

What McDonald's Is Really Doing by Banning Antibiotics in Poultry

by [Caroline Weinberg](#) Mar 11, 2015, 12:10p [2 Comments](#)



Tim Boyle/Getty Images

What are "human" antibiotics, and why should consumers be wary of them?

Last week, fast-food giant **McDonald's** [announced a commitment](#) to stop serving chicken raised with "**human**" **antibiotics** in its American restaurants. The chain was widely lauded for a decision that followed in the footsteps of [chicken purveyors Perdue](#) and other restaurant chains like Chick-fil-A and Chipotle. As one of the nation's largest purchasers of poultry, McDonald's switch will have a dramatic effect on the U.S. poultry industry: The chain gave suppliers like Tyson Foods, Inc. two years to accomplish a shift that took Perdue more than a decade — and several million dollars — to implement. Other food corporations will almost certainly continue this trend (Costco Wholesale, which sells millions of rotisserie chickens in its stores, [followed suit](#) mere days later).

Antibiotics have been used in farm animals for decades, but not only to treat infections or prevent the spread of disease. In 1950, an article published in *Successful Farming* noted that antibiotic use caused rapid and vigorous growth in hogs and chickens. Shortly after, many farmers began indiscriminately adding low-dose antibiotics to the feed and water of animals raised for meat. Sixty years later, we are still unsure how and why the medication affects animal growth, but the results are undeniable: adding low levels of antibiotics to their food and water causes animals to grow faster on a smaller amount of feed.

McDonald's will phase out "human" antibiotics, which cause animals to grow faster on smaller amounts of feed.

In 2012, almost 97 percent of agricultural antibiotics were sold without a veterinary prescription. Agricultural producers purchase [more than 30 million pounds](#) of antibiotics annually, accounting for an estimated 80 percent of all antibiotics sold in the United States. There are two types of antibiotics on the market: some are tailored specifically for livestock and others are the same antibiotics used to treat infections in humans ("human

antibiotics"). The recent announcements by McDonald's and Costco pledge to phase out only the latter. And whether you're a carnivore, pescatarian, vegetarian, or vegan, the use of antibiotics in agriculture may have an effect on your health.



*A sick animal is injected with antibiotics, 1961.
Photo: Bill Johnson/The Denver Post via Getty Images*

Should we be concerned about antibiotic use in agriculture?

The short answer is yes, we should be wary. The [Centers for Disease Control \(CDC\)](#) and the [Food and Drug Administration \(FDA\)](#) have long cautioned that the use of antibiotics in our foods constitutes a public health risk. The long answer has to do with **antibiotic resistance**. Here's a brief primer: When an animal is given antibiotics, the medication kills any sensitive bacteria in the body, including the natural, helpful bacteria that protect us from infection. Some infectious bacteria may have existing mutations that make it resistant to the effects of the drugs. With long-term antibiotic use, it's survival of the fittest: After the antibiotic treatment is completed and all the susceptible bacteria have been

eliminated, these so-called resistant "superbugs" can multiply freely in their host and the environment. In some cases, these bacteria [may genetically pass on](#) their drug resistance onto other bacteria, as well.

As is the case with humans, treating food-producing animals with antibiotics is often necessary for treatment of infectious disease, critical for the well-being of both livestock and consumers. But when antibiotics are routinely administered to livestock solely to stimulate growth or to prevent disease (aka "non-therapeutic purposes"), we enter a murkier area. Drugs used for this purpose [are given at sub-therapeutic levels](#), below the threshold needed to fully eliminate infectious bacteria. Bacteria that survive this low, ineffective dose continue to thrive. When the antibiotics used in animal production are also important in human medicine, the resistance can pose a particular risk to public health.

The appearance of antibiotic-resistant "superbugs" in humans has public health officials worried.

Resistant bacteria created by the overuse of human antibiotics in agriculture can travel outside the farm through soil, dirt, water, and animal products. Over the last 40 years, [dozens of studies have demonstrated](#) that the use of low-dose antibiotics in livestock is connected to the appearance of certain antibiotic-resistant bacteria in humans. Speaking to Congress in 2013, the CDC, FDA, and Department of Agriculture [all testified to a link](#) between the non-therapeutic use of antibiotics in animal agriculture and antibiotic-resistant bacterial infections in humans.

