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Measuring Hand Hygiene Compliance: A New Frontier for Improving Hand Hygiene

Hand hygiene practices are suboptimal in clinical venues, and improving and sustaining rates of compliance have been difficult to achieve.[1] Feedback to clinicians has been recognized as a mechanism for improving compliance.[1,2] Rarely are healthcare workers provided with personalized feedback on their hand hygiene practices. Electronic technology is being explored as a means to improve the rates of hand hygiene compliance.[3] This emerging area of study has the potential to provide an important level of necessary feedback and to serve as a critical tool for improving hand hygiene practices.

We have developed a device that operates similarly to the way a pedometer operates, by providing feedback data to an individual who wishes to quantify his/her level of activity. The basis for this device stems from the use of room entries and the use of liquid soap or hand sanitizer (hereafter referred to as dispensing events) as surrogate markers for hand hygiene compliance. Each patient room entry constitutes 2 opportunities for hand hygiene (1 before patient or environmental contact and 1 after).

This device is small (size, 8 cm × 3 cm × 1 cm) and can therefore be conveniently placed in one's pocket. It is capable of recording each room entry and all dispensing events by use of wireless technology. Small trigger devices are placed discreetly in patient rooms and in dispensers to signal room entries and hand hygiene events. The device maintains a small LCD monitor readout that provides the user with real-time data on room entries and dispensing events with a calculated score. The data from the device are downloaded by use of a USB computer port and accessed by use of a Windows application. The data are recorded and displayed anonymously, with each device assigned a specific identification number. We have conducted preliminary testing of the device and have found it to be accurate and reliable. Of 425 room entries, 423 (99.5%) were recorded; of 678 dispensing events, 626 (92.3%) were recorded.

We will be conducting a second phase of our study to test the effectiveness of the device in a clinical setting. Healthcare workers will be provided with the device, which will be worn during daily clinical encounters with patients. Participants will be able to view their data as well as those of all other study participants (anonymously) at weekly intervals. Such a mechanism would allow for users to compare themselves with others. By the use of this reliable and accurate objective measure of hand hygiene compliance, we hope to achieve behavioral modification by providing feedback to healthcare workers.

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Andrew G. Sahud, MD;
Nitin Bhanot, MD, MPH

From the Division of Infectious Diseases, Allegheny General Hospital, Pittsburgh, Pennsylvania (both authors).

Address reprint requests to Andrew G. Sahud, MD, Division of Infectious Diseases, Allegheny General Hospital, 320 East North Avenue, South Tower, Pittsburgh, PA 15212 (asahud@wpahs.org).

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Influenza Pseudoinfection

We read the article by Shulze-Röbbeke and Schmitz on pseudoinfections.[1] Pseudoinfections are interesting and present a diagnostic challenge.[1] Differing from a misdiagnosis of infection resulting from contaminants or laboratory errors, pseudoinfections occur when the clinical presentation and laboratory findings disagree.[2-4] Recently, a patient was admitted to the emergency department with an influenza-like illness. The result of a rapid influenza test (QuickVue; Quidel) was positive for influenza A virus, and appropriate isolation precautions were taken. However, the clinical findings did not support the