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Swabs in Hand, Hospital Cuts Deadly Infections

A special light reveals deadly bacteria.

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PITTSBURGH — At a veterans' hospital here, nurses swab the nasal passages of every arriving patient to test them for drug-resistant bacteria. Those found positive are housed in isolation rooms behind red painted lines that warn workers not to approach without wearing gowns and gloves.

Every room and corridor is equipped with dispensers of foamy hand sanitizer. Blood pressure cuffs are discarded after use, and each room is assigned its own stethoscope to prevent the transfer of microorganisms. Using these and other relatively inexpensive measures, the hospital has significantly reduced the number of patients who develop deadly drug-resistant infections, long an unaddressed problem in American hospitals.

The federal Centers for Disease Control and Prevention projected this year that one of every 22 patients would get an infection while hospitalized — 1.7 million cases a year — and that 99,000 would die, often from what began as a routine procedure. The cost of treating the infections amounts to tens of billions of dollars, experts say.

But in the past two years, a few hospitals have demonstrated that simple screening and isolation of patients, along with a relentless focus on hygiene, can reduce the number of dangerous infections. By doing so, they have fueled a national debate about whether hospitals are doing all they can to protect patients from infections, which are now linked to more deaths than diabetes or Alzheimer's disease.

At the Veterans Affairs hospital in Pittsburgh, officials say the number of infections with a virulent bacterium known as methicillin-resistant Staphylococcus aureus, or MRSA, dropped to 17 cases last year from an average of 60 before the program started. The 40-bed surgical unit that began the experiment in 2001 has cut its infection rate by 78 percent.

Such results are not unprecedented. Several European countries, including the Netherlands and Finland, have all but eliminated MRSA through similarly aggressive campaigns. But at many American hospitals, experts say, high infection rates have been accepted as a cost of doing business. Barely a quarter of American hospitals screen patients for bacterial colonies in any methodical way, a recent survey found.

“People don’t believe it’s in their institution, and, if it is, that it’s too big to do anything about, that you just have to accept it,” said Terri Gerigk Wolf, director of VA Pittsburgh Healthcare Systems. “But we have shown you can do something about it.”

Three state legislatures, including Pennsylvania’s, broke ground this year by passing bills to require that hospitals routinely test high-risk patients, like those in intensive care units. But some infection-control experts warn that such regulations may have unintended consequences, including lesser care for patients who linger in isolation. Studies have found that patients in isolation are seen by hospital staff members half as frequently and tend to suffer more from falls, bed sores and stress.

Dr. John A. Jernigan, a MRSA expert at the disease control agency, said there was “a legitimate scientific debate” about whether hospitals should devote precious resources to screening every patient.

“It is a daunting problem, and it has been a recalcitrant problem,” Dr. Jernigan said. “We’re starting to see encouraging results. But I think we’ve been so stuck in this argument about what works and what doesn’t that people have not put programs in place.”

The problem of infections in hospitals is growing. MRSA has been a particularly troublesome pathogen since its emergence in the United States in 1968. Resistant to a number of antibiotics, it can cause infections of surgical sites, the urinary tract, the bloodstream and the lungs, leading to extended hospital stays.

MRSA can be brought into hospitals by patients who show no symptoms, and it then thrives in settings where immune systems are weakened and where incisions provide inviting ports of entry. It now accounts for 63 percent of hospital staphylococcus infections, up from 22 percent in 1995.

Johanna Sullivan Daly, a 63-year-old Brooklyn woman, developed MRSA and other infections after surgery to repair a broken shoulder in 2004, said one of her daughters, Maureen J. Daly. Ms. Daly said that just before her mother’s discharge from a Manhattan hospital, she watched a doctor remove her dressings with bare, unwashed hands.

Five days later, her mother developed intense pain and they went to have her wound examined. “When the dressing came off,” Ms. Daly said, “I saw this — I can’t describe the smell, it was the foulest thing — just this greenish fluid coming out of her arm, oozing and oozing.”

Soon after, her mother developed a high fever and then lost the ability to move her limbs, Ms. Daly said. She spent several months on a ventilator before dying in a nursing home. The hospital bill came to $600,000 for what was to have been a $40,000 procedure.

“I have lost friends to breast cancer, to AIDS, to car accidents, to things we don’t have answers to,” she said. “That I lost my mother to someone not washing their hands or cleaning a hospital room properly is disgusting to me.”

The disease control agency projected seven years ago that the added annual cost of treating infected hospital patients was nearly $5 billion. Now officials there believe it may approach $20 billion, or 1 percent of the nation’s $2 trillion health care bill. Other experts put the number above $30 billion.

As at other hospitals experimenting with rigorous controls, the Pittsburgh veterans hospital has found that preventing infection is cost-effective.

Dr. Rajiv Jain, the hospital’s chief of staff, said its infection control program cost about $500,000 a year, including test kits, salaries for three workers and the $175-per-patient expense of gloves, gowns and hand sanitizer. But the hospital, which has a $431 million budget, realized a net savings of nearly $900,000 when the number of infected patients fell, Dr. Jain said.

The V.A. began phasing in the program at each of its 140 acute-care centers in March.

Dr. Richard P. Shannon, who championed a program to reduce catheter infections at Allegheny General Hospital in Pittsburgh, was able to show administrators that the average infection cost the hospital $27,000. He demonstrated that reimbursement payments for weeks of extended treatment were not keeping pace with actual costs. “I think it was assumed that hospitals didn’t mind treating these infections because they were getting paid for it,” Dr. Shannon said.

A major emphasis at the Pittsburgh hospitals has been hand hygiene. Studies have consistently shown that busy hospital workers disregard basic standards more than half the time. At the veterans hospital, where nurses have taken to pushing elevator buttons with their knuckles, annual spending on hand cleaner has doubled.

State governments, which reimburse hospitals for infection-related costs through Medicaid and other insurance programs, have taken notice and are beginning to impose new mandates.

Eighteen states now require hospitals to publish their infection rates. Last month, legislatures in New Jersey and Illinois approved bills that would make those states the first to require hospitals to screen all intensive-care patients for MRSA.

Here in Pennsylvania, Gov. Edward G. Rendell recently signed a bill requiring MRSA screening of certain high-risk patients. Mr. Rendell did not, however, win legislative approval to end state reimbursements to hospitals for the treatment of infections and to test all hospital patients for drug-resistant bacteria.

It is the screening and isolation of patients that draws the most debate. Screening presents an upfront cost for hospitals, and administrators worry that keeping patients in isolation will further clog emergency rooms and reduce the quality of care. Some researchers believe that improving hygiene and surgical practices alone may be equally effective.

In guidelines released last year, the centers recommended that other precautions be taken first and that hospitals resort to screening high-risk patients if they cannot otherwise reduce their infection rates. The guidelines are endorsed by the American Hospital Association, which believes that hospitals must be able to tailor plans to varying needs.

Others do not see the issue that way. Betsy McCaughey, who became a hospital infection crusader after serving as the New York lieutenant governor, said it was paradoxical that the centers encourage hospital screening for H.I.V. but not for bacterial infections, which are associated with seven times as many deaths. Ms. McCaughey said the agency “is largely to blame” for the failure to contain drug-resistant organisms.

“Their lax guidelines,” she said, “have given hospitals an excuse to do too little.”

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