

Electronic Hand Hygiene Monitoring in the Emergency Department: Charting New Territory

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ISSUE

Despite building a strong culture of hand hygiene compliance in a large metropolitan teaching facility, the Emergency Department (ED) rates frequently fell below the expected organizational targets. This was consistent with ED hand hygiene compliance rates reported in literature. Multiple initiatives undertaken in this ED achieved limited success therefore a greater understanding of hand hygiene compliance was required.

PROJECT

A project team was formed including representatives from the ED, Infection Prevention and Control, and a clinical consultant from the electronic compliance monitoring (ECM) company. A hand hygiene ECM system was installed in 39 rooms in the ED. The devices captured entry and exit from the rooms as surrogates for Moment 1 and Moment 4 of hand hygiene. Current methodology of direct observation continued with additional observations completed by the project team during evenings and nights. ECM results were available 24/7 on a secure website.

RESULTS

During the project, direct observation of healthcare providers captured an average of 60 hand hygiene opportunities per month with 75% compliance for Moment 1 and 89% compliance for Moment 4. The ECM captured an average of 300,000 opportunities per month for all entries and exits, with an average compliance rate of less than one third that of direct observation. The compliance rate was consistently higher for day shift than night shift. There was a 17.6% increase in compliance over baseline as measured by the ECM.

LESSONS LEARNED

- **Direct observation, considered the gold standard by some, does not provide a complete picture of actual hand hygiene compliance.**
- **Direct observation captured 0.02% of the actual opportunities in this busy ED.**
- **ECM provided more robust, real-time actionable data.**
- **Engaging the assistance of an ED hand hygiene champion helped improve hand hygiene culture and compliance.**
- **Despite a trend in improvement in hand hygiene compliance, it remains below target and will require ongoing attention.**

LESSONS LEARNED (continued)

Figure 1:
The Hand Hygiene Journey at SJHH

A research study completed in 2006 found the average hand hygiene (HH) compliance rate at SJHH was 26%. In 2008 the Ministry of Health and Long Term Care (MOHLTC) implemented the Just Clean Your Hands Program and mandated that all hospitals report HH rates.

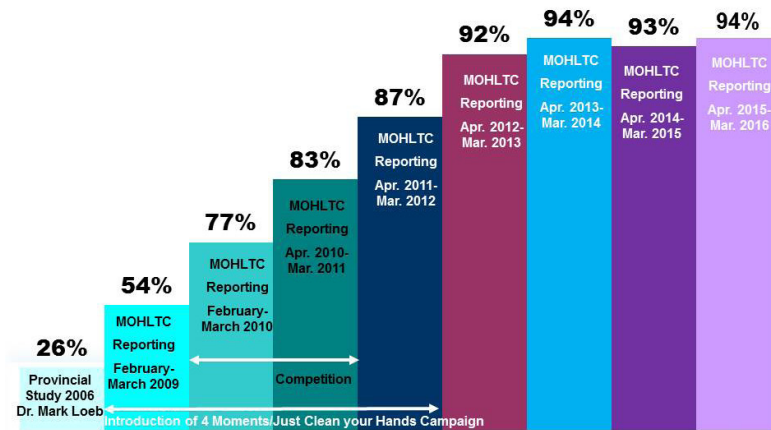


Figure 2:
ED Hand Hygiene Rates – Visual Audits

■ April 2011-March 2012
■ April 2012-March 2013
■ April 2013-March 2014
■ April 2014-March 2015

Reporting of HH rates for outpatient settings such as ED was not required but was included in the SJHH Hand Hygiene Program. HH rates were consistently below the hospital targets despite numerous interventions. The design of the department also made performing visual audits extremely challenging.

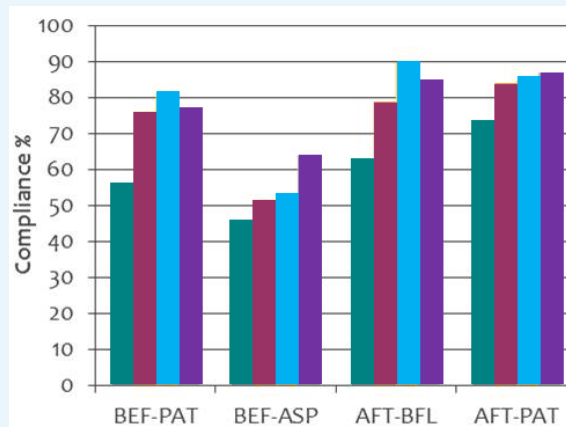


Figure 3:
ED Hand Hygiene Room Entrances and Exits

Data Collected: Room Entrances and Exits
Total Data Points: 1351
Observation Time: 425 minutes / 7 hours 5 minutes

All entries and exits to the room were measured and the percentage of opportunities attributed to various groups was identified. 67% of all entry and exits was clinical staff.

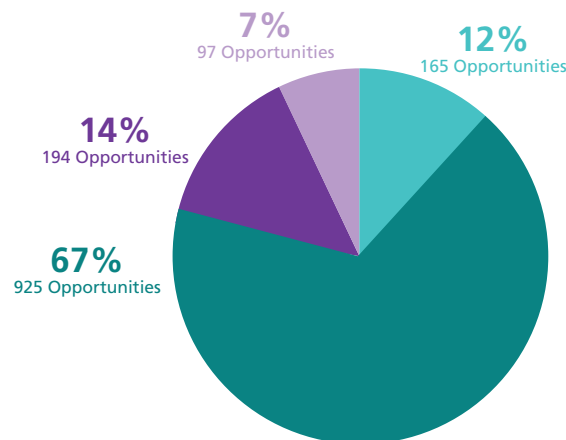
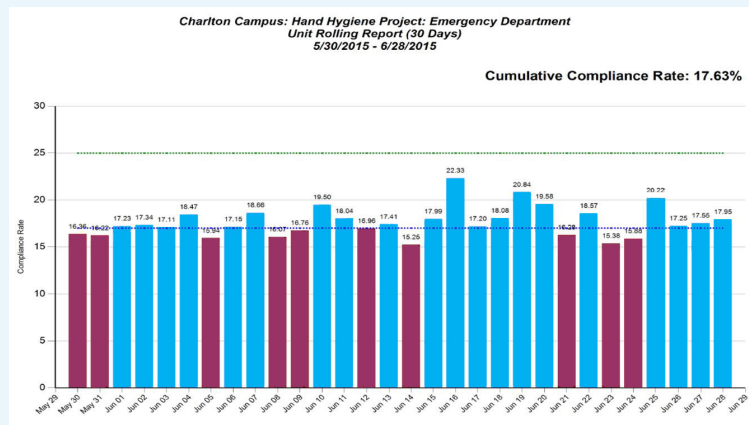


Figure 4:
Performance History:
30 Day Report

..... (25%) Goal
..... (17%) Baseline

ECM captured 300,000 opportunities in a 30 day period. Average visual audits captured 60 opportunities or 0.02%



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