

evaluated the effect of a behaviorally enhanced quality improvement intervention in reducing inappropriate antibiotic prescribing for viral URIs. **Methods:** A quasi-experimental study assessed the effects of an Antibiotic Stewardship intervention on antibiotic prescribing for viral URIs. The outcome of interest was a change in the number of antibiotics prescribed at each participating clinic over a 1-year preimplementation period and a 2-year postimplementation period. Time trends were analyzed using segmented regression analysis, and a stepped wedge design was used to account for intervention roll-out across clinics. **Results:** From 2017 to 2020, there were 63,028 patient visits in 21 clinic locations. Antibiotics were prescribed an average of 11.5% and 5.8% of visits during the pre- and postimplementation periods, respectively. The most frequently prescribed antibiotic over the study period was azithromycin ( $n = 3,551$ ), followed by amoxicillin ( $n = 924$ ). Overall, the intervention was associated with a 46% reduction in antibiotic prescriptions or 0.54 times ( $P = .001$ ) as many inappropriate antibiotics prescribed as before the intervention. There was no significant change in the month-to-month trend in inappropriate prescriptions after the intervention was implemented ( $P = .87$ ). **Conclusions:** Our study demonstrates that a behaviorally enhanced quality improvement intervention to reduce inappropriate prescribing for URI in ambulatory care encounters was successful in reducing potentially inappropriate prescriptions for presumed viral respiratory infections.

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#### Presentation Type:

Oral Presentation

**Subject Category:** Construction

#### Bat Intrusions at a Tertiary Care Center, Iowa 2018–2020

Mohammed Alsuhaibani; Takaaki Kobayashi; Lorinda Sheeler; Alexandra Tranel; Stephanie Holley; Oluchi Abosi; Kyle Jenn; Holly Meacham; William Etienne; Angie Dains; Mary Kukla; Bill Millard; Alexandre Marra; Melanie Wellington; Daniel Diekema and Jorge Salinas

**Background:** Bats are recognized as important vectors in disease transmission. Frequently, bats intrude into homes and buildings, increasing the risk to human health. We describe bat intrusions and exposure incidents in our hospital over a 3-year period. **Methods:** The University of Iowa Hospitals and Clinics (UIHC) is an 811-bed academic medical center in Iowa City, Iowa. Established in 1928, UIHC currently covers 209,031.84 m<sup>2</sup> (~2,250,000 ft<sup>2</sup>) and contains 6 pavilions built between 1928 and 2017. We retrospectively obtained bat intrusion calls from the infection prevention and control program call database at UIHC during 2018–2020. We have also described the event management for intrusions potentially associated with patient exposures. **Results:** In total, 67 bat intrusions occurred during 2018–2020. The most frequent locations were hallways or lounges 28 (42%), nonclinical office spaces 19 (14%), and stairwells 8 (12%). Most bat intrusions (65%) occurred during the summer and fall (June–November). The number of events were 15 in 2018, 28 in 2019, and 24 in 2020. We observed that the number of intrusions increased with the age of each pavilion (Figure 1). Of 67 intrusions, 2 incidents (3%) were associated with potential exposure to patients. In the first incident, reported in 2019, the bat was captured in a patient care area and released before an investigation of exposures was completed and no rabies testing was available. Also, 10 patients were identified as having had potential exposure to the bat. Among them, 9 patients (90%) received rabies postexposure prophylaxis. In response to this serious event, we provided facility-wide education on our bat control policy, which includes the capture and safe handling of the bat, assessment of potential exposures, and potential need for rabies testing. We also implemented a bat exclusion project focused on the exterior of the oldest hospital buildings. The second event, 1 patient was identified to have potential exposure to the bat. The bat was captured, tested negative for rabies, no further action was needed. **Conclusions:** Bat intrusions can be an infection prevention and control challenge in facilities with older buildings.

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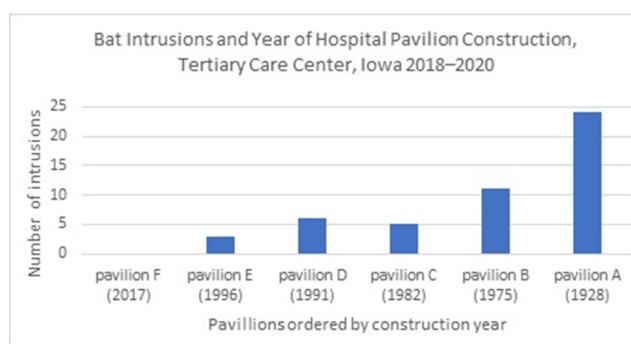


Figure 1.

Hospitals may need animal intrusion surveillance systems, management protocols, and remediation efforts.

