

of respiratory cultures. FilmArray pneumonia panel (FPP) is an option for more expeditious identification of pathogen(s). We evaluated the utility of FPP in early de-escalation or escalation of antibiotics. **Methods:** FPP tests were performed on adults hospitalized with pneumonia. The microbiologist directly communicated the organisms, colony counts, and resistance patterns to the infectious disease physician or pharmacist. These results were also compared with pathogen identification and resistance patterns from a VITEK-2 system. The primary objective of this analysis was to evaluate the rates of de-escalation, escalation, and discontinuation of therapy and their impact on inpatient mortality. The secondary objective of the analysis was to evaluate the confirmation of detected organisms and resistance patterns by FPP. **Results:** In total, 26 patients included in the analysis. The median age was 70 years and 62% of patients were men; 50% of these patients were critically ill. In the cohort, the most commonly identified organisms were *Pseudomonas aeruginosa* (31%) and *Staphylococcus aureus* (30%). Other common organisms were *Moraxella catarrhalis* (23%) and influenza A (15%). The CTX-M resistance gene was seen in 30% of Enterobacteriaceae cultures, and the *MecA/C* and *MREJ* genes were detected in 75% of *Staphylococcus aureus* cultures. As a result of FPP, de-escalation occurred at a rate of 62%; discontinuation occurred at 42%; and escalation occurred 23%. Inpatient mortality was similar among the 3 groups: de-escalation, 37.5%; discontinuation, 45.5%; escalation, 50%. Notably, 82% of patients received comfort care. Organisms and resistance rates were confirmed with respiratory cultures in 54% of patients. **Conclusions:** Utilizing FPP yielded high rates of de-escalation, discontinuation, and escalation of antibiotics. No impact noted on inpatient mortality was noted; most of these patients were managed by comfort care. Culture confirmation rates were low due to the variety of sample types. We believe that the use of FPP for bronchoscopy and endotracheal cultures would have the highest impact on antibiotic stewardship efforts.

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Presentation Type:

Poster Presentation

Impact of Leadership Walk-Arounds and Feedback from Senior Management to Reduce CLABSI Rates

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Background: Aster Medcity is a 400-bed tertiary-care hospital in India. Over the years, the CLABSI rates have been within the INICC benchmarks but much above the CDC benchmarks. Is it possible to achieve the CDC/NHSN benchmarks without using engineered vascular access devices? How can we implement the available evidence in using feedback as an effective way to improve practices? **Methods:** In this prospective interventional trial, we compared the CLABSI rates at baseline over the previous 6 months (January 2019 to June 2019) with the CLABSI rates over the following 3 months (July–September 2019) with introduction of a new feedback structure. This feedback was delivered in the following ways.

(1) Leadership walk-arounds consisted of the CEO, CNO, and CMS visiting each unit that reported a CLABSI as soon as it was reported (instead of the month end when cumulative reports become available) to discuss what went wrong and what could be corrected with the local unit teams. (2) The CEO had a 1-to-1 discussion with the nursing leadership regarding the monthly CLABSI rates with clear goal setting for the nursing teams. (3) Daily feedback on the practices as reviewed in the observational audits by the infection control team (ie, infection control nurses) was provided to the ICU teams through the ICO and CMS to the individual practitioners (both nurses and doctors). **Results:** Metrics were collected for both the process measures as well as outcome measures. The CLABSI outcome measure dropped from a mean of 4 per 1,000 CVC days before the intervention to a mean of 1 per 1,000 CVC days after the intervention, both calculated for a 6-month period. The compliance to hand hygiene as per the WHO 5 Moments improved from a mean of 79% to 86%, and the compliance to safe injection practices improved from 76% to 95%. Noncompliant HCWs observed via the daily feedback system dropped from 16–20 HCWs per week at the start of the intervention to 5–6 HCWs per week by the end of 6 months. The environmental cleaning scores (using glow-gel scores with the CDC environmental cleaning tool) remained at an average of 85%. **Conclusions:** Feedback is the backbone of most of the interventions of quality and infection control teams of healthcare organizations. Increased frequency and feedback from senior management can overcome inertia in improving practices on the ground level. This method could be more cost-effective at reducing CLABSIs than engineered devices.

