

health staff to query and identify all epidemiologic links between traced patients, parents and/or visitors, and staff, and (2) initiates staff enrollment in a twice-daily symptom tracking system administered via REDCap. Potentially exposed patients and parents and/or visitors are contacted directly by a hospital representative. The contact tracing team, infection prevention staff, and occupational health staff meet daily to review positive staff cases in the last 24 hours. **Results:** To date, the team has traced ~1,300 patients, 15 parents and/or visitors, and 700 staff. Since the start of the pandemic, tracing and contact notification for all positive cases has been conducted within 24 hours. Through these proactive tracing efforts and other institutional infection prevention initiatives, the institution only experienced 1 staff cluster ($N < 15$) and < 5 hospital-onset patient cases. **Conclusions:** Equipping a trained group of contact tracers with automated tracking tools can afford infection prevention and occupational health departments the ability to achieve and sustain timely and accurate contact tracing initiatives throughout a large-scale pandemic response.

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Transmission of COVID-19 on an Inpatient Hospital Prison Unit

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Background: Prison populations have been disproportionately affected by COVID-19, partly due to challenges related to social distancing. Data on viral transmission dynamics in inpatient prison units remain limited. The Ohio State University Wexner Medical Center (OSUWMC) has a 24-bed inpatient prison unit in collaboration with the Ohio Department of Rehabilitations and Corrections (ODRC). The unit has 5 shared rooms holding 4 patients each and 4 single-patient rooms. Several cases of inpatient transmission of COVID-19 were identified on the inpatient prison unit. **Methods:** An IRB-approved retrospective chart review was conducted to evaluate inpatient transmission dynamics of hospital-acquired (HCA) COVID-19. All ODRC patients admitted from March 1 to April 24, 2020, were included. Patients assigned to the prison unit during their hospital stay were evaluated for potential HCA COVID-19, defined as a positive SARS-CoV-2 test ≥ 4 days after admission. Patient characteristics, testing data, symptoms, aerosol-generating procedures (AGPs), and room assignments were reviewed. Healthcare workers (HCWs) and correction officers (COs) working on the unit who tested positive during this period were identified. **Results:** In total, 142 ODRC patients were admitted during the study period and 89% had a positive SARS-CoV-2 testing prior to or during admission. Also, 61 patients (43%) were assigned to the prison unit. Moreover, 8 patients on the unit met potential HCA COVID-19 definition with 7 linked to 3 distinct clusters. Also, 7 COs had COVID-19 (outside hospital exposure) and 5 HCWs acquired COVID-19 from patient exposure on the unit. In cluster 1, 4 patients admitted to the same room developed HCA COVID-19. A symptomatic index patient not tested on admission given an atypical presentation required CPAP and frequent nebulizer treatments. In cluster 2, 1 patient from cluster 1 was transferred to another room. The new roommate subsequently developed HCA COVID-19. In cluster 3, a symptomatic correctional officer was assigned to 2 patients in a shared room; the patients later developed HCA COVID-19. **Conclusions:** Three patient clusters of HCA COVID-19 on a prison unit were identified. Aerosol transmission potentially played a role in cluster 1. Inpatient transmission within the unit prompted updated guidance for ODRC admissions, including universal SARS-CoV-2 admission testing, excluding patients requiring AGPs from shared rooms, and preemptive isolation for patients from an ODRC facility experiencing a COVID-19 surge. Universal testing was quickly expanded to all inpatient admissions. HCWs and COs were also linked to inpatient transmission, highlighting the importance of strict infection control practices for patient populations who cannot socially distance.

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Building a PPE Monitor Team as Part of a Comprehensive COVID-19 Prevention Strategy

