

Background: *Candida auris* is an emerging fungus that presents a serious threat to healthcare facilities. Because Chicago is a locus of high prevalence, the Illinois Department of Public Health (IDPH) released guidelines for acute-care hospitals to screen and isolate patients who are directly admitted from either a skilled nursing or long-term acute-care facility (SNF or LTAC) with a tracheostomy or on a ventilator. This project was undertaken to evaluate applicability of IDPH criteria to our inpatient population and to develop effective tools to implement a surveillance system. **Methods:** To assess IDPH criteria, we reviewed local case epidemiology and conducted a point-prevalence survey of all inpatients on May 22, 2019. To implement a new surveillance program, we convened a multidisciplinary team to assess the functionality of the electronic health record (EHR), to create clinician education, and to develop new electronic tools. **Results:** Between June 2018 and August 2019, 20 unique *C. auris* patients were admitted to our facility, and only 2 (10%) met IDPH criteria. During the point-prevalence survey, 609 inpatients were assessed, and only 7 (1%) met IDPH criteria (Table 1). Therefore, we created a new surveillance program tailored to our local epidemiology. To do this, we convened a multidisciplinary team with representatives from infection prevention, nursing informatics, patient care, microbiology and information technology (IT). The IT build took 5 months, and the work products included a screening questionnaire integrated into the nurse admission navigator, new microbiology laboratory orders for *C. auris* culture, a new internal isolation category that we deemed “prior location-based isolation” (PLI), and an electronic report to automatically aggregate data. To streamline workflow, best-practice alerts (BPAs) were designed to automatically order isolation and laboratory tests based on responses to the admission questionnaire (Fig. 1). Additionally, tools were created catch missed opportunities for isolation and to automatically update isolation status based on final culture results. **Conclusions:** Local epidemiology must be considered when designing *C. auris* surveillance programs. Stakeholder engagement and informatics were key to successful program implementation. The EHR must be nimble to address updated recommendations for organisms of concern. Data must be continuously evaluated to measure success of a targeted screening and surveillance program.

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Implications of Oxacillin-Resistant, *mecA*-Negative *Staphylococcus aureus* Detected in NICU MRSA Surveillance Cultures

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Background: Weekly surveillance to identify neonatal intensive care unit (NICU) infants with methicillin-resistant *S. aureus* (MRSA) nasal colonization was performed using Remel Spectra MRSA chromogenic media. An increased MRSA colonization rate from baseline was detected in 2019, prompting additional review of all positive MRSA NICU screening cultures from 2019. **Methods:** A subset of 23 positive cultures were interrogated in detail. Species-level identification was confirmed using matrix-assisted laser desorption/ionization-time of flight (MALDI-TOF) with a Bruker Biotyper. Penicillin-binding protein 2a (PBP2a) testing was performed using the Alere culture colony test, and ceftiofexin and oxacillin susceptibility were assessed via Kirby-Bauer disk-diffusion methods (for the purpose of this analysis, oxacillin zone sizes ≥ 18 mm were considered susceptible). Molecular detection of *mecA* and *mecC* genes using PCR was performed. **Results:** All 23 isolates in the subset group were confirmed as *S. aureus* based on MALDI-TOF testing. Moreover, 8 isolates (35%) were confirmed as MRSA based on ceftiofexin susceptibility, positive rapid PBP2a testing, and *mecA* PCR results. Overall, 15 isolates (65%) tested ceftiofexin-susceptible and PBP2a negative with negative *mecA* and *mecC* gene testing. Of these, 1 (7%) tested oxacillin-susceptible based on disk-diffusion testing, consistent with methicillin-susceptible *S. aureus* (MSSA). The remaining 14 isolates (93%) tested oxacillin resistant based on oxacillin zone size. **Conclusions:** Our findings indicate the detection of *mecA/mecC* negative *S. aureus* isolates demonstrating oxacillin resistance and growth on Remel Spectra MRSA chromogenic media. These results have important implications for infection prevention surveillance efforts to detect MRSA and raise questions regarding optimal antibiotic therapy in patients with isolates displaying this phenotype.

