



How our hospitals unleashed a MRSA epidemic

By [Michael J. Berens](#) and [Ken Armstrong](#), Seattle Times Sunday 11/16/08

MRSA, a drug-resistant germ, lurks in Washington hospitals, carried by patients and staff and fueled by inconsistent infection control. This stubborn germ is spreading here at an alarming rate, but no one has tracked these cases — until now.

Year after year, the number of victims climbed. But even as casualties mounted — as the germ grew stronger and spread inside hospitals — the toll remained hidden from the public, and hospitals ignored simple steps to control the threat.

Over the past decade, the number of Washington hospital patients infected with a frightening, antibiotic-resistant germ called MRSA has skyrocketed from 141 a year to 4,723.

These numbers don't appear in public documents. Washington regulators don't track the germ or its victims, and Washington hospitals do not have to reveal infection rates.

The Seattle Times analyzed millions of computerized hospital records, death certificates and other documents to track the swath of one of the nation's most widespread, and preventable, epidemics.

In its investigation — the first comprehensive accounting of MRSA cases in Washington hospitals — The Times gained access to state files that revealed 672 previously undisclosed deaths attributable to the infection.

MRSA, methicillin-resistant *Staphylococcus aureus*, is spread by touch or contact. It can slip into breaks in the skin as tiny as a mosquito bite.

Six out of seven people infected with MRSA contract it at a health-care facility.

Many people first learned about the germ last fall when the federal Centers for Disease Control and Prevention set off a media frenzy with its announcement that invasive MRSA infections claim at least 18,000 lives a year, more than AIDS.

But MRSA has been quietly killing for decades. And all along, there has been a simple diagnostic test that could have saved countless lives. This quick and painless test, which costs about \$20, lets hospitals know who's infected or a carrier. Once identified, people with the germ can be isolated from other patients and treated.

Federal veterans hospitals screen all patients for MRSA, which has reduced their cases to near zero. Yet not a single community hospital in Washington screens every patient for the pathogen.

Many hospital officials say widespread screening is unnecessary and too burdensome. They say broad infection-control measures, such as washing hands and wearing protective garments, can thwart MRSA's spread.

But Washington hospitals violate these fundamental safety measures time and again, state and federal inspection reports reveal, from the Tacoma surgeon who refused to wear a mask during surgery to a Spokane blood technician who carelessly brushed her contaminated hands against supplies destined for other patients.

At Harborview Medical Center in the early 1980s, 17 people died during a MRSA outbreak fueled by the failure of the state's premier trauma center to isolate all infected patients immediately. But to this day, according to confidential records obtained by The Times, Harborview still rooms some MRSA patients with those who don't have the germ.

Meanwhile, MRSA is infecting and killing more people this year than ever before.

Crippled for life

In October 2005, Joyce Allen went in for open-heart surgery at St. Joseph Medical Center in Tacoma. Doctors told her to expect a quick recovery. But during the operation, MRSA slipped into her chest.

Doctors had cut through her sternum, a flat bone that binds the rib cage and protects the heart. When they fused the sternum back together, the contagion was entombed inside.

The blood-rich bone marrow was a perfect hiding spot. Within a week, the germ pushed into her arteries and crept into vital organs.

Physicians resorted to their most powerful antibiotic — vancomycin — known as the "drug of last resort." For six weeks, twice a day, Allen received intravenous infusions. A suction system sealed her chest and drained away toxic fluid.

"The pain was excruciating. I wanted to die, it hurt so bad," Allen says.

Antibiotics failed to conquer the infection. By April 2006, as Allen hovered near death, surgeons made the decision they had dreaded: Cut out the sternum.

They sheared away 6 inches of bone with a diamond-coated blade. Then they severed her abdominal muscles near the groin, and stretched the flaps tight across her chest, to shield her heart.

Allen, 57, is crippled for life. She measures each day by the level of pain. On her worst days, she's unable to pick up her small grandson.

"This germ destroyed my life," she says.

Disabled, she gave up her customer-service job at a Tacoma cabinet company. She now lives in a trailer in Spanaway, surviving on \$877 a month in government benefits.

Nobody knows how the germ got into St. Joseph's operating room.

Allen says her surgeon was devastated by the infection. Hospital officials suggested that she might have carried the pathogen into the facility, on her skin.

If that were so, screening likely would have detected the germ and allowed doctors to eradicate it beforehand.

