identified during preimplementation interviews. Staffing problems and specific providers not "getting it [stewardship activities]" continued, whereas facilitators centered around strong institutional support. Specific pandemic-related barriers included slow down or stoppage of stewardship activities including curbing of regular MRSA screening practices, halting weekly stewardship rounds, and delaying stewardship committee planning. Pandemic-specific staffing problems occurred due to the need for "all hands on deck" and challenges with staff working from home, as well as being pulled in multiple directions, (eg, writing COVID-19 policies). Furthermore, an increase in antibiotic use was also reported at sites during COVID-19 surges. Our findings indicate that SSTOP implementation met with barriers at most times; however, pandemic-specific barriers were particularly powerful. Sites with strong staffing resources were better equipped to deal with these challenges. Understanding how the program evolves with subsequent COVID-19 surges will be important to support the broad implementation of SSTOP.

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Poster Presentation - Top Poster Award

Subject Category: Antibiotic Stewardship

Chronic Antibiotic Suppression for Nonstaphylococcal Prosthetic Joint Infections Treated with Debridement or Implant Retention

Poorani Sekar; Rajeshwari Nair; Brice Beck; Bruce Alexander; Kelly Miell; Aaron Tande; Kimberly Dukes; Julia Friberg; Marin Schweizer and Andrew Pugely

Background: Early postoperative and acute prosthetic joint infection (PJI) may be managed with debridement, antibiotics, and implant retention (DAIR). Among patients with nonstaphylococcal PJI, an initial 4–6-week course of intravenous or highly bioavailable oral antibiotics is recommended in the Infectious Diseases Society of America (IDSA) guidelines, with disagreement among committee members on the need for subsequent chronic oral antimicrobial suppression (CAS). We aimed to characterize patients with nonstaphylococcal PJI who received CAS and to compare them to those who did not receive CAS. **Methods:** This retrospective cohort study included patients admitted to Veterans' Affairs (VA)