



Animal Welfare Institute

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SUBTHERAPEUTIC ANTIBIOTICS IN AGRICULTURE

The Problem

1. Misuse of antibiotics leads to resistance. The practice of feeding farm animals low doses of antibiotics in food and water has become standard practice, enabling confinement operations to suppress disease and promote growth while rearing tens of thousands of animals in overcrowded, unsanitary and unhealthy environments. Administering low levels of antibiotics to the animals kills the more susceptible strains of microbes but allows resistant strains to survive and reproduce with less competition, accelerating the evolution of antibiotic resistant pathogens. Multiple studies have traced the development of antibiotic resistant strains of bacteria to the heavy use of antibiotics in agriculture.¹ “It is well established,” according to FDA, “that all uses of antimicrobial drugs, in both humans and animals, contribute to the development of antimicrobial resistance [and therefore] it is important to use these drugs only when medically necessary.”²

2. Antibiotic resistance is a major public health threat, killing people and increasing healthcare costs. The National Institute of Allergy and Infectious Diseases states that “Many infectious diseases are increasingly difficult to treat because of antimicrobial-resistant organisms, including HIV infection, staphylococcal infection, tuberculosis, influenza, gonorrhea, candida infection, and malaria.”³ According to the World Health Organization, 440,000 new cases of multidrug-resistant tuberculosis emerge annually, causing at least 150,000 deaths worldwide.⁴ The CDC reported that as of 2000, roughly 70,000 Americans were dying each year from drug-resistant infections acquired in hospitals.⁵ In 2011, the CDC estimated that antibiotic resistance in the United States alone costs \$20 billion a year in excess health care costs, \$35 million in other societal costs and more than 8 million additional days that people spend in the hospital.”⁶ Moreover,

¹ See, e.g., Price LB, et al. (2012). *Staphylococcus aureus* CC398: host adaptation and emergence of methicillin resistance in livestock. *mBio* 3(1):e00305-11. doi:10.1128/mBio.00305-11. Available at <http://mbio.asm.org/content/3/1/e00305-11>;

Pappas, G. (2011). An animal farm called extended-spectrum beta-lactamase: antimicrobial resistance as a zoonosis. *Clinical Microbiology and Infection*, 17: 797–798. doi: 10.1111/j.1469-0691.2011.03498.x. Available at <http://onlinelibrary.wiley.com/doi/10.1111/j.1469-0691.2011.03498.x/full>; Leverstein-van Hall, M. A., et al. (2011), Dutch patients, retail chicken meat and poultry share the same ESBL genes, plasmids and strains. *Clinical Microbiology and Infection*, 17: 873–880. doi: 10.1111/j.1469-0691.2011.03497.x. Available at <http://onlinelibrary.wiley.com/doi/10.1111/j.1469-0691.2011.03497.x/full>.

² U.S. Food and Drug Administration. (2012). FDA takes steps to protect public health [Press release]. Retrieved from <http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm299802.htm>.

³ National Institute of Allergy and Infectious Diseases. (2012) Antimicrobial (drug) resistance, quick facts [web page] Retrieved from <http://www.niaid.nih.gov/topics/antimicrobialResistance/Understanding/Pages/quickFacts.aspx>.

⁴ World Health Organization. (2012). Antimicrobial resistance [Fact sheet]. Retrieved from <http://www.who.int/mediacentre/factsheets/fs194/en/>.

⁵ Infectious Diseases Society of America. (2004). Bad bugs, no drugs: as antibiotic discovery stagnates, a public health crisis brews. Alexandria, VA: Infectious Diseases Society of America.

⁶ Center for Disease Control. (2011) Antimicrobial resistance posing growing health threat [Press release]. Retrieved from http://www.cdc.gov/media/releases/2011/p0407_antimicrobialresistance.html.

resistant strains of bacteria infect farm animals as well as humans, jeopardizing the economic stability and biological security of the nation's food supply.

3. Antibiotic use is not subject to administrative record-keeping. No government entity maintains data on which antibiotics are used in animal agriculture and in what quantities, and the bulk of the drugs are available over the counter to lay people. According to estimates from the FDA, approximately 80% of antibiotics consumed in the US are given to livestock;⁷ 90% of these antibiotics are given at the sub-therapeutic level.⁸ This sub-therapeutic administration of antibiotics must be stopped. Antibiotics should be used on farm animals only by licensed veterinarians in order to treat sick animals under their care.

The Solution

The Preservation of Antibiotics for Medical Treatment Act (PAMTA), H.R. 1150/S. 1256 would:

- prohibit the non-therapeutic feeding of medically important antibiotics to livestock;
- withdraw FDA approval of antibiotics for non-therapeutic use unless the drug manufacturer demonstrates a reasonable certainty that such use will not harm human health due to antibiotic resistance;
- permit the use of antibiotics to treat sick animals; and
- affect classes of drugs specifically used in human medicine, leaving other drug options available to producers.

With appropriate management and care, farmers do not need to feed sub-therapeutic levels of antibiotics to their animals to keep them healthy. Animal welfare food certification programs, such as Animal Welfare Approved (AWA), typically prohibit the use of non-therapeutic antibiotics. High-welfare farmers maintain herd health by implementing a comprehensive health plan that focuses on avoiding diseases, and rely on vaccination, pasture management, exceptional hygiene, and the reduction of stressors that weaken immune systems. High-welfare farmers provide sick animals with appropriate medical treatment, while reserving the use of antibiotics for animals who have been diagnosed with a microbial disease.

We believe veterinarians have a duty to help preserve the efficacy of life-saving antibiotics to treat sick animals and people. Policymakers need to prohibit the use of antibiotics for growth promotion and disease prevention in farm animals. **THE CURRENT POSITION OF THE AMERICAN VETERINARIAN MEDICAL ASSOCIATION (AVMA) IS IN OPPOSITION TO PAMTA. HOWEVER, POSITIONS MAY BE SUBJECT TO CHANGE AND DISCUSSIONS CONTINUE ON THIS SUBJECT. WE HOPE THE PUBLIC WILL LET THEIR VETERINARIANS AND THE AVMA KNOW THEIR VIEWS ON THE MISUSE OF ANTIBIOTICS IN FARM ANIMALS.**

VETERINARIANS CAN EXPRESS THEIR SUPPORT FOR PAMTA TO: DR. CHRISTINE HOANG (subject matter expert) at: CHoang@avma.org and/or **DR. ASHLEY MORGAN** (legislation related to antimicrobials) at: AMorgan@avma.org.

⁷ Food and Drug Administration. (2009). 2009 Summary report on antimicrobials sold or distributed for use in food-producing animals. Retrieved from <http://www.fda.gov/downloads/ForIndustry/UserFees/AnimalDrugUserFeeActADUFA/UCM231851.pdf>. See also Chai, G. (2010) Sales of antibacterial drugs in kilograms [Internal FDA report]. Retrieved from <http://www.fda.gov/downloads/Drugs/DrugSafety/InformationbyDrugClass/UCM261174.pdf>.

⁸ Pers. comm. from Dr. Michael Blackwell, July 24, 2012.