Cardiac patients like Allen are among the most vulnerable to MRSA infections and often face prolonged and expensive recoveries, medical research shows.

But St. Joseph didn't test her for MRSA, according to medical records. When it comes to most cardiac patients, the hospital still doesn't. On Friday, it said that policy is under review.

Most aren't tested

Who gets tested for MRSA, and who does not, is a medical game of chance.

Washington hospitals make their own rules. There are no federal or state mandates for screening.

The result is a haphazard array of infection-control policies that often fail to protect the most vulnerable patients, according to a Times survey of the state's 25 largest hospitals.

MRSA infections often strike critically ill patients or those with weakened immune systems — patients typically treated in a hospital's intensive-care unit.

But Swedish Medical Center in Seattle doesn't routinely screen patients in its ICU. Instead, it screens patients having elective surgery.

Sacred Heart Hospital in Spokane does test ICU patients — but not those seeking elective surgery.

The University of Washington Medical Center tests only premature babies.

Valley Medical Center in Renton doesn't routinely screen any patient group.

The bottom line is that most Washington patients don't get tested.

Whether to test, and whom to test, are at the core of a bitter national debate within the U.S. health care system.

Those who oppose testing all patients often argue that it undermines patient safety to dedicate limited resources to just one germ.

The reality, they say, is that hospitals often lack the staff, lab resources or space to ramp up existing testing programs or isolate large numbers of patients.

Swedish Medical Center would be hard-pressed to screen its 41,000-plus admissions each year, officials said. Harborview Medical Center, the state's most crowded hospital, doesn't have enough private rooms to isolate every patient, officials said.

Some hospitals fear lawsuits. If they screened every patient, results would show who already had the germ upon admission — and who picked it up while in the hospital. Patients could then blame the hospital for their infections.

Federally funded researchers called MRSA a possible epidemic in the early 1980s, following a series of outbreaks in large hospitals nationally. Yet most Washington hospitals began limited screening only within the past three years, *The Times* found.

"Many hospitals have ignored MRSA for decades," said Dr. William Jarvis, who retired in 2003 from the federal Centers for Disease Control and Prevention, where he was once acting director.

MRSA can cause painful and treatable skin lesions or slip into the blood. About 1 percent of infections prove fatal, while many others result in crippling injuries.

No one knows how many people carry the germ on their skin. Nationally, medical researchers have estimated that it's 1 or 2 percent of the general population. Washington hospitals that have initiated selective screening have discovered significantly higher levels — up to 11 percent.

Some surgeons around Seattle so dread the pathogen that they order tests when hospitals won't.

MRSA cases hidden

To control an infection, health officials need to know where it's been. They need counts, patterns, examples. But in Washington, MRSA's tracks have largely been obscured.

The state Department of Health asks physicians or medical examiners filling out death-certificate forms to give not only the primary cause of death, but the "chain of events" — the "diseases, injuries, or complications" — that contributed. Without such detail, these forms, when compiled in a database, may miss signs of emerging threats to public health.

But omissions undercut these certificates' value.

In 2005, Brenda L. Smith, 47, of Puyallup, died at Swedish Medical Center/Providence in Seattle. For "final anatomical diagnosis," her autopsy lists, at the top, MRSA pneumonia. But her death certificate — which relied on the autopsy report — says only pneumonia, with no mention of MRSA.

That same year, Willie Pompey, of Everett, died at age 58. His death certificate lists kidney failure, but does not account for an underlying reason. Pompey received a kidney transplant in 2002 at Virginia Mason Medical Center, but, because of a post-surgical MRSA infection, his body rejected the new organ. On his death certificate, MRSA is nowhere to be found.

How many examples are there like this? It's impossible to say. Finding them requires working backward — as *The Times* had to do — scouring lawsuits or other documents for indications of someone with MRSA, then comparing them against the public health records to see what, if anything, is missing.

A Bainbridge Island plaintiffs' lawyer, Christopher Otorowski, believes doctors may sometimes omit MRSA from death certificates because the infection is typically picked up in a hospital.

"Unless MRSA is the primary, explanatory cause of the death, I would think the physicians are going to be reluctant to put MRSA on the death certificate because it might implicate the hospital," he says.

For years, the state health department released a database of death certificates that is used by academics, journalists and others to report on public-health issues. But the state excluded a key component, a field that included doctors' notes that expanded on factors contributing to the person's death. The Times discovered the omission this year and insisted upon a complete database.

