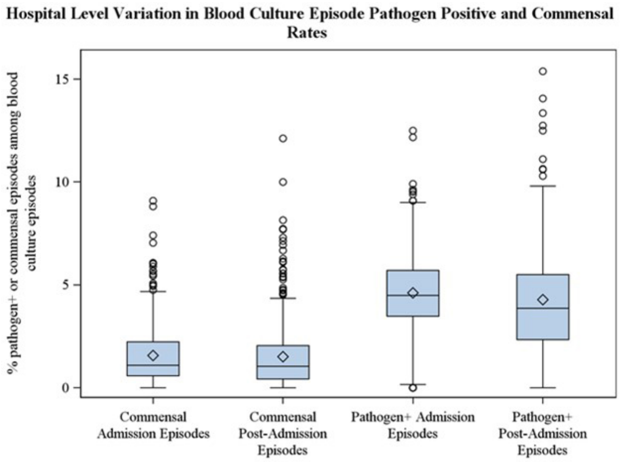
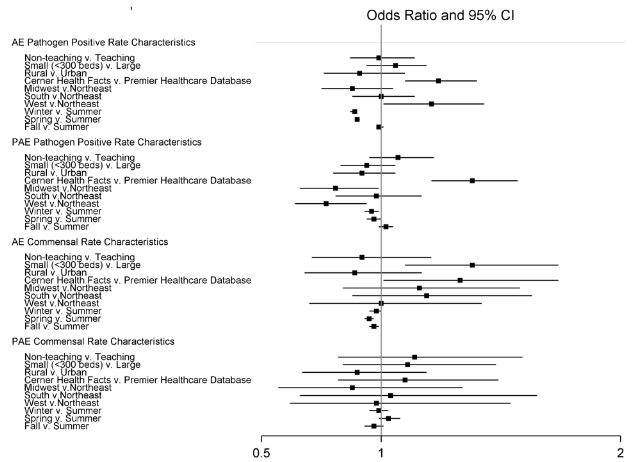


Adjusted Odds Ratios and 95% Confidence Intervals of Blood Culture Episode Positive (Non-Commensal) and Commensal Rates and Associated Characteristics



Conclusion. While an increase AE pathogen+ rates and decrease in commensal rates could indicate improved culture ordering and collection practices, significant seasonal, regional, and facility-level variability calls for further investigation.

Disclosures. **John A. Jernigan, MD, MS**, Nothing to disclose

90. Impact of Infection Control Assessment and Response (ICAR) Visit on *Candida auris* Colonization Rates at Seven Long Term Acute Care Hospitals (LTACH) in Los Angeles County

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Session: O-19. Infection Control and Stewardship Challenges in Diverse Settings

Background. Public health authorities often use Infection Control Assessment and Response (ICAR) visits during *Candida auris* (*C. auris*) outbreak investigation to identify facility-level infection prevention and control (IPC) practice gaps and make recommendations to address those gaps. As an adjunct to ICAR visit, point prevalence surveys (PPS) provide an objective measure to determine if IPC recommendations are implemented. Because they require significant public health resources to perform, we evaluated the impact of ICAR visits on *C. auris* colonization rates.

Methods. PPS were conducted at seven long-term acute-care hospitals (LTACH) with *C. auris* outbreaks in Los Angeles County from July 2020 to May 2021. Skin swabs collected at PPS were tested for *C. auris* colonization by PCR technique. Pre-ICAR PPS results were compared with the average of two serial post-ICAR PPS results using repeated measures ANOVA test. Linear regression was used to estimate associations between individual ICAR domains and *C. auris* colonization.