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Importance of the Respiratory Tract in Carbapenemase-Producing Enterobacteriaceae Spread

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Background: Carbapenemase-producing *Enterobacteriaceae* (CPE) causes infections associated with high mortality rates among hospitalized patients. CPE transmission occurs frequently, and prevention of patient-to-patient transmission is a priority. However, transmission pathways are not yet completely understood. The colonization of the respiratory tract with a CPE may lead to a higher risk of contamination of the patient's environment increasing the spread of CPE. **Objective:** We estimated the rate of CPE spread when respiratory tract infection or colonization is present. **Methods:** We studied CPE dissemination analyzing a cohort of patients admitted between January 2013 and December 2018 at the university hospital complex of A Coruña, a tertiary-care hospital. All patients who were hospitalized in the same room as

Table 1. Suggested microbiological samples for surveillance of multidrug-resistant organisms in Spain (SEIMC)

Multidrug-resistant organisms	Rectal	Perineal	Pharyngeal	Nasal	Tracheal aspirate	Wounds	Urine
Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA)	-	+	+++	++++	+++	+++	**
Glycopeptide-resistant <i>Enterococcus</i> (VRE)	++++	++++	-	-	-	+++	**
Multidrug-resistant <i>Enterobacteriaceae</i>	++++	++++	+	-	-	+	+++
Multidrug-resistant <i>Acinetobacter</i> sp.	++++	++++	++++	-	++++	+++	+++
Multidrug-resistant <i>Pseudomonas</i> sp.	+++	+++	++++	-	++++	+++	+++

Table 2. CPE transmission from index cases with and without respiratory colonization/infection

Result	Negative respiratory sample	Positive respiratory sample	TOTAL
Negative contact patients	89.8% (44)	77.1% (27)	84.5% (71)
Positive contact patients	10.2% (5)	22.9% (8)	15.5% (13)
TOTAL	100.0% (49)	100.0% (35)	100.0% (84)

a patient colonized or infected with a CPE (index case) for at least 24 hours were screened for CPE carriage. The microbiological screening was performed with conventional culture or polymerase chain reaction (PCR) to identified possible CPE patient-to-patient transmission. The screening test included several samples: rectal swab, perineal swab, wound or drainage swab, and low respiratory tract sample. **Results:** Active screening for CPE carriage was performed in 84 contact patients. Men represent 57.1% of the sample, and the mean age was 78.5 years (men, 68.0 years and women, 80.8 years), with significant differences between sexes (-12.9 ; 95% CI, -19.6 to -6.1). The major group of cases (86.9%) were hospitalized in medical wards. Transmission confirmed by PCR occurred in 13 (15.5%) of 84 contact patients, after a mean exposure to the index case of 13.3 days. No significant differences were detected in terms of mean exposure to index cases between those contact patients who result negative and those who result positive. The 35 index cases (41.7%) tested positive for CPE on the respiratory sample, and exposure to

them led to 8 positive contact patients (61.5%). **Conclusions:** CPE transmission in a tertiary-care hospital occurred frequently. The spread rate is even higher when CPE is present at the respiratory level. Understanding the mode of spread is important for designing effective control measures and adding a respiratory sample to CPE screening could be a key consideration.

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Important but Impractical: Hand Hygiene Among Operating Room Anesthesia Providers

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Background: Use of the WHO 5 Moments of Hand Hygiene (HH) by operating room (OR) anesthesia personnel has been called by some logistically unfeasible, despite evidence that HH can reduce patients' risk of pathogen acquisition. We developed and implemented a set of 7 moments based on WHO guidance (Fig 1) with high adherence. We conducted this study 6 months later to determine whether the improvement was sustained. In addition, we sought to understand practices, beliefs, barriers, and perceptions among anesthesia providers regarding HH. **Methods:** We measured HH adherence by direct observation using locally developed 7 moments tailored to the anesthesia workflow during June–August 2019. Adherence was defined as the percentage of observed HH performed when a moment occurred. We used



Fig. 1.