To date, five of eight clinics have or will transfer reprocessing to a CPD. In the first five weeks, the REDCap attestation results were used to provide on-site training to four clinics.

CONCLUSIONS: Tabletop sterilizer compliance is difficult to achieve and monitor due to complexity and lack of centralization. Consolidating reprocessing in a CPD is a feasible solution for optimizing performance. For clinics unable to transition reprocessing to a CPD, electronic tools can be used by IPC to centralize monitoring and ensure compliance.

Presentation Number 25
Impact of an Improved Hydrogen Peroxide (IPH) Disinfectant versus a Quaternary Ammonium-based (Quat) Disinfectant on Surface Contamination and Healthcare Outcomes

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BACKGROUND: IHP disinfectants effectively reduce contamination of hospital surfaces, but there are few data on their impact on healthcare-associated infections (HAIs). We compared the impact on surface contamination and HAI rates of two disinfectants containing IHP or Quat.

METHODS: An 11-month prospective trial with cross-over design was conducted on 4 patient wards on two campuses of a university-affiliated hospital. On each campus, two wards were randomized to have housekeepers perform daily room disinfection using a disinfectant containing 0.5% IHP or Quat. Each month, 5-8 high-touch surfaces in several patient rooms on each ward were tagged with a fluorescent marker and cultured after disinfection using Dey-Engley (D-E) agar plates. Data on the occurrence of target pathogens were obtained from Hospital Epidemiology records and hand hygiene compliance rates were obtained from hospital records. Outcome variables included aerobic colony counts (ACC) and percent of wiped surfaces yielding no growth, and a composite outcome of incidence densities on study wards of nosocomial acquisition and infection due to vancomycin-resistant enterococci and methicillin-resistant Staphylococcus aureus and Clostridium difficile infection. Statistical analysis was performed using Chi-Square and Welch's tests and logistic regression methods.

RESULTS: Mean ACC/surface after disinfection was significantly lower with IHP (14.0) than with Quat (22.2) ($P = .003$). Logistic regression model that included ACC before cleaning, ward, and high-touch surface revealed that the proportion of surfaces yielding no growth after disinfection was significantly greater with IHP (240/501 [47.9%]) than with Quat (182/517 [35.2%]) ($P < .0001$). Composite incidence density (cases/1000 patient-days) of nosocomial colonization/infection on IHP wards (8.00) was lower than on Quat wards (10.3) (incidence rate ratio = 0.77, $P = .068$). Hand hygiene compliance rates were similar on IHP and Quat wards.

CONCLUSIONS: Compared to a Quat disinfectant, the IHP disinfectant significantly reduced surface contamination and reduced a composite colonization/infection outcome.

Presentation Number 26
Hawthorne Effect in Hand Hygiene Compliance Rates

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BACKGROUND: The Hawthorne Effect (HE) impedes the validity of capturing true human behavior such that individuals modify performance during observation. The Infection Prevention (IP) department wanted to measure differences in hospital hand hygiene (HH) compliance rates dependent on the familiarity of known observers to the unit/department (U/D) staff. Detecting a difference in HH compliance rates while controlling for the methodology of collecting observation data might lend support to the validity of the HE.

METHODS: IP trained hospital volunteers to audit HH performance based on the World Health Organization's (WHO) principles of patient zones. IP group trained volunteers for two hours and individually validated volunteers' observations for competency. Using a novel technology-assisted hand hygiene compliance monitoring and reporting tool, IP (n = 5) and hospital volunteers (n = 10) coded specific variables during observations on U/D. Including all disciplines, auditors observed "before entering a room" and "after exiting a room". Hand hygiene performance includes Wash, Rub, or No (noncompliance).

RESULTS: From July through December 2015, auditors' findings yielded an overall HH compliance rate of 28% (n = 4640 audits). However, disaggregation of data revealed that IP's found an overall HH compliance rate of 57.42% (n = 820) while hospital volunteers found a compliance rate of 21.94% (n = 3820). Using a 2-sample z-test to compare sample proportions yielded a z-value of 20.43 (p < .01), showing a significant difference in HH compliance rates.

Hand Hygiene Compliance Rates Found by IP's and Volunteers

	July	August	September	October	November	December
IP N	25	138	247	190	134	86
Volunteer N	182	755	1159	1278	246	200
IP Compliance	16%	58%	52%	60%	70%	58%
Volunteer Compliance	23%	27%	23%	16%	26%	31%