

included in the PCR panel. Time to targeted therapy was significantly shorter in the PCR group compared to culture group (0 vs. 1 day, $p=0.003$). Time to de-escalation was numerically faster in the PCR compared to control group (2 vs. 3 days, $p=0.061$). Fewer PCR patients received MRSA agents (34% vs. 55%, $p=0.001$). Rates of escalation, prior antibiotic use, and adverse outcomes were similar. **Conclusion:** The BioFire FilmArray Pneumonia Panel provides faster results and may aid in optimizing therapy in pediatric patients with LRTI.

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Table 3. Antimicrobials and outcomes

Variable	Control Group (n=108)	PCR Group (n=172)	P value
Time to targeted therapy, days (IQR)	1 (0-3)	0 (0-2)	0.003
MRSA agent, n (%)	59 (55)	55 (34)	<0.001
MRSA agent duration, days (IQR)	5 (4-6)	4 (3-7.5)	0.361
Anti pseudomonal agent, n (%)	31 (28)	66 (38)	0.121
Anti pseudomonal agent duration, days (IQR)	8 (5.5-11)	9 (6-15)	0.274
Atypical agent, n (%)	4 (4)	6 (3)	1.00
Atypical agent duration, days (IQR)	6 (5-7)	5 (3-7)	0.610
Time to de-escalation, days (IQR)	3 (2-4)	2 (1-5)	0.061
Total escalation (in vitro susceptibilities, PCR, clinical change), n (%)	17 (17)	30 (17)	0.711
Escalation based on in vitro susceptibilities, n (%)	14/17 (78)	17 (57)	0.074
Escalation based on PCR, n (%)		9 (30)	
Escalation based on clinical change, n (%)	4/18 (22)	4 (13)	0.435
C. Diff infection within 90 days, n (%)	1 (1)	1 (1)	1.00
New resistance, n (%)	4 (4)	8 (5)	0.772

Detected Organisms by Culture (Figure A) / by Biofire® PCR (Figure B)

Figure A:

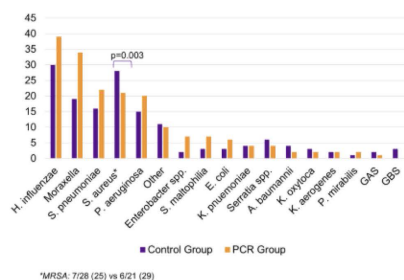
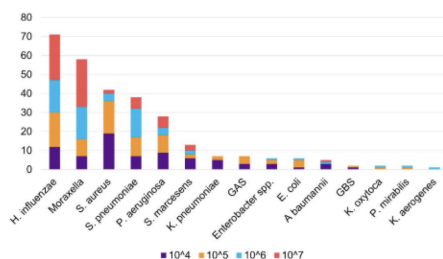


Figure B:



Presentation Type:

Oral Presentation

Subject Category: Public Health

Barriers to Patient Safety in Ambulatory Surgical Centers: Lessons Learned from an Outbreak of Mycobacterium fortuitum Joint Infections

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Background: Procedures performed at Ambulatory Surgical Centers (ASCs) have been increasing in type and volume for over a decade. Similarly, outbreaks in ASCs are increasingly detected, but ASCs face unique challenges to Infection Prevention and Control (IPC). In 2023, Tennessee state and local health departments (HDS) responded to an outbreak of 14 Nontuberculous mycobacteria (NTM) periprosthetic joint infections in an ASC, unveiling gaps in IPC practice and significant barriers to resolving them. **Method:** Cases were detected through third-party clinical laboratory reporting. HD Infection Preventionists (IPs) conducted on-site infection control assessments using qualitative observation, verbal interview, and CDC's Infection Control Assessment and Response (ICAR) and Association of periOperative Registered Nurses (AORN) checklist tools. A citizen complaint triggered an independent survey performed by the state's regulatory body. **Result:** ICAR revealed there was no Water Management Plan (WMP) for the building or ASC suite. Areas with lapses in IPC practice included aseptic technique, instrument handling, and environmental services (EVS). There was no surveillance mechanism for tracking surgical site infections. Complications were tracked via paper provider surveys but could not be produced when requested. Regulatory survey identified additional violations related to biohazardous waste and unlicensed performing of pediatric procedures.

