

# THE MRSA THREAT

A CONCERN ACROSS THE SPECIALTY SPECTRUM

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EMBARGOED FOR MAY 1, 2008 at 9:00 AM EDT

## **The Changing Face of MRSA Heightens Concern Over Public Health Crisis** *Experts Emphasize Importance of Curbing Superbug Threat*

**New York, NY**—The fight against so-called “superbugs” is reaching a new level of urgency as these serious and potentially deadly infections become increasingly resistant to antibiotics that have been used for decades. In a roundtable convened today by Cubist Pharmaceuticals, experts called for immediate national action to limit this public health threat through the judicious selection of antibiotics across all medical specialties; this is especially important for internists and hospitalists on the front lines in the battle against superbugs.

Particularly alarming is *Staphylococcus aureus* (*S. aureus*), which can cause life-threatening infections. Strains of *S. aureus* have become resistant to commonly used antibiotics, such as methicillin, and are known as methicillin-resistant *S. aureus*, or MRSA (pronounced “MER-sa”). Outbreaks of MRSA have increased dramatically during the last decade in hospitals and communities nationwide. Researchers from the Centers for Disease Control and Prevention (CDC) reported in the *Journal of the American Medical Association* last October that MRSA contributed to the deaths of 18,650 people in the United States in 2005, a number larger than the 16,865 deaths due to AIDS that same year.

“Outbreaks of resistant and potentially deadly bacterial infections caused by MRSA are occurring at alarming rates both inside and outside hospitals across the country. The potential ramifications are staggering,” said Alan Tice, MD, infectious diseases specialist and Associate Professor at the John A. Burns School of Medicine at the University of Hawaii. “The community-associated strain appears to be even more ominous than the original hospital strain and presents a multitude of new treatment challenges as this community-associated strain evolves.”

### **Resistance on the Rise**

Antimicrobial resistance occurs through survival of the fittest. Some bacteria develop genetic traits that help them withstand an antibiotic. These hardier bacteria can survive, multiply, and share their resistance genes with other bacteria. Antibiotic overuse and suboptimal infection-control practices among healthcare providers and institutions contribute to the phenomenon by providing opportunities for resistant bacteria to flourish.

“Unlike a disease such as cancer where no mechanism exists for the resistant cells in one patient to be transferred to another patient, resistant bacterial cells do not play by the same rules and can easily swap resistance genes amongst themselves, thus magnifying the threat posed by MRSA,” said Barry Eisenstein, MD, Senior Vice President of Scientific Affairs at Cubist Pharmaceuticals.

An alarming number of patients have developed bacterial infections of the skin and bloodstream caused by MRSA that respond poorly, or not at all, to commonly used antibiotics. In fact, more than 70 percent of bacteria that cause hospital-associated infections are resistant to at least one of the drugs most commonly used to treat those infections.

### **An Old Standard**

“Vancomycin was introduced 50 years ago,” said Stan Deresinski, MD, Clinical Professor of Medicine at Stanford University. “For a long time, there was the impression that vancomycin was the big gun. Until recently, however, the reality was that it was physicians’ only gun.”

Only a handful of solutions to treat infections caused by MRSA have been introduced over the past decade. One such solution—daptomycin—now offers physicians on the front lines an effective alternative for patients with skin and soft tissue infections, and bacteremia (bloodstream infections), including right-sided infective endocarditis (infection of the heart valve), caused by MRSA.

“The clear message to physicians on the front lines is that we need to consider all available therapies and to be mindful of running the risk of magnifying the resistance problem in the future,” said Michael Rybak, PharmD, MPH, Associate Dean for Research, pharmacy professor, and Director of the Anti-infective Research Laboratory at Wayne State University. “With alternative solutions now available to treat MRSA, and several more on the horizon, thankfully physicians no longer have to rely on just one agent as our primary treatment for MRSA.”

### **Call to Action**

In the meantime, experts are urging the healthcare community and public to help prevent the spread of serious infections and slow the development of superbugs. The panelists all agree that action by clinicians across specialties, public health officials, and patients is desperately needed to address antimicrobial use and resistance—one of the most urgent priorities in confronting emerging infectious disease threats.

“The continued spread of antimicrobial resistance requires a multidisciplinary approach and closer collaboration among healthcare providers, especially hospitalists, internists, pharmacists, and infectious disease specialists,” said Alpesh Amin, MD. “Such collaboration can potentially reduce treatment failures and minimize the spread of multidrug-resistant bugs between healthcare settings and the community.”

The panelists advised healthcare professionals to help limit transmission of infections, particularly those that are antibiotic resistant. Recommended steps include always washing hands before and after every patient visit, and quickly identifying and isolating patients who develop resistant infections. The general public can also benefit from maintaining basic sanitary habits.

Because antibiotic overuse contributes to bacterial resistance, the panelists urge physicians to avoid needlessly prescribing antibiotics. For example, antibiotics are useless against viruses but are often prescribed for viral infections, such as the common cold.

“Winning the battle against superbugs requires everyone’s commitment to overall sanitary practices and appropriate antibiotic stewardship,” added Dr. Amin. “We must take these recommendations seriously. Our health is at stake.”

## **About CUBICIN® (daptomycin for injection)**

CUBICIN is approved in the US and many other markets as therapy for serious skin and bloodstream infections caused by certain Gram-positive bacteria. CUBICIN is currently the only once-daily bactericidal antibiotic approved in the US for the treatment of complicated skin and skin structure infections caused by susceptible strains of the following Gram-positive microorganisms: *Staphylococcus aureus* (including methicillin-resistant and methicillin susceptible strains), *Streptococcus pyogenes*, *S. agalactiae*, *S. dysgalactiae* subsp. *equisimilis*, and *Enterococcus faecalis* (vancomycin-susceptible strains only). CUBICIN is also approved in the US as therapy for bloodstream infections (bacteremia), including right-sided endocarditis, caused by *S. aureus*. CUBICIN is not indicated for the treatment of pneumonia. Most adverse events reported in clinical trials were mild to moderate in intensity. The most common were anemia, constipation, diarrhea, nausea, vomiting, injection site reactions, and headache. To reduce the development of drug-resistant bacteria and maintain the effectiveness of CUBICIN, CUBICIN should be used only to treat or prevent infections that are proven or strongly suspected of being caused by bacteria susceptible to CUBICIN. For full Prescribing Information, visit [www.cubicin.com](http://www.cubicin.com).

## **About Cubist**

Cubist Pharmaceuticals, Inc. is a biopharmaceutical company focused on the research, development, and commercialization of pharmaceutical products that address unmet medical needs in the acute care environment. In the US, Cubist markets CUBICIN, the first antibiotic in a new class of anti-infectives called lipopeptides. The Cubist product pipeline includes preclinical programs that address unmet medical needs in Gram-positive infections, Gram-negative infections, CDAD (*Clostridium difficile*-associated diarrhea), and HCV (hepatitis C infections.) Cubist is headquartered in Lexington, MA. Additional information can be found at Cubist's Web site, [www.cubist.com](http://www.cubist.com).