



THE NEED TO IMPROVE ANTIBIOTIC USE IN FOOD ANIMALS

- There is significant evidence and consensus among major scientific and medical groups (AMA, APHA, IDSA) linking antimicrobial use in food animal production to resistant infection in humans. Antimicrobial resistance **limits treatment options, raises healthcare costs, and increases the number, severity, and duration of infections** (1).
- In the United States, it is estimated that the amount of antimicrobials used in food animal production is greater than the amount used in humans. The FDA has communicated that about 28.8 million pounds of antibiotics were sold and distributed for use in food animals in 2009 (2), (3).
- Antibiotic growth promotion in food animals utilizes **sub-therapeutic doses of an antibiotic for extended periods of time**. This selects for resistant strains, and amplifies their persistence and dissemination in the environment where they can be transferred to humans (4).
- **Concentrated animal feeding operations (CAFOs)** and the improper composting of fecal waste contribute to antibiotic resistance emergence and spread of infectious disease (5). **Improved husbandry practices** would reduce overuse of antibiotics in food animals (6).
- Many AGP's (antibiotic growth promoters) used in food animal production are the same antimicrobial treatments used in human medicine. Antibiotics **classified as critically important to human health** (such as penicillin, cephalosporins, tetracycline, and the fluoroquinolones) should be regulated in food animal production (7).
- **Guidance #152, passed in 2003**, was the first FDA recommendation that drug sponsors use a qualitative risk assessment approach to evaluate the likelihood that use of an antimicrobial in food animals could cause antimicrobial resistance in humans(8). Many antimicrobials used in food animals were **approved decades before this recommendation** (9).
- Drug resistant organisms take a staggering toll in the US and worldwide: just one organism, **methicillin-resistant Staphylococcus aureus (MRSA) kills more Americans every year than emphysema, HIV/AIDS, Parkinson's disease, and homicide combined** (10). In 2005, about **94,000 persons** developed their first invasive (i.e., serious) MRSA infection, of which **approximately 19,000 died** (11).
- A study conducted by APUA and John H. Stroger, Jr. Hospital of Cook County in 2009 found that antimicrobial-resistant infections **add 6.4-12.7 hospital days per patient and \$26 billion to \$35 billion total in healthcare costs** (12).
- Current antimicrobial use policy for animals in the United States differs from **policy enacted in the European Union, which in 2006 banned the use of all antimicrobials for food animal growth promotion** in deference to public health concerns (13).
- Studies found that regulation of antimicrobial use in agriculture in Denmark between 1992 and 2008 resulted in **improvement of overall swine productivity by 47%** (14).
- **RECOMMENDATION: To slow the pace of antibiotic resistance, emergence, and spread, the use of antimicrobials for animal growth promotion should be terminated. In addition, nationwide antibiotic use data should be made available to enable health impact assessment and to guide policy changes** (15).

The Alliance for the Prudent Use of Antibiotics (APUA) has been the leading global non-governmental organization working to preserve the effectiveness of antimicrobial drugs since 1981. For more information, please visit: <http://www.tufts.edu/med/apua/>.

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- (2) "2009 Summary Report on Antimicrobials Sold or Distributed for Use in Food-Producing Animals" (2009) Food and Drug Administration
- (3) Personal communication, FDA to Ralph Logiisci, Center for a Livable Future (2010) www.livablefutureblog.com/2010/12/new-fda-numbers-reveal-food-animals-consume-lion%E2%80%99s-share-of-antibiotics
- (4) FAAIR Scientific Advisory Panel (2002) "Select Findings and Conclusions." *Clinical Infectious Diseases* 34:S73-75.
- (5) Pew Trusts. "Putting Meat on the Table: Industrial Farm Animal Production in America" (2009) A Report of the Pew Commission on Industrial Farm Animal Production. Pp. 1-108: 6.
- (6) *Ibid*, 35.
- (7) J Sharfstein. "Antibiotic Resistance and the Use of Antibiotics in Animal Agriculture." (2010). FDA Commissioner Testimony. <http://www.fda.gov/NewsEvents/Testimony/ucm219015.htm>
- (8) Pew Trusts. "Putting Meat on the Table: Industrial Farm Animal Production in America" (2009) A Report of the Pew Commission on Industrial Farm Animal Production. Pp. 1-108: 31.
- (9) Alliance for the Prudent Use of Antibiotics. Executive summary: select findings, conclusions, and policy recommendations. *Clin Infect Dis*. 41, 4: S224-S227. (2005).
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- (12) Roberts RR, Hota B, Ahmad I, et al. Hospital and societal costs of antimicrobial-resistant infections in a Chicago teaching hospital: implications for antibiotic stewardship. *Clin Infect Dis* 2009; 49:1175-84
- (13) C. Coglian, H. Goossens, C. Greko. Restricting antimicrobial use in food animals: lessons from Europe. *Microbe* 6, 6: 274-279. (2011).
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- (15) Alliance for the Prudent Use of Antibiotics. Executive summary: select findings, conclusions, and policy recommendations. *Clin Infect Dis*. 41, 4: S224-S227. (2005).