

	A	B	C	D	E	F
Shower age 3 months			x		x	
Shower age 6 months		x		x		x
Shower Age Unknown	x					
System Treated with Chlorine			x	x	x	x
Mean/Average:	9.2	6.9	4.6	3.0	5.5	3.3
Median	9.8	7.6	4.8	0.0	6.3	0.0

All data is as the natural log of the HCC count.

Where:

- A Showers where the Installation Date is Unknown - Untreated
- B Showers Installed July 2017: 6 Months Old Untreated
- C Showers Installed September 2018: 3 Months Old - Treated - Biofilm Prevention
- D Showers Installed September 2018: 6 Months Old - Treated - Biofilm Prevention
- E Showers Installed September 2018: 3 Months Old - Treated - Biofilm Removal
- F Showers Installed September 2018: 6 Months Old - Treated - Biofilm Removal

Fig. 1.

difference in HCC between the 6-month-old untreated shower heads (group B) and treated shower heads (Group D) ($P < .001$). Hypochlorite was generally dosed at a concentration of 0.5 mg/L free chlorine for the first 3 months, and 1.5 mg/L for the second 3 months. Approximately 65% of the chlorine was lost as it travelled around the system. **Discussion:** Waterborne pathogens, especially multiresistant Gram-negative bacilli, have been increasingly recognized as hospital-acquired pathogens. Many instances of the transmission of these pathogens have been reported, from premise plumbing to patients, and have been confirmed using molecular typing techniques. **Conclusions:** A low-dose chlorination system of the circulating warm-water supply seemed effective in preventing biofilm formation and reducing existing biofilm in shower heads using HCCs as a measure of

biofilm. This information adds to the potential armamentarium for controlling the spread of these waterborne pathogens.

Funding: None

Disclosures: None

HCC levels (CFU/mL) in chlorine treated and untreated shower-heads of varying ages.

Doi:10.1017/ice.2020.745

Presentation Type:

Poster Presentation

Effective Utilization of Limited Isolation Rooms to Provide Safe Patient Care and Staff Safety in a Low- and Middle-Income Country

Rozina Roshanali, Aga Khan University Hospital

Average number of hours patients not in isolation

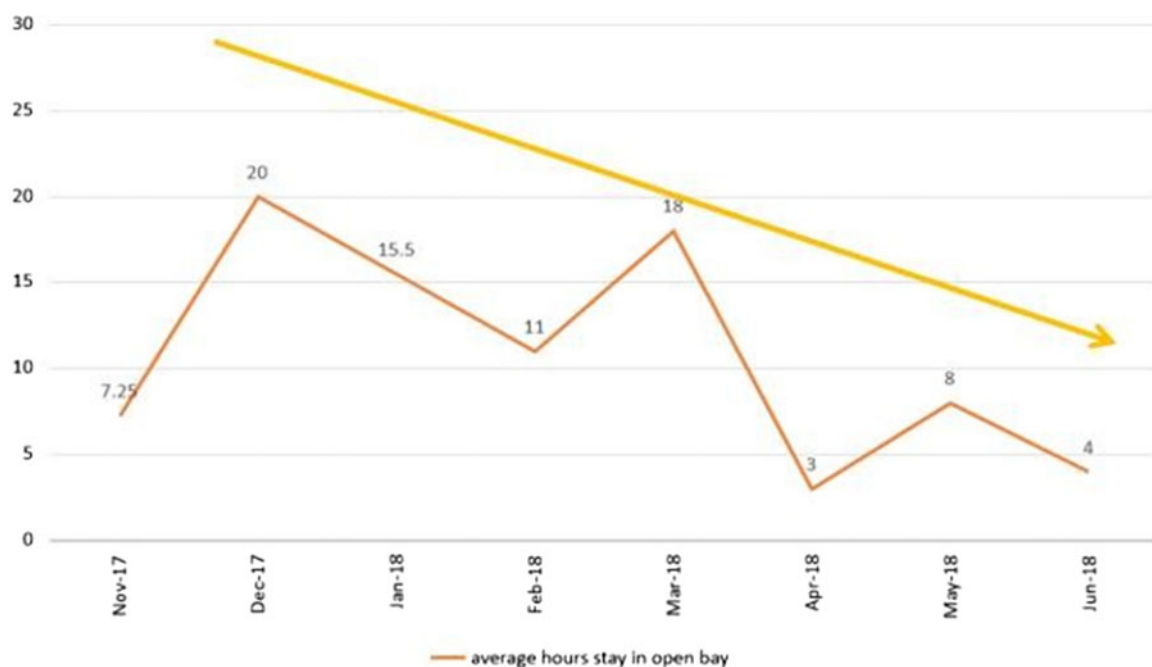


Fig. 1.

