

Duct Tape Cuts Time and Costs Related to Contact Precautions

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June 29, 2011 (Baltimore, Maryland) — Red duct tape can save healthcare workers time and hospitals money by defining a "red box" just inside patient rooms in which healthcare workers can communicate with patients who are isolated with infections without stopping to don a gown and gloves. The approach extends the "safe zone" and reduces the time spent donning and doffing personal protective equipment (PPE) to see patients on contact precautions.

Janet Nau Franck, RN, MBA, CIC, a consultant and infection preventionist, described her team's findings during an abstract presentation here at the Association for Professionals in Infection Control and Epidemiology 2011 Annual Meeting.

Defining a safe zone with red duct tape saved more than 2,700 hours a year and at least \$72,000 a year in PPE at Trinity Medical Center, a 504-bed magnet hospital system in the Quad Cities on the Iowa/Illinois border.

"We were quite surprised," Ms. Franck told *Medscape Medical News*. The potential time and money saved was far more than expected, she said. When initially conceived, the intent of the study was to look for an easier option for staff to more frequently communicate with patients.

The finding comes as a growing trend in the United States requires patients with a history but no active infection with a multidrug-resistant organism, such as methicillin-resistant *Staphylococcus aureus*, to be placed on contact precautions, Ms. Franck said. The red-box approach could help boost infection prevention and control efforts by allowing staff to quickly communicate and assess patients.



In rooms of patients on contact precautions, the floor was marked with red tape in a 3-foot square (or box), extending from the threshold of the door. According to infection-control policy, a gown and gloves had to be worn anywhere in the room outside of the red box.

Usually, healthcare workers must put on PPE before entering an isolated patient's room. But dressing in gowns and gloves before every interaction can be time-consuming, costly, and may pose communication barriers with patients. This study demonstrated that healthcare professionals could safely enter the red-box area without PPE for quick communication and assessment.

A time study, which was conducted between January 2009 and December 2010 at Trinity Regional Health System, based in Rock Island, Illinois, showed that 30% of patient interactions performed in the red box were for quick communication and assessment. The numbers are conservative, because they are based on time and cost savings for nursing staff only.

The savings would be much greater if they included time and money saved by physicians, and by the staff working in pastoral care and dietary, rehab, and respiratory therapy, Ms. Franck said. Although measurements were based on the nurses' use of the red box, all staff and visitors were asked to use the red box. Pastoral, rehab, and dietary staff frequently used it just to check whether the patient was available to talk.

Healthcare workers were "actually thrilled" to use the red box, because they didn't have to put on their gown and gloves just to cross the door's threshold. The extra 3 feet meant they were more apt to enter the room and talk to the patient.

Two thirds of healthcare workers surveyed reported that the red box reduced communication barriers. Eight in 10 of those surveyed said they saved time when they didn't have to don PPE. Another 8 in 10 said they could assess and communicate with patients more frequently.

According to Ms. Franck, on average it takes healthcare workers 70 seconds to put on and take off PPE. The time saved by using the red-box strategy exceeds the cost a hospital would pay for a full-time-equivalency staff member, she added.

"The beauty of this intervention is in its simplicity," said Irena Kenneley, PhD, APRN-BC, CIC, assistant professor in the School of Nursing at Case Western Reserve in Cleveland, Ohio. "It doesn't get more simple than putting tape on the floor. What really blew me away was its potential to be applicable to other settings where healthcare is delivered, such as long-term care, where there are many problems with infectious diseases and infection control, and even home healthcare, especially since multidrug-resistant organisms are being found more commonly in the community."

Using tape to define a safe zone is a simple solution that could help family members understand contact precautions and prevent them from becoming infected with multidrug-resistant organisms from a patient who has just gotten home, Dr. Kenneley said.

According to Ms. Franck, the red-box strategy could also be used for patients who are on droplet precautions, as long as the distance from the head of the patient's bed to the box itself is more than 3 feet.

Association for Professionals in Infection Control and Epidemiology (APIC) 2011 Annual Meeting. Presented June 27, 2011.

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