

Presentation Type:

Oral Presentation

Regional Public Health Response to Emerging Carbapenemase-Producing Organisms in Central Florida, 2019

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Background: Detection of unusual carbapenemase-producing organisms (CPOs) in a healthcare facility may signify broader regional spread. During investigation of a VIM-producing *Pseudomonas aeruginosa* (VIM-CRPA) outbreak in a long-term acute-care hospital in central Florida, enhanced surveillance identified VIM-CRPA from multiple facilities, denoting potential regional emergence. We evaluated infection control and performed screening for CPOs in skilled nursing facilities (SNFs) across the region to identify potential CPO reservoirs and improve practices. **Methods:** All SNFs in 2 central Florida counties were offered a facility-wide point-prevalence survey (PPS) for CPOs and a nonregulatory infection control consultation. PPSs were conducted using a PCR-based screening method; specimens with a carbapenemase gene detected were cultured to identify the organisms. Infection control assessments focused on direct observations of hand hygiene (HH), environmental cleaning, and the sink splash zone. Thoroughness of environmental cleaning was evaluated using fluorescent markers applied to 6 standardized high-touch surfaces in at least 2 rooms per facility. **Results:** Overall, 21 (48%) SNFs in the 2-county region participated; 18 conducted PPS. Bed size ranged from 40 to 391, 5 (24%) facilities were ventilator-capable SNFs (vSNFs), and 12 had short-stay inpatient rehabilitation units. Of 1,338 residents approached, 649 agreed to rectal screening, and 14 (2.2%) carried CPOs. CPO-colonized residents were from the ventilator-capable units of 3 vSNFs (KPC-CRE=7; KPC-CRPA=1) and from short-stay units of 2 additional facilities (VIM-CRPA, n = 5; KPC-CRE, n = 1). Among the 5 facilities where CPO colonization was identified, the prevalence ranged from 1.1% in a short-stay unit to 16.1% in a ventilator unit. All facilities had access to soap and water in resident bathrooms; 14 (67%) had alcohol-based hand rubs accessible. Overall, mean facility HH adherence was 52% (range, 37%–66%; mean observations per facility = 106) (Fig. 1). We observed the use of non-EPA-registered disinfectants and cross contamination from dirty to clean areas during environmental cleaning; the overall surface cleaning rate was 46% (n = 178 rooms); only 1 room had all 6 markers removed. Resident supplies were frequently stored in the sink splash zone. **Conclusions:** A regional assessment conducted in response to emergence of VIM-CRPA identified a relatively low CPO prevalence at participating SNFs; CPOs were primarily identified in vSNFs and among short-stay residents. Across facilities, we observed low adherence to core infection control practices that could facilitate spread of CPOs and other resistant organisms. In this region, targeting ventilator and short-stay units of SNFs for surveillance and infection control efforts may have the greatest prevention impact.

Figure 1. Box Plot of Percent Adherence to Hand Hygiene (HH) and Percent of Fluorescently Marked Surfaces Completely Cleaned, by Facility Type (n=21). Whiskers denote minimum and maximum values.

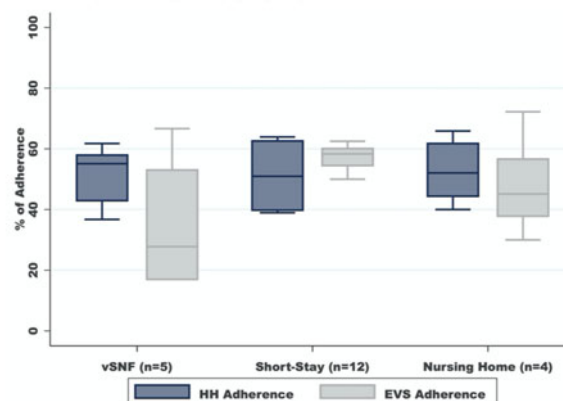


Fig. 1.

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Room for Improvement: Results of a Baseline Evaluation of Environmental Cleaning in a Resource-Limited Neonatal Unit

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Background: Contamination of the near-patient hospital environment including work surfaces and equipment, contributes to skin colonization and subsequent invasive bacterial infections in hospitalized neonates. In resource-limited settings, cleaning of the neonatal ward environment and equipment is seldom standardized and infrequently audited. **Methods:** A baseline multimodal assessment of surface and equipment cleaning was performed in a 30-bed high-care neonatal ward in Cape Town, South Africa, October 7–9, 2019. Adequacy of routine cleaning