

supportive leadership, and a deep understanding of organizational culture. The inherent alignment of IPC strategies with NPT and DOI theories suggests the potential of these frameworks in guiding IPC implementation. The research advocates for the integration of these theoretical perspectives into formal training programs to enhance the effectiveness of IPC measures in healthcare settings.

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Subject Category: Infection Control

Presenteeism Among Healthcare Professionals (HCP) During the COVID-19 Pandemic: Survey of Perceived Barriers

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Background: Presenteeism when ill in healthcare personnel (HCP) can contribute to the spread of respiratory illness among HCP and patients. However, during the COVID-19 pandemic and now, there are substantial challenges preventing HCP from staying home when ill. We examined these challenges using the Systems Engineering Initiative for Patient Safety (SEIPS) framework. **Method:** As part of a larger anonymous electronic survey between 3/11/2022 and 4/12/2022 at an academic tertiary referral center, in inpatient and ambulatory settings where respondents were asked to describe factors impacting presenteeism when ill, we analyzed free-text responses using the SEIPS categories of tasks, tools/technology, person, organization, and physical environment. **Result:** 522 comments were received in response to the open-ended survey question asking individuals to describe any factors that would assist them in remaining home and/or help them get tested for COVID-19 when they have symptoms of a respiratory illness; 21 were excluded due to absent or incomplete response. Of the remaining responses (N = 501, Figure 1), 82% were associated with a single SEIPS component such as organization (N = 409), while other responses discussed factors that involved two SEIPS components, in no particular order (N = 92). A majority of the responses (N = 324, 55%) reported organizational barriers, frequently citing a strict sick call-in policy as well as a lack of protected time-off for COVID-19 testing or related absences. The next two most commonly identified components were physical environment (N= 88, 15%) and tasks (N = 72, 12%), mentioning barriers such as far distances to testing centers and prolonged waiting periods for testing. **Results:** The person and tools/technology components were less commonly identified, with a frequency of 9% each. **Conclusion:** A number of systems level factors were identified that may impact the ability of HCP to stay home when ill. Interventions to help overcome HCP perceived barriers to staying home when experiencing respiratory symptoms should focus on the policies and practices within an organization. Communication from leadership should support staying

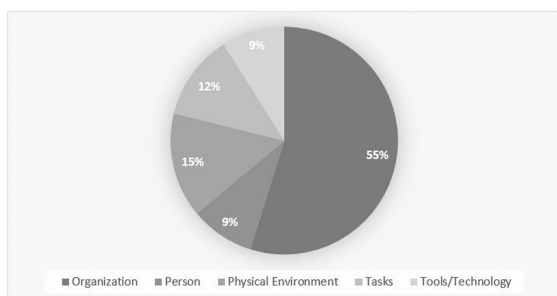


Figure 1: Pie Chart showing the frequency of each SEIPS component identified in the survey responses

home with respiratory symptoms by creating plans for coverage and back up consistently across all employee types in direct care.

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Evaluation of Vulnerabilities for the Spread of Carbapenem Resistant Organisms at Five Hospitals in India

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Background: The 2022 WHO global survey on infection prevention and control (IPC) exposes significant gaps in IPC in the WHO Southeast Asia region. A better understanding of IPC vulnerabilities will inform improvement initiatives. We describe an evaluation of IPC practices known to prevent and contain carbapenem-resistant organisms (CROs) at hospitals participating in the United States Centers for Disease Control Global Action in Healthcare Network -Antimicrobial Resistance in India. Prior hospital evaluations suggest resistance to carbapenems among gram-negative isolates is up to 45%. **Methods:** We conducted a mixed methods evaluation including cross-sectional surveys, semi-structured interviews, and site observations at five hospitals (one government, two private tertiary care, and two private teaching) located in three cities. The number of hospital beds ranged from 362 to 2,011. Hospital and IPC program characteristics, and CRO prevention and containment activities were examined virtually. Site observations focused on hand hygiene, environmental cleaning, personal protective equipment (PPE), CRO containment practices and use of water for patient care. **Results:** All sites had IPC programs with established policies and qualified IPC staff. The IPC nurse-to-bed ratio ranged from 1:73 to 1:432 (mean, 1:209). Due to the integral role of microbiology staff in IPC at these hospitals, the two departments had strong communication channels associated with CRO identification. Screening for CRO colonization, if done, targeted patients from outside hospitals. Three of the five hospitals routinely implemented contact precautions for patients with identified CROs, displayed isolation signage at the bedside, and provided adequate PPE at point-of-use; however, all sites reported barriers to effective isolation and/or cohorting patients with CROs. Timely communication of CROs to clinical staff varied and no sites effectively relayed CRO status upon patient discharge to another facility. IPC teams identified gaps in environmental cleaning procedures and practices related to medical devices and equipment. All sites used alternatives to tap water for clinical care and sink etiquette was evident. Each IPC team performed audits of patient isolation and hand hygiene practices. Despite

the considerable proportion of IPC resources dedicated to daily education and feedback in clinical areas, the IPC teams reported that improvement was often difficult to achieve. **Conclusion:** Given the high burden of CROs and limited IPC resources, detailed knowledge of IPC opportunities for improvement will help hospitals target novel interventions for CRO prevention and containment. Further investigation of colonization rates and effective performance improvement methods in these settings is needed.

