

How To Destroy the MRSA Superbug? Restore U.S. Public Health System

by Christine Craig and Marcia Merry Baker

A new report in the Oct. 17 *Journal of the American Medical Association, JAMA*, on the extent of MRSA—methicillin-resistant *Staphylococcus aureus*—states that U.S. MRSA deaths in 2005 were an estimated 19,000, exceeding those from HIV/AIDS, which are now estimated to be 17,100 for 2005. At the present rate of MRSA infection, an estimated 90,000 Americans are sickened each year from the superbug, which pathologists first identified in the 1960s as a virulent strain of staph. The impact from MRSA confronts specialists and the public alike with the consequences of the past 40 years of takedown of public health infrastructure, economic decline, and worsening poverty.

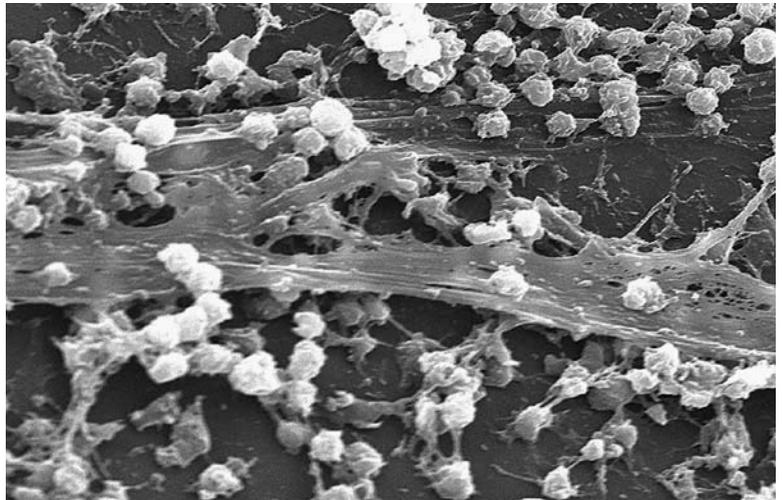
The level of MRSA prevalence across the nation is now registered in newspaper headlines about outbreaks and deaths: In suburban Washington, D.C., a Virginia teenager died in October; in New Hampshire, a pre-schooler died; and in Mississippi, a grade-schooler died. Other states hit recently are New York, Connecticut, Indiana, West Virginia, and Pennsylvania. On any one day, dozens of schools are shut for sanitizing, as are gyms and other public venues.

But the *JAMA* article indicates a much deeper dynamic than simply a “bad season” for a certain bacterium in the United States this year. High rates of MRSA infection are now prevalent in certain concentrated zones of severe economic and social breakdown, where other diseases are rampant, such as HIV, syphilis, and hepatitis. These constitute likely centers for creating still newer diseases, and outright pandemics.

The *JAMA* study was carried out by the Centers for Disease Control and Prevention (CDC), and focussed on MRSA incidence in nine states (California, Oregon, Minnesota, Colorado, Connecticut, Maryland, Georgia, Tennessee, and New York). The patterns of infection rates there were then used to model trends for the rest of the United States. Despite the caveat that the modelling method may have accuracy problems, the results were consistent with concentrations of disease in the most extreme breakdown zones—in particular, Baltimore, Maryland. (See accompanying article.)

LaRouche: ‘The Bush Epidemic’

On Oct. 27, in response to an *EIR* staff briefing on the MRSA outbreak in the Greater D.C. region, Lyndon La-



This electron micrograph depicts large numbers of Staphylococcus aureus bacteria on the luminal surface of an indwelling catheter (magnified 2,363 times). The sticky-looking substance woven between the round cocci bacteria, which is composed of polysaccharides, is known as “biofilm.” This biofilm has been found to protect the bacteria that secrete the substance from attacks by antimicrobial agents. MRSA is primarily spread by physical contact with contaminated surfaces.

Rouche stressed the crucial role of the public health system, and the consequences of its takedown in the United States. “Look back at the origins of the good system we once had, based on the experience in World War II of caring for 17 million in the war effort,” he said. Following this, there was a national network of health care involving the education and alerting of physicians—people who “looked for trouble,” and knew how to respond to it. Today, we have fewer people, less training, less capacity overall.

“You need to have a mobilization by government, and an international response to deal with mass problems,” LaRouche said. “You have to deal with mass methods. If you don’t have the right organization, if you don’t have a mass deployment, you can’t succeed. We once had the integration of youth in the whole process—the farming out of interns and youth health teams. But since 1971, we have destroyed it all.”

