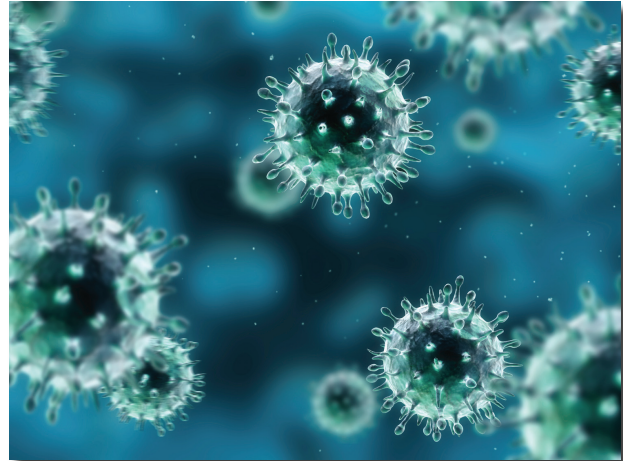


Touchless Door Switches Can Help Reduce Healthcare-Associated Infections

Reducing hospital infection rates is an important priority for the healthcare industry. Achieving that goal will require a wide range of new practices and procedures, including procedures designed to minimize infections transmitted through healthcare workers' hands.

One new practice should be to install touchless switches that enable healthcare professionals to open automatic doors with the wave of a hand. This eliminates the need for healthcare professionals to touch doorknobs, door handles or mechanical access switches which, in turn, eliminates the possibility that healthcare workers' hands will be contaminated from contact with previously contaminated door hardware.



A big problem

In recent years there has been a rise in awareness of and interest in patients who develop infections in hospital and healthcare environments. Patient infections can impede the healing process and, in some cases, can even lead to death.

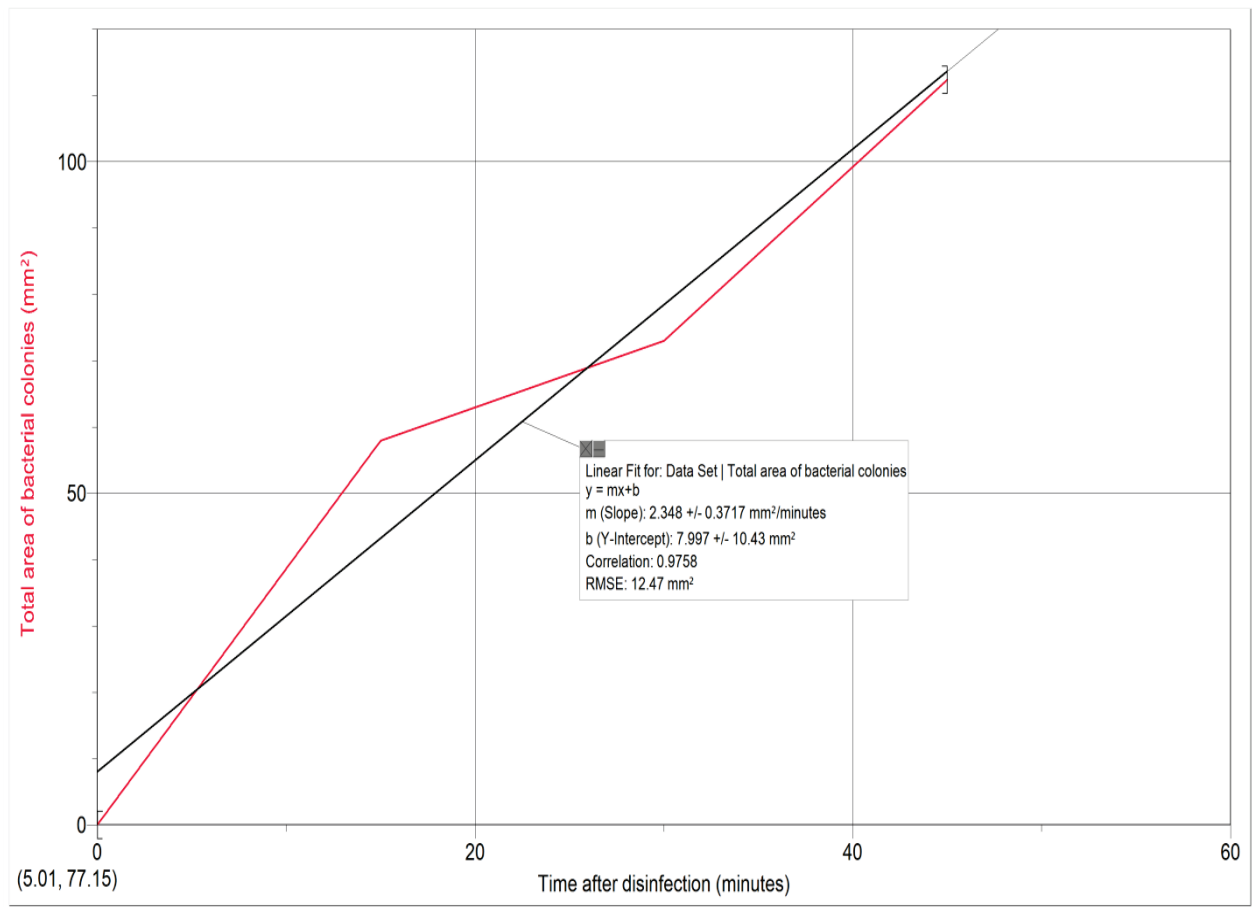
According to the Center for Disease Control (CDC), on any given day about 1 in 25 hospital patients has at least one healthcare-associated infection. The CDC also estimates that of 722,000 patients with healthcare-associated infections (HAIs) in acute care hospitals in 2011, about 75,000 died during their hospitalization.

