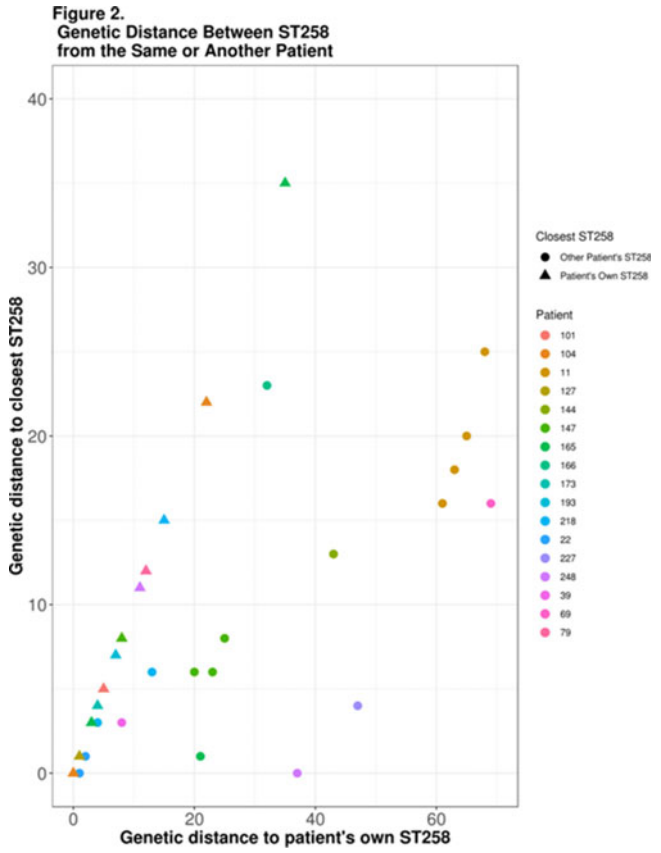

Fig. 2.

rooms, which may be preferred to cohorts to minimize potential harms by reducing MDRO transmission.
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Collaborative Approach to Developing Infection Prevention Control Recommendations at a Tertiary-Care Pediatric Hospital

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Background: Stollery Children's Hospital (SCH) is a tertiary-care pediatric hospital with a complex infrastructure: 3 NICUs located at 3 different hospitals, and all of the pediatric inpatient beds, PICU, PCICU, and a medical-surgical NICU at the main SCH site shared buildings with an academic adult hospital. We describe a collaborative process used to develop standardized SCH Infection Prevention and Control (IPC) recommendations. **Methods:** The SCH IPC formed a working group with Patient and Family-Centered Care (PFCC) and family representatives in 2014 to enhance the engagement of families in regards to IPC issues and initiatives. The working group identified inconsistent messages provided to families when a child was admitted as a patient requiring additional precautions (PRAP). The working group then developed a framework of key questions to be answered for family care providers of PRAP. The working group held several consultative meetings with frontline staff followed by a review of published guidelines and consultations with other pediatric hospitals about contentious issues. A consensus meeting with all key stakeholders was held to finalize IPC recommendations. **Results:** The key contentious issues included (1) whether personal protective equipment is required for family care providers who stay overnight with PRAP and (2) whether family care providers of PRAP are allowed to access nutrition centers on clinical units and family lounges in PCICU–PICU–NICU that were stocked with free hot meals for the families. No directly applicable recommendation was available IPC guidelines on these issues. Discussions of these topics were directed by PFCC at family councils of various clinical programs with efforts to seek opinions from more family representatives. Expert opinions and current practice were also obtained from Canadian hospitals through emails and from US hospitals through SHEA Open Forum by ICP. A final consensus meeting revisiting all available information was held, and a new Stollery IPC guideline was created with families as partners sharing the IPC vision of minimizing transmission risk at SCH. **Conclusions:** A consultative engagement and consensus process was successful in the development of IPC recommendations for family care providers for PRAP for implementation at a tertiary-care pediatric hospital with a complex infrastructure. The next step is to develop family-friendly educational and resource materials with clear and concise messages.
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Colonization and Infection With MRSA and CRKP and Its Result in an Increased Mortality Rate Within the Intensive Care and High-Dependency Units in Barbados

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Background: Methicillin-resistant *Staphylococcus aureus* (MRSA) and carbapenem-resistant *Klebsiella pneumoniae* (CRKP) are a growing public health concern in Barbados. Intensive care and critically ill patients are at a higher risk for MRSA and CRKP colonization and infection. MRSA and CRKP colonization and infection are associated with a high mortality and morbidly rate in the intensive care units (ICUs) and high-dependency units (HDUs). There is no concrete evidence in the literature regarding MRSA and CRKP colonization and infection in Barbados or the Caribbean. **Objectives:** We investigated the prevalence of MRSA and CRKP colonization and infection in the patients of the ICU and HDU units at the Queen Elizabeth Hospital from 2013 to 2017. **Methods:** We conducted a retrospective cohort analysis of patients admitted to the MICU, SICU, and HDU from January 2013 through December 2017. Data were collected as part of the surveillance program instituted by the IPC department. Admissions and weekly swabs for rectal, nasal, groin, and axilla were performed to screen for colonization with MRSA and CRKP. Follow-up was performed for positive