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**Subject Category:** COVID-19

#### Laboratory-Confirmed SARS-CoV-2 Following One or More Doses of mRNA Vaccine Among Care Team Members at an Academic Health System

Scott Curry; Cassandra Salgado; Krutika Kuppalli; Patricia Nickerson; Morgan Schrader; Danielle Scheurer and Julie Hirschhorn

**Background:** Medical University of South Carolina Health began vaccinating care team members December 15, 2020, with the Pfizer-BioNTech SARS-CoV-2 mRNA vaccine. We report surveillance data for cases diagnosed following vaccination. **Methods:** Care team members (CTMs) diagnosed with COVID-19 following SARS-CoV-2 vaccination were self-identified during online electronic contact-tracing surveys. Demographic data, symptoms, and dates of symptoms were recorded. CTMs testing positive at MUSC were linked to viral burden data from nasopharyngeal swabs tested on Abbott PCR platforms. **Results:** As of January 31, 2021, 111 CTMs tested positive for SARS-CoV-2 following vaccination: 99 and 12 after 1 and 2 doses, respectively, at medians of 10 days (range, 1–22) and 5 days (range, 1–16), respectively, from vaccination to testing. Of 2 cases that tested positive >14 days from dose 2, CTMs had symptom onset at 4 and 12 days from dose 2. Among CTMs reporting symptoms, 104 did so after a median of 7 days (mean 6.3, range –23 to +22) from vaccination to symptom onset, with 8 reporting symptoms before vaccination, 9 on the day of vaccination, and 3 CTMs at 1 day after vaccination, 6 CTMs at 2 days after vaccination, and 11 CTMs at 3 days after vaccination. Overall, 86 (78%) of 111 were female and 95 (86%) of 111 were white. The median age was 44 years (range, 22–71). Clinical job roles were most frequently nurses ( $n = 31$ , 28%), physicians or physician extenders ( $n = 19$ , 17%), and CTMs with no patient contact ( $n = 21$ , 19%). Assessment by the contact-tracing team assigned sources as household clusters ( $n = 22$ , 23%), local transmission ( $n = 21$ , 22%), occupational acquisition from coworkers ( $n = 11$ , 12%), travel related ( $n = 9$ , 10%), and unknown ( $n = 32$ , 34%). Only 32 (32%) CTMs were compliant with physical distancing. Among 104 CTMs reporting symptoms, cough (75%), headache (71%), rhinorrhea (63%), myalgia (60%), sore throat (48%), anosmia (44%), and subjective fever (40%) were the most commonly reported symptoms. Among 54 symptomatic CTMs with available viral-load data, the median and mean cycle numbers (Cn) were 19.98 and 21.91, respectively, for samples tested a median 3 days from symptom onset. Asymptomatic and symptomatic CTMs had a median Cn of 30.1 vs 20.9, respectively ( $p < 0.001$ ) and overall 50% of vaccinated CTMs had Cn >20, with no significant effect seen by vaccine dose (Figure 1).

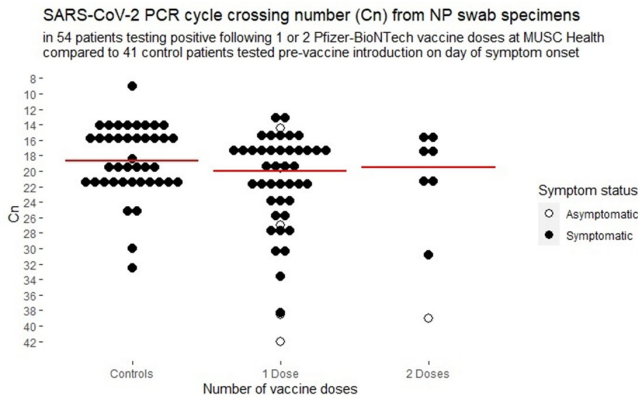


Figure 1.

**Conclusions:** Most COVID-19 cases following vaccination occurred in CTMs with infection incubating prior to vaccination. No significant attenuation of viral load is apparent among vaccinated CTMs with COVID-19, but asymptomatic CTMs diagnosed with COVID-19 following vaccination appear to have resolved infections. Our data reinforce the need to adhere to public health measures by people who have been vaccinated.