LaRouche stressed that the U.S. public health system originated in service to the active and retired military, and to this day has a Surgeon General at its head. When it functioned, there were entire networks of general hospitals and polyclinics, national, state and local agencies, dealing with sanitation,

vaccination, and all the rest.

“The unit of defense was public health,” he said. “You would look at a problem, and consider the probable, or the possible cause—just what you don’t do nowadays. Up until 1964, you couldn’t even treat a person for some apparently specific problem, unless a profile of the whole person was filed. But post-1964, that approach is all gone.”

The data in **Figure 1** show the process of takedown that LaRouche described. The national public hospital system was built by the 1946 “Hospital Survey and Construction Act,” known as Hill-Burton, after its bipartisan co-sponsors, Sens. Harold Burton (R-Ohio) and Lister Hill (D-Ala.). After the beginning of the HMO-era in the 1970s, the number of hospitals and the ratios of licensed beds and medical staff per 1,000 population *declined* ever more radically, across the country. The number of community hospitals dropped from nearly 6,000 in the mid-1970s, down to barely 4,700 today.

As the hospital network shrank, so too did pathology departments, quarantine wings, and all manner of facilities that were part of the public health response capability.

The Bush-Cheney Administration has instead backed “community clinics,” while shrinking the hospital system. LaRouche calls this destruction, “The Bush Epidemic.”

The Superbug and Other Microbes

The MRSA bacteria can be spread by skin-to-skin contact, or by sharing an item with an infected person, particularly if one has an open cut or wound. It can be carried on the skin or in the noses of healthy people, and transmitted to others. Good antimicrobial sanitation can contain the microbe, and fast diagnosis and treatment can likewise save lives; but with the HMO-era decline in the hospital system, and the takedown of the public health system, in particular, these practices are no longer the standard.

TABLE 1

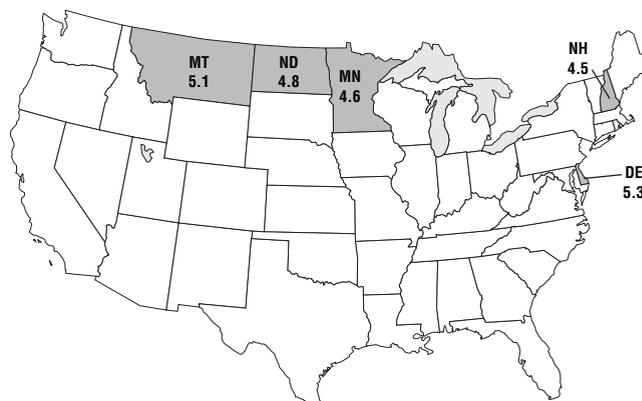
Total Incidence Rates (per 100,000) of Invasive MRSA at Nine CDC Active Bacterial Core Surveillance Sites in 2005

Site No./Location	# Total
1. Connecticut	27.1
2. Atlanta, Ga. (metro area)	33.0
3. San Francisco, Calif. (Bay Area)	29.2
4. Denver, Colo. (metro area)	21.2
5. Portland, Ore. (metro area)	19.8
6. Monroe County, N.Y.	41.9
7. Baltimore City, Md.	116.7
8. Davidson County, Tenn.	53.0
9. Ramsey County, Minn.	19.2

Source: *JAMA*.

FIGURE 1a

1958: Over a Decade After Hill-Burton Act Passed; Five States Had Federally Mandated Minimum Hospital Beds per 1,000



Sources: U.S. Statistical Abstracts; *EIR*

The rise and fall of states with the Federally mandated minimum of hospital beds per 1,000 population from 1958 to 2005 dramatically indicates the public health takedown.

Some years ago, hospital-associated MRSA was the most common manifestation of the infection, connected to contamination in surgical and other medical treatment situations. But in recent years, community-associated MRSA has spread widely in sports locker rooms, dormitories, prisons, and similar venues of transmission.

At present, MRSA accounts for 10 percent of all hospital bacterial infections. Another 10 percent of serious infections comes from a variety of microbes, for example *Enterococcus faecium* and *Clostridium difficile*. A dangerous one on the rise is multidrug-resistant *Acinetobacter baumannii*, which has been found in hundreds of troops injured in the Iraq and Afghanistan combat zones, and is now found in several military and civilian hospitals across the United States, including the beleaguered Walter Reed Hospital.