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Impact of NHSN-CDC Mucosal Barrier Injury Surveillance on Central-Line-Associated Bloodstream Infection Rates in HSCT

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Background: Bloodstream infection (BSI) is the most challenging conditions in patients who undergo hematopoietic stem cell transplantation (HSCT). These infections may be related to health care in cases of central-line-associated bloodstream infection (CLABSI) or to translocation secondary to mucosal barrier injury (MBI). In 2013, MBI surveillance was incorporated into the CDC NHSN. The aim was to increase the CLABSI diagnostic accuracy by proposing more effective preventive care measures. The objective of this study was to evaluate impact of the MBI surveillance on

Table 1: Annual CLABSI incidence density (ID) in pre and post introduction of BMI surveillance at the HSCT Unit

	year	MBI	n	ID	P****
Pre-MBI surveillance	2007	7	23	17.5	0.011
	2008	2	10	7.3	
	2009	6	10	8.6	
	2010	7	14	8.8	
	2011	4	15	10.0	
	2012	4	19	10.8	
Period 1 – (Average)	2007-2012*	30	91	10.5	
Post-MBI surveillance	2013	5	6	4.0	
	2014	4	7	5.8	
	2015	3	7	4.8	
	2016	7	10	7.1	
	2017	3	6	4.8	
	2018	7	11	7.1	
Period 2 – (Average)	2013-2018**	29	50	6.0	

* 2007- 2012: CLABSI reclassified according to MBI criteria

** 2013 to 2018: Incorporated MBI surveillance

***ID - Incidence density per 1000 patient-day

****p value of t student test (homocedasticity and no autocorrelation)

CLABSI incidence density in a Brazilian university hospital. **Methods:** The CLABSI incidence densities from the period before BMI surveillance (2007–2012) and the period after BMI surveillance was implemented (2013–2018) were analyzed and compared. Infections during the preintervention period were reclassified according to the MBI criterion to obtain an accurate CLABSI rate for the first period. The average incidence densities for the 2 periods were compared using the Student *t* test after testing for no autocorrelation ($P > .05$). **Results:** After reclassification, the preintervention period incidence density (10 infections per 1,000 patient days) was significantly higher than the postintervention period incidence density (6 infections per 1,000 patients day;

$P = .011$) (Table 1). Therefore, the reclassification of nonpreventable infections (MBI) in the surveillance system made the diagnosis of CLABSI more specific. The hospital infection control service was able to introduce specific preventive measures related to the insertion and management of central lines in HSCT patient care. **Conclusions:** The MBI classification improved the CLABSI diagnosis, which upgraded central-line prevention measures, then contributed to the decrease of CLABSI rates in this high-risk population.

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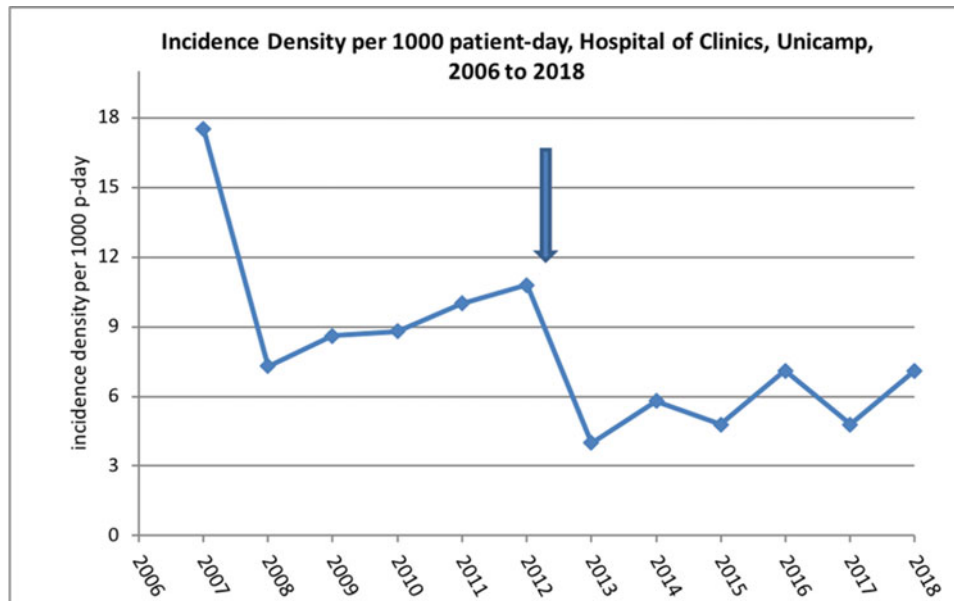


