#### **Presentation Type:**

Oral Presentation - Top Poster Abstract

Subject Category: Surveillance

### Just Keep Screening: Candida auris Admission and Weekly Surveillance Pilot on High-Risk Units

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Background: Our Candida auris surveillance protocol dictates that all patients who have been admitted to a skilled nursing facility (SNF), long-term acute care hospital (LTACH), and/or acute inpatient rehab (AIR) in the prior six months be screened on hospital admission. When hospital-onset (HO) cases are identified, point prevalence surveys (PPS) are conducted. Despite this, we identified two units with high prevalence of C. auris and an increasing number of HO cases. To investigate, we initiated an expanded C. auris screening pilot. Methods: Infection prevention (IP) verified that two units, the medical intensive care unit (MICU) and the pulmonary medicine unit (PMU) had the highest C. auris prevalence and number of HO cases. We formed a multidisciplinary process improvement team (MPIT) to develop recommendations. A pilot was launched to implement universal admission and transfer screening by PCR and weekly screening by culture on MICU and PMU. Screening consisted of two swabs: bilateral nares and bilateral axilla/ groin. For patients with a tracheostomy or endotracheal tube, an endotracheal aspirate was collected. Pilot data were analyzed and shared with executive leadership. Results: In the 15 months prior to the pilot, 24/47 (51%) of the hospital-wide HO C. auris cases occurred on the pilot units resulting in 17/40 (43%) of all PPS performed. The pilot, conducted between 5/7/24 -8/24/24, screened 868 unique patients and detected 9 present-on-admission (POA) C. auris cases and 8 HO C. auris cases (Figure 1). This surveillance avoided a minimum of 7 PPS and identified a cluster of C. auris on MICU. Notably, 9/9 (100%) of the POA cases were exposed to a SNF, LTACH, and/or AIR within 6 months prior to admission. Of the HO cases, 7/8 (88%) were epidemiologically linked with another C. auris patient, and 4/8 (50%) were co-colonized with at least one other multidrug-resistant organism at the time of collection. The pilot was established as routine practice on the two units. Conclusion: Our screening pilot identified POA and HO C. auris cases and demonstrated that HO cases decreased over time. This suggests that active surveillance allows for rapid identification and isolation of patients, preventing transmissions and outbreaks. In our experience, IP education and hospital-wide admission screening did not stop cases on units with a high prevalence of patients with C. auris. The pilot confirmed that our current hospital-wide admission screening protocol identifies cases on admission but alone will not prevent nor capture HO cases.

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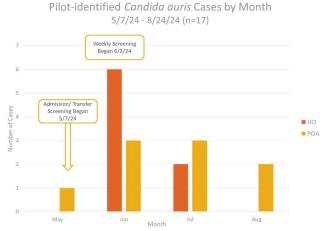


Figure 1. Pilot identified *C. auris* cases by month

#### Presentation Type:

Oral Presentation

Subject Category: Antibiotic Stewardship

## The Impact of Infectious Disease Consult on Hospitalist Prescribing of Broad-Spectrum Antibiotics

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**Introduction:** Within our healthcare system, hospitalists receive feedback on antibiotic prescribing via an observed-to-expected ratio (OER) calculated by days of therapy (DOT) for CDC defined broad-spectrum, hospital-onset (BSHO) antibiotics and adjusted for patient characteristics and billing. In this sub-analysis, we quantify the impact of infectious disease (ID) consultations on OER. Methods: For each two-month period in five hospitals, encounters were assigned to each hospitalist if they billed for ≥1 day of care. The encounter was considered to involve an ID consult if an ID provider billed during the encounter. Percent of encounters with ID consultation (density) was calculated and stratum defined by gross ratios (e.g., 1 in 3 or 1 in 4 patients). We assessed whether consult density varied overtime, by facility, or by DOT. We assessed the effect of consult density on antibiotic DOT using established linear mixed effects model with random intercepts for both provider and facility (nested) and adjusted for patient characteristics and billing. Distribution of OERs were compared among strata to evaluate how ID consult changes OERs. Results: Between January and June 2023, 154 unique providers collectively received 458 bi-monthly OERs reflecting their care for 53,815 unique patients. Overall, 21% of hospital medicine patients were evaluated by an ID

Table 1. Broad-spectrum, hospital-onset days of therapy (DOT) observed and estimated, by ID consult density

| Infectious Diseases Consult Density |            |     | No  | % of  | Observed   | Predictive Models              |         |
|-------------------------------------|------------|-----|-----|-------|------------|--------------------------------|---------|
| Density<br>1:10 or<br>1:7           | Range of % |     | Obs | Obs   | DOT (Mean) | Estimated DOT attributed to ID | P-Value |
|                                     | 1%         | 14% | 44  | 10.3% | 9.05       | Referent                       | NA      |
| 1:5                                 | 15%        | 20% | 119 | 37.8% | 10.73      | 0.8                            | 0.5     |
| 1:4                                 | 21%        | 25% | 153 | 35.8% | 12.83      | 2.7                            | 0.02    |
| 1:3                                 | 26%        | 33% | 101 | 23.6% | 14.28      | 3.4                            | <0.01   |
| 1:2                                 | 34%        | 50% | 11  | 2.6%  | 11.45      | 0.7                            | 0.7     |