This new database links 672 deaths to MRSA between 2003 and 2006. The old database didn't attribute a single death to the germ. It couldn't have. The state relies on a standardized coding system, used internationally, that has more than 13,000 diagnosis codes — but not a single one for MRSA.

To gauge the prevalence of MRSA, The Times also analyzed a second database, which compiles diagnoses and billing records for patients discharged from Washington hospitals. The state uses this data, which has no individual names, to identify health trends and to analyze costs.

But as with the death certificates, this data set proved incomplete. The Times found dozens of examples where alternative records showed a patient had been treated for MRSA, while the billing database made no mention of it.

Because of these holes, the number of MRSA cases and deaths generated by the newspaper's analysis amounts to a minimum count, not a complete one.

Nationally, exact numbers are not available either, leaving public-health officials to estimate or extrapolate the scope of the epidemic.

Repeat offenders

To impede MRSA and other infectious germs, Washington hospitals typically rely on basic strategies — washing hands, isolating patients, sterilizing equipment.

But most of the state's 25 largest hospitals have been cited for unsanitary conditions or failure to adhere to fundamental safety standards, state and federal regulatory reports since 2005 show.

Last year, at Spokane's Holy Family Hospital, state Department of Health inspectors discovered the following:

A nurse entered Room 520 and dropped two packets of pills on the floor. Instead of throwing them out, she scooped up the packets and put them in a paper medication cup. She then pried the pills from the packets, dumped them into the contaminated cup and handed it to the patient.

An hour later, in a different room with an infectious patient, a staff member began to leave without washing hands. A second staffer tried to leave without discarding a contaminated gown. Both were headed for public areas of the hospital before state inspectors stopped them.

That afternoon, inspectors watched a phlebotomist draw blood from an infectious patient. Afterward, she brushed her gloved hands against items in a nearby supply cart — supplies destined for other patients.

In all, the four-day inspection cited seven staff members for violating basic infection-control standards, state records show.

Physicians can be the most lackadaisical about infection control.

In April 2006, doctors at the UW Medical Center carried personal items from home into sterile operating rooms and dropped them on the floor. These items included backpacks and satchels, made of porous materials friendly to germs. Hospital administrators told inspectors this was "common practice."

In November 2006, a physician at St. Joseph Medical Center in Tacoma removed his surgical mask during an operation. He had complained it was uncomfortable. Hospital officials told inspectors the physician was a "repeat" violator and had been warned before to keep his mouth and nose covered.

In hospitals, the most common violation is the failure to wash hands upon entering or leaving a patient's room.

In the worst cases, as few as 40 percent of staff members comply with hand-washing standards. Doctors are the worst offenders, according to confidential hospital records reviewed by The Times.

Even the best hospitals typically boast no better than 90 percent compliance — which means one out of 10 practitioners may have contaminated hands.

Hospitals remedied all violations spotted during the inspections, records show.

But these violations were all the more brazen because hospital officials — benefiting from a new law — knew the exact day that state inspectors were coming.

No surprise inspections

In the past, the state health department conducted surprise inspections to ensure that hospitals adhered to health and safety codes, from patient care to building maintenance.

But in 2002, the Washington State Hospital Association issued a 28-page report: "How Regulations are Overwhelming Washington Hospitals." In it, hospital administrators claimed surprise inspections disrupted patient care.

In Olympia, lawmakers voted unanimously to eliminate surprise inspections starting in July 2004. Today, the Department of Health must provide four weeks' notice — even the exact hour of arrival.

Hospital officials also had complained that some state inspectors were abrupt and unfriendly.

Lawmakers approved a Band-Aid: Hospital officials now can anonymously evaluate state regulators on whether they were polite enough.

The Legislature receives an annual compilation of these critiques. One hospital official wrote that state inspectors could "do a better job of highlighting the positive," instead of just looking for problems.

Washington is the only state that legally empowers hospitals to rate the conduct of regulators, according to the Consumers Union, a nonprofit organization that monitors hospital-related legislation.

"What kind of message does that send?" said Lisa McGiffert, who directs the organization's Stop Hospital Infections project.

Federally commissioned hospital inspectors began surprise inspections in 2004 — the same year Washington eliminated them.

The Joint Commission on Accreditation of Healthcare Organizations sets health-care standards and certifies hospitals to receive federal funding, such as Medicare. For decades, the commission had provided at least a month's notice before inspections.

