of ICU infection prevention programmes, the lack of an easily applicable definition, providing accurate and clinically meaningful data limits implementation. We aimed to conduct a pilot study of ventilator associate event (VAE) surveillance, per Centre for Disease Control National Healthcare Safety Network (CDC NHSN) criteria, to describe the incidence, and outcomes for patients with VAE in our setting.

Methods. We conducted a prospective cohort study in our 24-bed mixed tertiary ICU in Melbourne, Australia. Adult patients requiring mechanical ventilation for ≥2 days between March and October, 2015, were included. We collected detailed clinical and laboratory data, including antibiotic duration and indication, and ICU and hospital length of stay. We applied the CDC NHSN criteria.

Results. We included 202 patients (median age 58.1 ± 17.8 years, 32.7% female, 73% medical), over 1,390 ventilator days. Ventilator associated condition (VAC) occurred in 33 (16.3%) patients (23.7 per 1,000 ventilator days), Infection-related VAC (IVAC) in 15 (7.4%) patients (10.7 per 1,000 ventilator days), and possible VAP (PVAP) in 8 (3.9%) patients (5.75 per 1,000 ventilator days). In contrast, clinician-diagnosed VAP (CD-VAP) occurred in 37 (18.3%) patients (26.6 per 1,000 ventilator days). Patients with VAC had a greater median number of ventilator days (12 vs. 4, $P < 0.001$), ICU length of stay (LOS) (17 vs. 6 days, $P < 0.005$), hospital LOS (30 vs. 19 days, $P = 0.005$), and antibiotic days (12 vs. 5, $P < 0.001$), than those without VAC. CD-VAP was associated with VAC (OR 4.7, 95% CI 2.1–10.6, $P < 0.001$), but agreement was poor (kappa 0.29). The overall sensitivity of VAC for CD-VAP was 38%, specificity was 89%, PPV 48%, NPV 85%, while for PVAP these were 17, 99, 88 and 82%, respectively.

Conclusion. VAC is associated with important, measurable surveillance outcomes, but the agreement, sensitivity and predictive value of these criteria for CD-VAP are poor. Hence the CDC criteria may miss clinically important healthcare-associated infections and may not capture the most appropriate target group for VAP prevention.

Disclosures. All authors: No reported disclosures.

2181. Efficacy of UV-C Disinfection with or Without Sodium Hypochlorite Compared with Usual Disinfection of Hospital Environmental Surfaces: Pilot Study

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Background. The hospital environment is known to harbor pathogens that cause healthcare-associated infections. Sodium hypochlorite (NaClO) has been a common method for disinfection due to its low cost and wide availability. Nevertheless, UV-C is less time-consuming and less prone to human errors. We are aware of only one study that has directly compared UV-C against NaClO in a high-income country.[1]

Methods. A pilot study was designed to test three different methods for terminal room disinfection: (1) NaClO (1,000 ppm); (2) UV-C (two 5-minute cycles at a maximum radius of 2.4 m with the UVDI UV360™ device); and (3) NaClO followed by UV-C. After patient discharge, housekeeping staff cleaned every room with detergent. Next, the rooms were subjected to one of the three disinfection procedures in a nonrandomized way. Environmental cultures were taken before and after cleaning and after every disinfection procedure, from three high touch areas: bedrails, patient tables and mattresses. Bedrails were sampled with swabs and the rest of the surfaces with RODAC™ plates. Cultures were processed by the same external accredited laboratory. Our main objective was to calculate reductions in total bacterial counts (measured in CFUs) to estimate the sample size for a larger multicenter study. We hypothesized that similar bacterial count reductions would be observed for the three methods.

Results. Eight rooms were tested in 4 hospitals in Mexico City (total of 85 cultures). Median bacterial count reductions with their respective IQRs, adjusted to CFUs after cleaning were: 1 (0–10) after NaClO only; 5 (0–30) after UV-C only, and 1 (0–10) after NaClO + UV-C (Kruskal–Wallis test, $P = 0.419$); the respective median proportion reductions were 95.8% (0–100%), 90.1% (75–100%) and 100% (10–100%).

Conclusion. All three disinfection methods seem to be equally effective for the reduction of total bacterial counts on hospital surfaces, regardless the type of hospital or ward. With a sufficiently powered study, we will attempt to demonstrate that UV-C alone could be used instead of NaClO (reference disinfectant in Mexico), possibly with time and economic savings.

Disclosures. All authors: No reported disclosures.

2182. Perceived Impact of Mandatory Reporting of Healthcare-Associated Infections on Infection Prevention and Control Departments in Acute Care Hospitals

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Background. The Centers for Medicare and Medicaid Services (CMS) requires hospitals to report healthcare-associated infections (HAIs) through the Hospital Inpatient Quality Reporting Program. Facilitated by the Centers for Disease Control and Prevention's National Healthcare Safety Network (NHSN), mandatory reporting aims to improve quality by benchmarking and improving transparency. In addition, the majority of U.S. states have policies in place for mandatory reporting of HAIs in acute care hospitals. The aim of this study was to examine Infection Preventionists' perceptions of the impact of mandatory reporting on infection prevention and control (IPC) departments.