According to a 2009 CDC estimate, the overall annual direct medical costs of HAIs to U.S. hospitals ranges from \$28.4 billion to \$33.8 billion. Estimates of how much those costs could be reduced through preventive measures range from 20% to 70%.

Healthcare hand cleanliness is a key factor

Research shows that insufficient hand hygiene on the part of healthcare personnel is an important contributor to higher infection rates. Healthcare workers' hands sometimes are contaminated through indirect contact – touching contaminated objects and surfaces. After that occurs, viruses and bacteria can be passed from the healthcare worker's hands to a patient.

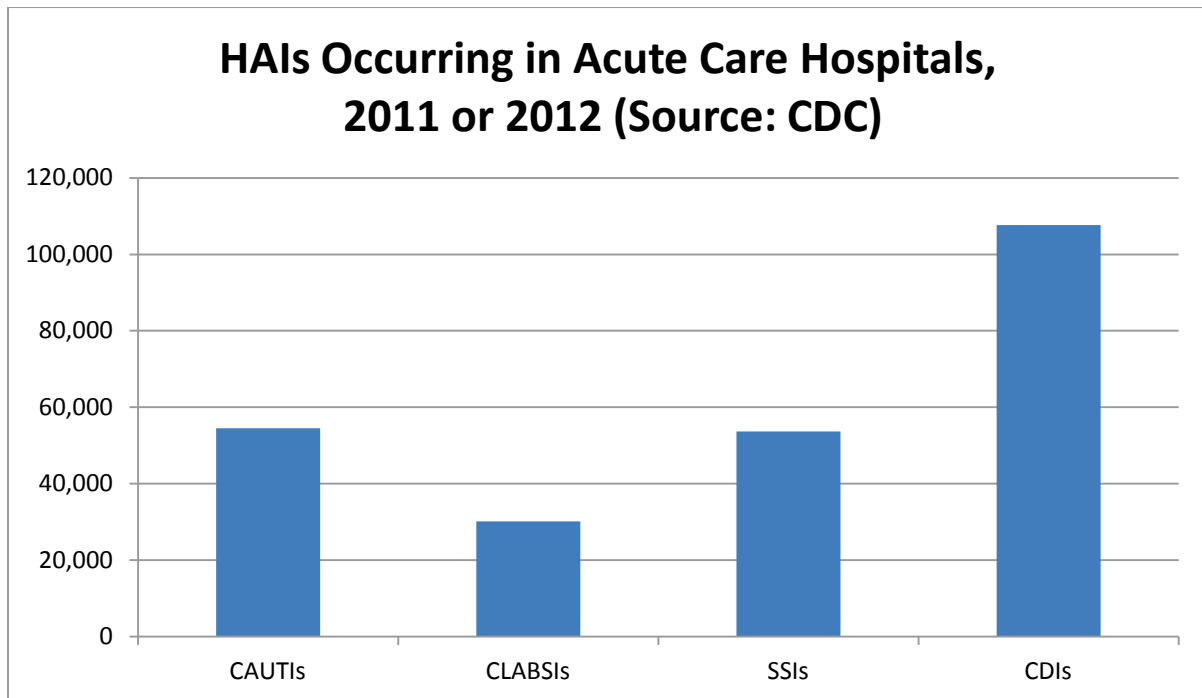
One of the ways that healthcare workers' hands become contaminated indirectly is by touching door hardware that has been previously touched by someone whose hands were contaminated. Researchers at the University of Massachusetts- Amherst found bacteria on doorknobs as soon as 15 minutes after the doorknobs were disinfected.