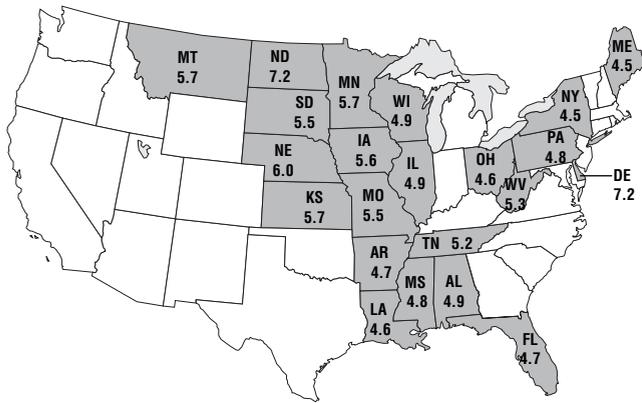
The October MRSA article in *JAMA* is the result of a new CDC program undertaken to start monitoring invasive bacteria of all kinds—Active Bacterial Core Surveillance Network.

Until recently, MRSA was not even an infection classified as “reportable” to the CDC system. In the overstretched and underfunded state public health departments, traditionally there has been no mechanism for surveillance of such diseases. Hospitals may or may not bring attention to drug-resistant organisms spreading in their midst. Only after a 17-year-old Virginian died from a MRSA infection in October, did Virginia’s Democratic governor, Tim Kaine, order the state to keep track of MRSA.

Even antibiotic-*susceptible* strains of *S. aureus* take a tre-

FIGURE 1b

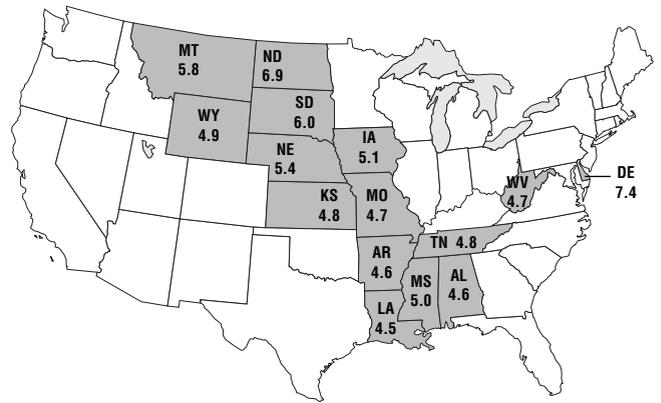
1980: Build-Out of Hospitals and Bed Capacity Peaked; 22 States Had Federally Mandated Minimum Hospital Beds per 1,000



Sources: U.S. Statistical Abstracts; EIR.

FIGURE 1c

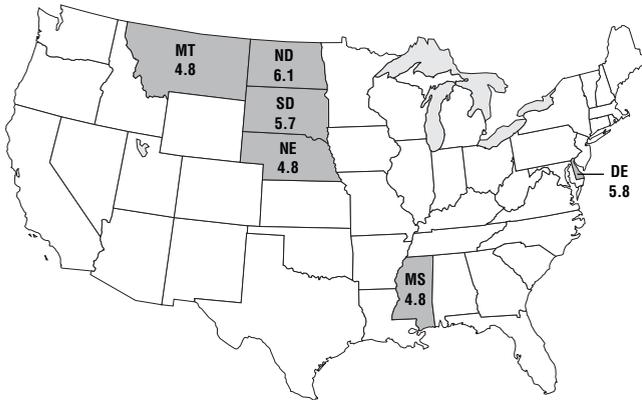
1990: The Impact of the HMO and Deindustrial Policies Hit; Only 15 States Had Federally Mandated Minimum Hospital Beds per 1,000



Sources: U.S. Statistical Abstracts; EIR.

FIGURE 1d

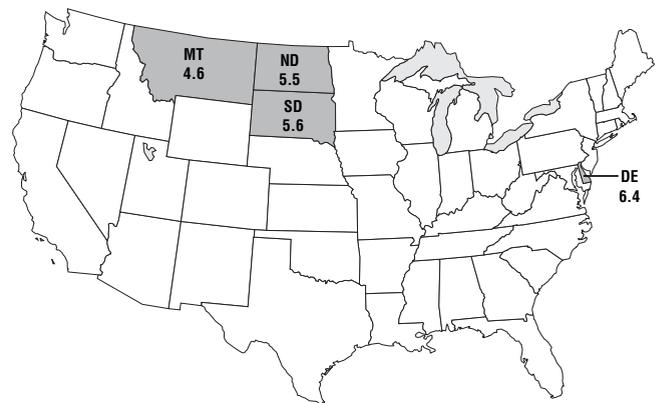
2000: A Decade of Mergers and More Takedown; Only Six States Had Federally Mandated Minimum Hospital Beds per 1,000



Sources: U.S. Statistical Abstracts; EIR.