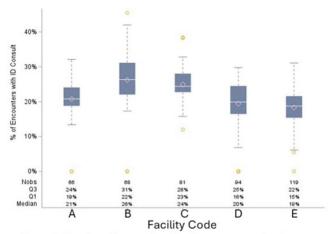
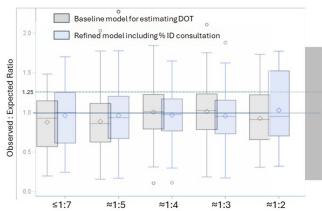


Figure 1. Box plots of proportion of patient encounters having infectious disease consultation by hospital

consultant during inpatient stay; median consultation density varied among providers by facility (19%-26%, Figure 1). Multivariate models (accounting for sepsis, UTI, renal disease) estimated significantly increased DOT for hospitalists having ~1:3 (+3.4 DOT, 95% CI 0.9 – 5.9) or 1:4 (+2.7 DOT, 95% CI 0.4-5.0) patients with ID consults compared to hospitalists with fewer than ~1:7 with an ID consult; however the effect was not significant in other strata and not linear (Table 1). Calculating the distribution of OERs both before and after adjusting for consult density resulted in small changes in OERs (Figure 1b). **Discussion:** The frequency of ID consults affected hospitalists' BSHO-DOT in a non-linear fashion. Impact of ID consultation on prescribing metrics should be considered in building credibility of stewardship prescribing performance metrics.

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Figure 2. Distribution of observed to expected ratios for hospitalists, by proportion of patients having Infectious Disease Consultation, both before (grey) and after (blue) adjusting for impact of ID consultation in the predictive models



Rough proportion of Patients with ID consult During 2-month Period

### Presentation Type:

Oral Presentation

Subject Category: Antibiotic Stewardship

# Relationship between Hospital Characteristics and Reported Feasibility and Implementation of Antibiotic Stewardship Interventions

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**Background:** Hospital antibiotic stewardship programs (ASPs) are essential for reducing unnecessary antibiotic use and combating antimicrobial resistance. While many ASP interventions have been described, their feasibility and sustainability remain unclear, particularly for smaller hospitals with limited informatics resources. This study aimed to assess the feasibility and sustainability of common ASP interventions and

examine the impact of hospital bed size on sustainability. Methods: A cross-sectional survey was conducted between April and May 2023 across 69 hospitals in Michigan participating in the Michigan Hospital Medicine Safety Consortium, representing both large (<200 beds) hospitals. Quality improvement or antimicrobial stewardship staff from each hospital ranked the feasibility of 7 common antibiotic stewardship interventions on a scale from 1 (easiest) to 7 (hardest). Respondents were then asked to report their status with 43 individual stewardship interventions as: a) implemented and sustained, b) implemented, but not sustained, c) tried but unable to implement, or d) never done. We used descriptive statistics and Fisher's exact tests to compare reported intervention feasibility and implementation by hospital bed size (small vs. large). Results: All 69 hospitals responded to our survey (100% response rate). Across all hospitals, increasing audit and feedback by pharmacists was reported as the easiest new intervention to implement, whereas starting clinician peer comparison was reported as the hardest (Figure 1). Hospitals had implemented and sustained multiple stewardship interventions with substantial variation by intervention (Figure 2). Reported feasibility of the 7 common stewardship interventions did not significantly differ between large and small hospitals. However, small hospitals had significantly higher implementation of five antibiotic stewardship interventions: removal or change in order sets in urine culture testing (implemented by 73.1% of small hospitals vs. 46.3% of large hospitals; p=0.04), two-step urine culture initiative to reduce unnecessary testing (27% vs. 7%; p=0.04), Emergency Department order set with decision support deemphasizing broad-spectrum antibiotics for CAP (77% vs. 48%; p = 0.02), daily pharmacy review of antibiotics for UTIs (58% vs. 30%; p=0.04), and daily pharmacy review of anti-pseudomonal antibiotics for CAP (73% vs. 46%; p=0.04). **Conclusions:** Feasibility and implementation of ASP interventions varied widely, with most interventions sustained once implemented. Technical solutions were 26.4% more likely to be sustained than adaptive ones. Small hospitals showed higher implementation rates for several interventions, potentially due to smaller

## Difficulty to Implement Change (All Hospitals) Mean 95%(CI)

