

# Deadly Bacteria Found to Be More Common

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ATLANTA, Oct. 16 — Nearly 19,000 people died in the United States in 2005 after being infected with virulent drug-resistant bacteria that have spread rampantly through hospitals and nursing homes, according to the most thorough study of the disease's prevalence ever conducted.

The government study, which is being published Wednesday in *The Journal of the American Medical Association*, suggests that such infections may be twice as common as previously thought, according to its lead author, Dr. R. Monina Klevens.

If the mortality estimates are correct, the number of deaths associated with the germ, methicillin-resistant *Staphylococcus aureus*, or MRSA, would exceed those attributed to H.I.V.-AIDS, Parkinson's disease, emphysema or homicide each year.

By extrapolating data collected in nine places, the researchers estimated that 94,360 patients developed an invasive infection from the pathogen in 2005 and that nearly one of every five, or 18,650 of them, died. The study points out that it is not always possible to determine whether a death is caused by MRSA or merely accelerated by it.

The authors, who work for the Centers for Disease Control and Prevention, cautioned that their methodology differed significantly from previous studies and that direct comparisons were therefore risky. But they said they were surprised by the prevalence of serious infections, which they calculated as 32 cases per 100,000 people.

In an accompanying editorial in the medical journal, Dr. Elizabeth A. Bancroft, an epidemiologist with the Los Angeles County Department of Public Health, characterized that finding as "astounding."

The prevalence of invasive MRSA — when the bacteria has not merely colonized on the skin, but has attacked a normally sterile part of the body, like the organs — is greater, Dr. Bancroft wrote, than the combined rates for other conditions caused by invasive bacteria, including bloodstream infections, meningitis and flesh-eating disease.

The study also concluded that 85 percent of invasive MRSA infections are associated with health care treatment. Previous research had indicated that many hospitals and long-term care centers had become breeding grounds for MRSA because bacteria could be transported from patient to patient by doctors, nurses and unsterilized equipment.

“This confirms in a very rigorous way that this is a huge health problem,” said Dr. John A. Jernigan, the deputy chief of prevention and response in the division of healthcare quality promotion at the disease control agency. “And it drives home that what we do in health care will have a lot to do with how we control it.”

The findings are likely to stimulate further an already active debate about whether hospitals and other medical centers should test all patients for MRSA upon admission. Some hospitals have had notable success in reducing their infection rates by isolating infected patients and then taking extra precautions, like requiring workers to wear gloves and gowns for every contact.

But other research has suggested that such techniques may be excessive, and may have the unintended consequence of diminishing medical care for quarantined patients. The disease control agency, in guidelines released last year, recommended that hospitals try to reduce infection rates by first improving hygiene and resort to screening high-risk patients only if other methods fail.

Dr. Lance R. Peterson, an epidemiologist with Evanston Northwestern Healthcare, said his hospital system in the Chicago area reduced its rate of invasive MRSA infections by 60 percent after it began screening all patients in 2005.

“This study puts more onus on organizations that don’t do active surveillance to demonstrate that they’re reducing their MRSA infections,” Dr. Peterson said. “Other things can work, but nothing else has been demonstrated to have this kind of impact. MRSA is theoretically a totally preventable disease.”

Numerous studies have shown that busy hospital workers disregard basic standards of hand-washing more than half the time. This week, Consumers Union, the nonprofit publisher of Consumer Reports, called for hospitals to begin publishing their compliance rates for hand-washing.

Lisa A. McGiffert, manager of the “Stop Hospital Infections” campaign at Consumers Union, said, “This study just accentuates that the hospital is ground zero, that this is where dangerous infections are occurring that are killing people every day.”

MRSA, which was first isolated in the United States in 1968, causes 10 percent to 20 percent of all infections acquired in health care settings, according to the disease control agency. Resistant to a number of front-line antibiotics, it can cause infections of surgical sites, the urinary tract, the bloodstream and lungs. Treatment often involves the intravenous delivery of other drugs, causing health officials to worry that overuse will breed further resistance.

The bacteria can be brought unknowingly into hospitals and nursing homes by patients who show no symptoms, and can be transmitted by contact as casual as the brush of a doctor’s lab coat. Highly opportunistic, they can enter the bloodstream through incisions and wounds and then quickly overwhelm a weakened immune system.

On Monday, a Virginia teenager died after a weeklong hospitalization for an MRSA infection that spread quickly to his kidneys, liver, lungs and the muscle around his heart. Local officials promptly closed 21 schools for a thorough cleaning.

A major difference between the new study and its predecessors is that it compiled confirmed cases of MRSA infection, rather than relying on coded patient records that sometimes lack precision. The study found higher prevalence rates and death rates for the elderly, African-Americans and men. The figures also varied by geography, with Baltimore's incidence rates far exceeding those of the eight other locations: Connecticut; Atlanta; San Francisco; Denver; Portland, Ore.; Monroe County, N.Y.; Davidson County, Tenn.; and Ramsey County, Minn.

Dr. Klevens said further research would be needed to understand the racial and geographic disparities.