The facility IP and the sterile processing department lacked specialized training in their respective areas. The IP had no knowledge of reportable disease requirements. The outbreak was reported by the clinical laboratory only after five cases had been detected at a separate facility where revisions were performed. **Conclusion:** Major barriers to IPC best practice included lack of subject matter expertise and the complexity of multi-stakeholder ownership and operation. A healthcare management corporation holding the facility license was responsible for ASC operations, employment of non-physician staff, and adherence to state and federal regulations. An independent orthopedic group employed surgeons, and a third healthcare system owned the building and contracted EVS. As a result, the licensee was not capable of addressing building water management, and the facility IP had no authority over EVS or the physicians' group to require complications reporting. Public health action was delayed by the ASC not reporting the outbreak, despite NTM being reportable in Tennessee. This delay was likely due to lack of knowledge around reportable diseases and poor surveillance and follow-up. Once all stakeholders met, compliance with recommended interventions improved. Public health authorities should consider supporting ASC IP education opportunities, engaging varied stakeholders during outbreaks, and enhancing surveillance within this setting.

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Early Detection of a Carbapenemase-producing organism Outbreak Using Whole Genomic Sequencing

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Background: In June of 2024 the Cincinnati Health Department Communicable Disease Prevention and Control Unit investigated an outbreak of Carbapenemase-resistant *Pseudomonas aeruginosa* (CRPA)

Verona Integron-encoded Metallo-beta-lactamase (VIM) infections at a local hospital after whole genomic sequencing (WGS) performed by the Centers for Disease Control (CDC) determined two patients had closely related infections. At the time CDC was using WGS to link CRPA infections to the multi-state outbreak associated with artificial tears. CRPA is classified as a Carbapenemase-producing organism (CPO) by the Ohio Department of Health (ODH) and is a Class B reportable disease. According to the ODH Infectious Disease Control Manual, the CPO reportable condition targets organisms that have acquired mobile genetic elements, or plasmids, carrying carbapenemase-producing genes that can be transmitted to other bacteria. CDC's WGS technology enables faster detection of healthcare-associated infection outbreaks by determining how closely the organisms are related genetically, which facilitates a faster public health response. **Method:** A line list was used to collect data extracted from the patients' medical records. The hospital was requested to forward all CRPA isolates to the state laboratory for further analysis including WGS at CDC. The facility was provided with cleaning and disinfection guidance and transmission based precaution guidance specific to CRPA. The hospital was also advised to screen roommates of the patients and those who had units in common with the patients. **Result:** Four patients, having a number of other health conditions, with ages ranging from 30-38 (median 35.5) who were hospitalized at the same facility between March and September of 2024 were determined to have closely related CRPA VIM infections through WGS. Their infections were not closely related to the artificial tears-associated outbreak. There were procedural, staff, and potential equipment overlaps found between cases 1 and 2 including Ultrasound-guided ART line and midline performed on consecutive days, and Echo/TTE performed on the same day by the same provider. Cases 3 and 4 had hospital units in common with cases 1 and 2. 50% of cases had gaps in transmission-based precautions. 50% of patients died. One patient was homeless. The hospital did not perform the recommended screenings. **Conclusion:** The detection of two closely related CRPA VIM cases in a hospital through WGS allowed public health responders to quickly identify an outbreak and work closely with the facility in order to implement organism specific infection control measures that helped contain the spread of an insidious healthcare-associated infection to a total of four cases over six months. The outbreak was determined to be over when no new infections were detected for a period of four weeks.

