

colonization screening most frequently identified additional cases of the index nMDRO (63 of 92 responses, 63%), and LTACHs had the highest colonization screening positivity (750 of 5,798, 13%). Similar colonization screening positivity was observed in ACHs (9%) and vSNFs (8%). On average, *Candida auris* and carbapenem-resistant *Acinetobacter baumannii* (CRAB) had the highest colonization screening positivity rates across all healthcare settings: CRAB, 493 (12.6%) of 3,907 screened; *Candida auris*, 1,344 (11.7%) of 11,466 screened (Fig. 1B). More than one-half of responses identified ≥1 case of the index nMDRO. **Conclusions:** During public health nMDRO responses, additional cases were regularly identified through colonization screening. Responses in vSNFs and LTACHs and to environmental pathogens like *Candida auris* and CRAB detected additional cases in more than one-half of responses, suggesting that spread commonly occurred prior to detection of the first clinical case. The use of colonization screening is an effective strategy to detect unidentified nMDRO colonization, especially in high-acuity postacute-care settings.

**Disclosures:** None

*Antimicrobial Stewardship & Healthcare Epidemiology* 2023;3(Suppl. S2):s101–s102  
doi:10.1017/ash.2023.373

**Presentation Type:**

Poster Presentation - Poster Presentation

**Subject Category:** Surveillance/Public Health

**Use of contact precautions for multidrug-resistant organisms and the impact of the COVID-19 pandemic: An Emerging Infections Network (EIN) survey**

Jessica Howard-Anderson; Lindsey Gottlieb; Susan E. Beekmann; Philip Polgreen; Jesse T. Jacob and Daniel Z. Uslan

**Background:** The CDC recommends routine use of contact precautions for patients infected or colonized with multidrug-resistant organisms (MDROs). There is variability in implementation of and adherence to this recommendation, which we hypothesized may have been exacerbated by

**Table 1:** Characteristics of the 283 EIN Survey Respondents

Characteristic	No. (%)
<b>Field of practice</b>	
Adult infectious diseases	226 (80)
Pediatric infectious diseases	57 (20)
<b>Region</b>	
Northeast U.S.	66 (23)
Midwest U.S.	75 (27)
South U.S.	72 (25)
West U.S.	67 (24)
Canada and Puerto Rico	3 (1)
<b>Years' experience since ID fellowship</b>	
<5	43 (15)
5-14	66 (23)
15-24	59 (21)
≥25	115 (41)
<b>Primary hospital type</b>	
Community	67 (24)
Non-university teaching	83 (29)
University	102 (36)
VA hospital or DOD	15 (5)
City/county	15 (5)
Outpatient only	1 (0.4)

**Table 2:** Proportion of facilities routinely using contact precautions (CP) and active surveillance testing for select multidrug-resistant organisms

Organism	No. (%) of respondents whose facility routinely uses CP for these organisms		No. (%) of respondents whose facility routinely performs active surveillance for these organisms	
	2014 survey (n = 336)	2022 survey (n = 201)	2014 survey (n = 336)	2022 survey (n = 201)
MRSA	337 (93)	133 (66)	272 (81)	109 (54)
VRE	335 (92)	138 (69)	114 (34)	28 (14)
<i>Candida auris</i>	N/A	194 (97)	N/A	48 (24)
CRE	N/A	200 (99)	N/A	43 (22)
CRAB	N/A	178 (91) <sup>a</sup>	N/A	N/A
CRPA	N/A	163 (85) <sup>b</sup>	N/A	N/A
ESBL-producing organisms	N/A	140 (71) <sup>a</sup>	N/A	N/A

N/A indicates the organism was not asked about in this question/survey

Abbreviations: MRSA, methicillin-resistant *Staphylococcus aureus*; VRE, vancomycin-resistant Enterococci; CRE, carbapenem-resistant Enterobacterales; CRAB, Carbapenem-resistant *Acinetobacter* spp; CRPA, Carbapenem-resistant *Pseudomonas aeruginosa*; ESBL, extended-spectrum beta-lactamase

- a. Question answered by 196 participants
- b. Question answered by 192 participants

**Table 3:** Duration of contact precautions employed for patients once identified to have select multidrug-resistant organisms

Organism	No. (%) of respondents			
	Indefinitely once positive	Until cleared or decolonized	For one year after last positive culture	For specific inpatient encounter only
CRE <sup>a</sup>	97 (51)	50 (26)	30 (16)	21 (11)
<i>Candida auris</i> <sup>b</sup>	117 (62)	32 (17)	16 (8)	16 (8)
MRSA <sup>b</sup>	11 (6)	73 (38)	25 (13)	34 (18)
VRE <sup>c</sup>	21 (11)	53 (29)	3 (16)	28 (15)

Participants instructed to select all that apply for this question so percentages may sum up to more than 100%.

