

Researchers downplay MRSA screening as effective infection control intervention

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Three Virginia Commonwealth University epidemiologists are downplaying the value of mandatory universal nasal screening of patients for MRSA, arguing that proven, hospital-wide infection control practices can prevent more of the potentially fatal infections.

In a report published in the November issue of *Infection Control and Hospital Epidemiology*, the team, composed of internationally acclaimed epidemiologists Richard P. Wenzel, M.D., Gonzalo Bearman, M.D., and Michael B. Edmond, M.D., of the VCU School of Medicine, said "hospitals get more bang for their buck with evidence-based infection control prevention."

Some states, including Pennsylvania, Illinois, California and New Jersey, are mandating universal nasal screening for methicillin-resistant *Staphylococcus aureus*, or MRSA, in hospitalized patients. MRSA is a strain of Staph bacteria that does not respond to penicillin and related antibiotics, but can be treated with other drugs.

"The key safety question today, since it is possible to reduce the total risk of hospital infections by half with a broad-based infection control program, is what is the incremental benefit of a component focusing on a single antibiotic-resistant pathogen?" said Wenzel.

Using epidemiological principles and focusing on deadly bloodstream infections, the team modeled a focused-screening program that was assumed to be effective in reducing MRSA rates by 50 percent and compared it to a hospital-wide program designed to reduce the rates of all infections by half.

According to Wenzel, chair of internal medicine at the VCU School of Medicine and immediate past president of the International Society for Infectious Diseases, MRSA infections cause only 14 percent of hospital infections, and investing huge

resources into their control would be less effective than implementing programs that would reduce the burden of all infections by 50 percent.

Also in the model, the MRSA screening was inferior to the general infection control programs, preventing fewer infections, fewer deaths and was also less effective in reducing years of life lost from infections. The MRSA screening tests have false positives – leading to the isolation of patients who are non-MRSA carriers – as well as false negatives – missing some true carriers.

Further, the cost of nasal swabbing tests for all patients in a screening program was estimated to be two to three times that of adding additional infection control nurses for a broad infection control program.

The authors acknowledge that there are some instances in which MRSA screening and topical antibiotic treatment of nares of carriers may add incremental benefit to a hospital wide, evidence-based program. For example, in a patient going for open heart surgery who is a MRSA carrier, a post-operative infection would be devastating.

Wenzel and his colleagues' broad perspective is that a focused screening program would have made more sense in the late 1980s and early 1990s since MRSA was the key in antibiotic-resistant pathogen. However, in the last 15 years hospitals are facing multiple bacteria with broad resistance (Vancomycin-resistant enterococci, imipenam-resistant pseudomonas, totally drug resistant *Acinetobacter* and others), and efforts need to be broad based with a goal of reducing the overall burden of infections.

Source: Virginia Commonwealth University

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