

## Important Drugs Losing Effectiveness Due to Use in Poultry

Throughout America, infectious diseases are emerging that we may not be able to cure because bacteria are becoming resistant to antibiotics. More and more, antibiotics aren't working for people who need them. The reason: overuse of antibiotics. The more antibiotics are used, the more quickly bacteria are able to evolve resistance to the drugs' effects.

One especially important class of antibiotics, called fluoroquinolones, is losing its ability to fight serious bacterial foodborne infections in people. In part, that is because certain fluoroquinolones continue to be used to treat sick chickens and turkeys. When the U.S. Food and Drug Administration (FDA) found that fluoroquinolone use in poultry was increasing antibiotic-resistant foodborne infections in people, the agency proposed to ban those uses. But the Bayer Corporation, maker of Bayer aspirin and the only remaining producer of a fluoroquinolone antibiotic for poultry (Baytril®), refuses to comply. By challenging FDA's proposed ban and triggering a lengthy legal process, Bayer is putting everyone's health at risk.

### Background

Doctors consider fluoroquinolones to be one of the most valuable classes of antibiotic available because of their effectiveness against a broad range of bacterial infections, ease of use, and relative lack of side effects. Fluoroquinolones are considered the drug of choice to treat severe cases of food poisoning. Bacteria that cause food poisoning include *Campylobacter* and *Salmonella*.

Food poisoning causes mild to moderate diarrhea, fever, vomiting, and cramping. While most people recover on their own, the elderly and people with weakened immune systems are particularly vulnerable to complications. For these people, fluoroquinolones literally can mean the difference between life and death. *Salmonella* accounts for 1.4 million illnesses and about 580 deaths annually. *Campylobacter* accounts for 2.4 million illnesses and over 120 deaths each year.

People most commonly acquire *Campylobacter* bacteria by eating contaminated poultry or by eating other foods or using utensils that have come in contact with poultry juices. The FDA estimates that up to 80 percent of broiler chickens in some supermarkets are contaminated with *Campylobacter*.

### The Rise of Fluoroquinolone Resistance

Fluoroquinolones were first approved for human use in the United States in 1986, and, over the objections of consumer and health groups, were approved by the FDA for use in poultry in 1995. Some European nations had previously permitted fluoroquinolone use in poultry, and this use led to subsequent increases in fluoroquinolone-resistant infections in humans. In the U.S. as well, evidence is mounting that use of fluoroquinolones in poultry leads to higher levels of antibiotic-resistant *Campylobacter* infections in people. Health officials have expressed concern that the spread of fluoroquinolone-resistant *Campylobacter* infections is a serious threat to public health.

- Between 1982 and 1989, the percentage of antibiotic-resistant *Campylobacter* bacteria collected from humans in the Netherlands increased from zero to 11 percent; over the same period, antibiotic-resistant *Campylobacter* in animals jumped from zero to 14 percent. Fluoroquinolones were licensed for veterinary use in the Netherlands in 1987.
- In 1997, 14 percent of U.S. domestic chickens sampled were found to contain fluoroquinolone-resistant *Campylobacter*.
- By 1999, one out of every six human cases of *Campylobacter* infection in the U.S. was resistant to fluoroquinolone antibiotics. A decade earlier, such resistance was negligible.
- Just between 1998 and 1999, the incidence of foodborne *Campylobacter* resistant to fluoroquinolones in the U.S. rose from 13 percent to nearly 18 percent, an increase of about 38 percent, according to the U.S. Centers for Disease Control. Over that same period, fluoroquinolone use in animals rose 40 percent, from 22,000 pounds to 38,000 pounds, according to industry estimates.
- A landmark study published in the *New England Journal of Medicine* in 1999 showed that there was a strong correlation between resistant strains of *Campylobacter* found in people and resistant strains found on chicken (Smith et al).



*Entire flocks of chickens are fed fluoroquinolones, important antibiotics used in human medicine, even though the FDA has declared this practice unsafe.*

## FDA Acts

Based on evidence that the use of fluoroquinolones in poultry is speeding the development of drug resistance in *Campylobacter*, thus making similar drugs less effective in treating people, the FDA on October 31, 2000 proposed banning the two fluoroquinolones used to treat sick chickens and turkeys. The FDA stated that fluoroquinolones used in poultry are now “not shown to be safe,” and concluded that the “only option to protect human health is withdrawal of approval” for this product. The ban would have gone into effect 30 days from the notice.

\*\*\*\*\*

*Keep Antibiotics Working: The Campaign to End Antibiotic Overuse is a coalition of concerned health, consumer, agricultural and environmental organizations working to reduce the growing public health threat of antibiotic resistance. Members include: Center for Science in the Public Interest, Environmental Defense, Food Animal Concerns Trust, Global Resource Action Center for the Environment, Humane Society of the United States, Institute for Agriculture and Trade Policy, National Catholic Rural Life Conference, Physicians for Social Responsibility, Sierra Club, and Union of Concerned Scientists. For more information, please visit [www.KeepAntibioticsWorking.com](http://www.KeepAntibioticsWorking.com).*

## Bayer’s “Resistance” to Protecting Public Health

The only other manufacturer of fluoroquinolones for poultry, Abbott Laboratories, voluntarily withdrew its product when the FDA informed the company of the intended ban. Even though the American Medical Association and other medical and health organizations have urged Bayer to comply with the FDA, Bayer has refused. By the time the FDA decides the case, which could take years, the issue may well be moot – resistance may be high enough to make fluoroquinolone use for foodborne illness ineffective in people. Bayer’s advertising slogan is “Expertise with Responsibility,” but Bayer’s choice of profits over public health is anything but responsible.

Bayer’s recalcitrance is especially troubling given recent concerns about bioterrorism. Ciprofloxacin, the drug used to treat anthrax exposures, is not only a fluoroquinolone, but it is virtually identical to Baytril. When Baytril is fed to chickens, the drug is largely metabolized to ciprofloxacin. There is no evidence that the use of Baytril in poultry endangers the effectiveness of Cipro in treating anthrax. However, concerns about bioterrorism underscore the importance of maintaining effective fluorouquinolone antibiotics.

To ensure that critical antibiotics continue to be effective in fighting bacterial infections in people, Bayer should immediately end its challenge to FDA’s proposed ban. If Bayer persists, FDA should move expeditiously to finalize the ban and protect public health.

Visit [www.BayerWatch.com](http://www.BayerWatch.com) to urge Bayer’s CEO to comply with FDA’s proposed ban on the use of Baytril <sup>in</sup> poultry.