

Concern about antimicrobial resistance a determinant of disease control in the future

Clarke Communication and Consulting

The US Foods and Drug Administration (FDA) recently issued an order banning some off-label uses of cephalosporins in cattle, swine, and poultry in order to preserve the effectiveness of the antibiotic class in humans.

The order, issued January 4, 2012 by the FDA's Center for Veterinary Medicine, prohibits certain unapproved uses of cephalosporins in cattle, swine, chickens, and turkeys. It goes into effect on April 5.

If humans are overly exposed to cephalosporins -- currently being used to treat human pneumonia and soft tissue infections as well as urinary tract and diabetic foot infections -- the drugs may stop being effective, which could lead to doctors prescribing less-effective antibiotics or those that have more side effects, the FDA said in a statement.

In food-producing animals, cephalosporins are used to treat respiratory disease in cattle, swine, sheep, and goats; "foot rot" in cattle; early death associated with *Escherichia coli* infections in day-old chicks; and certain infections in lactating dairy cows.

The FDA's order bans cephalosporins from being used in animals at unapproved dose levels, frequencies, durations, or routes of administration; bans cephalosporins intended for human use in animals; bans the use of cephalosporins in companion animals; bans injecting the antibiotic into chicken eggs; and bans using cephalosporins in food-producing animals to prevent disease rather than to treat it.

A recently published Canadian report by the Beef Cattle Research Council states, "Antimicrobial drugs most important in human medicine are rarely used in beef production. More importantly, the bacteria found in cattle likely to be treated for bovine respiratory disorder do not appear to be developing resistance to these drugs. Because microbes are continuously evolving, continued long-term funding support for ongoing surveillance is critical to ensure that industry can demonstrate that it uses antimicrobial drugs responsibly. This will also provide an early warning if antimicrobial resistance to drugs of very high importance in human medicine does develop in the future."¹

¹ Sheryl Gow, Tim McAllister, Calvin Booker, Paul Morley and Kathy Benedict, "Development of a longitudinal antimicrobial resistance and antimicrobial use surveillance program for the feedlot sector in western Canada" *BCRC Research Review Fact Sheet* (November 2011)

What long-term impact the US ban will have on cephalosporin use in Canada is presently a question mark. The extra-label use of cephalosporin could affect trade with the US, poultry being a good example, and move the antimicrobial debate outside the boundaries of scientific purview.
