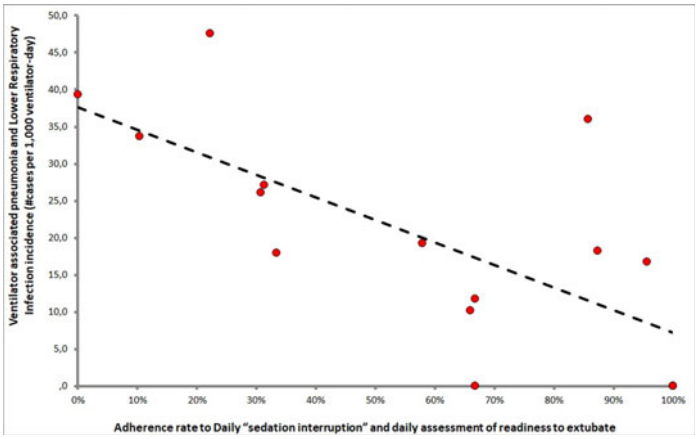

Fig. 2.

41 to 16 in ICU A, from 22 to 14 in ICU B and from 24 to 18 in ICU C. The impact of each bundle component was identified by linear regression, calculating the percentage of PAV+LRI incidence rate that is "explained" by bundle item adherence (r^2) and correlation coefficient (r): daily "sedation interruption" ($r^2 = 48\%$; $r = -0.69$; $P = .004$) (Fig. 2), cuff pressure monitorization ($r^2 = 0.3721$; $r = -0.61$; $P = .016$), subglottic secretion drainage ($r^2 = 36\%$; $r = -0.60$; $P = .017$), avoidance of scheduled ventilator circuit change ($r^2 = 34\%$; $r = -0.58$; $P = .023$), daily oral care ($r^2 = 25\%$; $r = -0.50$; $P = .050$), and elevate the head of the bed ($r^2 = 25\%$; $r = -0.48$; $P = .067$). **Conclusions:** The impact of each bundle component on preventing PAV+LRI was identified by the study. An educational intervention performed by the infection control service increased the adherence to the ventilator bundle, and the PAV and LRI incidence decreased.

Funding: None
Disclosures: None
Doi:10.1017/ice.2020.824

Presentation Type:
Poster Presentation

Impact of Expansion of Vascular Access Team on Central-line–Associated Bloodstream Infections

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Background: Through participation in a system-wide healthcare-associated infection-reduction task force, we leveraged our ability to standardize best practices across hospitals in a university-owned healthcare system to reduce central-line–associated bloodstream infection (CLABSI) rates. **Methods:** Our multidisciplinary team had representation from all hospitals in our healthcare system. The team benchmarked practices in place and compared CLABSI standardized infection ratios (SIRs). One hospital had a robust vascular access team (VAT) and consistently low CLABSI SIRs; expanding and standardizing VAT across the hospitals in the system became the primary goal of the team. We developed a business case to justify VAT expansion that considered savings from decreasing CLABSIs and benefits to interventional radiology revenue by decreasing PICC insertion and comparing costs for added full-time equivalents (FTEs). CLABSI rates before and after VAT team expansion at 2 large hospitals were compared to the hospital with existing robust VAT. Other process improvement activities were implemented across all hospitals. The expanded VAT assumed responsibility for central-line maintenance, promoted removal of unneeded lines, expanded education efforts, and enhanced capacity for insertions. **Results:** The VAT expansion from 5.4 FTEs to 15.9 FTEs at 2 large hospitals (1,100 total beds) began in April 2017 and was phased over ~6 months. CLABSI SIRs for the 15 months preceding expansion were compared to the SIRs for the 15-month period after expansion for the 2 hospitals with expanded VAT (hospitals A and B) and for hospital C with preexisting robust VAT (Table 1). We observed a 33% decrease in PICC insertions in interventional radiology department in hospitals A and B. Overall return on investment (ROI) estimates using lower and upper cost per CLABSI ranged from a loss of $156,000 to a net gain of $623,000. **Conclusions:** A significant decrease in CLABSI rates temporally related to expansion of VAT occurred in 2 hospitals, whereas the hospital with existing robust VAT demonstrated a modest decrease in CLABSI rates. We were able to demonstrate a favorable ROI from the VAT expansion without an impact on HAC penalties. Using the model of standardizing best practices across a system and creative ROIs may help justify the addition of scarce resources.

	SIR Pre-expansion 1/2016–3/2017	SIR Post-expansion 1/2018-3/2019	Difference	p-value
Hospital A	1.33	0.56	↓58%	0.003
Hospital B	1.34	0.79	↓41%	0.005
Hospital C*	0.74	0.60	↓19%	0.68

* no VAT expansion

Fig. 1.

Funding: None
Disclosures: None
Doi:10.1017/ice.2020.825

Presentation Type:
Poster Presentation

Impact of FilmArray Pneumonia Panel on Early Targeted Antibiotic Therapy

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Background: Patients with pneumonia are frequently recipients of broad-spectrum antibiotics while awaiting maturation

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.

Funding: None
Disclosures: None
Doi:10.1017/ice.2020.826

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.

Funding: None
Disclosures: None
Doi:10.1017/ice.2020.827

Presentation Type:
Poster Presentation

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