

Testimony of Elizabeth A Bancroft, MD to the House Committee on Oversight and Government Reform on “Drug Resistant Infections in the Community: Consequences for Public Health”

Wednesday, November 7, 2007

Good Morning. I want to thank the Committee for the opportunity to talk to you about MRSA and antibiotic resistance in the community.

According to a CDC study published October 17, 1997, in the Journal of the American Medical Association, the rate of invasive MRSA, meaning MRSA that has gotten to the blood, spinal fluid or other deep body sites, was greater than the combined rate of invasive disease caused by the most significant bacterial infections that we commonly follow in public health (including group A strep [the so-called “flesh eating disease”], and pneumococcal disease, another important antibiotic resistant infection). Furthermore, the number of deaths associated with invasive MRSA, approximately 18,000, was estimated to exceed the number of deaths due to HIV/AIDS. On the other hand, the estimated number of deaths due to MRSA is only half of the estimated number of deaths due to influenza in the United States each year (36,000 deaths) which is, or should be, a largely preventable infection.

In the same way that there are 2 main strains of politicians in Washington, Republicans and Democrats, it is important to recognize that there are 2 main “strains” of MRSA: healthcare associated MRSA and community associated MRSA. Healthcare associated MRSA occurs in people who have had significant exposure to healthcare (hospitalization, surgery, dialysis, nursing home) in the year prior to their infection. It tends to affect the elderly and is associated with a relatively high rate of death. In contrast, community MRSA occurs in those who have not had any significant exposure to healthcare in the year prior to their infection. It comprises only 14% of all invasive MRSA infections, is sensitive to many oral antibiotics, and results in many fewer deaths than healthcare MRSA. From laboratory studies, it appears that the strains of healthcare MRSA and community MRSA arose separately and that community MRSA is not simply a rogue hospital strain.

The media have commonly confuse the 2 strains of MRSA, conferring the attributes of healthcare MRSA (invasive disease and high rate of death) to that of community MRSA. Much of the recent media has focused on deaths due to MRSA in school children. However, according to the CDC study, the lowest rate of invasive MRSA occurs in school age children 2-17 years and the death rate in children with community MRSA was estimated to be 0, though obviously there can be exceptions. Only 6% of community MRSA cases result in invasive disease. The vast majority of community MRSA cases are skin and soft tissue infections. Many of these infections can be cured by a simple drainage procedure and may not even require antibiotics.

Despite the relatively low burden of invasive disease caused by community MRSA, outbreaks of skin infections due to this organism tax the public health system and the

facilities in which they occur. For example, just one case of an MRSA skin infection in a school recently resulted in the closure of a school system for environmental decontamination. This causes disruption to the school system, students, and their parents, and is not consistent with any public health recommendations.

In Los Angeles County, we have been addressing community MRSA since 2002 when we first investigated outbreaks of this organism in diverse settings including the Jail, men who have sex with men, and an athletic team. We have developed extensive health education for consumers and healthcare workers about community associated MRSA along with graphic pictures illustrating the range of infections caused by this bug. Separately we have had to address concerns by fire fighters, the police, paramedics, social workers, and sheriff's deputies who are worried about getting this infection on the job. In conjunction with the CDC, we developed guidelines for the prevention of Staph in non-healthcare settings and have disseminated those to homeless shelters, schools, and commercial gyms. Though the media concentrates on children with MRSA, our largest recurring outbreak has been in the Los Angeles County Jail where more than 3,000 cases of MRSA skin infections have been diagnosed in each of the past several years. The County has spent millions of dollars trying to reduce the spread of MRSA in the Jail and only now, after 5 years, are we seeing a leveling off of infections. However, with the constant re-introduction of this organism into the Jail from the community and the close, crowded living conditions inherent in correctional facilities, I don't think that we will be able to eliminate these infections.

Controlling community MRSA, or any outbreak of skin infections, is not rocket science. We know the basics: handwashing, maintaining good hygiene, limiting sharing of personal items, and keeping draining infections covered with a clean, dry bandage. There are still some questions as to the role of the environment, if and when to perform surveillance for MRSA, and how best to control outbreaks with minimal interventions and maximal impact. We want to work with CDC and other public health agencies to address these questions.

Finally, healthcare acquired infections are conservatively estimated to cause 100,000 deaths a year in the United States. MRSA may only cause ~10% of hospital acquired infections so controlling MRSA in hospitals must be seen as a part of a larger effort to control all healthcare acquired infections. Controlling healthcare acquired infections can be accomplished with evidence based interventions including handwashing, isolating patients, and using vigorous infection control techniques when performing invasive medical procedures. These techniques are well known but they are imperfectly and intermittently practiced. We lack enforcement agencies that will regularly inspect hospitals and hold them to infection control standards. In public health, we routinely inspect restaurants more often than we inspect hospitals. Simply put, we need to same resources that we use for inspecting restaurants to inspect hospitals. We need to hold hospitals to the same standards as we hold McDonalds. The good news is that all the interventions used to control MRSA, in the community and in healthcare, will also control the spread of other infections.