



## KEY POINT SUMMARY

### OBJECTIVES

The objective of this paper was to report on a study conducted on the effectiveness of an electronic sensor-triggered audible hand hygiene reminder to increase hand hygiene compliance by healthcare workers and visitors at ward entrances.

### DESIGN IMPLICATIONS

The study suggests that electronic motion sensors that trigger audible reminders about hand hygiene (installed at entrances to patient rooms and wards) promote compliance.

## Effectiveness of an audible reminder on hand hygiene adherence

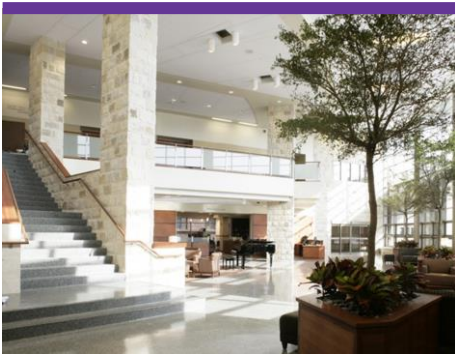
Fakhry, M., Hanna, G. B., Anderson, O., Holmes, A., & Nathwani, D. 2012 | *American Journal of Infection Control*. Volume 40, Issue 4, Pages 320-321

### Key Concepts/Context

To reduce healthcare associated infections (HAIs), interventions, like alcohol-based hand rub, soap and water, training, education, workplace reminders, etc., have been introduced to increase hand hygiene compliance by healthcare workers. Visitors to hospitals may also spread infections, and it is imperative for them to be acquainted with and comply with hand hygiene during their visits. Both the World Health Organization and the Centers for Disease Control and Prevention require that alcohol-based hand rub should be conveniently located at the entrance to patient rooms or wards. According to literature, sanitizers at these locations are used more frequently than those located at patient bedside, yet compliance is a challenge. This article reports on a study examining the efficacy of an audible hand hygiene reminder. Based on an observation study carried out in a ward in one hospital between 2009 and 2010, the authors concluded that an audible hand hygiene reminder had increased hand hygiene compliance.

### Methods

This study involved a pre-interventional and post-interventional study over an eight-month period in one hospital. Visitors, doctors, nurses, physiotherapists, and nonclinical staff were observed entering and exiting wards, and their compliance with hand hygiene (alcohol-based hand rub at the ward entrance) was duly recorded. These observations took place at four different doors in three 15-minute periods during the day. The pre-intervention phase lasted for two months (November-December 2009) and the post-intervention phase lasted for six months (January 2009-June 2010). Electronic motion sensors that activated audible reminders to comply with hand hygiene were installed in the ceiling of the corridor at the ward entrance. Alcohol-based hand rub dispensers were located by the door. During the study period this was the only intervention that was implemented. Data collected were analyzed statistically.



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## Findings

The study yielded the following findings:

- In the pre-intervention phase, 706 hand hygiene actions were observed, and during the post-intervention phase, 2157 hand hygiene actions were observed.
- The group that was most observed were visitors.
- Hand hygiene adherence/ compliance increased significantly from 7.6% to 49.9% between the pre- and post-intervention phases ( $P < 0.001$ ).
- Compliance increased significantly by the following numbers among ( $P < 0.001$  for all):
  - Visitors: from 10.6% to 63.7%
  - Doctors: from 4.5% to 38.3%
  - Nurses: from 5.4% to 43.4%
  - Physiologists: from 8.7% to 49.5%
  - Nonclinical staff: from 5.3% to 34.8%
- The impact of the sensor was immediate in the case of visitors and nonclinical staff, while in the in the case of clinical staff, the response was more gradual.
- Hand hygiene compliance among all groups, except the nonclinical staff, was significantly maintained in the second half of the post-intervention period ( $P < 0.001$ ).

## Limitations

The authors did not identify any limitations in their study. However, it was noticed that the duration of the pre-intervention phase was shorter by one-third of the duration of the post-intervention period. Another limitation is that the authors do not indicate if there was any scope to determine (in the post-intervention phase) how many of these of hand hygiene opportunities were instinctive and how many in response to the sensor.

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