

#### 1504. Implementing an Electronic Hand Hygiene Tracking Device at an Acute-Care Facility

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**Background.** With hand hygiene (HH) compliance seldom reaching 50% in healthcare, electronic compliance monitoring systems (ECMS) are supplanting the gold standard of monitoring with direct observation and feedback to increase compliance. We sought to determine the impact on HH compliance of an ECMS in an acute-care facility and to analyze theoretical constructs of health care workers (HCWs) and factors that impact program success and compliance improvement.

**Methods.** Pedometer-like ECMS devices were carried by 11 HCWs in a wing of a 117-bed acute-care hospital during a multi-phase study. Compliance was captured by direct observation and electronic recording through triggers installed in patient rooms and in touch-free dispensers. Feedback was disabled during Phase I, enabled during Phase II, and questionnaires were administered pre- and post-study. Comparisons of

compliance between phases and according to work shift, in addition to questionnaire score differences, were calculated.

**Results.** During Phase I, HH compliance recorded by direct observation was 53.3% compared to 37.1% measured by ECMS. During Phase II, direct observation compliance decreased to 44.8% while ECMS increased to 50.8%. There was a statistically significant 22% increase in compliance from Phase I to Phase II. Timing of the work shift appeared to have a significant impact on compliance in Phase I where it was 40.4% during the day and 25.3% at night. However, compliance significantly increased in Phase II in all work shifts and, differences between work shift were no longer detected. Weekly quality checks for ECMS device accuracy were 93.6%, but verbatim questionnaire responses addressed concerns of accuracy and indifference to device use.

**Conclusion.** Despite a significant increase in HH compliance with ECMS, recruitment and retention of HCWs in the study was challenging, thus impacting sample size and leading to potential volunteer bias. Future studies may benefit from applying incentives, penalties or mandatory use of ECMS to sustain increased HH compliance. Developing a strong theoretical framework and identifying HH barriers and perceptions among HCWs prior to employing intervention may promote program success.

**Disclosures.** S. Edmonds, GOJO Industries: Employee, Salary K. Fox, GOJO Industries: Employee, Salary