

in 508 patients (12.3%) in the preintervention group and in 319 patients (12.6%) in the postintervention group. In individuals with penicillin allergy, cefazolin prescribing increased from 49.6% to 74.3% ( $P < .01$ ) and vancomycin prescribing decreased from 50.4% to 25.7% ( $P < .01$ ). The largest changes occurred in patients undergoing cardiac, spinal, neurological, and vascular procedures. For patients without penicillin allergy, prescribing remained unchanged. Overall, cefazolin prescribing increased from 92.0% to 95.0% ( $P < .01$ ), and the rate of vancomycin prescribing decreased from 8.0% to 5.0% ( $P < .01$ ) in procedures for which cefazolin was preferred. **Conclusions:** Following the suppression of EMR alerts for non-IgE-mediated allergies when ordering cephalosporins, penicillin prescribing rates of cefazolin for surgical infection prophylaxis improved significantly in procedures for which it was the preferred agent. Further research on infection rates and adverse events with these and other alternative agents are needed.

**Disclosures:** None

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#### Presentation Type:

Poster Presentation - Poster Presentation

**Subject Category:** Surveillance/Public Health

#### Assessment of carbapenem-resistant *Acinetobacter baumannii*-colonized patients: Which specimens produce the highest yield?

Casey Morrell; Kristina McClanahan; Lauren Daniel; James Burks; Argentina Charles; Ashley Marin; Jeanne Negley; Melanie Roderick and Carolyn Stover

**Background:** Carbapenem-resistant *Acinetobacter* (CRA) bacteria are an urgent public health threat. Accurate and timely testing of CRA is important for proper infection control practices to minimize spread. In 2017, the CDC estimated 8,500 CRA cases among hospitalized patients, 700 deaths, and \$281 million in attributable healthcare costs. Treatment options are extremely limited for carbapenem-resistant *Acinetobacter baumannii* (CRAB) infections, making CRAB a unique concern. Colonization screening is a valuable tool for containment but requires sampling of 4 body sites. Identifying a reliable specimen collection site for CRAB is important to inform public health recommendations as screening can cost healthcare facilities valuable time and resources. **Methods:** Results of all screening specimens of patients with at least 1 site positive for CRAB on a unique collection date were extracted from the Southeast Regional data of Antimicrobial Resistance Lab Network (SEARLN) data. Non-CRAB screening and screenings that did not yield at least 1 positive result on a single collection date were excluded. We also limited our data to include only the following screening sites, which have been validated by the Tennessee Department of Health's State Public Health Laboratory: axilla and groin, rectal, sputum, and wound. For each specimen source, we calculated the percentage of positive specimen among CRAB-colonized patients. Data were extracted and analyzed using SAS version 9.4 software. **Results:** The SEARLN data contained 594 CRAB screening specimens collected over 4 years, 2018 through 2021, and 486 of those specimens yielded CRAB. For CRAB-colonized patients screened in this study, wound specimens had the highest positivity rate at 93.4% (95% CI, 89.9%–96.9%) of samples culturing CRAB. Sputum followed at 87.7%, then axilla and groin at 77.6% and rectal at 59.7%. **Conclusions:** Wound specimens produced the highest proportion of positive cultures among CRAB-positive patients, making them the sample type with the highest prevalence in our study. For healthcare facilities with limited time and resources seeking to optimize their CRAB screening process, wound specimens may be the most reliable single site for detecting CRAB colonization in patients with an open wound. When a wound is not present, sputum may be a good alternative single-source collection site. More research should be conducted before CRAB screening recommendations are updated.

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#### Presentation Type:

Poster Presentation - Poster Presentation

**Subject Category:** Surveillance/Public Health

#### *Candida auris* screening practices at healthcare facilities in the United States: A survey of the Emerging Infections Network

Ian Hennessee; Kaitlin Forsberg; Susan E. Beekmann; Philip Polgreen; Jeremy Gold and Meghan Lyman

