Food Animal Production and Antibiotic Resistance

The Campaign

The Challenge

Antibiotics are one of the most important tools in modern medicine. These drugs can mean the difference between life and death when humans contract a bacterial infection—from staph to salmonella to bacterial pneumonia. But overuse and misuse of these drugs are making bacteria more quickly resistant to essential antibiotics.

Antibiotic resistance complicates medical treatment, and frequently results in longer and more serious illness, and in some instances even death. According to a team of researchers affiliated with the Centers for Disease Control and Prevention (CDC), in 2002 alone, 99,000 people died in the U.S. of a hospital-acquired infectious disease.[1] Children, the elderly and the chronically ill are particularly vulnerable to antibiotic-resistant infections.[2] In 1998, the Institute of Medicine estimated that antibiotic resistance generated at least $4 billion to $5 billion per year in extra costs to the U.S. health care system.[3] More recently, researchers with the Alliance for the Prudent Use of Antibiotics and Cook County Hospital in Chicago estimated that this number has grown to $16.6 billion to $26 billion per year.[4] For these reasons, the CDC has declared that antibiotic resistance is among its top concerns.[5]

The Causes of Antibiotic Resistance

Overuse and misuse of antibiotics are main causes of the increasing prevalence of antibiotic resistance among bacteria. Antibiotics are misused by consumers when prescriptions are not fully followed (thus failing to kill bacteria). In other cases, people with viral infections such as the cold and the flu incorrectly believe that an antibiotic will help. In fact, antibiotics do not work against viral infections. Finally, certain industrial farming practices lead to overuse of antibiotics, as described below.

The Link to Food Animal Production

In human health care, antibiotic use is generally confined to the treatment of illness. In contrast, antibiotics often are used on industrial farms not only to treat sick animals but also to offset crowding and poor sanitation, as well as to spur animal growth. In fact, up to 70 percent of all antibiotics sold in the U.S. are given to healthy food animals.[6]

In July 2010, the U.S. Food and Drug Administration, U.S. Department of Agriculture and the CDC testified before Congress that there was a definitive link between the routine, non-therapeutic uses of antibiotics on industrial farms and the crisis of antibiotic resistance in humans.[7] Moreover, the American Medical Association, the American Academy of Pediatrics

and other leading medical groups all warn that the routine use of antibiotics in food animals presents a serious and growing threat to human health because it creates new strains of dangerous antibiotic-resistant bacteria.

More than 25 million pounds of antibiotics a year are used as a non-therapeutic treatment to artificially speed up the growth of food animals and to compensate for the effects of unsanitary conditions on the farm.[8] This makes the U.S. one of the biggest users of antibiotics in food animal production in the world.[9] Most of the antibiotics used on farms in the U.S. are obtained and used without the consultation of a veterinarian. The lack of oversight, coupled with the magnitude of administration of antibiotics for non-therapeutic purposes, has potentially serious consequences for human health.

Source: The Pew Charitable Trusts

The Solution

Working together, citizens, government, industry and public interest organizations have the tools to reduce overuse and misuse of antibiotics:

- Individuals can practice safe and effective use of antibiotics by only taking them when and as prescribed by a doctor.
- The food animal industry can adopt cost-effective alternative hygienic strategies for preventing illness in animals and discontinue use of antibiotics in feed for growth promotion.[10]

The Preservation of Antibiotics for Medical Treatment Act (PAMTA, H.R. 965) would withdraw the routine, not-therapeutic use of seven classes of antibiotics vitally important to human health from food animal production unless animals or herds are sick with diagnosed. Federal legislation such as this and/or regulation is needed in order to preserve the effectiveness of these life-saving drugs and to protect human health.

Food Animal Production and Antibiotic Resistance: The Campaign

Our Campaign

The Pew Campaign on Human Health and Industrial Farming is working to save antibiotics by phasing out the routine use of the drugs in food animal production. Our efforts fall into three broad categories—education, outreach and advocacy.