Abbreviations: MRSA, methicillin-resistant *Staphylococcus aureus*; VRE, vancomycin-resistant Enterococci; CRE, carbapenem-resistant Enterobacterales

- a. Question answered by 191 participants
- b. Question answered by 190 participants
- c. Question answered by 183 participants

the COVID-19 pandemic. **Methods:** In September 2022, we emailed an 8-question survey to Emerging Infections Network (EIN) physician members with infection prevention and hospital epidemiology responsibilities. The survey asked about the respondent's primary hospital's recommendations on transmission-based precautions, adjunctive measures to reduce MDRO transmission, and changes that occurred during the COVID-19 pandemic. We sent 2 reminder emails over a 1-month period. We used descriptive statistics to summarize the data and to compare results to a similar EIN survey (n = 336) administered in 2014 (Russell D, et al. doi:10.1017/ice.2015.246). **Results:** Of 708 EIN members, 283 (40%) responded to the survey, and 201 were involved in infection prevention. Most respondents were adult infectious diseases physicians (n = 228, 80%) with at least 15 years of experience (n = 174, 63%). Respondents were well distributed among community, academic, and nonuniversity teaching facilities (Table 1). Most respondents reported that their facility routinely used CP for methicillin-resistant *Staphylococcus aureus* (MRSA, 66%) and vancomycin-resistant *Enterococcus* (VRE, 69%), compared to 93% and 92% respectively, in the 2014 survey. Nearly all (>90%) reported using contact precautions for *Candida auris*, carbapenem-resistant Enterobacterales (CRE), and carbapenem-resistant *Acinetobacter* spp, but there was variability in the use of contact precautions for carbapenem-resistant *Pseudomonas aeruginosa* and extended-spectrum β-lactamase-producing gram-negative organisms. In 2014, 81% reported that their hospital performed active surveillance testing for MRSA, and in 2022 this rate fell to 54% (Table 2). The duration of contact precautions varied by MDRO (Table 3). Compared to 2014, in 2022 facilities were less likely to use contact precautions indefinitely for MRSA (18% vs 6%) and VRE (31% vs 11%). Also, 180 facilities (90%) performed chlorhexidine bathing in at least some inpatients and 106 facilities (53%) used ultraviolet light or hydrogen peroxide vapor disinfection at discharge in some rooms. Furthermore, 89 facilities (44%) reported institutional changes to contact precautions policies after the start of the COVID-19 pandemic that remain in place.

**Conclusions:** Use of contact precautions for patients with MDROs is heterogeneous, and policies vary based on the organism. Although most hospitals still routinely use contact precautions for MRSA and VRE, this practice has declined substantially since 2014. Changes in contact-precaution policies may have been influenced by the COVID-19 pandemic, and more specifically, contemporary public health guidance is needed to define who requires contact precautions and for what duration.

**Disclosures:** None

*Antimicrobial Stewardship & Healthcare Epidemiology* 2023;3(Suppl. S2):s102-s103  
doi:10.1017/ash.2023.374

**Presentation Type:**

Poster Presentation - Poster Presentation

**Subject Category:** Surveillance/Public Health

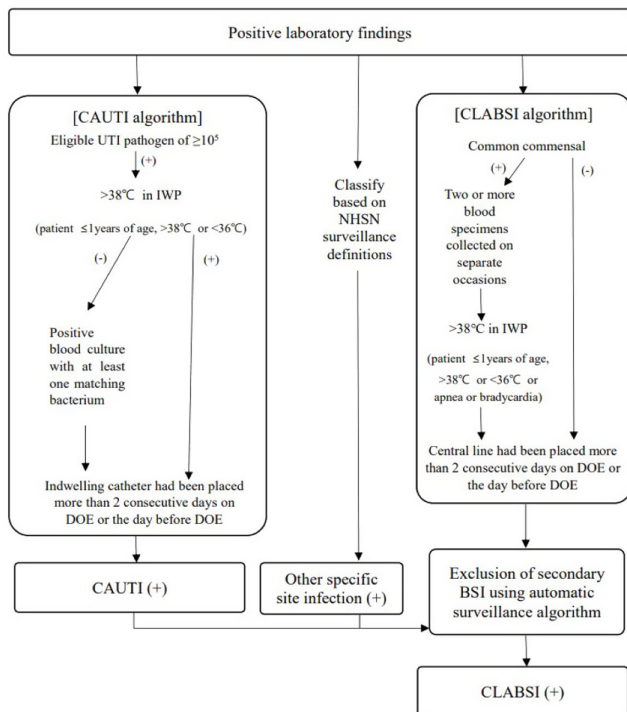
**Validation of automated surveillance of healthcare-associated infections using electronic screening algorithms**

Hyunju Lee; Seunghee Ryu; Hyejin Yang; Jeongyoung Lee; Soyeon Park; Eun Ok Kim; Jiwon Jung and Sung-Han Kima

