

“A Secret and Silent Killer”

By Katherine Randall

Simon Sparrow was born November 2, 2002, at a healthy eight pounds plus. When he was 15 months old, and started getting sick on and off, his mother, Everly Macario, who has a doctorate in public health, said she thought it little to worry about as many kids get minor illnesses at that age. Little did she know that on April 17, 2004 her “beautiful, beautiful baby” would be gone.

“I’ll never know why him,” said Macario. Simon died from a staph infection that’s resistant to antibiotics and killed more Americans in 2005 than HIV/AIDS—methicillin-resistant *Staphylococcus aureus*, or MRSA.

There are two types of MRSA infections, hospital-associated MRSA (HA-MRSA) and community-associated MRSA (CA-MRSA). It’s the CA-MRSA that scares healthcare workers the most because it’s easily spread from person to person, does not spare the healthy and has the ability to evolve and avoid being killed by antibiotics.

It’s estimated that about a third of the U.S. population lives with MRSA, which prefers to colonize the nose. Many people live just fine with the bacteria but for some, it can prove fatal. In 2005, an estimated 18,650 people in the U.S. died from MRSA infections compared to the roughly 16,000 people who died from AIDS that year.

“This is a very contagious disease,” said Dr. Robert Daum, from the University of Chicago’s Comer Children’s Hospital and principal investigator for the MRSA Research Center at the university.

Daum said from the 1960s to the 1990s the main focus was on treating HA-MRSA cases but that now, the majority of MRSA infections are in the community. Daum said that because hospital patients were being increasingly treated as outpatients, they were spreading disease in the community.

“It’s not all in the hospital anymore,” he said.

In 2007, Dr. Monina Klevens and about 15 other doctors from across the country released a study on invasive MRSA infections in the United States. The study analyzed data collected from the Active Bacterial Core Surveillance (ABCs), which according to the CDC “is an active laboratory and population-based surveillance system” for bacterial agents that tend to cause sickness and invade the body.

The study was important, said Daum, because it helped show the true gravity of the disease on the population. He said it was also important because it dispelled the previous view of most in the healthcare industry that MRSA *only* proliferated in hospitals.

The study found that of the 8,987 cases of invasive MRSA reported during the surveillance period, 58.4 percent were health-care associated and 26.6 percent were community-associated. According to the paper, MRSA “is a major public health problem primarily related to health care but no longer confined to intensive care units, acute care hospitals or any health care institution.”

A problem with the Klevens paper on MRSA, said Daum, was that “she made it look like the healthcare-associated MRSA was the big problem. We don’t believe that is the case anymore,” he said.

Dr. Sheldon Kaplan, infectious disease service chief at Texas Children’s Hospital, said he sees MRSA infections on a regular basis. “This community stuff has become a very, very big deal,” he said.

A fever and red, swollen, pus-oozing lesions that are painful to the touch often accompany MRSA infections. Kaplan said from 2001 to 2006 Texas Children’s Hospital saw a surge in MRSA infections. And from 2006 on, he said there have been about 2,000 MRSA cases a year at the hospital and about 75 percent of them are resistant to antibiotics like methicillin.

“What we need is a vaccine,” said Kaplan. “But that won’t come for a really long time.”

Jeanine Thomas knows MRSA all too well. In December 2000, during surgery for a broken ankle, Thomas became infected. She almost lost her leg due to the infection and at one point, she went into septic shock—the bacteria had completely taken over her body. After several years of therapy and taking various antibiotics, Thomas finally started feeling better.

Thomas founded the MRSA Survivors Network in 2003 because she said there wasn’t a support group for MRSA survivors in existence at the time.

“This is a disease that is a secret and silent killer,” she said. “I didn’t want anybody to go through what I went through.”

In 2007, after a previous attempt in 2006, Thomas was able to get Illinois lawmakers to support the MRSA Screening and Reporting Act, which was signed into state law in August of that year. The act requires all hospitals to have a MRSA control program—screening patients admitted into intensive care units for the disease.

“It’s not a bad idea to screen people who come to the hospital for MRSA,” said Daum, “but it’s not where the problem is.” The problem, he said, is in the community. “The vast majority of MRSA infections arise in the community.”

Places like gym locker rooms, daycare facilities and other areas people are likely come in close contact with each other, and share items, become breeding grounds for the disease's spread in the community. And, said Macario, stopping the spread in the community is what's most important.

Macario joined Daum and the team at the MRSA Research Center after losing her son to the disease. HA-MRSA, said Macario, is like a puddle and CA-MRSA is like an ocean. "People are focusing too much on getting rid of the puddle," she said.

At the research center, Daum and a team of about 30 people are conducting projects in hopes of better understanding the disease and to find ways to best prevent its spread and treat it. The research center has also collected 13,000 isolates (samples) from people infected with MRSA for analysis.

Daum said what's most bothersome is that children are admitted to the hospital with severe MRSA infections. "The severe disease troubles us a lot," he said.

Of the children who come to the hospital with skin and soft tissue infections, said Daum, about 85 percent of them have MRSA. "This is the epidemic now and we do need help managing it."