Education

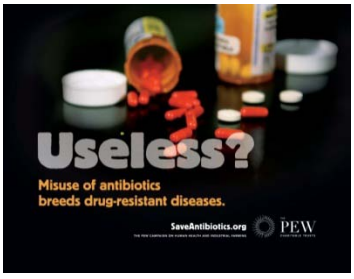
On our website, SaveAntibiotics.org, we monitor and publicize the latest scientific research by government, academic and other experts on the emerging antibiotic resistance health crisis and its relationship to industrial farming. We promote public understanding of the linkages between food animal production and antibiotic resistance using a number of tactics, including the placement of advertisements such as those printed in this fact sheet. And we let stakeholders know about safe, cost-effective, hygienic alternatives to routine use of antibiotics in food animal production.

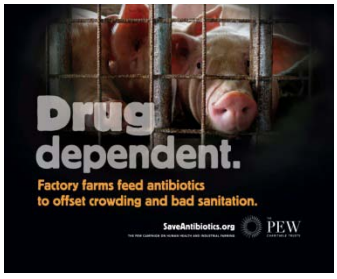
Outreach

We forge partnerships with medical, agricultural, veterinary and philanthropic groups that share our vision for sound food animal production techniques that do not undermine the long-term viability of antibiotics and their life-saving capabilities. We work with parents, doctors, drug manufacturers, businesses farmers, and consumers to help reduce overuse and misuse of antibiotics and to encourage U.S. producers and retailers to sell and serve meat raised without the routine use of antibiotics.

Advocacy

We work to educate policymakers about the importance of addressing the costs and health impacts of America's antibiotic-resistance challenges. We urge Congress, federal agencies and the government's executive branch to initiate legislative and regulatory actions that will ensure that the quantity of antibiotics used is reported and the overuse and misuse of these drugs on industrial farms is reduced in order to protect human and animal health.





Source: The Pew Charitable Trusts

[1] R. M. Klevens et al., "Estimating Health Care-Associated Infections and Deaths in U.S. Hospitals, 2002," *Public Health Reports* 2007;122:160–166.
[2] Katherine Shea, K. Florini, and T. Barlam, "When Wonder Drugs Don't Work: How Antibiotic Resistance Threatens Children, Seniors, and the Medically Vulnerable" (Washington, DC: Environmental Defense Fund, 2001).
[3] Polly Harrison and J. Lederberg, "Antimicrobial Resistance: Issues and Options," Workshop Report, Forum on Emerging Infections, Division of Health and Sciences Policy, Institute of Medicine (Washington, DC: National Academy Press, 1998).
[4] James Gallagher, "Study: Antibiotics Problems Cost U.S. between $17B and $26B a Year," Triangle *Business Journal*, October 19, 2009, http://triangle.bizjournals.com/triangle/stories/2009/10/19/daily4.html (accessed July 15, 2010). Based on: Rebecca R. Roberts, et al., "Hospital and Societal Costs of Antimicrobial-Resistant Infections in a Chicago Teaching Hospital: Implications for Antibiotic Stewardship," *Clinical Infectious Diseases* 49 (2009): 1175–1184.
[5] Centers for Disease Control and Prevention, *Antibiotic Resistance Questions and Answers*, www.cdc.gov/getsmart/antibiotic-use/anitbiotic-resistance-faqs.html (accessed July 22, 2010).
[6] Margaret Mellon, C. Benbrook, and K. L. Benbrook, *Hogging It! Estimates of Antimicrobial Abuse in Livestock* (Cambridge, MA: Union of Concerned Scientists, 2001).
[7] Hearing: Antibiotic Resistance and the Use of Antibiotics in Animal Agriculture, Subcommittee on Health, Energy and Commerce Committee, US. House of Representatives, July 12, 2010, http://energycommerce.house.gov/hearings/hearingdetail.aspx?NewsID=8001 (accessed January 24, 2011).
[8] Ibid.
[9] Frank Aarestrup, Danish Technical University, to Speaker Nancy Pelosi, letter and presentation to Congressional Delegation, September 2009, www.louise.house.gov/index.php?option=com_content&view=article&id=1314:rep-slaughter-releases-letter-from-denmark-on-non-therapeutic-use –of-antimicrobials-&catid=41:press-releases&letmid=109 (accessed July 15, 2010).
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