

App Monitors Health Care Professionals' Hand Hygiene



Do health care professionals perform hand hygiene? UI has an app for that.

One of the most common causes of preventable health care-associated infections is poor hand hygiene. iScrub Lite 1.5, an iPhone and iPod touch application developed at the University of Iowa, makes monitoring hand hygiene compliance more efficient and accurate.

The availability of the free application on May 5 at the iTunes store coincides with the World Health Organization's (WHO) "5 Moments for Hand Hygiene" campaign. The campaign, which is part of the WHO's "Save Lives: Clean Your Hands" annual initiative, spells out the standard opportunities for health care workers to practice hand hygiene.



"iScrub simplifies the time-consuming and error-prone process of recording observations, analyzing the data, and feeding results back to health care professionals and managers," said Philip Polgreen, M.D., one of the application's developers and an assistant professor of internal medicine at the UI Roy J. and Lucille A. Carver College of Medicine.

The Centers for Disease Control and Prevention (CDC) guideline for hand hygiene in health care settings recommends that hospitals periodically monitor hand hygiene adherence by health care personnel and provide feedback to personnel regarding performance. iScrub allows a user to enter data on an iPhone or iPod and periodically email the information in spreadsheet form to one or more email addresses of the user's choosing. "Any institution can easily customize the free application to support their own monitoring needs," Polgreen noted.

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A recent review of 96 hand hygiene studies from hospitals in industrialized nations found an overall hand hygiene adherence rate of 40 percent among health care workers. The authors found great variation in the methods used to measure adherence, reflecting the lack of a standardized approach to hand hygiene auditing in health care settings.

"The long-term goal of our research is to understand hand hygiene behavior and use the feedback to help improve rates. This app can help standardize and streamline how observations are recorded," Polgreen said.

Currently, most hospitals have in-house observers use clipboards or note cards to record hand hygiene compliance, and the information is then transcribed into an electronic database, from which reports are generated.

"This process can delay the availability of results and introduce errors," Polgreen said. We simplified the process by creating iScrub and eliminating the extra efforts traditionally required for data entry."

A partnership with the Computational Epidemiology group in the UI Department of Computer Science led to the application's development. Christopher Hlady, a UI doctoral student in computer science, built the first version of iScrub. Two other UI doctoral graduate students, Donald Curtis and Jason Fries, later helped expand the platform with a companion website.

"We presented the concept at a meeting last year, and pursued it after seeing excitement from infection control professionals," Hlady said. "iScrub Pro is currently in pilot deployment on iPod touches at University of Iowa Hospitals and Clinics, where we have installed a display, which frequently updates health care professionals with compliance statistics."

The team working on iScrub also includes Alberto Segre, Ph.D., UI professor and associate chair of computer science. The efforts were supported in part by grants from the CDC and the National Institutes of Health.

Learn more about iScrub at <http://compepi.cs.uiowa.edu/iscrub/> [1].

Learn more about the WHO "Save Lives: Clean Your Hands" initiative at <http://www.who.int/gpsc/5may/en/> [2].

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Links:

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