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**For Immediate Release:**  
**January 10, 2005**

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## **California Study Strengthens Link Between Antibiotic Overuse in Food Animals and Antibiotic-Resistant Urinary Tract Infections in Humans**

Berkeley, CA - A new report from scientists at the University of California at Berkeley concludes that an outbreak of antibiotic-resistant urinary tract infections (UTIs) was probably caused by foodborne bacteria, and that resistance in such bacteria likely arises from use of antibiotics in agricultural animals. The study, published in the Jan. 15 issue of *Clinical Infectious Diseases*, identified *E.coli* bacteria from food animal sources that are highly similar to the multi-drug resistant bacteria associated with an outbreak of UTIs in women in California. The identification of the bacteria in food animal isolates strengthens the case that some antibiotic-resistant UTIs originate from food animals.

“This research shows that the millions of American women who suffer from UTIs each year have a stake in ending the overuse of antibiotics in food animals,” said Dr. Margaret Mellon, Director of the Food and Agriculture Program at the Union of Concerned Scientists. “This study shows why the new Congress needs to pass bipartisan legislation from the last session endorsed by the American Medical Association and over 100 other medical groups to phase out the use of antibiotics that are important in human medicine as animal feed additives.”

Industrial animal operations routinely feed animals the same types of antibiotics that doctors use in human medicine, such as sulfa drugs and penicillins. Massive quantities of these medically important antibiotics – an estimated 13 million pounds each year – are used as feed additives for poultry, swine and beef cattle. These antibiotic feed additives are not used to treat sick animals, but rather for growth promotion and to compensate for the stressful and crowded conditions at industrial animal operations.

UTIs are the most common bacteria infection in women, leading to about 8 million physician visits a year. Nearly 250,000 women develop kidney infections as a result of UTIs each year, and such infections result in an estimated 125,000 hospitalizations annually. When UTIs do not respond to standard antibiotic treatments, the delays in finding an effective antibiotic can prolong the course of the disease and sometimes lead to medical complications including permanent kidney damage.

The University of California study analyzed 495 isolates of *E.coli* taken from an assortment of animal and environmental sources that had been submitted to the Gastroenteric Disease Center at **Pennsylvania State University** between 1965 and 2002. Earlier work from by same researchers showed that *E.coli* bacteria belonging to a single, highly distinctive strain known as CgA were responsible for nearly half of the resistant UTIs in a university community in California. Those bacteria were resistant to trimethoprim-sulfamethoxazole, a sulfa drug that is the standard therapy recommended for UTIs. The same strain caused antibiotic resistant UTIs in two other states, suggesting that the *E.coli* were introduced from a common source, most likely contaminated food products. While *E.coli* are normally present in the intestines of both humans and food animals, some strains can cause a number of diseases including food poisoning as well as UTIs.

The current study is available at:

<http://www.journals.uchicago.edu/CID/journal/issues/v40n2/34442/brief/34442.abstract.html>