



# The Effects of Executive Involvement, Goal Setting, Targeted Education and Caregiver Recognition on Hand Hygiene Performance

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## Background/Objectives

Based upon the challenges of improving and sustaining hand hygiene compliance through conventional means, increasing regulatory requirements and a desire to improve patient care, this 145-bed acute care Medical Center decided to implement and evaluate an automated hand hygiene monitoring system. The objective of the study was to measure the impact of automated hand hygiene monitoring system deployment on hand hygiene solution dispensing, hand hygiene compliance and infection rates before and after executive intervention. The initial implementation and application of technology alone, however, did not yield the desired results.

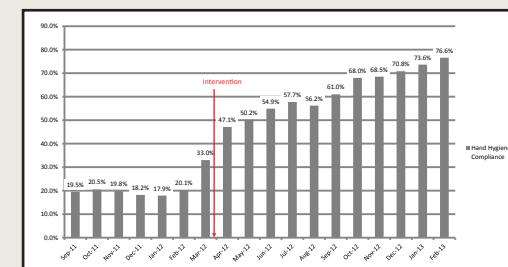
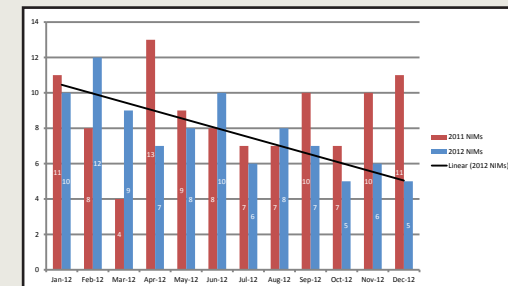
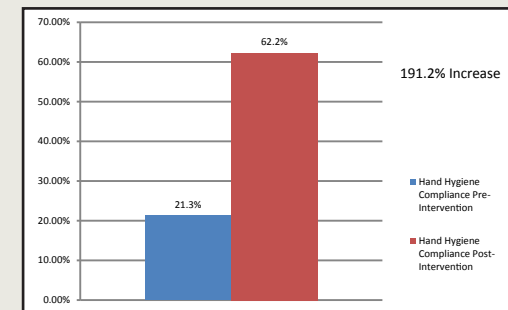
## Methods

Our Medical Center installed a wireless hand hygiene monitoring system from Proventix Systems in a 31-bed medical-surgical unit. We monitored 62 employees including physicians, nurses, nursing assistants, physician assistants, clinical educators, as well as physical therapy and administrative staff. Hand hygiene solution dispensing, hand hygiene compliance and healthcare associated infection rates were measured and reported from January 2012 through December 2012.



## Results

During a five week baseline period, the unit experienced a 51.3% increase in soap dispensing and a 37.3% increase in sanitizer dispensing, for an overall 45.2% increase in total hand hygiene solution dispensing. Although these were positive results, these gains did not result in a significant overall increase in hand hygiene compliance. It was only after increased executive involvement and targeted education as well as caregiver recognition that the compliance rates improved. The unit reported a 191.2% improvement when comparing pre-intervention compliance (average 21.3%) to post-intervention compliance (average 62.2%). Individual hand hygiene compliance rate increases for the employees were statistically significant (Students t-test, paired t= 7.780369 (49), p= 4.1456-E09, SAS). Average monthly hand hygiene solution dispenses increased by 91.2%, and healthcare associated infections as measured by an electronic proxy called the Nosocomial Infection Marker® (NIM-Carefusion) decreased by 25.0% during the post-intervention time period. These NIM reductions equate to a direct cost savings of \$53,376, a bottom line impact of \$29,700, and 49.2 days length of stay avoided.



## Conclusions

This Medical Center's implementation of an electronic hand hygiene monitoring system was most effective after increased executive involvement, goal setting, targeted education and caregiver recognition. The combination of these elements enhanced caregiver hand hygiene performance and resulted in improved clinical and financial outcomes. The initial improvements were best achieved only after the technology was paired with implementation of an "Executive Push Package" that included clear executive support, visible leadership involvement, goal setting and a caregiver awareness and engagement campaign.