Fig. 1.

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Poster Presentation

Impact of Positive Vancomycin-Resistant *Enterococcus* (VRE) Screen Result on Appropriateness of Definitive Antibiotic Therapy

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Background: Vancomycin-resistant *Enterococcus* (VRE) screening has been utilized to identify colonized patients to prevent transmission. However, little is known about the utility of screening to guide antibiotic therapy. We assessed the appropriateness of definitive therapy in patients with a VRE screen and evaluate the predictive value of screening for the development of a VRE infection. **Methods:** In this retrospective study, we evaluated VRE screening of patients aged ≥ 18 years admitted between June 1, 2015, and May 31, 2018, to a 280-bed, academic, tertiary-care hospital. Rectal swabs were tested using Cepheid Xpert. Screening was performed routinely on admission for hematologic malignancy and liver transplantation patients. Only the first screen result was included for patients who had multiple VRE screens. The patient was classified as having a VRE infection if any *Enterococcus* isolates were vancomycin resistant. The primary outcome was appropriateness of antibiotic therapy in patients who had a VRE screen. Appropriateness of VRE-directed therapy was defined as therapy with linezolid or daptomycin for patients who had a positive VRE culture and an identifiable source of infection, or who had no clinical improvement on alternative therapy, or who had a documented β -lactam allergy. If appropriateness was unclear, 2 infectious diseases specialists determined appropriateness. **Results:** In total, 1,374 patients who had a rectal VRE screen met inclusion criteria. Of these, 1,053 (88%) had a negative screen. We detected no difference in the appropriateness of VRE-directed therapy between patients with a positive screen and those with a negative screen (59.3% vs 61.0%; $P = .8657$). The VRE screen had a sensitivity of

60% (95% CI, 43%–74%), specificity of 90% (95% CI, 88%–92%), positive predictive value of 18% (95% CI, 12%–25%), and negative predictive value of 98% (95% CI, 97%–99%) for VRE infection. **Conclusions:** Although VRE screening may have utility to detect colonization in high-risk patients, a positive VRE screen is of limited value in determining the need for VRE-directed therapy. Patients with a negative VRE screen have a low likelihood of developing a VRE infection, and a negative screen could be used to identify patients who may not require empiric coverage for VRE. Further research is needed to determine optimal utilization of VRE screening for prediction and treatment of VRE infections.

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Impact of Rapid PCR Influenza Testing on the Rate of Inpatient Admissions During Influenza Season at a Tertiary-Care Center

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Background: Influenza causes a high burden of disease in the United States, with an estimate of 960,000 hospitalizations in the 2017–2018 flu season. Traditional flu diagnostic polymerase chain reaction (PCR) tests have a longer (24 hours or more) turnaround time that may lead to an increase in unnecessary inpatient admissions during peak influenza season. A new point-of-care rapid PCR assays, Xpert Flu, is an FDA-approved PCR test that has a significant decrease in turnaround time (2 hours). The present study sought to understand the impact of implementing a new Xpert Flu test on the rate of inpatient admissions.