Results. 54 PPS were conducted at seven LTACHs with at least one ICAR visit made for every two PPS. On average, PPS were conducted 14 days (range 1-15 days) before and 10 days (range 4-33 days) after an ICAR visit. PPS positive rates with ICAR visit dates for each LTACH are shown in figure 1. Overall, ICAR visits were associated with a significant decrease (p=0.035) in the average of the positive rates in two serial post-ICAR PPS. When individual domain (hand hygiene, contact precautions, and environmental disinfection) of ICAR tool was analyzed, only adherence to environmental disinfection was significantly associated (p=0.038) with decrease in *C. auris* colonization rates. There was a moderate negative correlation ($R^2 = 0.26$, $\beta = -0.33$) between environmental disinfection adherence and the magnitude of decrease in the colonization rates across all LTACHs (Figure 2).

Figure 1

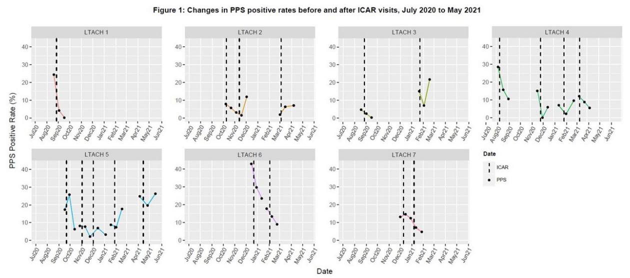
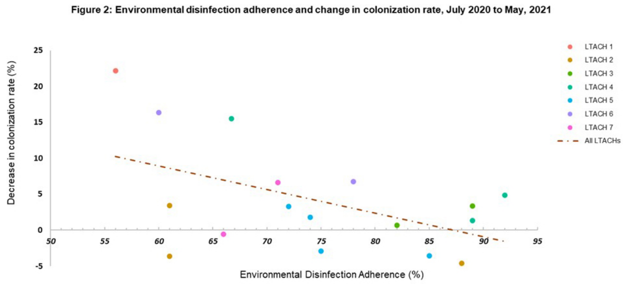


Figure 2



Conclusion. ICAR visits were found to be significantly associated with a decrease in the average PPS positive rate on serial PPS. Parts of the ICAR tool that assessed environmental disinfection at the facility seemed most correlated with decrease in *C. auris* colonization rate. Streamlining the ICAR process to focus on the most impactful parts of ICAR tool may be a more efficient intervention to control *C. auris* outbreaks.

Disclosures. **All Authors**: No reported disclosures

91. Gaps and Opportunities in Antimicrobial Stewardship Programs in Asia: A Survey of 10 Countries

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Session: O-19. Infection Control and Stewardship Challenges in Diverse Settings

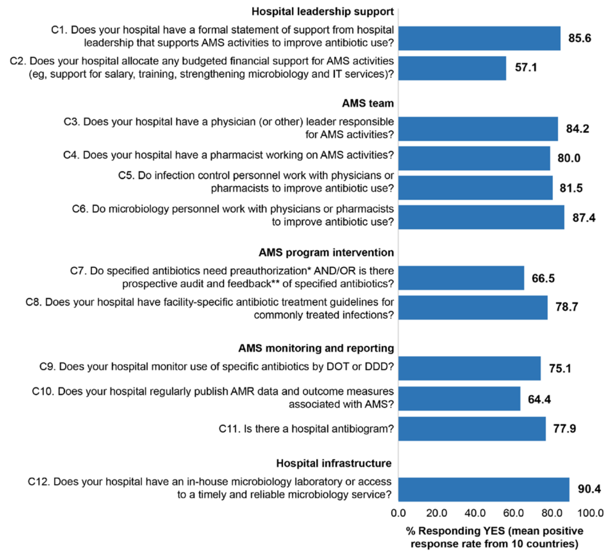
Background. Most studies on hospital antimicrobial stewardship (AMS) status and practices are conducted in the west, and there is a lack of such data from Asian countries. The objective of this survey was to determine existing AMS practices and gaps, and challenges in implementing AMS programs in secondary and tertiary acute-care hospitals in 10 Asian countries.

