Significantly Improved Hand Hygiene Compliance Using Nudging and Performance Feedback Based on Data from an Automated Monitoring System

Marie Stangerup RN, Christiane P. Kavaliris RN, Michelle From-Hansen RN, Marco B. Hansen MD, PhD, Rosa Hansen RN, Bjørn Hesselbo Cons., Krassimir Kostadinov MD, Jenny D. Knudsen Prof.

Background

Hand hygiene compliance (HHC) plays an important role in infection prevention but is often suboptimal. Evidence-based practices to increase and sustain HHC is needed. We aimed to test the effect of nudging and performance feedback on healthcare workers’ HHC using anonymized data from an automated monitoring system.

Methods

This prospective, quality-improvement project was conducted between February 2018 and April 2019. The automated monitoring system was installed at an Orthopedic Surgery Department (29-beds unit) and measured hand hygiene opportunities and alcohol-based hand sanitizations in all rooms of the ward.

Staff were nudged by discrete symbols and lights from the sensors placed on existing alcohol gel dispensers. The study period was divided into four phases where the healthcare workers received different types of feedback: 1) Baseline (2 months), 2) Nudging (2.5 months), 3) Team feedback (5.5 months) and 4) Individual feedback (4 months).

Continuous variables are presented as means. Student’s t-test test was used for comparisons between the groups. Analyses were performed using the Microsoft® Power BI software. A 2-sided value of p < 0.05 was considered statistically significant.

Results

In total, 14 and 74 Sani IDs were handed out to doctors and nurses, respectively. HHC significantly increased from baseline for both doctors (30% vs. 55%, p=0.0005) and nurses (42% vs. 61%, p < 0.0001) when they were visually nudged. The doctors further improved (76%, p=0.002) when they received team performance feedback compared with nudging only, while the nurses kept a steady HHC level. The staff who received individual performance feedback increased HHC level even further compared to the period when they only received team performance feedback (61% vs. 77%, p < 0.0001).

Conclusions

Using nudging and performance feedback significantly improves HHC for both doctors and nurses. The highest HHC level was achieved when using individual performance feedback.