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Objectives: In healthcare facilities, environmental reservoirs of CPE are associated with CPE outbreaks. In the newly built NCID building, we studied the introduction of CPE in the aqueous environment. Methods: We sampled the aqueous environments (ie, sink, sink strainer, and shower drain-trap with Copan E-swabs and sink P-trap water) of 4 NCID wards (ie, 2 multidrug-resistant organism (MDRO) wards and 2 non-MDRO wards). Two sampling cycles (cycle 1, June-July 2019 and cycle 2, September-November 2019) were conducted in all 4 wards. Cycle 3 (November 2020) was conducted in 1 non-MDRO ward to investigate CPE colonization from previous cycles. Enterobacterales were identified using MALDI-TOF MS and underwent phenotypic (mCIM and eCIM) and confirmatory PCR tests for CPE. Results: We collected 448, 636, and 96 samples in cycles 1, 2, and 3, respectively. MDRO and non-MDRO wards were operational for 1 and 7 months during the first sampling cycle. The CPE prevalence rates in MDRO wards were 1.67% (95% CI, 0.46% - 4.21%) in cycle 1 and 1.76% (95% CI, 0.65% - 3.80%) in cycle 2. In the aqueous environments in MDRO wards, multiple species were detected (cycle 1: 2 K. pneumoniae, 1 E. coli, and 1 S. marcescens; cycle 2: 5 K. pneumoniae and 1 R. planticola), and multiple genotypes were detected (cycle 1: 3 blaOXA48; cycle 2: 5 blaOXA48 and 1 blaKPC). The CPE prevalence in non-MDRO wards was 1.92% (95% CI, 0.53%-4.85%) in cycle 1. The prevalence rate increased by 5.51% (95% CI, 1.99%-9.03%) to 7.43% (95% CI, 4.72%-11.04%; P = .006) in cycle 2, and by another 2.98% (95% CI, -3.82% to 9.79%) to 10.42% (95% CI, 5.11% – 18.3%; P = .353) in cycle 3. Only blaOXA48 S. marcescens were detected in all cycles (except 1 blaOXA48 K. pneumoniae in cycle 2) in the non-MDRO ward. Conclusions: CPE established rapidly in the aqueous environment of NCID wards, more so in MDRO wards than non-MDRO wards. Longitudinal studies to understand the further expansion of the CPE colonization and its impact on patients are needed.

Antimicrobial Stewardship & Healthcare Epidemiology 2023;3(Suppl. S1):s11-s12 doi:10.1017/ash.2023.36

Subject Category: Environmental Hygiene Abstract Number: SG-APSIC1099

Scoping review of cleaning of high-touch surfaces (HTSs) in inpatient wards

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Objectives: High-touch surface (HTS) cleaning is critical to prevent healthcare-associated infections. However, HTS definitions and cleaning frequency vary across guidelines. We conducted a scoping review of

guidelines on Google and PubMed using the following search terms: [(environmental cleaning/disinfection/housekeeping/sanitization), (hospital/healthcare/infection control prevention/inpatient/acute care), and (practice/guideline/guidance/methodology/protocol)]. We compared the guidelines' HTS definitions, recommended cleaning frequency, and supporting evidence. Results: In total, 9 environmental cleaning guidelines were included: Centers for Disease Control and Prevention (CDC 2020); Asia Pacific Society of Infection Control (APSIC 2013); International Society for Infectious Diseases (ISID 2018); Joint Commission Resources (JCR 2018); National Health Service, United Kingdom (NHSUK 2021); Public Health Agency, Northern Ireland (PHANI 2016); Public Health Ontario, Canada (PHOC 2018); National Health and Medical Research Council, Australia (NHMRC 2019); Ministry of Health, Singapore (MOH 2013). These 6 guidelines identified 31 types of HTS: bed rails and frames [mentioned by 6 of 6 guidelines]; call bells, doorknobs and handles (5 of 6 guidelines); bedside tables and handles, light switches, overbed and tray tables, and sinks and faucet handles (4 of 6 guidelines); chairs and chair arms, edges of privacy curtains, IV infusion pumps and poles, keyboards, medical equipment, monitoring equipment, and telephones (3 of 6 guidelines); assist bars, counters, elevator buttons, toilet seats and flushes, transport equipment, and wall areas around the toilet (2 of 6 guidelines); and bedpan cleaners, beds, blankets, commodes/bedpans, dispensers, documents, mattresses, monitors, mouse, pillows, and touch screens (1 of 6 guidelines). The JCR, NHMRC, NHSUK guidelines did not define HTSs. The 6 guidelines recommended at least daily cleaning for HTSs, but ISID, JCR, and NHSUK guidelines did not mention HTS cleaning frequency. The CDC guidelines further specified at least once daily cleaning for inpatient wards and private toilets and twice daily for public or shared toilets. None of the guidelines cited any references for HTS cleaning frequency recommendations. Conclusions: There is no uniformity in HTS definitions among 6 guidelines, and the recommended HTS cleaning frequency in these guidelines was not supported by published evidence. Studies exploring optimal cleaning frequency of HTSs are needed.

published guidelines on HTS definitions and recommended cleaning fre-

quency in inpatient wards. Methods: We searched national and societal

Antimicrobial Stewardship & Healthcare Epidemiology 2023;3(Suppl. S1):s12 doi:10.1017/ash.2023.37

Subject Category: Environmental Hygiene Abstract Number: SG-APSIC1091

Assessment of compliance to cleaning of computers by healthcare workers (HCWs) using adenosine triphosphate (ATP) measurement

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Objectives: HCWs are recommended to wipe the computers with alcohol wipes before clinical use. Compliance assessment by direct observation is resource intensive. We used ATP measurement as a surrogate to assess the