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Antibiotics on the Farm

One of the most striking patterns in modern American agriculture is the increasing use of antibiotics as a regular supplement in the feed and water consumed by cows, pigs and especially poultry. Most of these drugs are administered in small doses to farm animals not to cure sickness but to promote more growth on less feed and to prevent the infections that come with crowding in feedlots and confinement systems. The practice began in the late 1940's and early 1950's and has accelerated rapidly. Nobody knows precisely what volume of antibiotics is used today. But new estimates released by a public interest group this week suggest that the amount of antibiotics used nontherapeutically in American livestock has grown to 24.6 million pounds per year, a number that may be as much as 50 percent higher than it was in 1985.

These figures appear in a new report on agricultural antibiotics by the Union of Concerned Scientists, a nonprofit organization based in Cambridge, Mass. The numbers are alarming for two reasons. First, 24.6 million pounds far exceeds previous estimates. Second, it was a very hard number to arrive at because the data for antibiotic production and use — in humans or animals — are, as the report states, "shockingly incomplete." A trade group for the makers of veterinary medicines has estimated, for example, that far more antibiotics are used in treating human illness than are administered to animals. But the new estimates find just the opposite — that for nontherapeutic purposes, cows, pigs and poultry receive over all more than eight times the amount of antibiotics humans receive in the treatment of actual illness.

The public has a vital interest in this issue because the number of microbes that are resistant

to antibiotic treatments is increasing, and much of the problem stems from the overuse of antibiotics, which kill off susceptible microbes but leave the resistant ones to proliferate. Giving large numbers of animals small doses of antibiotics creates perfect conditions for the development of resistant strains of microbes, including salmonella and campylobacter, that cause disease in humans. There is already widespread concern in the medical community about the prescription of unnecessary antibiotics for human use, but that problem is exacerbated by the indiscriminate use of antibiotics in agriculture. Moreover, the practice of giving animals antibiotics is largely unnecessary, as farmers in Sweden, where giving important human antibiotics to farm animals is illegal, have proven.

The public also has an interest in the quality of information concerning antibiotic usage. It is difficult to craft meaningful policy without accurate numbers. As this report convincingly argues, "even the most basic information on antimicrobial usage is not available" — not from government sources and not from industry. Indeed, government health officials have complained about the lack of reliable data on antibiotic use.

The way to ensure that antibiotics retain their efficacy against disease is to know exactly how and in what quantities they are being administered and to eliminate unnecessary usage. The Food and Drug Administration will be exploring the use of antibiotics in animals at a meeting later this month. It will need to analyze the warring estimates and find a way to end the statistical uncertainties. But there seems little doubt that antibiotic use will need to be cut back sharply before it produces even more microbes that are resistant to modern medicines.