But dozens of hospitals exploited the advance notice to temporarily hire more staff, cart in rental medical equipment — which was returned when inspectors left — and conduct dramatic makeovers with fresh sheets and pillows, according to inspector general reports at the U.S. Department of Health and Human Services.

Responding to public criticism, the commission stopped giving notice.

In some Washington hospitals, makeovers now take place just before state inspections, three registered nurses told The Times. The hospitals beef up staffs during planned inspections and, in some cases, have hired extra cleaners to disinfect beds and equipment, the nurses said.

The state hospital association recognizes "more needs to be done" to combat MRSA and is pushing to standardize patient-isolation procedures and increase hand-hygiene compliance, association president Leo Greenawalt said.

"My doctor was stunned"

When Chuck Velte first saw the woman at a flower show — sitting in a wheelchair, her right leg missing at the knee — he tried not to stare.

It was the spring of 2006, and Velte had knee surgery pending. He couldn't help but wonder: What happened to the woman's leg?

So he asked.

"She said that her knee was infected after routine surgery. She called the germ MRSA. I'd never heard of it," says Velte, who's now 64.

"I looked at her missing leg and was scared: This could be me."

Velte asked medical practitioners at Valley Orthopedic Associates in Renton about the germ's threat. He says they told him: Don't worry. This infection targets people with weak immune systems, and you're healthy.

Velte was unconvinced. A former senior analyst at Boeing, he launched into research. He learned patients could infect themselves if dormant MRSA germs were on their skin. The bacterium could drop into a wound during surgery and touch off numerous complications, even death.

Velte didn't know it, but at least 66 patients who underwent joint surgery the year before suffered amputation of legs, arms or fingers after contracting MRSA, a Times analysis of Washington hospital-billing records shows. For the past decade, the number of such patients stands at 512.

But Velte's research also turned up a simple safeguard: a nasal swab test that can detect if someone's a carrier.

Velte demanded to be screened. Doctors questioned its need, but sent him to a laboratory at Valley Medical Center in Renton, where the surgery was scheduled.

"I get there, and my knees are killing me, and the lab guys said they don't do a MRSA test. They told me to go home," Velte says.

Velte hobbled to the hospital's executive offices and plopped in a chair. "I want to see the highest-ranking person here," he recalls saying. "I'm not leaving here until I get a MRSA test."

An apologetic administrator arranged for a test. Results arrived four days later.

"I tested positive for MRSA," Velte says. "My doctor was stunned. He said that if he had operated, it could have been catastrophic."

To get rid of the germ, Velte scrubbed himself with over-the-counter soap containing chlorhexidine, an antibacterial chemical. He also wiped his house down with bacteria-killing bleach.

He was screened for MRSA again, was cleared and underwent surgery. It was successful.

A year later, MRSA invaded Velte's life again.

His 92-year-old mother, Rita, lived at a nursing home in Eau Claire, Wis. Last fall, Velte learned she had a festering wound, resembling a giant boil, on her buttocks. He demanded a MRSA test.

"After what I'd been through, I knew it was a possibility," he says.

A lab report confirmed his suspicions. His mother was infected with invasive MRSA, the worst kind. Within two days, she was gripped by pneumonia, followed by sepsis — blood poisoning — which reached into every vital organ, medical records show.

She suffered a fatal heart attack on Nov. 1 — less than two weeks after she was diagnosed with the germ.

Yet, MRSA did not appear on her death certificate. The official causes of death were heart attack, pneumonia and sepsis.

Velte says he demanded a correction — the truth. After reviewing medical records, the certifying doctor added MRSA.

"I wonder," Velte says, "how many people die of MRSA and nobody ever knows."

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What is MRSA?

MRSA — methicillin-resistant *Staphylococcus aureus* — is an antibiotic-resistant form of the common staph germ. It survives on most any surface but thrives on moist areas of the skin. Over time, it has gained more resistance to antibiotics and developed strains tougher to treat.

How it's transmitted

It is spread by touch or contact. The pathogen enters the body through breaks in the skin, such as a cut or during surgery. Minor skin infections, such as blisters and boils, are the most common symptom. But the bacteria can develop into serious, even life-threatening, problems such as infections of the heart, blood and bones.

Where people get it

About 85 percent of people infected with MRSA get the germ at a hospital or other health-care facility. MRSA increasingly is spread in the community in such settings as playgrounds or locker rooms.

What you can do

Avoid sharing towels, razors and bar soap. Before having surgery, talk to your doctor about getting a MRSA test. Other preventive measures include washing hands and covering wounds with bandages.