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Save antibiotics so antibiotics can save us

By RICHARD J. WHITLEY

As a physician who treats children with infectious diseases, I'm reminded every day that one of the most important medical achievements of the last century was the development of antimicrobial drugs. But now these powerful tools could be rendered useless because of drug-resistance, threatening a health-care catastrophe. Congress and the Food and Drug Administration have been considering actions that could help, but we don't have the luxury of time on our side.

During the last hundred years, antibiotics and other antimicrobial drugs have helped physicians and other health-care professionals save millions of lives and ease patients' suffering. Although antibiotics have been dubbed "miracle drugs," doctors know all too well they are not always effective. Over time, bacteria can develop resistance to existing drugs, making it difficult — if not impossible — to treat the "super bugs" that cause extremely dangerous infections. In fact, the World Health Organization has identified antimicrobial resistance as one of the three greatest threats to human health.

The most important source of the problem is unnecessary overuse — antibiotics simply are not being employed appropriately. This occurs too often in human medicine, and we are employing antimicrobial stewardship programs to control it. But, unfortunately, one of the most troubling causes of overuse lies outside the control of physicians — in the raising of food animals.

Agricultural uses of antibiotics have been barely noticed by the public and the media until recently. Yet 30 years of scientific evidence demonstrates that antibiotic use in food animal production contributes to the spread of drug-resistant bacteria to people in many ways, including improper handling of contaminated meat and vegetables and/or consuming tainted food or water. At present, the vast majority of antibiotics administered to food animals are for non-therapeutic uses — to promote rapid growth and save money on feed.

The results of this laxity are far from trivial. Experts recently estimated the cost of antimicrobial resistance at more than \$20 billion in the United States alone due to the use of more expensive drugs and extended hospital stays. More important, about 2 million people acquire bacterial

infections in U.S. hospitals each year, and 90,000 die as a result. And projections are moving in the wrong direction — toward more infections and more suffering.

At the same time, the pipeline for new antibiotics is drying up. The Infectious Diseases Society of America (IDSA) is so concerned about the lack of prospective new drugs that it asked President Obama and other leaders to support a global commitment to develop 10 new antibiotics by 2020. While we work to achieve the goal, we must protect the effectiveness of currently available antibiotics. We cannot afford to indulge the agricultural food industry by permitting it to continue feeding these precious drugs to animals for a few pennies of profit per pound of meat.

Members of Congress have introduced the Preservation of Antibiotics for Medical Treatment Act (PAMTA), which addresses routine use of antibiotics in food animal production. PAMTA would ban antibiotics of importance to human health from use for growth promotion, feed efficiency and routine disease prevention in food animals. IDSA has joined with the country's foremost scientific and medical experts to urge Congress to pass PAMTA. Last year, the FDA proposed an approach similar to PAMTA, but with limited allowances for disease prevention uses for these drugs. The FDA's approach is worth exploring as long as any final agreement on the appropriate uses of these drugs is codified into law — the industry must not be permitted to voluntary police itself, as some have proposed.

Unfortunately, industrial animal agricultural special interests are fighting both Congress' and FDA's approaches through intense lobbying efforts that favor maintaining the status quo — we cannot afford to let them win. It is a simple fact, the more antibiotics our society consumes the faster life-threatening drug-resistant organisms develop. This is a vicious cycle, but one that we can control, if we stop overuse. Without public support and quick government action, we stand little chance of getting ahead of the drug-resistant bacteria that take the lives of our loved ones with increasing frequency each year.

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