Methods. In Winter of 2018, we electronically surveyed IPs working in acute care hospitals. The survey was distributed by the Association of Professionals in Infection Prevention and Epidemiology (APIC) to its members via an initial email and weekly e-blasts over a 6-week period. Descriptive statistics were conducted and themes from open-ended questions were analyzed to describe IP perceptions of mandatory reporting.

Results. There were 255 IPs who completed the survey; 187 IPs provided responses in the mandatory reporting section. Half (53%) reported that mandatory reporting resulted in more influence of the IPC department on hospital decision making and 38% reported increased visibility. The most important benefit of mandatory reporting was increased awareness of IPC for hospital administrators (42%), followed by transparency of outcomes for patients and providers (28%). However, a third of IPs reported less time for staff education and routine IPC activities. IPs also reported an increased workload and lack of action based on the results of the reports as drawbacks of reporting mandates.

Conclusion. According to IPs, mandatory reporting has resulted in increased visibility and awareness of IPC in acute care hospitals, however, some drawbacks were also identified. Given CMS and state mandates for HAI reporting, policy makers need to be attuned to additional demands placed on hospitals to comply with mandatory reporting processes. Future research should aim to examine whether IPC departments have sufficient resources to comply with these regulatory policies and ways in which to improve the reporting process.

Disclosures. All authors: No reported disclosures.

2183. Financial Cost, Length of Stay, and Patient Experience Associated with Healthcare-Associated Infections Across a 43 Hospital Network

Rachel Kast, PhD[1]; Cole Grabow, MPH[1]; Michelle Fitch, BA[1]; Sandra Tobar, MSBA BSN[1]; Anurag Malani, MD, FIDSA[2] and Russell Olmsted, MPH, CIC[1]; [1]Integrated Clinical Services Team, Trinity Health, Livonia, Michigan, [2]St. Joseph Mercy Health System, Ypsilanti, Michigan

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Background. Reduction of healthcare-associated infections (HAIs) is critical to improve patient safety and hospital quality. However, not all HAI-associated outcomes are well studied. We examined several of these—the financial and length of stay (LOS) burden of HAIs and patient experience of care.

Methods. National Healthcare Safety Network-reported catheter-associated urinary tract infections (CAUTI), *C. difficile* infections (CDI), central line-associated bloodstream infections (CLABSI), MRSA bacteremia, and colon surgery surgical site infections (SSI-COLO) were queried for the first 9 months of 2016 from 43 hospitals. Patients with an HAI were matched to controls on hospital and primary diagnosis to create a retrospective case–control study. CAUTI and CLABSI patients were matched to controls with associated device codes. LOS and total direct variable cost (TDVC) were collected for all HAI and control patients. If patients returned a Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey, their likelihood to recommend (LTR) response was additionally analyzed.

Results. Data were analyzed for 123 CAUTI, 1,116 CDI, 166 CLABSI, 58 MRSA, and 127 SSI-COLO case–control pairs across 43 hospitals. TDVC per case was significantly higher among HAI cases than controls for CDI ($6,484), CLABSI ($14,646), and SSI-COLO ($9,770; figure 1). LOS was significantly higher for cases across all HAI groups, with attributable differences of 7.6 days for CAUTI, 6.4 for CDI, 9.7 for CLABSI, 7.4 for MRSA, and 4.5 for SSI-COLO (Figure 2). Of 3,180 subjects, 198 returned HCAHPS surveys. Response rate of "Yes, definitely" to LTR for 85 HAI patients was 63.5% compared with 72.6% for 113 control patients (Figure 3).

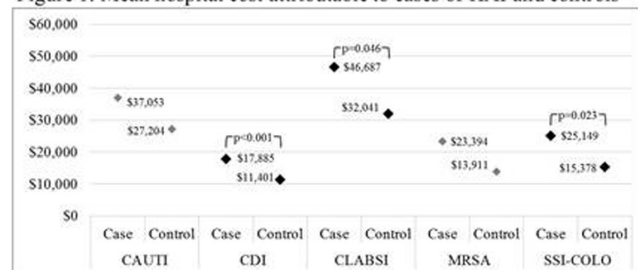Figure 1: Mean hospital cost attributable to cases of HAI and controls

