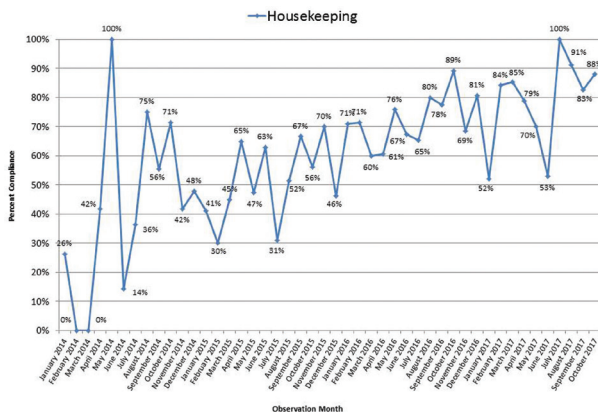


protect themselves and our patients, and reduce HAIs. Increasing EVS leadership commitment was key to further engage EVS staff and encourage better HH amongst EVS staff. Review of HH metrics was hard wired into the daily functions of the EVS department.

Results. Figure 1 shows EVS HH compliance from January 2014 through October 2017. This highlights the substantial progressive, albeit slow, improvement in EVS HH practices from a baseline of 40% to 60% to 80% over the course of nearly 4 years.

Conclusion. EVS HH rates remained suboptimal for prolonged periods. Initially the lack of leadership commitment and high staff turnover made training and engagement difficult. Continued interventions and use of just-in-time coaching proved to be effective to help improve compliance and better understand barriers to best practices. Connecting with EVS staff in small group huddles and the engagement of EVS leadership was key to success.

Figure 1 – Hand Hygiene Compliance by Healthcare Worker Type



Disclosures: J. P. Parada, Merck: Speaker's Bureau, Speaker honorarium.

461. Electronic Hand Hygiene Compliance Monitoring Systems: Not All Are Created Equal

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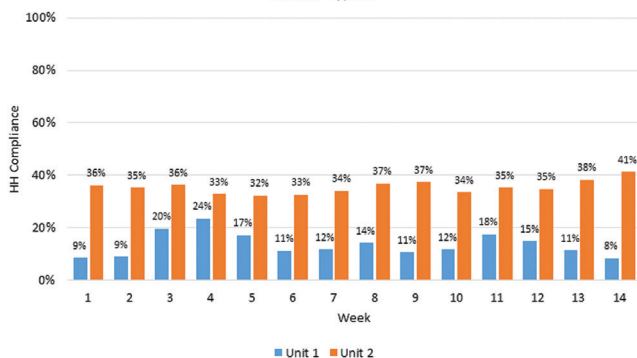
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Background. While direct observation is considered the gold standard for hand hygiene (HH) surveillance, there is a growing interest in the implementation of electronic monitoring systems, which claim to accurately capture individual-level HH performance.

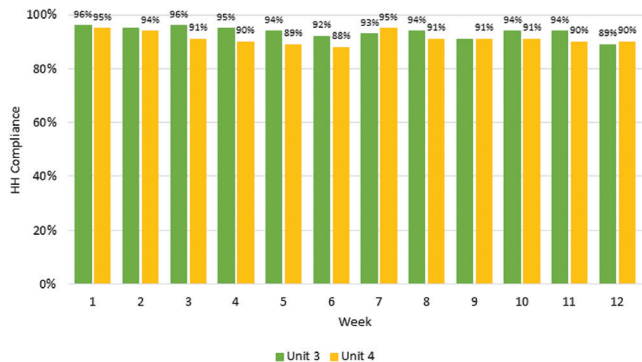
Methods. Two types of electronic hand hygiene monitoring systems (EHHMS) were trialed at an 865-bed, academic medical center over an 18-month period. Each type of EHHMS was piloted in two inpatient units, and hospital employees who had contact with patients and/or the patient environment were eligible to participate. In each trial, participants received standard training and were then asked to wear EHHMS badges while continuing their normal workflow. Methods of assessment included regular review of EHHMS reports, an inter-rater reliability analysis to compare EHHMS to direct observation by trained HH observer, and a qualitative electronic survey to assess the acceptability of EHHMS. HH compliance goal was set at 90%.

Results. In the first pilot, 279 employees volunteered to trial Type A EHHMS for 14 weeks, with an overall HH compliance of 30% (87,688 opportunities). In the second pilot, 169 employees volunteered to trial Type B EHHMS for 12 weeks, with an overall HH compliance of 93% (363,272 opportunities). Voluntary survey response rate for Type A was 32% (90/279) and for Type B was 40% (67/169). The majority of respondents consistently used EHHMS in daily workflow (Type A: 82%, 68/83) (Type B: 82%, 55/67) and most did not feel apprehensive about using the EHHMS (Type A: 19%, 16/83) (Type B: 22%, 15/67).

EHHMS- Type A



EHHMS- Type B



Inter-rater reliability assessment of piloted EHHMS

Type of Technology	Unit	Number of beds	Technology Compliance	HH Observer Compliance	Kappa Statistic	Technology Accuracy
Type A	Unit 1	20	15% (N = 86)	90.8% (N = 308)	0.039	11%
	Unit 2	30	42% (N = 98)	89% (N = 470)	0.180	54%
Type B	Unit 3	30	93% (N = 116)	90% (N = 48)	0.81	97%
	Unit 4	30	87% (N = 141)	92% (N = 60)	0.74	95%

Conclusion. Type B EHHMS captured our healthcare workers' HH performance during clinical workflow with a greater accuracy and more HH events than Type A. EHHMS may provide an alternative method to capture HH compliance in the healthcare setting. Hospitals considering the use of an EHHMS should assess the technology's ability to accurately capture HH performance in the clinical workflow prior full housewide implementation.

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462. "All Eyes on You": A Covert Observational Study on Contact Precaution Compliance in Six Hospitals at the Detroit Medical Center

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Background. The Center for Disease Control and Prevention recommends strict contact isolation precautions (CP) that include hand hygiene (HH) and barrier (gloves and gown) precautions upon entering and leaving the rooms of patients diagnosed with multidrug-resistant organism or *Clostridium difficile* infections. Although this policy has been in place for several years, compliance rate among HCW is rarely studied. The aim of our study was to covertly monitor, analyze, and compare the overall bundle compliance (OBC) and individual (HH, glove and gown) component compliance (ICC) among HCWs during routine patient care.

Methods. A prospective observational study was done in six Detroit Medical Centers (July 2017 to February 2018). Trained observers audited both inpatient and intensive care units on random days and time. Components audited (1) HH before donning and after doffing (2) gowning and gloving techniques before entering and after exiting the patient room. A mobile application (speedy audit) was used to record all data. A pilot targeted education program (TEP) was also conducted in one of the hospitals where education was focused only on strict HH practice before donning.

Results. A total of 6,274 observations were collected. The OBC was 38%. Common HCWs observed included nurses (registered nurse and nursing student)