**Background:** *Candida auris*, an emerging fungal pathogen, is frequently drug resistant and spreads rapidly in healthcare facilities. Screening to identify patients colonized with *C. auris* can prevent further spread by prompting aggressive infection prevention and control measures. The CDC recommends *C. auris* screening based on local epidemiological conditions, patient characteristics, and facility-level risk factors; such screening might help facilities in higher burden areas to mitigate transmission and those in lower-burden areas to detect new introductions before spread begins. To describe US screening practices and challenges, we surveyed a network of infection disease practitioners, comparing responses by local *C. auris* case burdens. **Methods:** In August 2022, we emailed a survey about *C. auris* screening practices to ~3,000 members of the IDSA Emerging Infection Network. We describe survey results, stratifying findings by whether the healthcare facility was in a region where *C. auris* is frequently identified (tier 3 facility) or not frequently identified (tier 2 facility), based on CDC assessment using existing multidrug-resistant organism containment guidance (<https://www.cdc.gov/hai/containment/guidelines.html>). **Results:** We received 253 responses (tier 3 facilities: 119, tier 2 facilities: 134); overall, 37% performed screening. Tier 3 facilities more frequently performed screening than tier 2 facilities (59% vs 17%). Among facilities that performed screening, tier 3 facilities, compared with tier 2 facilities, more frequently screened patients on admission (84% vs 55%) and used an in-house laboratory for testing (68% vs 29%), most often with culture-based methods. Tier 2 facilities more frequently screened patients already admitted in the facility (eg, in response to cases or as part of point-prevalence surveys) compared with tier 3 facilities (59% vs 49%). Among facilities performing screening, 72% had identified  $\geq 1$  case in the previous year (tier 3 facilities, 85%; tier 2 facilities, 33%). Barriers to screening included limited laboratory capacity, long testing turnaround times, and the perception that screening was not useful. **Conclusions:** Most facilities surveyed did not perform *C. auris* screening. However, most facilities that performed screening, including those in regions of higher and lower *C. auris* burden, detected cases during the previous year. Admission screening, which might help detect new introductions before spread begins, was uncommon in facilities in lower-burden areas. Improving ease of *C. auris* screening through access to in-house laboratory testing with rapid turnaround times might increase the adoption of *C. auris* screening by facilities, thereby increasing detection and preventing spread.

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#### Presentation Type:

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**Subject Category:** Surveillance/Public Health

#### Contact tracing using a real-time location system in a tertiary-care hospital in Singapore

Guan Yee Ng and Biau Chi Ong

**Background:** Densely populated metropolitan cities like Singapore are susceptible to emerging infectious disease (EID) outbreaks. Singapore's pandemic control measures include running biennial simulation exercises for all public hospitals on EID case management, in which a key assessment