**Background:** Surveillance of healthcare-associated infection (HAI) is the basis of infection prevention programs. However, manual review of medical records is a labor-intensive and time-consuming process. We evaluated the diagnostic performance of automated surveillance of HAI using electronic screening algorithms. **Methods:** Between April and June 2022, we conducted surveillance of HAI manually and automatically using electronic screening algorithm on 75 units (general medical and surgical wards and ICUs) in a 2,700-bed, tertiary-care hospital in South Korea. Algorithms for surveillance of HAI were developed accordance with NHSN surveillance definitions (Fig. 1). Catheter-associated urinary tract

**Figure 1. Algorithm for surveillance of healthcare-associated infection (HAI).**

CAUTI, Catheter-associated urinary tract infection; NHSN, National Healthcare Safety Network; CLABSI, Central line-associated Bloodstream Infection; SBAP, Secondary Bloodstream Infection Attribution Period; IWP, Infection Window Period; DOE, Day of Event;



**Table 1. Sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) of algorithms for electronic screening of catheter-associated urinary tract infection (CAUTI) and central line-associated bloodstream infection (CLABSI).**

CAUTI		Manual surveillance		
		(+)	(-)	Total
Automated surveillance	(+)	78	0	78
	(-)	1	2,443	2,444
	<b>Total</b>	79	2,443	2,522
<b>Sensitivity</b>		98.7% (78/79; 95% CI, 93.2%-99.9%)		
<b>Specificity</b>		100.0% (2,443/2,443; 95% CI, 99.9%-100%)		
<b>PPV</b>		100.0% (78/78)		
<b>NPV</b>		100.0% (2,443/2,444; 95% CI, 99.7%-100.0%)		
CLABSI		Manual surveillance		
		(+)	(-)	Total
Automated surveillance	(+)	214	102	316
	(-)	6	5,759	5,765
	<b>Total</b>	220	5,861	6,081
<b>Sensitivity</b>		97.3% (214/220; 95% CI, 94.2%-98.9%)		
<b>Specificity</b>		98.3% (5,759/5,861; 95% CI, 97.9%-98.6%)		
<b>PPV</b>		67.7% (214/316; 95% CI, 63.4%-71.8%)		
<b>NPV</b>		99.9% (5,759/5,765; 95% CI, 99.8%-99.6%)		

infections (CAUTIs) were automatically detected when eligible pathogen and fever (>38°C) were matched within infection window period. Other specific types of infection were automatically classified based on laboratory results that met NHSN criteria. After the algorithm showed possible cases that met laboratory-confirmed bloodstream infection (LCBI) criteria, we excluded secondary BSIs using the automatic surveillance algorithm. We analyzed sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) for the automated surveillance system compared to manual surveillance. **Results:** An algorithm for detecting CAUTI showed 98.7% sensitivity (78 of 79), 100.0% specificity (2,443 of 2,443), 100.0% PPV (78 of 78), and 100.0% NPV (2,443 of 2,444). For CLABSI, the algorithm had 97.3% sensitivity (214 of 220), 98.3% specificity (5,759 of 5,861), 67.7% PPV (214 of 316), and 99.9% NPV (5,759 of 5,765). In total, 102 cases of possible CLABSI were identified by the algorithm, and 76 (74.5%) were eventually diagnosed as secondary BSIs. Also, by chart review, 20 BSIs (19.6%) were present on arrival in ER (ER-POA). In 4 cases (3.9%), an original pathogen reoccurred in a repeated infection timeframe (RIT), and 2 cases (2%) were mucosal barrier injury-LCBI (MBI-LCBI). When we additionally performed manual surveillance for intra-abdominal infection secondary BSI, ER-POA, and assigning pathogen to original BSI in RIT, PPV increased to 87.7% (214 of 244). **Conclusions:** Algorithm for automated surveillance of CAUTI had good performance; however, automated surveillance of CLABSI was suboptimal. More elaborate screening algorithm for diagnosis CLABSI is needed, and further studies are needed to determine whether an automated surveillance system can reduce workload for surveillance of HAI.

**Disclosures:** None

*Antimicrobial Stewardship & Healthcare Epidemiology* 2023;3(Suppl. S2):s103  
doi:10.1017/ash.2023.375

**Presentation Type:**

Poster Presentation - Poster Presentation

**Subject Category:** Surveillance/Public Health

**Risk factors for the transmission of *Clostridioides difficile* or methicillin-resistant *Staphylococcus aureus* in acute care**

Xuetao Wang; Matthew Garrod; Tamara Duncombe; Eunsun Lee and Katy Short and Joyce Ng

**Background:** Some hospitals continue to struggle with nosocomial transmission of *Clostridioides difficile* infection (CDI) and methicillin-resistant *Staphylococcus aureus* (MRSA) despite years of infection control efforts. We investigated the relationship between unit infrastructural-