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Study Finds Drop in Deadly V.A. Hospital Infections

By KEVIN SACK
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ATLANTA — An aggressive four-year effort to reduce the spread of deadly bacterial infections at veterans' hospitals is showing impressive results and may have broad implications at medical centers across the country, according to the first comprehensive assessment of the program, which was released Wednesday afternoon.



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Jeff Swensen for The New York Times
A study suggested great benefits from measures like washing hands, wearing gloves and screening all patients for deadly bacteria.

The study of 153 Veterans Affairs hospitals nationwide found a 62 percent drop in the rate of infections caused by methicillin-resistant Staphylococcus aureus, or MRSA, in intensive care units over a 32-month period. There was a 45 percent drop in MRSA prevalence in other hospital wards, like surgical and rehabilitation units.

The Veterans Affairs strategy employs a "bundle" of measures that include screening all patients with nasal swabs, isolating those who test positive for MRSA,

requiring that staff treating those patients wear gloves and gowns and take other contact precautions and encouraging rigorous hand washing. The results may not be easily replicated in the private sector, but they are likely to step up pressure by further undercutting the notion, prevalent at many hospitals not long ago, that infections are an unavoidable cost of doing business.

"I think our study has shown that it is possible to make this large-scale change, even in a large system," said Dr. Rajiv Jain, an official with the Veterans Health Administration and the study's primary author. "If other hospitals were to follow our lead, I think it is possible to decrease these infections."

But a second large study of intensive care cases, also published Wednesday, raises doubts about whether a key component of the veterans' approach — the testing of every patient upon admission and discharge — is necessary or cost-effective. Taken together, the studies are likely to stoke a raging debate among infection control specialists about the wisdom of universal testing, which can be expensive and time-consuming for hospitals.

The studies were published in tandem in The New England Journal of Medicine one day after the Obama administration announced a new initiative aimed at preventing hospital infections and other medical errors. With a goal of reducing preventable conditions by 40 percent over three years, the Department of Health and Human Services plans to spend up to \$1 billion made available by the 2010 health care law to improve patient safety at hospitals and avoid costly readmissions.

There have been some recent signs of progress. A study published last year found that the nytimes.com/2011/.../14infections.html

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incidence of MRSA in hospitals in nine cities dropped by 28 percent between 2005 and 2008.

But the [Centers for Disease Control and Prevention](#) in Atlanta still estimates that one of every 20 patients will acquire an infection while hospitalized. Using data from 2002, the agency concluded that hospital infections were associated with 99,000 deaths and costs of \$28 billion to \$34 billion a year.

The quantification of the human toll, and the cost to state and federal health programs like [Medicaid](#) and [Medicare](#), has spurred governments to attack the problem.

Reimbursements to hospitals may now be docked when patients develop infections or require readmission for infections and other errors. Many states mandate public reporting of hospital infection rates and other quality measures. Ten states require that patients be tested for [antibiotic-resistant](#) bacteria like MRSA upon admission to intensive care units, where the threat of infection is typically highest.

It has long been clear that patients and health care workers pass the germs to one another, and that diligent hand hygiene and other precautions can significantly reduce the risk of transmission. But compliance with guidelines has been uneven at best.

The study of intensive care units released Wednesday, for instance, found that health care workers wore gloves only 82 percent of the time when such precautions were specified, donned gowns only 77 percent of the time and washed their hands after only 69 percent of patient contacts. The lead author, Dr. W. Charles Huskins of the [Mayo Clinic](#) in Rochester, Minn., noted that those numbers were “not woefully bad,” as previous studies had found hand-washing compliance to be as low as 50 percent.

Focusing on MRSA and another virulent bacterium, vancomycin-resistant enterococcus, the study found no significant difference in infection and colonization rates between intensive care units that tested patients as a matter of course and those that did not.

As with the veterans' hospitals, the study of intensive care units found that universal testing detected large numbers of patients with infections or bacteria present whose status would not otherwise have been known. But units that did not conduct universal testing, and where doctors simply ordered screening if symptoms presented, had similar rates of infection.

The study, of 9,000 cases in 2005 and 2006, was the first exploration of the question in a randomized controlled trial, the gold standard of epidemiological research.

Dr. Huskins and his colleagues had hypothesized that universal testing, and the expanded use of gloves, gowns, hand-washing and other precautions, would make a difference. They were surprised by the results, and posited that additional techniques, like antiseptic bathing of patients and more rigorous cleaning of rooms, might be necessary.

“Universal screening with the use of isolation precautions, at least as we studied it, is not likely to be a highly effective strategy across the board,” Dr. Huskins said.

Dr. Jain of the Veterans Health Administration said he had concluded precisely the opposite after watching the agency replicate the success of the model he helped pioneer at a Pittsburgh hospital. Although his study could not demonstrate it scientifically, he said he was convinced that testing all patients upon admission had been “a very significant component.”

The veterans' hospitals also have encouraged cultural changes aimed at empowering front-line workers, whether nurses or janitors, to innovate ways to control infection. Dr. Jain said the testing of every patient had itself reinforced that cultural shift.

“Testing every patient brings the infection control initiative into the thinking of the entire staff,” he said. “The staff takes more ownership, not only of hand hygiene and other precautions but also of doing whatever is necessary to prevent the spread of these



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infections.”

Infection rates at the veterans’ hospitals had been static in the two years before the new approach was implemented systemwide in 2007. The hospitals then saw significant decreases in every form of MRSA-related infection. Dr. Jain said each hospital spent between \$160,000 and \$300,000 a year to employ a prevention coordinator and lab technician and to purchase testing supplies, gowns and gloves.

Dr. John A. Jernigan, an authority on hospital infections with the Centers for Disease Control, said it was not clear how to reconcile the two studies.

“But one message these studies, taken together, do convey is that MRSA is too complex a problem to be controlled with any single intervention,” said Dr. Jernigan, who participated in both studies. “The overriding message of the V.A. study is that hospitals can make a difference, and that’s important because it shifts the conversation from if it can be done to how it might best be done.”

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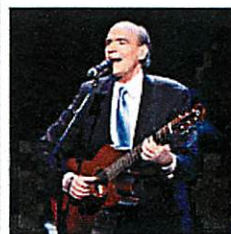
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