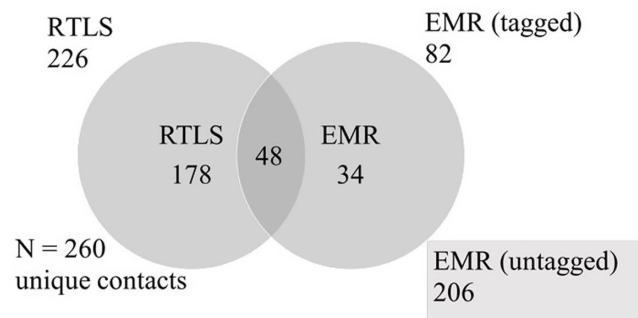
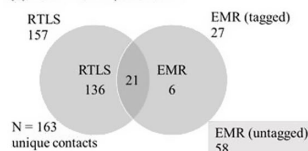
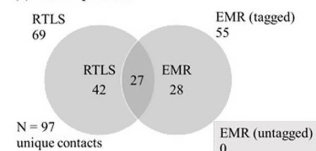
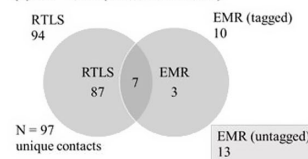
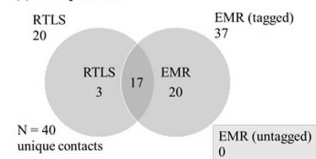
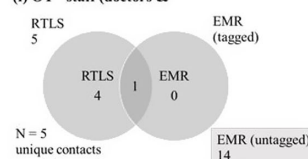
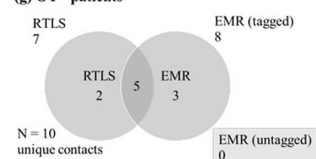
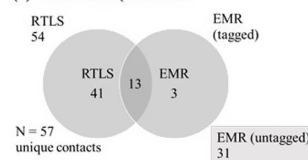
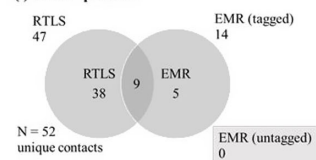
RTLS				EMR			
Process	<sup>a</sup> Elapsed time (h)	<sup>b</sup> Manpower required	Manpower-hours required (h)	Process	<sup>a</sup> Elapsed time (h)	<sup>b</sup> Manpower required	Manpower-hours required (h)
Index case identified	0	0	0.0	Index case identified	0	0	0.0
Activity map: Generate activity map via SmartSense	0.1	1	0.1	Activity map: SAP check (hospital registration system)	0.1	1	0.1
Activity map: Sort data and fill of MOH activity map template	0.5	1	0.4	Activity map: Contact OT (OT journey)	0.5	1	0.4
				Activity map: SCM check (EMR)	0.6	1	0.6
				Activity map: Contact ED (ED journey)	0.8	1	0.3
				Activity map: Verify data and fill of MOH activity map template	1.5	2	0.8
Contact list: Generate contact list via SmartSense	0.6	1	0.1	Contact list: Contact MI (list of exposed patients)	1.7	1	0.2
				Contact list: Email all stakeholders - ED, OT, Ward, AHP (13 dept), Anc staff (5 dept)	1.9	1	1.1
Contact list: Review and sort contact tracing data, and fill MOH contact list template	0.9	1	0.3	Contact list: Contact AVMS (list of exposed visitors)	2.2	2	0.4
	<sup>a</sup> 0.9	<sup>b</sup> 1	0.9	Contact list: Sort MI data (list of exposed patients)	3.9	1	0.2
Downstream Departments		Manpower required	Manpower-hours required (h)	Contact list: Contact IHIS (author list of EMR)	4	1	0.2
				Contact list: Sort IHIS data (author list of EMR)	7.2	1	0.5
				Contact list: Compile data, call and clarify non-response / missing data, and fill MOH contact list template	23.7	2	12.0
					<sup>a</sup> 23.7	<sup>b</sup> 2	16.4
None		0	0.0	Downstream Departments		Manpower required	Manpower-hours required (h)
				Emergency Department		1	1.3
				Operating Theatre		1	1.0
				Ward 19		1	1.0
				Management Information - eHins		1	0.5
				AVMS dept		4	2.5
				Integrated Health Information Systems		2	1.5
				Audiology		1	0.2
				Clinical Measurement Centre		1	0.1
				Dietetics		1	0.1
				Medical Social Services		1	0.2
				Occupational Therapy		1	0.3
				Pathology		1	0.1
				Pharmacy		2	0.7
				Physiotherapy		3	1.2
				Podiatry		2	0.5
				Psychology		1	0.3
				Radiology		1	0.5
				Respiratory Therapy		1	0.8
				Speech Therapy		1	0.2
				Environmental Services		6	1.8
				Facilities Management & Engineering		1	2.0
				General Services		2	1.2
				Materials Management		1	0.8
				Security		3	0.3
						40	18.9
	<sup>a</sup> 0.9	<sup>b</sup> 1	0.9		<sup>a</sup> 23.7	<sup>b</sup> 42	35.3
Total	<sup>a</sup> 0.9	<sup>b</sup> 1	0.9	Total	<sup>a</sup> 23.7	<sup>b</sup> 42	35.3
Decrease over EMR (%)	96.2	97.6	97.5				

<sup>a</sup> Elapsed time refers to the amount of time that has passed since the start of the exercise at the point of completion of a process, hence the total elapsed time is not a simple sum of the above cells.

