



Reduction of Healthcare-Associated Infections by Exceeding High Hand Hygiene Compliance

Interventional study

Performed by the University of North Carolina Hospitals

WHAT WAS INVESTIGATED?

- Investigation whether an improvement in hand hygiene compliance from a baseline high level (>80 %) to an even higher level (>95 %) can **lead to a reduction of** healthcare-associated infections (**HAI**)

WHAT WAS THE RESULT?

- Significant increase in overall hand hygiene compliance rate** ($p < 0.001$)
- Significantly decreased overall HAI rate** ($p = 0.0066$)
- 197 fewer infections and estimated 22 fewer deaths
- By reducing the HAI rate, **~ 5 million USD could be saved**

The further improvement of hand hygiene compliance by 10 % is associated with a hospital wide reduction of healthcare-associated infections by 6 %.





BACKGROUND

Association between hand hygiene and infection prevention has been known since the early beginnings of hospital hygiene. However, the challenge in healthcare settings is to achieve and maintain a high compliance among healthcare personnel in contact with patients and their environment.

DESIGN AND METHODS

The study started in October 2013 by implementing a new hand hygiene program “Clean In, Clean Out” in all inpatient areas of the University of North Carolina Hospitals, an 853-bed facility. The main focus of observation was on cleaning hands before entering and after leaving patient rooms. In addition, all healthcare personnel (including physicians, nurses, nursing assistants, etc.) were asked to make observations and provide immediate feedback to each other. The observation period ran from October 2013 to February 2015.

GOAL

The aim of this study was to investigate, whether the improvement in hand hygiene compliance from an already high level of >80 % to above >95 % could lead to a reduction in healthcare-associated infections (HAIs).

RESULTS

Implementation of the new hand hygiene program led to >140,000 observations by >4,000 unique observers during the 17-month study period. The overall hand hygiene compliance rate increased significantly ($p < 0.001$), while the overall HAI rate showed a significant decrease ($p = 0.0066$), particularly for healthcare-associated *C. difficile* infections. This was supported by 197 fewer infections (see Figure 1) and an estimated 22 fewer deaths. Overall savings of ~ 5 million USD could be achieved by these reductions.

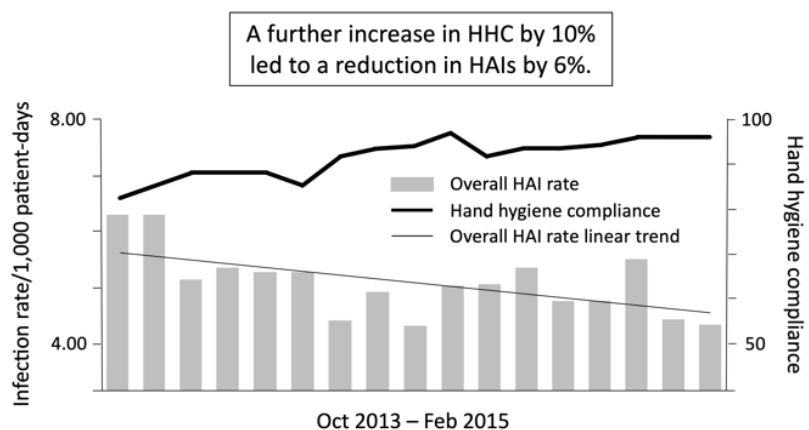


Figure 1: Modified from Sickbert-Bennet (2016)

CONCLUSION

The further improvement of an already high hand hygiene compliance by implementing a new hand hygiene program and an observation method, which engaged all healthcare personnel in monitoring and improving their own hand hygiene compliance, led to a substantial reduction in HAIs hospital-wide.