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cultures from sterile isolates, indicating infection. Positive MRSA and CRKP colonization or infection were identified, and patient notes were collected. Our exclusion criteria included patients with a of stay of <48 hours and patients with MRSA or CRKP before admission. **Results:** Of 3,641 of persons admitted 2,801 cases fit the study criteria. Overall, 161 (5.3%) were colonized or infected with MRSA alone, 215 (7.67%) were colonized or infected with CRKP alone, and 15 (0.53%) were colonized or infected with both MRSA and CRKP. In addition, 10 (66.6%) of patients colonized or infected with MRSA and CRKP died. Average length of stay of patients who died was 50 days. **Conclusions:** The results of this study demonstrate that MRSA and CRKP cocolonization and coinfection is associated with high mortality in patients within the ICU and HDU units. Patients admitted to the ICU and HDU with an average length of stay of 50 days are at a higher risk for cocolonization and coinfection with MRSA and CRKP. Stronger IPC measures must be implemented to reduce the spread and occurrence of MRSA and CRKP.
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Colonization and Genetic Diversity of MRSA Among ICU Patients and Healthcare Workers From a Hospital of Northeastern India

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Background: The prevalence of methicillin-resistant *Staphylococcus aureus* (MRSA) is diverse in different geographic regions, and transmission of MRSA in hospital settings occurs either through the patients or asymptomatic healthcare workers who MRSA colonized in the nares and thus act as a potential reservoir of infection for susceptible patients. **Methods:** *S. aureus* isolates were collected from ICU patients and healthcare workers at Gauhati Medical College and Hospital, Assam, India, from May 2010 to April 2015. Premoistened swab samples were obtained from the ICU patients from 4 different sites (ie, nares, axilla, groin, and perianal region) within 48 hours of admission. For healthcare workers (HCWs) a nasal swab was obtained. The isolates were identified by phenotypic and genotypic methods using CLSI guidelines and PCR (fem B, MecA, and PVL). The antibiograms were obtained using a Vitek 2 system. **Results:** For 84 patients admitted to the ICU, swab samples were obtained from various sites, and *S. aureus* was observed in 34 samples (40.5%). Among the isolates, 13 (38%) were MRSA and 21 (62%) were methicillin-susceptible *Staphylococcus aureus* (MSSA). Among the HCWs from the ICU, growth of *S. aureus* was obtained in 10 of 30 samples (33.34%), of which 3 (30%) were MRSA and 7 (70%) were MSSA. *S. aureus* isolates were genotypically identified as fem B among colonized patients (40.5%) and HCWs (33.34%). MRSA (mecA positive) was detected in 3% of colonized patients and 30% of HCWs. Among the ICU patients, 78.56% were PVL-positive *S. aureus*: 21.42% were PVL-positive MRSA and 57.14% were PVL-positive MSSA. Multilocus sequence typing of the 7 housekeeping genes against 2 *S. aureus* isolates showed the presence of ST1428, which had not been reported in India, whereas the other sequence was entirely novel. The MDR rates were 68% and 75% among ICU patients and HCWs, respectively, and all the strains were mupirocin sensitive. The *S. aureus* isolates were significantly proportional among HCWs compared to the colonized group ($P = .031$). **Conclusions:** The study results show a high prevalence of PVL-positive MSSA and MRSA among ICU patients. This finding indicates its transmission among hospitalized patients through the HCWs, for which constant monitoring of the pathogen, particularly its phenotypic and genotypic variations and antimicrobial resistance pattern, is needed to develop effective strategies for infection prevention.
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Colonization of Resistant Microorganisms in Renal Transplants

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Background: Kidney transplant recipients are a group of patients at risk for healthcare-related infections. The results of this study make an important clinical contribution and contribute to findings options to decrease the infection-related morbidity and mortality that affects this patient population. **Objectives:** We evaluated the prevalence of colonization by multidrug-resistant bacteria, *Klebsiella pneumoniae* carbapenemase (KPC)–producing bacteria, vancomycin-resistant enterococci (VRE), and methicillin-resistant *Staphylococcus aureus* (MRSA) in renal transplant patients; we identified the infection rate, morbidity, and mortality in this population. **Methods:** Prospective cohort study was conducted at the Kidney and Hypertension Hospital from 2012 to 2015. This project was approved by the Unifesp Research Ethics Committee (no. 1630/11) and an informed consent form was obtained from patients included in the study. **Study protocol:** Data collection was performed in 2 phases: within the first 24 hours after transplantation and 7 days after transplantation. For all included patients, the following data were collected: identification data, clinical data, and laboratory tests of the first day in the study. All included patients (colonized or not) were followed prospectively for 6 months or until treatment change or death. **Results:** The study included 200 renal transplant patients in accordance with the inclusion and exclusion criteria. We observed that 76 (38%) patients included in our sample were colonized; 8% *S. aureus*, 11% *Enterococcus*, and 19% *K. pneumoniae*. We verified the presence of concomitant colonization of 1 or more of these pathogens. The most prevalent concomitance identified in our population was *E. coli* and *K. pneumoniae*. We identified the presence of diabetes and diabetes associated with hypertension as risk factor for colonization. Thus, patients with more systemic complications may be at risk for colonization by multidrug-resistant bacteria. Another risk factor for colonization was antibiotic use in the 6 months prior to transplantation. Transplant-related outcomes