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Unanimous Employee Use of Gown and Glove Leads to 40% Reduction of MRSA in ICU

According to a new study co-led by the University of Maryland School of Medicine and the Yale New Haven Health System Center for Healthcare Solutions a simple procedural change can reduce patient acquisition of methicillin-resistant Staphylococcus aureus (MRSA) by approximately 40 percent. Using disposable gowns and gloves on an intensive care unit (ICU) upon entering all patient rooms instead of only in rooms on standard isolation protocol increased the frequency of handwashing among healthcare employees. Though it did not prevent patient acquisition of another common bacteria, vancomycin-resistant Enterococcus (VRE), it did not impact patient events adversely either.

These findings of the study, funded by the Agency for Healthcare Research and Quality (AHRQ), are published online in JAMA and presented at IDWeek, an annual meeting of more than 5,500 professionals in healthcare epidemiology and infectious diseases.

Despite the fact that healthcare-associated infections (HAIs) are on the decline across the United States they still affect approximately one in 20 patients. Research has shown that healthcare workers are the cause of bacterial cross contamination across patients due to carrying the germs on their hands and clothing. Under CDC guidelines (Centers for Disease Control and Prevention) hospital staff are currently required to wear gowns and gloves when caring for patients affected by antibiotic-resistant bacteria such as MRSA and VRE. This is not a recommendation when these infections are undetected.

Anthony D. Harris, M.D., MPH is professor of epidemiology and public health at the University of Maryland School of Medicine and the study's principal investigator. He confirmed that the universal use of gowns and gloves by all healthcare workers in ICU patient contact did indeed decrease acquisition of antibiotic-resistant bacteria such as MRSA without causing any harm to the patient. Dr. Harris, who is also vice president of the Society for Healthcare Epidemiology of America (SHEA), adds: "From a public health perspective, it's important that we evaluate interventions that may continue to drive these infection rates down, especially as concerns persist about antibiotic-resistant bacteria."

The investigation included 20 medical and surgical ICUs across 15 states, and examined nearly 92,000 cultures from more than 26,000 patients over a nine-month period in 2012. Assignment to either the intervention or control group was random, with one already wearing the protective gear upon entering ICU rooms and the other only wearing gowns and gloves for contact with patients with known antibiotic-resistant bacteria.

While the study did not show a decrease in VRE its findings were clear with regards to a reduction in MRSA. It

also demonstrated a higher handwashing frequency among healthcare staff leaving patient rooms.

The study did not confirm previous findings which stated that use of contact precautions would adversely impact patients through increased instances of pressure sores, falls or other unintended physical injury resulting from medical care or hospitalisation. As a matter of fact, a downward trend of this statistic was observed in the intervention group.
Daniel J. Morgan, M.D., M.S., the study's senior author and assistant professor of epidemiology and public health at the University of Maryland School of Medicine believes that this type of infection control studies are vital to the advancement of science and the decrease in health-care associated infections and adds "In conjunction with the evolution of hospital cleaning practices, increased handwashing frequency and other measures, patients in hospitals can be safer than they've ever been from HAIs."

Beverly Belton, RN, MSN from Yale New Haven Health System Center for Healthcare Solutions and PhD student at Yale University was also involved as study co-author. She recommends the adoption of universal gowning and gloving policies on intensive care units which are traditionally at highest risk for MRSA infections.

"Studies such as this continue to advance the knowledge and understanding of healthcare-associated infections and how they can be prevented. These results will certainly prove useful in evaluating public health policies and recommendations for how to best protect patients and advance their healing in the hospital setting." concludes E. Albert Reece, M.D., Ph.D., M.B.A., vice president for medical affairs at the University of Maryland and the John Z. and Akiko K. Bowers Distinguished Professor and Dean of the University of Maryland School of Medicine.

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