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Tele-ID Consultation is Associated with Receipt of Standard of Care and Decreased Mortality in Staphylococcus Aureus Bacteremia

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Background: Most people in the US lack access to infectious disease (ID) expertise, with 80% of counties lacking an ID physician. This is problematic as in-person ID consultation has been shown to improve clinical outcomes such as mortality with certain invasive infections, with Staphylococcus aureus bacteremia (SAB) as the paradigm. Telemedicine consultation has emerged as a tool to expand access in rural and underserved communities though its impact on clinical outcomes is less well established. This study characterizes the impact of a Tele-ID program in improving care for patients with SAB at a network of academic-affiliated rural hospitals

	No Consultation (n = 47)	Tele-ID consultation (n = 75)	Total (n = 122)	P value
Vanderbilt campus				
Tullahoma	33 (70%)	15 (20%)	48 (39%)	
Bedford	0 (0%)	6 (8%)	6 (5%)	
Wilson County	14 (30%)	54 (72%)	68 (56%)	
Age – Median (Q1, Q3)	70 (60, 80)	67 (57, 74.5)	68 (57.25, 76)	.31
BMI – Median (Q1, Q3)	27.54 (23.73, 30.25)	26.35 (22.23, 32.92)	26.67 (23.04, 31.75)	.86
Non-white Race	2 (4%)	7 (9%)	9 (7%)	.30
Charlson comorbidity index	2 (2,4)	3 (2,4)	3 (2,4)	.19
IVDU	1 (2%)	2 (3%)	3 (3%)	.86
ESRD on RRT	0 (0%)	15 (20%)	15 (12%)	< .01
Indwelling Hardware	10 (21%)	42 (56%)	52 (43%)	< .01
Uninsured	5 (11%)	7 (9%)	12 (10%)	.83

	No Consultation (n = 47)	Tele-ID Consultation (n = 75)	Total (n = 122)	P value
MRSA	24 (51%)	48 (64%)	72 (59%)	.16
Location of Acquisition				.82
Community	40 (85%)	61 (81%)	101 (83%)	
Care facility	5 (11%)	9 (12%)	14 (11%)	
Hospital	2 (4%)	5 (7%)	7 (6%)	
Bacteremia duration – Median (Q1, Q3)	3 (2, 4)	3 (2, 4.75)	3 (2, 4)	.93
Persistent bacteremia	13 (42%)	28 (40%)	41 (41%)	.86
Uncomplicated SAB	10 (21%)	18 (24%)	28 (23%)	
Time to ID Consultation – median days (Q1, Q3)	NA	4 (2.5, 5)		
Time to first source control procedure – Median days (Q1, Q3)	2 (1, 2)	2 (1, 3)	2 (1, 3)	.62
Initially Admitted to ICU	11 (26%)	24 (32%)	35 (30%)	.51
ICU Transfer	3 (10%)	5 (10%)	8 (10%)	.99
Length of stay – Median days (Q1, Q3)	6 (4, 9)	9 (6, 13.5)	7 (5, 12)	< .01
Salvage Therapy	0 (0%)	9 (12%)	9 (7%)	< .01
Antibiotic Adverse Event	0 (0%)	3 (4%)	3 (2%)	.17

that do not have access to in-person ID consultation. **Methods:** This was a retrospective cohort study of patients with SAB who were initially evaluated at 3 academic-affiliated rural hospitals between 7/1/22 and 6/30/24. A cohort of patients who received a Tele-ID consult was compared against a cohort that did not. The primary outcome was adherence to the standard of care for SAB, defined as documentation of clearance of blood cultures, receipt of an echocardiogram, and receipt of an appropriate course of antibiotics. Secondary outcomes included clinical outcomes such as mortality and readmission rates. **Results:** A total of 260 discrete episodes of SAB were screened for inclusion, with 122 episodes meeting inclusion criteria. Seventy five patients (61.5%) who received a Tele-ID consult were compared against 47 patients (38.5%) who did not. Patient characteristics were overall similar in these groups, though those receiving Tele-ID consultation were more likely to have end-stage renal disease (15% vs 0%, $p < .01$) and indwelling hardware (56% vs 21%, $p < .01$). Tele-ID consultation was associated with a higher likelihood of receiving standard of care for