

middle-income countries, the incidence of SSIs ranged from 1.2 to 23.6 per 100 surgical procedures. This contrasted with rates between 1.2% and 5.2% in high-income countries. **Objectives:** We aimed to leverage the existing surveillance capacities at our tertiary-care hospital to estimate the incidence of SSIs in a cohort of trauma patients and to develop and validate an indigenously developed, electronic SSI surveillance system. **Methods:** A prospective cohort study was conducted at a 248-bed apex trauma center for 18 months. This project was a part of an ongoing multi-center study. The demographic details were recorded, and all the patients who underwent surgery ($n = 770$) were followed up until 90 days after discharge. The associations of occurrence of SSI and various clinico-microbiological variables were studied. **Results:** In total, 32 (4.2%) patients developed SSI. *S. aureus* (28.6%) were the predominant pathogen causing SSI, followed by *E. coli* (14.3%) and *K. pneumoniae* (14.3%). Among the patients who had SSI, higher SSI rates were associated in patients who were referred from other facilities ($P = .03$), had wound class-CC ($P < .001$), were on HBOT ($P = .001$), were not administered surgical antibiotics ($P = .04$), were not given antimicrobial coated sutures ($P = .03$) or advanced dressings ($P = .02$), had a resurgery ($P < .001$), had a higher duration of stay in hospital from admission to discharge ($P = .002$), as well as from procedure to discharge ($P = .002$). SSI was cured in only 16 patients (50%) by 90 days. SSI data collection, validation, and analyses are essential in developing countries like India. Thus, it is very crucial to implement a surveillance system and a system for reporting SSI rates to surgeons and conduct a robust post-discharge surveillance using trained and committed personnel to generate, apply, and report accurate SSI data.

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Surveillance and Control Efforts for Carbapenemase-Producing Gram-Negatives at a High Burden Vietnam University Hospital

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Background: Carbapenem-resistant gram-negative bacteria are an urgent threat to healthcare safety around the world. In Vietnam, Although surveillance and control of multidrug-resistant organisms is a national priority, information on the burden of these resistant pathogens is still scarce. At University Medical Center Ho Chi Minh City, Vietnam, we aimed to better understand carbapenem-resistance

through 2 phases: (1) assess proportion of carbapenem-resistant gram-negative organisms that are carbapenemase-producing (CP-CRO) and (2) assess transmission burden of carbapenemase-producing carbapenem-resistant Enterobacteriaceae (CP-CRE) in the general intensive care unit (ICU). **Methods:** In the first phase, all gram-negative clinical isolates collected between November 2018 and April 2019 were tested for carbapenem-resistance using the disc-diffusion method and were defined as meropenem resistant using the Clinical and Laboratory Standards Institute 2018 break point (*M100-Performance Standards for Antimicrobial Susceptibility Testing, 28th Edition*). Carbapenem-resistant bacteria were tested for phenotypic carbapenemase-production using the Becton Dickinson Phoenix CPO Detect assay. In the second phase, we instituted CP-CRE rectal screening using CHROMagar mSuperCARBA media for all ICU patients from July through September 2019. Patients were screened on admission, and negative patients were rescreened every 2 days until discharge, death, or CRE-positive screening or culture. Admission prevalence and incidence of CP-CRE transmission was calculated among CP-CRE infected or colonized patients. **Results:** From November 2018 through April 2019, 599 gram-negative clinical isolates from 543 patient samples were identified. Of these, 108 were carbapenem-resistant; 107 (99%) of carbapenem-resistant isolates were carbapenemase-producing by phenotypic method. Most CP-CRO were *Acinetobacter baumannii* (45 of 107, 42%) or *Klebsiella pneumoniae* (39 of 107, 36%). During ICU CP-CRE colonization screening, the July positivity rate on admission was 40% (32 of 81), the August positivity rate on admission was 30% (21 of 71), and the September positivity rate on admission was 40% (30 of 75). Of those with negative admission screen, the proportion of new CP-CRE colonization in July was 45% (22 of 49), the proportion of new CP-CRE colonization in August was 64% (32 of 50), and the proportion of new CP-CRE colonization in September was 44% (20 of 45). Across all 3 months of screening, the proportions of CP-CRE that were *Klebsiella*, *Citrobacter*, or *Enterobacter* were 68% (118 of 174) and the proportion of CP-CRE that were *Escherichia coli* was 37% (56 of 174). The average number of days to turn from negative to positive screening result was 4.1. **Conclusions:** Our analysis demonstrates that nearly all carbapenem-resistant organisms at our hospital are carbapenemase producing. In the ICU, we identified a high burden of CP-CRE, attributable to high presence on admission and new acquisition in the ICU. An intervention package based on CDC-recommended enhanced infection control measures is being implemented to decrease CP-CRE transmission in the ICU.

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Surveillance of Healthcare-Associated Bloodstream and Urinary Tract Infections in a National Level Network of Indian Hospitals

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