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Background: The use of personal protective equipment (PPE) is a critical intervention in preventing the spread of transmission-based infections in healthcare settings. However, contamination of the skin and clothing of healthcare personnel (HCP) frequently occurs during the doffing of PPE. In fact, nearly 40% of HCP make errors while doffing their PPE, causing them to contaminate themselves. PPE monitors are staff that help to promote their colleagues' safety by guiding them through the PPE donning and doffing processes. With the advent of the COVID-19 pandemic in early 2020, the UNC Medical Center chose to incorporate PPE monitors as part of its comprehensive COVID-19 prevention strategy, using them in inpatient areas (including COVID-19 containment units and all other units with known or suspected SARS-CoV-2-positive patients), procedural areas, and outpatient clinics. **Methods:** Infection prevention and nursing developed a PPE monitoring team using redeployed staff from outpatient clinics and inpatient areas temporarily closed because of the pandemic. Employee training took place online and included fundamentals of disease transmission, hand hygiene basics, COVID-19 policies and signage, and videos on proper donning and doffing, including coaching tips. The monitors' first shifts were supervised by experienced monitors to continue in-place training. Employees had competency sheets signed off by a supervisor. **Results:** The Medical Center's nursing house supervisors took over management and deployment of the PPE monitoring team, and infection prevention staff continued to train new members. Eventually, as closed clinics and areas reopened and these PPE monitors returned to their regular positions, areas used their own staff to perform the role of PPE monitor. In the fall of 2020, a facility-wide survey was sent to all inpatient staff to assess their perceptions of the Medical Center's efforts to protect them from acquiring COVID-19. It included a question asking how much staff agreed or disagreed that PPE monitors "play an important role in keeping our staff who care for COVID-19 patients safe." Of the 626 staff who answered this question, 67.6% agreed or strongly agreed that PPE monitors played an important role in keeping staff safe. Thus far, there has been no direct transmission or clusters of COVID-19 involving HCP in COVID-19 containment units with PPE monitors. **Conclusions:** PPE monitors are an important part of a comprehensive COVID-19 prevention strategy. In early 2021, the UNC Medical Center posted and hired paid PPE monitor positions to continue this critical work in a sustainable way.

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The COVID-19 Pandemic and Antibiotic Use on the United States-Mexico Border

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Background: The US-Mexico border represents a unique region of the country where antibiotics are more accessible and nonprescription treatment with antibiotics is deeply enculturated. Currently, both the United

States and Mexico are experiencing widespread community transmission of SARS-CoV-2, which may have implications for antibiotic seeking and use. The objective of this study was to examine antibiotic seeking behavior as it relates to COVID-19 in the border region relative to the greater US and Mexico populations. **Methods:** An interdisciplinary team at The University of Arizona developed a survey to assess knowledge, attitudes, and beliefs about antibiotics along the US–Mexico border region (defined as 100 km from the border) and to compare findings from the border region to the broader US and Mexico populations. The team recruited survey participants through Amazon's MTurk survey platform and through the distribution of recruitment flyers to community partners in Arizona and Mexico border regions from October 2020 to January 2021. Targeted recruitment was 750 through March 2021. We report here on findings from the first round of recruitment ($n = 116$). These participants were asked whether they had sought out antibiotics specifically as a treatment for COVID-19, as well as their general beliefs and behaviors on self-seeking antibiotics for illness. **Results:** As of January 24, 2021, we surveyed 116 participants: 82 (70.7%) from the United States and 34 (29.3%) from Mexico. Most participants (71.2%) were aged 25–44 years; 56.9% were male; and 50% reported Hispanic ethnicity. Of these, 13.8% lived within 100 km of the US–Mexico border. Overall, 21.6% of participants reported taking antibiotics to fight COVID-19–like illness. Of these participants, 28% obtained the antibiotics directly from a pharmacy, without a physician prescription, and 16% obtained them from an online vendor. Additionally, 33% of US respondents reported that they would be willing to travel to Mexico to obtain antibiotics if they were too difficult to obtain in the United States. Of these respondents, 55% said they would be willing to travel for >1 hour to obtain antibiotics. **Conclusions:** Preliminary data suggest that the COVID-19 pandemic will have widespread ramifications on antibiotic seeking behavior and could propagate antibiotic resistance. Targeted intervention strategies in the border region are necessary to mitigate the unique factors that contribute to antibiotic use in this area.