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Impact of Transitioning to Single-Patient Rooms on Prevention of Multidrug-Resistant Organisms in a Resource-Limited Facility

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Background: Healthcare-associated infections (HAI) substantially increase hospital costs and lead to poor patient outcomes, particularly when caused by multidrug-resistant organisms (MDRO). To decrease MDRO transmission, isolation of colonized or infected patients in single rooms is recommended. However, single-patient isolation rooms are expensive to build and often unavailable in resource-limited hospitals. In 2023, an intensive care unit (ICU) at a large Brazilian tertiary hospital relocated from a space with an open floor plan to a newly built location with single-patient rooms. We evaluated the impact of this transition on acquisition of carbapenem-resistant Enterobacterales (CRE) colonization, HAI, and compliance with Hand Hygiene (HH) and Contact Precaution (CP) activities. **Methods:** We compared rates of CRE colonization acquisition, CRE colonization pressure, HAI, and compliance with HH and CP between pre- (March 1, 2022 – Feb 28, 2023) and post-implementation of single-rooms (March 1, 2023 - October 31, 2023) in a 12-bed surgical ICU. All patients were screened for CRE colonization on admission to the unit and weekly until discharge using rectal swab cultures. Colonization pressure was defined as the ratio of CRE-positive patient-days (PDs) to the total number of PDs. Rates of central-line associated blood-stream infections, ventilator-associated pneumonia, and catheter-associated urinary tract infections were monitored. HH and CP compliance were monitored weekly by infection prevention staff outside of the unit. Poisson regression and multiple linear regression were used to compare rates between pre- and post-implementation periods. **Results:** Healthcare acquisition of CRE colonization remained stable between pre- and post-implementation (incidence rate ratio: 0.88 (95%CI, 0.73-1.05; P=0.16) despite an increase in CRE colonization pressure of 8.6% over baseline (from 7.84% pre- to 16.39% post-implementation (95% confidence interval [CI], 4.13-12.96%; P=.001)). The latter was driven by reduced turnover of CRE-colonized patients in the post-implementation period (mean patient-day

reduced by 10.33; 95%CI, 3.06-17.61; P=0.006). Incidence of HAIs also remained stable (global incidence 3.12 vs 3.30, pre- and post-intervention, respectively; P=0.2). HH compliance was high prior to the transition (95.7%) and increased slightly but not significantly post-intervention (97.5%; P=0.3). CP compliance improved by 9.83%, especially in gown and glove changes after each patient interaction, from 90.62% pre- to 100% post-implementation (95%CI, 1.52-17.22; P=.02). Conclusion The move to an ICU with exclusively single-patient rooms was associated with increase in CP compliance. This could help explain why HAI incidence and healthcare acquisition of CRE colonization remained stable despite a significant increase in CRE colonization pressure.

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Assessment of 19 Operation Room and Sterile Processing Units in Puerto Rico, 2023: Preliminary Findings using a new ICAR Tool

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Background: Infection prevention and control assessments in healthcare settings serve as a primary resource for obtaining data and providing recommendations based on safety, compliance, and quality assurance guidelines. In Puerto Rico (PR), surgical site infections are underreported in the Epi Info platform used by the Puerto Rico Department of Health (PRDOH), mainly due to the complexity of their identification. By focusing on evaluating Operating Rooms/Sterile Processing and Distribution (OR/SPD) units in acute care facilities (ACFs), our goal is to generate new data within the Healthcare-Associated Infection/Antibiotic Resistance (HAI/AR) Program, specifically related to patient management throughout pre-operative, intraoperative, and postoperative phases, as well as reprocessing practices. **Methods:** Nineteen evaluations of ACFs' OR/SPDs were conducted from May through December 2023. Direct observations, file reviews, and personnel assessments were performed using an infection control assessment and response (ICAR) tool developed collaboratively by a team from an acute facility in PR and the HAI/AR Program staff. This ICAR Tool was customized based on guidelines from the certified Board for Sterile Processing and Distribution (CBSPD), the Association of periOperative Registered Nurses (AORN), and the Association for the Advancement of Medical Instrumentation (AAMI), among other regulatory agencies. The Division of Health Quality Promotion (DHQP) reviewed and approved the tool for use in these evaluations. **Results:** Key findings indicate that 32% of Sterile Processing Department (SPD) units restrict access to dedicated personnel with available manufacturer's instructions, yet only 36% of SPD personnel are certified in CBSPD and packaging practices. Only 10% of facilities had a water treatment system for sterilization and Immediate Use Steam Sterilization (IUSS) policies. Notably, 84% of endoscopy areas require additional equipment for cultivating endoscopes, and no facility possessed a borescope for visually inspecting endoscope lumens. Tray inspection occurred in 21%, and only 31% of staff knew the Spaulding Classification and Class V Indicators.