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State must track MRSA infections Dr. Kevin Kavanagh

At issue

Jan. 4 Herald-Leader article by Ryan Alessi, "Better tabs sought on superbugs; public health reports not required at present; drug-resistant bacteria are issue." A recent news article may have given the impression that multidrug resistant organism infections are not a major public health problem that needs immediate and decisive action by the state of Kentucky. Nothing could be further from the truth.

The U.S. Centers for Disease Control and Prevention estimates that 1.7 million patients develop health care-associated infections and 99,000 patients die of them each year.

The number of patients who develop such infections exceeds the number of patients who develop any other current notifiable disease, and they are one of the top 10 causes of death in the United States. The cost approaches \$5 billion a year, far exceeding the cost of prevention. Oregon estimated that the average cost per hospital stay is \$32,000 higher for a patient who develops a health care-associated infection.

In 2004, the Infectious Diseases Society of America reported that more than 70 percent of such infections were resistant to at least one drug commonly used to treat the infection. The most deadly of the infections are the multidrug resistant organisms.

MDRO infection rates in U.S. hospitals have steadily increased over the last several decades. For example, methicillin-resistant staphylococcus aureus, known as MRSA, was first isolated in 1968. By the 1990s, it accounted for 20 percent to 25 percent of all staph infections. By 2003, MRSA accounted for more than 59 percent of hospital-acquired staph infections.

Vancomycin-resistant enterococci increased from less than 1 percent of enterococcus infections in 1990 to more than 28 percent in 2003. Similar patterns have been found for other multidrugresistant organisms.

The bacteria are becoming increasingly more resistant to antibiotics, and at one time in the 1990s there were virtually no anti-infective agents to treat vancomycin-resistant enterococci.

MRSA may behave differently from other multidrug-resistant organisms. According to the CDC, "Colonized patients more frequently develop symptomatic infections. Furthermore, higher case fatality rates have been observed for certain MRSA infections."

MRSA is spreading rapidly. MRSA has escaped from the health care setting into the community. Community-associated MRSA now accounts for about 14 percent of MRSA infections. It is more common in the elderly, male and black populations.

The availability of antibiotics to treat these infections is becoming an increasing problem. A report whose title says it all -- "Bad Bugs, No Drugs" -- is posted on the Food and Drug Administration's Web site. The Infectious Disease Society of America's report says that from 1983 to 1987, there were 16 antibacterial agents approved by the FDA. From 2003 to 2004, only three were approved.

The pipeline for new antibiotics is drying up because bacterial resistance limits the market life of the drug and its profitability, and the development costs of a new drug is \$800 million to \$1.7 billion.

Control is imperative. The CDC said in 2007 that the estimates of the incidence of health careassociated infections "are sobering and reinforce the need for improved prevention and surveillance efforts."

Kentucky's reporting, however, is apparently not case centered, even though the CDC emphasizes the need of finding single cases.

"Surveillance is an essential tool for case-finding of single patients or clusters of patients who are infected or colonized with epidemiologically important organisms ... for which transmission-based precautions may be required. Surveillance is defined as the ongoing, systematic collection, analysis, interpretation, and dissemination of data regarding a health-related event for use in public health action to reduce morbidity and mortality and to improve health."

It is clear that data need to be collected and that single-patient reports are needed to determine outbreaks. The calls for voluntary reporting have ceased, and mandatory reporting is being adopted by states around the nation at an ever increasing rate.

Twenty states require mandatory public reporting of health care-related infections, and at least 13 have passed such laws in just the last two years. Other states are considering legislation and are rapidly addressing this problem.

Control of multidrug-resistant organisms is of paramount importance. Control can be exercised by a variety of combined interventions, including hand-washing, contact precautions, environmental cleaning, education and surveillance cultures.

However, as a first step, we need accurate data to define the problem. Mandatory reporting of such infections is not just important for patient safety but also for the safety of all Kentucky citizens.

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