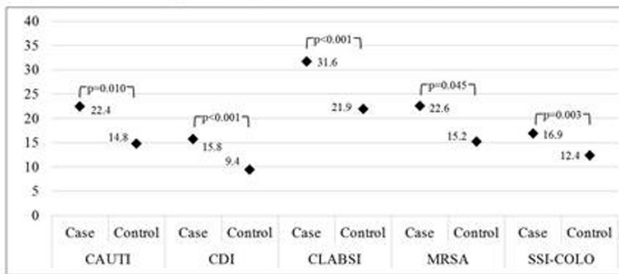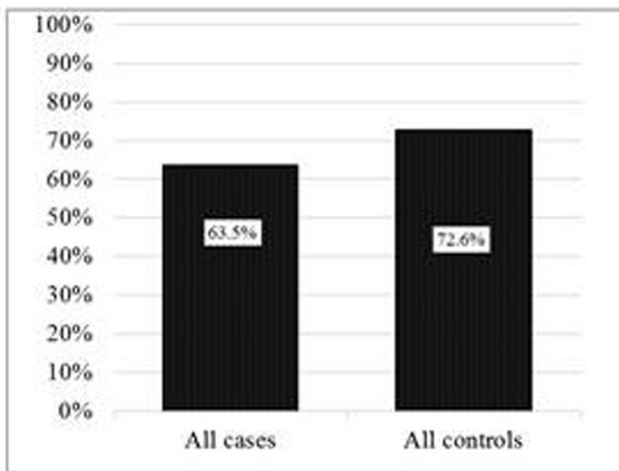Figure 2: Mean length of stay associated with HAI cases and controls

Figure 3: "Likely to Recommend" response rate from HCAHPS surveys for HAIs and controls

Conclusion. This is the first investigation to our knowledge pairing patient experience of care data with TDVC and LOS for HAI patients. HAIs have a significant impact on patient experience, cost, and length of stay—further supporting the importance of preventing HAIs.

Disclosures. **R. Olmsted**, Ethicon, Inc.: Speaker's Bureau, Speaker honorarium; APIC: External faculty HRET/CDC STRIVE project, Speaker honorarium.

2184. Surveillance System of Healthcare-Associated Infection in High and Upper-Middle Income Countries: A Scoping Review

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Background. Healthcare-associated infection (HCAI) is a major public health concern. HCAI surveillance is one of the five areas of focus of the Japanese action plan for antimicrobial resistance. In order to establish a Japanese HCAI surveillance system, we performed a scoping review about HCAI surveillance systems in the world.

Methods. The search strategy consists of three *Methods.* academic literature review, Google search, and questionnaire to the Embassies of Japan in target countries. The target countries were 59 high and 79 upper-middle income countries defined by country income classification for the World Bank. The following information was reviewed: name of the system, official website, languages used in official website, foundation year, operating body, frequency, mode of participation, target population, types of target infections, types of target pathogens, definition of HCAI, and surveillance parameters. Online accessibility of the official websites was assessed through Google search.

Results. Forty-one (29.7%) countries (34 [57.6%] high and 7 [8.8%] upper-middle income countries) are found to have national HCAI surveillance systems; 23 from Europe, 9 from Asia, 7 from Americas, and 2 from Oceania. Thirty-four (82.9%) countries have at least one official website, of which seven (20.6%) was identified in the top 30 hits through Google search in English. Surgical site infection (SSI) is the most surveyed infection (28 [68.3%] countries); catheter-related blood stream infection (CRBSI) in 25 (61.0%) countries, and catheter-associated urinary tract infection, ventilator-associated pneumonia, and *Clostridium difficile* infection (CDI) in 22 (53.7%) countries. MRSA is the most commonly surveyed pathogen (30 [73.2%] countries) followed by VRE in 22 (53.7%) countries. Most countries' systems follow or modify CDC/NHSN definition. European countries tend to have CDI surveillance and to have more selected surveillance targets than others.

Conclusion. HCAI surveillance system is more in place in high income countries than in upper-middle income countries. Although surveillance targets vary between countries, SSI, CRBSI, and MRSA are surveyed in two thirds of the countries. Online accessibility of the official website is an area to be improved.

Disclosures. All authors: No reported disclosures.

This abstract has been withdrawn at the author's request.

2186. High Adherence to Contact Precautions of Patients with Multidrug-resistant Organisms (MDRO) and Low In-Hospital Transmission of MDROs

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Background. Conflicting results have been published on the impact of contact precautions, as outlined by CDC, HIPAC and ESCMID guidelines, on reduction of transmission of multidrug-resistant organisms (MDRO). Ambiguous definitions coupled with low adherence to these partly explain the differences on impact of contact precautions on transmission of MDROs. We therefore monitored compliance with contact precautions and correlated the level of adherence with in-hospital transmission of MDROs.

Methods. Between January 2016 and March 2018, all patients under contact precautions underwent routine monitoring of adherence to contact precautions by routine on site visits on day 0 (+1), 3 (+/−1) and 7(+/−3) after initiating of contact precautions using a predefined standardized checklist. The protocol includes 10 interventions that are routinely checked such as contact precaution sign at the door and wearing gowns and gloves before entering the room. Patients requiring contact precautions were defined as colonized or infected with MDROs (MRSA, non-*E. coli* ESBL-Enterobacteriaceae (NEC-ESBL), VRE and carbapenemase-producing organisms) as well as patients infected with RSV, norovirus and hypervirulent strains of *C. difficile*.

Results. Overall, data of 1,414 visits of 812 patients under contact precautions were assessed. During the observation period, overall adherence was between 93–99% for each intervention, except for separate space for contaminated material with a very