FIGURE 1e

2005: Bush-Cheney Years of Privatization Press the Shutdown; Only Four States Had Federally Mandated Minimum Hospital Beds per 1,000



Sources: U.S. Statistical Abstracts; EIR.

mendous toll on people. Look at the situation in hospitals. Jan Kluytmans, M.D., Ph.D., reports in a June 26, 2007 article in *European Hospital*, that a recent study in the United States of more than 7 million hospital admissions, estimated that 0.8% of all hospital patients contracted *S. aureus* infections, corresponding to a total of nearly 300,000 patients in all U.S. hospitals. The annual impact in the nation was estimated to be 2.7 million additional days in the hospital, \$9.5 billion in excess costs, and 12,000 in-patient deaths.

Hospitals have become extremely dangerous places for the patients they are supposed to treat. Increasingly, patients

are entering the hospital for other illnesses, and instead of being cured, they are catching a life-threatening nosocomial (hospital-acquired) form of *S. aureus* that is extremely hard to treat, leading to even higher costs and increased chances of death or debilitation. The death rate is almost twice as high for patients suffering from MRSA bacteremia, for instance, than for bacteremia caused by susceptible strains.

Incredibly, more than 60% of hospital-related staph infections in intensive-care units in the United States are now

caused by antibiotic-resistant strains, while in the outside community, MRSA has become the most frequent skin/soft tissue infection seen in the emergency room.

Europeans ‘Search & Destroy’ for MRSA

In the Netherlands, hospital-acquired MRSA represents only 1% of nosocomial staph infections. What do they know that we don’t know? They know the same things, but they are doing something vastly different than the average U.S. hospital, a process called “Search and Destroy” (S&D). According to Kluytmans, writing in the June 26 *European Hospital* online: “Clonal dissemination is the mechanism for the spread of MRSA, therefore control of MRSA largely depends on the prevention of transmission from known carriers.... An active policy to find carriers of MRSA and prevent further transmission from these carriers is the core measure for the control [of] MRSA.”

Since the early 1980s, when MRSA first appeared in Dutch hospitals, the Dutch have used the S&D strategy to successfully keep MRSA from becoming endemic in their hospitals. They use a four-pronged approach: (1) discover MRSA carriers, (2) isolate MRSA carriers, (3) eradicate MRSA in carriers with appropriate treatment, and (4) zero tolerance.

The screening of high-risk patients and patients from foreign hospitals is a standard requirement on admission to Dutch hospitals. If MRSA is found, the patient is isolated (with contact precautions) and treated with effective antibiotics until clear of MRSA. Furthermore, all contacts of the carrier are tracked down and screened. Health-care workers who are MRSA-colonized after exposure are kept from public hospital duties until cleared of the infection. Note that the S&D approach does not primarily rely on infection control procedures, and does not eradicate antibiotic-sensitive staph from

LaRouche: How To Deal With a Health Emergency

At an Oct. 6, 2004, webcast in Washington, D.C., Lyndon LaRouche was asked, by a group of students, from the University of Maryland Medical School in Baltimore, for his comments on the threat of a flu epidemic in the United States following the cancellation, by the British-based Chiron Corporation, of supplies of 48 million flu shots for the 2004 season. “Can this be considered a problem of health care, or is it a problem of infrastructure?” they asked. What should be done about it? Here is his response. (This exchange originally appeared in the Oct. 22, 2004 EIR.)

The question is twofold. First of all, what should you do? And secondly, how effective can you be?

What you should do, you’re going to have to do anyway. This constitutes the basis for defining an international health emergency. This means that we have to have a crash program approach to deal with this problem. This also means a restructuring of the implementation of our health-care policy.

What are our problems? First of all, we don’t have hospitals. Why don’t we have them? Because we destroyed them. Take the D.C. General Hospital, for example. It was destroyed.¹ The best resource for the defense of the citizens of this area against infectious disease and other problems, *was destroyed*—in a swindle, a financial swindle. A rip-off, which my “friends” at the *Washington Post* had something

to do with. And if somebody dies in your family, you should get *them* to pay for it. Because that’s what happened.