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Risk Factors for In-Hospital Mortality from COVID-19 Among Nursing Home Patients—An Urban Center Experience

Amit Vahia; Mamta Sharma; Leonard Johnson; Ashish Bhargava; Louis Saravolatz and Susan Szpunar

Background: As the COVID-19 pandemic continues, special attention is focused on high-risk patients. In this study, we assessed the risk factors for COVID-19 mortality in nursing home patients. **Methods:** In this retrospective cohort study, we reviewed the electronic medical records of SARS-CoV-2 PCR–positive nursing-home patients between March 8 and June 14, 2020. The primary outcome was in-hospital mortality. Risk factors were compared between those who were discharged or died using the Student t test, the Mann-Whitney U test, χ^2 analysis, and logistic regression. **Results:** Among 169 hospitalized nursing-home patients, the case fatality rate was 43.2%. The mean age was 72.3 ± 13.8 years; 92 patients (54.4%) were male; and 112 patients (66.3%) were black. Within the first day of hospitalization, 83 (49%) patients developed fever. On admission, 24 (14.2%) patients were hypotensive. Leukopenia, lymphopenia, and thrombocytopenia were present in 20 (12%), 91 (53%), and 40 (23.7%) patients, respectively. Among the inflammatory markers, elevations in CRP and ferritin levels occurred in 79% and 24%, respectively. Intensive care admission was needed for 40 patients (23.7%). Septic shock occurred in 25 patients (14.8%). Patients over the age of 70 were more likely to die than younger patients (OR, 2.2; 95% CI, 1.2–4.1; $P = .20$). Patients with a fever on admission were more likely to die than those who were afebrile (OR, 2.03; 95% CI, 1.08–3.8; $P = .03$). Also, 66.7% hypotensive patients died compared to 39.3% normotensive patients (OR, 3.1; 95% CI, 1.2–7.7

$P = .01$). Intubated patients died more often than those not intubated, 78.4% versus 33.3%, respectively (OR=7.3, $p < 0.001$, CI 3.1, 17.2). Factors significantly associated with death included higher mean qSofa ($p < 0.001$), higher median Charlson scores (0.02), thrombocytopenia ($p = 0.04$) and lymphocytopenia (0.04). From multivariable logistic regression, independent factors associated with death were Charlson score (OR=1.2, $p=0.05$), qSofa (OR=2.0, $p=0.004$), thrombocytopenia (OR = 3.0, $p = 0.01$) and BMI less than 25 (OR = 3.5, $p=0.002$). **Conclusions:** Our multivariable analysis revealed that patients with a greater burden of comorbidities, lower BMI, higher qSOFA sepsis score, and thrombocytopenia had a higher risk of death, perhaps because of severe infection despite a robust immune response.

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Linking Staff Cases in a Hospital COVID-19 Outbreak Using Electronic Tracking Data

Pragya Dhaubhadel; Margie Pace; Trina Augustine; Seth Hostetler and Mark Shelly

Background: Significant outbreaks of SARS-CoV-2 infections have occurred in healthcare personnel (HCP). We used an electronic tracking system (ETS) as a tool to link staff cases of COVID-19 in place and time during a COVID-19 outbreak in a community hospital. **Methods:** We identified SARS-CoV-2 infection cases through surveillance, case investigation and contact tracing, and voluntary testing. For those wearing ETS badges (Centrak), data were reviewed for places occupied by the personnel during their incubation and infectious windows. Contacts beyond 15 minutes in the same location were considered close contacts. **Results:** Over 6 weeks (August 10–September 14, 2020), 35 HCPs tested positive for SARS-CoV-2 by NAAT testing. In total, 18 nurses and aides were clustered on 1 hospital unit, 7 cases occurred among respiratory therapists that visited that unit, and 10 occurred in other departments. Overall, 17 individuals wore ETS badges as part of hand hygiene monitoring. ETS data established potential transmission opportunities in 17 instances, all but 2 before symptom onset or positive test result. Contacts were most often (10 of 17) in common work areas (nursing stations), with a median time of 45 minutes (IQR, 21–137). Contacts occurred within and between departments. A few COVID-19 patients were cared for in this location at the time of the outbreak. However, we did not detect HCP-to-patient nor patient-to-HCP transmission. **Conclusions:** Significant HCP-to-HCP transmission occurred during this outbreak based on ETS location. These events often occurred in shared work areas such as the nursing station in addition to break areas noted in other reports. ETS systems, installed for other purposes, can serve to reinforce standard epidemiology.

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Using a Quality-Driven Approach to Maintain an N-95 Respirator Supply During a Pandemic-Driven Global Shortage

Amy Selimos; Mark Buchanan; Lauren DiBiase; Stephen Dean; Pat Boone; Nicholas Shaheen; Emily Sickbert-Bennett Vavalle and Beth Willis

Background: Reports of hospitals overwhelmed by COVID-19 patients created severe shortages of personal protective equipment (PPE). In this large academic medical system, we used a systematic team approach to