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**Presentation Type:**

Oral Presentation

**Subject Category:** COVID-19

**Selection and Duration of Therapy as a Target for Antimicrobial Stewardship during COVID-19: Levees for a Hundred-Year Flood**

Alfredo Mena Lora; Rodrigo Burgos; Ella Li; Nichelle Simpkins; Fischer Herald; John Marchionne; Mirza Ali; Eden Takhsh; Sherrie Spencer; Candice Krill; Susan Bleasdale and Scott Borgetti

**Background:** The disease caused by SARS-CoV-2, COVID-19, has caused a pandemic leading to strained healthcare systems worldwide and an unprecedented public health crisis. The hallmark of severe COVID-19 is lower respiratory tract infection (LRTI) and hypoxia requiring hospitalization. A paucity of data on bacterial coinfection and a lack of therapeutic options for COVID-19 during the first surge of cases has increased pressure on antimicrobial use and has challenged antimicrobial stewardship programs (ASPs). We implemented a multimodal approach to antimicrobial stewardship in an urban safety-net community hospital targeting selection and duration of therapy. **Methods:** Retrospective review of cases during the first wave of COVID-19 in a 151-bed urban safety-net community hospital from March to June 2020. EMR order sets (Figure 1) and prospective audit and feedback by ASPs targeting empiric antimicrobial selection and duration were implemented as part of the COVID-19 response. Hospitalized patients with COVID-19 were reviewed retrospectively. Demographic information was collected. Data on antimicrobial use were tabulated, including selection and duration of antimicrobials (Figure 1). **Results:** In total, 302 patients were reviewed, of whom 221 (73%) received empiric antimicrobials. The most commonly used antimicrobials were ceftriaxone and azithromycin (Figure 2). Days of therapy per 1,000 patient days (DOT/1,000 PD) for ceftriaxone increased from 71 in the quarter prior to 113 during the study period. Average duration of therapy was 6 days. In the ICU, average duration was 8 days compared to 5 days in non-ICU settings. Average durations of parenteral therapy were 5.54 days in the ICU and 3.36 days in non-ICU settings. Procalcitonin was obtained in 37 cases (17%) and ranged from 0.09 to 12.57 ng/mL, with an average of 1.21 ng/mL. No cases had documented bacterial coinfection (Figure 2).

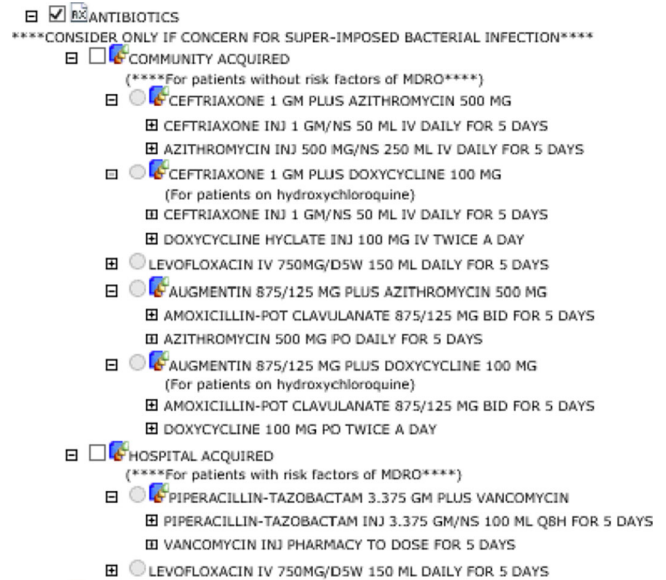


Figure 1. Antimicrobials in the electronic medical record COVID-19 order set.

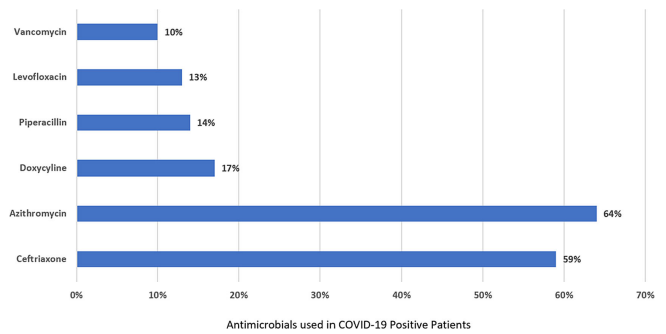


Figure 2. Antimicrobials used in patients with COVID-19.

**Conclusions:** Antimicrobials were commonly prescribed during the first wave of COVID-19 in a safety-net community hospital. Procalcitonin did not guide therapy nor did lack of documented coinfection change physician behavior. With limited resources, ASP successfully guided clinicians toward IDSA guideline recommendations for selection and duration, as evidenced by antimicrobial use. During this unprecedented surge of LRTIs, a multimodal approach to antimicrobial stewardship was used and guided toward early transition to oral agents and shorter durations.

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**Subject Category:** COVID-19

**Impact of COVID-19 on Antimicrobial Use and Resistance in an Urban Safety-Net Community Hospital**

Alfredo Mena Lora; Ella Li; Fischer Herald; Nichelle Simpkins; Candice Krill; Eden Takhsh; Rodrigo Burgos; John Marchionne; Mirza Ali; Sherrie Spencer; Susan Bleasdale and Scott Borgetti

**Background:** The disease caused by SARS-CoV-2, COVID-19, has caused a pandemic leading to strained healthcare systems worldwide and an