We have gone away from a policy of having reserves. We used to have all kinds of reserves, medical reserves. It was something which we insisted upon, from the experience of World War II, for example. We learned a lot of lessons from World War II about this kind of problem.

We destroyed it! So, therefore, we have to say, “First of all, this was a mistake. To put the human race at risk in this way, was a mistake! We have to adopt a policy of correcting that mistake, by reversing the policies which led to that mistake.”

Now, that means, on another level, you treat it like a military emergency. You have all the relevant institutions tasked to come up with an approach to this and, whatever it takes, do the job. Whatever it takes. I don’t know what the full resources are; but obviously, it has to be treated as an emergency, and we can not accept, in order to balance the budget, etc., etc.: “We have a problem, it’s going to take more time.” It’s not acceptable. Whatever we have to do, is what is acceptable. And if we can’t do it, at least let’s kill ourselves, in a sense, trying to do what should be done. And let’s minimize the damage, if we can’t absolutely prevent it. But we have to be considerate. We have to take it on.

Look what we’ve destroyed, look what we’ve done! Look what we’ve done since 1973, since the HMO law was put in. We have *destroyed* essential parts of the medical defense system of the United States. And we’re killing people by that! What we’re doing with the HMO policy; the way they regulate physicians. A physician can’t spend too much time talking to a patient. How else is a physician going to practice preventive health care, if he can’t talk to a patient in order to diagnose what the patient’s problems may be, as opposed to what a specific, authorized-category disease is?

1. The 200-year-old institution, the only public hospital in Washington, was shut down in May 2001, despite a broad-based citizens mobilization, led by the LaRouche movement.

the hospitals; it just keeps out the MRSA.

The S&D approach is heavily top-down, and relies on external regulations and legal actions, but it works well for the Dutch. In contrast, another European country that does not use S&D, the United Kingdom, has MRSA levels of more than 44% in hospitals.

Getting MRSA to Zero in the United States

A review of U.S. hospitals that have initiated search-and-destroy against MRSA, showed good success, according to a review article in October 2005, in the online *Slate* magazine, called “Squash the Bug.” These included the University of Virginia Hospital in Charlottesville in the 1980s, and Rhode Island Hospital in Providence, in 2002. But until just recently, few hospitals have gone in that direction.

One of the most prominent success stories occurred in Pittsburgh, where a pilot plan to stamp out MRSA was initiated six years ago in the Veteran Administration’s Pittsburgh Hospital System. The plan, called “Getting to Zero,” was carried out in conjunction with the CDC and the Pittsburgh Regional Healthcare Initiative. Initially it adopted the operating principles and philosophy of the Toyota Production System as a roadmap for improvement. This basically targets the “critical points” in the care process, for being scrupulously microbe-free. Although the results were dramatically successful in the two units of the acute-care facility where the operational change was instituted, there was no spread of success to the hospital at large or beyond.

Since then, Pennsylvania is mandating certain improved practices statewide. There, and elsewhere, some are using a Tufts University approach, called a “Positive Deviation” (PD) method, which involves improving staff and facility practices: “The PD design seeks to implement a plan involving everyone through a process of self-discovered, analyzed, designed, and implemented opportunities to practice those strategies and behaviors that enable them to prevent MRSA transmission and associated infections.”

In essence, the PD approach is not really different from striving for “best practices,” the way it’s been done for more than a century. But it has been spectacularly successful—so successful that the VA now has an initiative (VHA Directive 2007-002, issued on Jan. 12, 2007) to bring it online in all of its hospitals, beginning with intensive-care units. The success of the VA Pittsburgh MRSA campaign has also led to its recent adoption by many of the civilian hospitals of Pennsylvania and in several other areas of the country, including hospitals in Maryland and Washington, D.C.

Illinois now has mandated that all high-risk hospital patients be screened for MRSA, and if patients have it, they will be kept isolated from the general hospital population. Other states are following suit.

Rebuild Hospitals and Public Health

Thus, the good news is that, the superbug can be beaten. It can be identified and contained, and in most cases, the infec-

tion cured. The real constraint, is that the hospitals and public health facilities themselves are too few, too overburdened, and too under siege by the practices of the privateer HMOs.

The irony here is that the very same policy shift required to restore a productive economy—jobs, agro-industrial capacity, and a skilled, hopeful workforce—is what is required to build the facilities, medications, and equipment needed to restore infrastructure—especially medical and sanitation—for the public health system.