Methods. A 70-item questionnaire was disseminated to hospitals fulfilling inclusion criteria and responses were collected from 10 April 2020 to 9 April 2021. The survey, specific to the Asian hospital setting, enquired about hospital leadership support for AMS; AMS team membership and training; AMS interventions; AMS monitoring and reporting; hospital infrastructure; and education. These were subdivided into core and supplementary components, adapted from the Transatlantic Taskforce on Antimicrobial Resistance set of core and supplementary indicators for hospital AMS programs, and the US Centers for Disease Control and Prevention checklist for core elements of hospital AMS programs.

Results. A total of 349 hospitals from Cambodia, India, Indonesia, Japan, Malaysia, Pakistan, Philippines, Taiwan, Thailand and Vietnam responded. Overall, only 47 hospitals fulfilled all 12 core components, and there were inter-country differences in terms of performance. The hospitals generally did well in terms of the AMS team (ie, comprising at least a physician leader responsible for AMS activities, a pharmacist, and infection control and microbiology personnel), and access to a timely and reliable microbiology service, with mean positive response rates (PRR) of ≥ 80% for these indicators (Figure 1). In the core components of AMS program interventions, and AMS monitoring and reporting, the lower mean PRR (> 60%) revealed that Asia has wider gaps in these areas versus gold standards. Although many hospitals had formal hospital leadership statements to support AMS (mean PPR 85.6%), this was not always matched by allocated financial support for AMS activities (mean PPR 57.1%).

Figure 1

Figure 1. Core AMS components and corresponding mean positive response rate from 10 countries



*Preauthorization = specified antibiotics need to be approved by a physician or pharmacist prior to dispensing or within 48 hours of dispensing
**Prospective audit and feedback = a physician or pharmacist will review courses of therapy and provide suggestions for use of specified antibiotics within 48 hours of prescription
AMR, antimicrobial resistance; AMS, antimicrobial stewardship; DDD, defined daily dose; DOT, days of therapy; IT, information technology

Conclusion. For all core components of an AMS program, most Asian hospitals participating in this survey fell short of international gold standards. Inter-country differences in gaps highlight that country-specific solutions are needed to improve current standards in AMS.

Disclosures. **Tetsuya Matsumoto, MD; PhD, MSD** (Speaker's Bureau)**Pfizer** (Speaker's Bureau)

92. Characteristics and Outcomes of Deep Brain Stimulation Device Related Infections: Experience from Quaternary Centers

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Session: O-20. Infection Risks from Invasive Procedures

Background. Increasing use of deep brain stimulation (DBS) over the past 20 years is paralleled by a rise in DBS infections. There is a paucity of data on the diagnosis, management, and outcomes in such infections. We describe our center's experience with DBS infections.

Methods. Adults (>18 years) diagnosed with DBS associated infection between January 1, 2000 and May 1, 2020 were retrospectively reviewed. Data on patient demographics, clinical presentation, microbiology, and management was collected.

Results. Seventy cases were identified (**table 1**). The mean age at diagnosis was 58.9 ± 16.5 years. The bulk were free of comorbidities. Parkinson's disease and essential tremors were the most common indications for DBS placement. The median time from implantation to infection was 4 months [IQR 1,24]. The neurotransmitter and extension wires were the most frequently infected parts. A microbiological diagnosis was made in 89% of cases, 47% of which were polymicrobial. The most commonly identified organisms were *Staphylococcus aureus*, *Cutibacterium acnes*, and coagulase-negative *staphylococci*. For patients with deep infection, 71% had complete device extraction, 20% partial extraction, and 9% device retention; clinical cure at 3 months occurred in 97%, 64% and 100%, respectively (**figure 1**). On the other hand, 93% of patients with superficial infection had device retention; cure at 3 months was seen in 64% (**figure 2**). Suppressive oral antibiotics were rarely used, 45% of patients with partial extraction and 26% with device retention. DBS was reimplanted in 71% of patients after complete extraction and led to reinfection in 30% at 1 year follow up. Median time to reimplantation was 2.7 months. All patients who failed at 3 months in the partial extraction and device retention cohorts subsequently underwent complete device removal leading to clinical cure sustained at 1 year follow up.