Staff Exposure Rate Q1 2017- Q3 2019

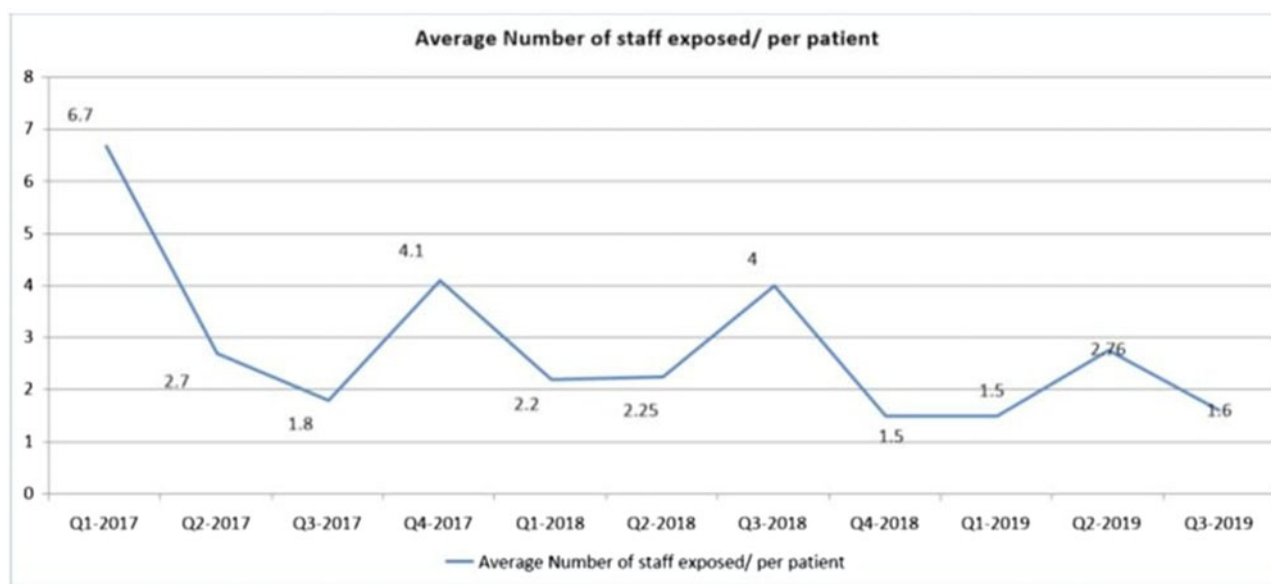


Fig. 2.

Background: My tertiary-care hospital is a 750-bed hospital with only 17 airborne infection isolation room (AIIR) and negative-pressure rooms to isolate patients who have been diagnosed or are suspected with prevalent diseases like tuberculosis, measles, and chickenpox. On the other hand, only 14 single-patient isolation rooms are available to isolate patients with multidrug-resistant organisms (MDROs) such as CRE (carbapenem-resistant *Enterobacter*) or colistin-resistant MDROs. Due to the limited number of isolation rooms, the average number of hours to isolate infected patients was ~20 hours, which ultimately directly placed healthcare workers (HCWs) at risk of exposure to infected patients. **Methods:** Plan-Do-Study-Act (PDSA) quality improvement methodology was utilized to decrease the average number of hours to isolate infected patients and to reduce the exposure of HCWs to communicable diseases. A detailed analysis were performed to identify root causes and their effects at multiple levels. A multidisciplinary team implemented several strategies: coordination with information and technology team to place isolation alerts in the charting system; screening flyers and questions at emergency department triage; close coordination with admission and bed management office; daily morning and evening rounds by infection preventionists in the emergency department; daily morning meeting with microbiology and bed management office to intervene immediately to isolate patients in a timely way; infection preventionist on-call system (24 hours per day, 7 days per week) to provide recommendations for patient placement and cohorting of infected patients wherever possible. **Results:** In 1 year, a significant reduction was achieved in the number of hours to isolate infected patients, from 20 hours to 4 hours. As a result, HCW exposures to communicable diseases also decreased from 6.7 to 1.5; HCW exposures to TB decreased from 6.0 to 1.9; exposures measles decreased from 4.75 to 1.5; and exposures chickenpox decreased from 7.3 to 1.0. Significant reductions in cost incurred by the organization for the employees who were exposed to these diseases for postexposure prophylaxis also

decreased, from ~Rs. 290,000 (~US\$3,000) to ~Rs. 59,520 (~US \$600). **Conclusions:** This multidisciplinary approach achieved infection prevention improvements and enhanced patient and HCW safety in a limited-resource setting.

Funding: None

Disclosures: None

Doi:10.1017/ice.2020.746

Presentation Type:

Poster Presentation

Effectiveness of Twenty Germicides Against Five Strains of *C. difficile* spores, With and Without Calf Serum, at Several Exposure Times

William Rutala, University of North Carolina School of Medicine; Maria Gergen, Hyper Light Technologies, Cary, North Carolina; Dale Gerding, Hines VA Hospital; David Jay Weber, University of North Carolina at Chapel Hill

Background: *Clostridioides difficile* is a major cause of antibiotic-associated colitis and the most common healthcare-associated pathogen in the United States. Interrupting the known transmission mechanisms of *C. difficile* in hospitals requires appropriate hand hygiene, disinfection of potentially contaminated surfaces, and patient equipment. However, only limited data are available on the effectiveness of germicides against various strains of *C. difficile*, with and without fetal calf serum, and at multiple exposure times. For this reason, we undertook the following evaluation to determine the effectiveness of germicides. **Methods:** The effectiveness of the sporicidal activity of the germicides against 5 strains of *C. difficile* was evaluated using a quantitative carrier test, a standard of ASTM International developed by Sattar et al. In this protocol, metal carriers (1 cm diameter × 0.7 mm thick) were inoculated with 10 µL spore suspension, containing ~103 or 106 *C. difficile* spores, and we then exposed them to 50 µL germicide for 1, 5, 10, or 20 minutes. The following *C. difficile* strains were used in