There is also some concern that antibiotics given to livestock will ultimately end up in the food we consume. To address this, farmers and ranchers institute a withdrawal period — a set number of days between the final antibiotic treatment and when the animal is used for food. Although there have been some cases of farmers skirting this grace period, [recent findings by the FDA](#) suggest that the human consumption of antibiotics through animal food products is not a major contributor to health concerns. The primary concern is with those

superbugs that are the unintended side effects of antibiotic use. When a person eats food contaminated with resistant bacteria or is exposed to a contaminated environment, they may develop a resistant infection. In some cases this can result in a mild illness; in others, patients may develop severe illness. If the infection is the result of a bacteria picked up from an animal treated with human antibiotics, it **may be resistant to our current arsenal of drugs**, including viable treatment options for conditions like gastrointestinal infections and meningitis. Coupled with the fact that innovative research on new antibiotics is [somewhat stalled](#) in favor of more profitable drugs, the crisis builds.

No scientist or health professional would argue that excessive antibiotic use in animals raised for food is wholly responsible for the current public health crisis. But it doesn't help.



1A chicken farm in Iowa. Photo: Scott Olson/Getty Images

What is being done to combat antibiotic resistance?

In 2013, cognizant of the growing threat posed by antibiotic-resistant bacteria, the FDA [enacted a new policy](#) to curb the use of antibiotics as a means of encouraging faster growth in otherwise healthy farm animals. The organization recommended that antibiotics important for human health be used in food-producing animals only when necessary to assure animal health, and that they be delivered only under veterinary advice. Additionally, the FDA [asked pharmaceutical companies](#) to remove growth enhancement as an approved use of

medication. Participation in these proposed changes is, at this point, entirely voluntary.

Citing concerns about resistant bacteria, many countries in the European Union have [already banned](#) the use of sub-therapeutic antibiotics in animals raised for food. Dr. Victor Nizet, an infectious disease specialist at the UCSD School of Medicine and Pharmacy, says changing agriculture practices in other countries have led to "improved outcomes." "Denmark, the world's largest exporter of pork, banned antibiotics for growth and disease prevention," he says. "Antibiotic use was reduced by half and productivity and output was not changed." Nizet notes the Danish farms adapted other techniques, like "co-habiting piglets with their mothers for extended periods of time" to improve immunity.

Denmark, the world's largest pork exporter, has cut its antibiotic use by half, resulting in few changes in output and productivity.

But a balance still needs to be struck. After banning antibiotics, other E.U. countries experienced a drop in product output or an [increase in specific animal infectious diseases](#). The research demonstrates that simply removing antibiotics from animal husbandry is not the solution. Changes in antibiotic use must be coupled with additional [changes in farming practice](#) to ensure the health and well-being of the animals.

Earlier this month, three U.S. senators [introduced legislation](#) requiring the FDA to withdraw approval of any antibiotic used in animals raised for food — unless the pharmaceutical company can produce scientific evidence that its use in livestock poses no threat the human health. The legislation also [sets limitations on the length of time](#) for which a medication can be used, with an eye towards decreasing the creation of resistant bacteria. It is important to note that no legislation is suggesting eliminating antibiotic use in farm animals for treatment of

infectious disease: That would pose a danger to both consumers and the animals themselves. The recommendations [refer specifically](#) to the use of antibiotics for growth promotion and disease prevention, especially the medications that are relevant to human health.



Brandon Wang/Flickr

So, does McDonalds eliminating antibiotics from their chicken mean anything?

Antibiotic resistance is a global crisis, responsible for 700,000 deaths per year worldwide. [According to an estimate](#) by the *Review on Antimicrobial Resistance*, if no efforts are taken to combat antibiotic resistance, by 2050 the number of deaths worldwide could rise to 10 million per year, at a total cost of \$100 trillion.

McDonalds shift on human antibiotics in chicken is an important step to curb non-clinical antibiotic use in poultry farming in the U.S. Judging by the subsequent

Costco announcement, others in the foodservice industry will quickly follow their lead. Unfortunately, both of these announcements focused on antibiotic use in poultry, leaving us with the legal use of human antibiotics in cows, goats, pigs, and other animals raised for meat. Of the major fast food chains, only Hardee's and Carl's Jr. [have pledged](#) to phase out antibiotic use in beef (Carl's Jr. is now pushing its "All Natural Burger," proclaiming that it has "no antibiotics, no steroids, no added hormones"). In the coming years, only pressure from consumers and corporations will push forward the legislation required to reduce the antibiotic-resistant bacteria in our environment. McDonald's hopping on-board is just the beginning.