<sup>b</sup> Manpower required is the number of staff it took to perform the process. Many of the processes were performed by the same staff and hence the total manpower required is not a simple sum of the above cells.

criterion is contact tracing. Current methods of contact tracing that involve retrospective review of the electronic medical record (EMR) are time-consuming and heavily manpower dependent, and they fail to capture a significant number of contacts. A real-time location system (RTLS) was accurate and effective in contact tracing. We compared the time taken to perform contact tracing and list of contacts identified for RTLS versus EMR, and we compared manpower and manpower hours required to perform contact tracing for RTLS versus EMR. Then we extrapolated the cost incurred by RTLS versus EMR. **Methods:** A prospective case study was conducted during a simulation exercise to determine and compare the list

of contacts, time required, manpower required, and manpower hours required between RTLS and EMR. The costs of both methods were also compared. **Results:** RTLS identified almost 3 times more contacts than EMR (Fig. 2) with a 96.2% reduction in time taken, a 97.6% reduction in manpower, and a 97.5% reduction in manpower hours (Fig. 1). RTLS incurred significant equipment cost and therefore might require many contact-tracing episodes before providing economic benefit (Fig. 3). However, its speed and accuracy provided during contact tracing will allow the hospital to quickly isolate potentially exposed contacts, reducing the number of infected people during the spread of an infectious disease,

**(a) Total - staff & patients****(b) Total - staff (doctors & nurses)****(c) Total - patients****(d) ED - staff (doctors & nurses)****(e) ED - patients****(f) OT - staff (doctors & nurses)****(g) OT - patients****(h) Ward - staff (doctors & nurses)****(i) Ward - patients**

Cost	RTLS	EMR
<sup>a</sup> Equipment cost (for first three years)	\$653,594	\$0
<sup>b</sup> Manpower cost (for each contact tracing episode)	\$62	\$2,125
<b>Case scenarios</b>		
36 contact tracing episodes in 3 years	\$655,826	\$76,500
156 contact tracing episodes in 3 years	\$663,266	\$331,500
317 contact tracing episodes in 3 years	\$673,248	\$673,625

<sup>a</sup> Equipment cost (RTLS) = cost of RTLS platform + cost of staff tags

<sup>b</sup> Manpower cost = (manpower-hours of Staff 1 \* norm cost of Staff 1) + (manpower-hours of Staff 2 \* norm cost of Staff 2) + ... + (manpower-hours of Staff N \* norm cost of Staff N)

particularly one like COVID-19. **Conclusions:** Albeit costly, RTLS is effective at contact tracing. RTLS has the potential to be the gold standard in contact-tracing methods of the future, particularly considering the current pandemic.

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**Subject Category:** Surveillance/Public Health

**Colonization screening positivity rates for novel multidrug-resistant organism healthcare containment responses during 2019–2022**

Danielle Rankin; Lucas Ochoa; Guillermo Sanchez; Kaitlin Forsberg; Meghan Lyman; Nijika Shrivastwa and Maroya Walters

**Background:** The CDC recommends a public health response when novel and targeted multidrug-resistant organisms (nMDROs), such as carbapenem-resistant organisms or *Candida auris*, are identified in healthcare settings in nonendemic areas. nMDRO responses are supported by healthcare-associated infection-antimicrobial resistance programs in 50 state and 6 local and territorial health departments. Annually, health departments report nMDRO responses to the CDC. We summarize nMDRO responses nationally and report our assessment of colonization screening positivity rates by healthcare setting and pathogen. **Methods:** We analyzed nMDRO response data reported by health departments for the period August 2019–July 2021; we excluded prevention efforts (ie, widespread screening based on facility-level risk factors). Among nMDRO responses in which colonization screening was performed, we calculated the proportion of responses in which screening detected additional cases of the index nMDRO and the colonization screening positivity, by healthcare setting and pathogen. **Results:** Among 2,051 nMDRO responses, 732 (36%) had  $\geq 1$  colonization screening (representing 44,845 colonization screenings), of which 24 (representing 17,467 colonization screenings) were prevention efforts and were excluded. Among the remaining 708 nMDRO responses, the healthcare setting most frequently included was acute-care hospitals (ACHs; 337 of 708, 48%); the least frequently included was long-term ACHs (LTACHs; 83 of 708, 12%). Carbapenem-resistant Enterobacterales were the most common index nMDRO prompting a response (408 of 708, 58%). Screening identified additional cases of the index nMDRO in 248 responses (35%) and 2,378 (9%) of 27,378 colonization screenings. Identification of the index nMDRO varied by pathogen and setting (Fig. 1). Overall, ventilator-capable skilled nursing facilities (vSNFs) were the facility type in which