Total area of bacterial colonies formed on samples collected at 0, 15, 30, 45 minutes after disinfection of door handle. (Source: University of Massachusetts- Amherst)

Using appropriate hand hygiene measures is a key recommendation for preventing three of five types of HAIs studied by the CDC – including:

- catheter-associated urinary tract infections (CAUTIs),
- central line-associated bloodstream infections (CLABSIs) transmitted through patient intravenous tubes
- methicillin-resistant staphylococcus aureus (MRSA) infections related to a strain of bacteria that has become resistant to antibiotics.



Healthcare personnel often do not wash their hands when they should, however -- either because they feel they cannot spare the time to do so or for a variety of other reasons.

The CDC cites a hospital study of 2,834 observed opportunities for hand hygiene which found that on average, healthcare workers complied with hand hygiene requirements only 48% of the time. A separate study of intensive care units cited by the World Health Organization found that adherence to hand hygiene practices was 70% during less busy periods and was 25% during busier periods.

Another concern related to hand hygiene is that healthcare workers have been found to be susceptible to a range of skin problems as a result of frequent hand washings. The CDC notes that in certain surveys, approximately 25% of nurses report symptoms of dermatitis involving their hands, and as many as 85% give a history of having skin problems.

Touchless door access switch

One way to minimize the likelihood that healthcare professionals' hands will be contaminated is to use touchless door switches that enable the professionals to open an automatic door with a hand wave.

One company that offers this type of product is Essex Electronics Inc., a Carpinteria, California based company that has specialized in developing and manufacturing access control products for more than 35 years. The company's touchless switch carries the brand name Hand-E-Wave™ which uses microwave and Doppler radar technology to sense motion within a field adjustable detection zone of 2 to 24 inches.

The Hand-E-Wave switch provides audio and visual feedback when motion is detected within the detection zone. The product is available in either narrow style or single gang and can be surface or recess mounted. Hand-E-Wave has a low profile, stainless steel design which is easy to clean and resistant to commercial cleaners.



Summary

Healthcare associated infections (HAIs) are a major concern, contributing to patient illness and death and increasing healthcare costs for everyone. Hand hygiene on the part of healthcare personnel can have a significant impact on the incidence of HAIs – and one of the challenges in maintaining proper hand hygiene is healthcare professionals' contact with contaminated objects and surfaces, including doorknobs, door handles and mechanical door access switches.

One way to reduce the incidence of HAIs is to eliminate the need for healthcare personnel to touch door hardware by installing touchless switches that enable the professionals to open automatic doors with a hand wave. One example of a touchless switch is the Hand-E-Wave from Essex Electronics.

Minimizing HAIs will require addressing a wide range of contributing factors – and the use of touchless switches should be one element of a comprehensive HAI minimization program.

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