Table1. Clinical Presentation and Treatment of 70 Patients with DBS-Device Infection.

DBS implantation	
Indications for DBS placement	
Parkinson's disease	30 (42%)
Essential tremor	24 (34%)
Dystonia	8 (11%)
Epilepsy	2 (3%)
Obsessive-compulsive disorder	1 (1%)
Others	7 (10%)
Aseptic revision after index implantation	22 (31%)
DBS infection	
Median time from DBS implantation to infection	4 months [IQR 1, 24]
Median time from aseptic revision to infection	1 month [IQR 0.4, 8]
Signs and symptoms	
Fever	9 (13%)
Headache	3 (4%)
Neck stiffness	0
Altered mental state	0
Seizures	1 (1%)
Pain	30 (43%)
Skin erythema	42 (60%)
Device exposure	8 (11%)
Infection type	
Deep device infection	55 (79%)
Neurotransmitter pocket	43 (77%)
Extension wire	24 (43%)
Lead wire	20 (36%)
Burr hole cap	14 (25%)
Electrode lead	10 (18%)
Brain abscess	1 (2%)
Superficial infection	15 (21%)
Extension wire	9 (53%)
Neurotransmitter pocket	7 (41%)
Lead wire	1 (6%)
Microbiologic diagnosis	62 (87%)
Polymicrobial	29 (47%)
Gram-positives	
Methicillin-resistant staphylococcus aureus	6 (10%)
Methicillin-sensitive staphylococcus aureus	30 (48%)
Methicillin-resistant staphylococcus coagulase negative	6 (10%)
Methicillin-sensitive staphylococcus coagulase negative	19 (31%)
Cutibacterium acnes	25 (40%)
Corynebacterium species	2 (3%)
Streptococcus agalactiae	1 (2%)
Viridans group streptococci	2 (3%)
Dermabacter hominis	1 (2%)
Enterococcus faecalis	1 (2%)
Gram-negatives	
Pseudomonas aeruginosa	2 (3%)
Enterobacter aerogenes	1 (2%)
Klebsiella pneumoniae complex	1 (2%)
Serratia marcescens	1 (2%)
Stenotrephomonas maltophilia	1 (2%)
Citrobacter koseri	1 (2%)
Bloodstream infection	0 (0%)
Hospitalization	
Admission	66 (94%)
Average length of hospital stay	4.8 ± 3.77 days
Treatment	
Median antimicrobial therapy duration	15 days [IQR 14, 21]
Suppressive oral antibiotics	10 (14%)
Surgical management	
Device retention	19 (27%)
Partial device extraction	11 (16%)
Complete device extraction	40 (57%)

Figure 1. Management and outcomes of Deep device infections (n=55)

		Device retention	Complete device extraction	Partial device extraction
infection onset		5	39	11
3 months	Cure	5	38	7
	Failure	0	-	3^A
	Lost to follow up	0	1	1
3-12 months	Device removal	0	-	3
	Re-implantation	-	27	4
12 months	Cure	2	29	7
	Failure	1	8^B	2
	Lost to follow up	2	1	1

Figure 1. Outlines the management and outcomes of 55 patients with deep DBS associated device infection. Patients with devise exposure or evidence of purulent material surrounding device, seen by imaging or by incision and drainage, were considered to have deep infection. Cure was defined as clinical resolution of signs and symptoms without evidence for recurrence from date of infection onset until the specified time of follow up. Failure was defined as persistence of signs and symptoms of infection or recurrence of symptoms after transient resolution from date of infection onset until the specified time of follow up.

^{A} Subsequently underwent complete device removal

^{B} All had failure after re-implantation