Questions and Answers: Judicious Use of Antimicrobials in Food-Producing Animals

Q. What is the U.S. Department of Agriculture’s (USDA) involvement in monitoring and researching antibiotic use and antimicrobial resistance?

A. We are working to protect public health, animal health, and livestock productivity by helping make sure antibiotics are used judiciously. The USDA’s Animal and Plant Health Inspection Service, Agricultural Research Service, Economic Research Service, National Agricultural Statistics Service, and Food Safety and Inspection Service work together to collect data and share this information with decision makers. More specifically, we test for antibiotic resistance; collect information on antibiotic use and livestock production practices; develop diagnostic tools to use for surveillance; research new alternatives to antibiotics (for example, vaccines or probiotics) for preventing and treating animal diseases; and analyze data to report on prevalence, trends, change factors, and strategies to limit antimicrobial resistance.

In addition, we joined the U.S. Department of Health and Human Services (HHS)—in cooperation with several State and local health departments—to create the National Antimicrobial Resistance Monitoring System (NARMS). USDA is also currently collaborating with HHS’ Food and Drug Administration (FDA) and Centers for Disease Control and Prevention (CDC) to identify possible strategies for filling data gaps regarding antimicrobial use in animal agriculture.

Q. Why is USDA’s involvement important?

A. The health of animals and people are undeniably interconnected in today’s world. USDA works with FDA to make sure antimicrobial drug therapies remain effective for both people and animals.

We also worked closely with FDA to develop both its regulations and its guidance to industry on this topic, sharing our expertise on animal health matters. USDA will continue to collaborate with the FDA, the veterinary community, and livestock industries to address issues related to antimicrobial use in animals.

Q. What is the National Antimicrobial Resistance Monitoring System?

A. Created in 1996 as a partnership between FDA, CDC, and USDA, the National Antimicrobial Resistance Monitoring System (NARMS) is a national public health surveillance system that tracks antibiotic resistance in foodborne bacteria. The major bacteria currently under surveillance are *Salmonella*, *Campylobacter*, *Escherichia coli*, and *Enterococcus*.

The main objectives of NARMS are to:

- Monitor trends in antimicrobial resistance among foodborne bacteria from people, retail meats, and animals;
- Disseminate timely information on antimicrobial resistance to promote interventions that reduce resistance among foodborne bacteria;
- Conduct research to better understand the emergence, persistence, and spread of antimicrobial resistance; and
- Assist the FDA in making decisions related to the approval of safe and effective antimicrobial drugs for animals.

Q. What is the National Animal Health Monitoring System?

A. The National Animal Health Monitoring System (NAHMS) is a program within USDA that conducts nationwide studies on animal health and related practices at U.S. livestock, poultry, and aquaculture operations. As part of this work, NAHMS has collected information on antimicrobial use in livestock production, the prevalence of food-safety pathogens, and the antibiotic resistance attributes of these pathogens over the past 20 years. NAHMS studies also supply data on what factors influence livestock producers’ decisions about using antimicrobials. This information helps us know how best to target outreach and education activities related to antimicrobial drug use and resistance.

USDA works with other government, academic, and industry partners to collect data and samples for its studies. We recently collaborated with the American Association of Swine Veterinarians to gather data on current industry practices. To study how antimicrobial use on the farm might be related to antimicrobial resistance among bacteria in animal products, several
USDA agencies worked together on a study of antimicrobial use and resistance on swine operations and at slaughter facilities.

We have ongoing NAHMS surveys of livestock and poultry operations across the country to collect data about antimicrobial use and antimicrobial resistance. Recent examples include national studies on swine farms in 2012, cattle feedlots in 2011, dairy farms in 2007, and beef cow-calf operations in 2007–08.

Q. What is FDA's Guidance for Industry (GFI) 209?
A. GFI 209 is a document that offers industry a framework for voluntarily adopting practices to ensure the appropriate, or judicious, use of medically important antimicrobial drugs in food-producing animals. Topics discussed in this document include, among others:

- How some uses of antibiotics in food-producing animals may impact antimicrobial resistance;
- A summary of key reports and scientific literature on the use of antimicrobial drugs in animal agriculture; and
- Principles for phasing in measures to limit such drugs to uses that are necessary for assuring animal health or that involve veterinary oversight or consultation.

Q. What is FDA's GFI 213?
A. GFI 213 is a document that gives the pharmaceutical industry recommendations on how to modify the use conditions of new animal drugs and combination products to align with FDA’s GFI 209. The voluntary process outlined in this document involves withdrawing approvals related to any production uses and changing the marketing status of these products from “over-the-counter” to use by “veterinary prescription” or “Veterinary Feed Directive.”

Q. Are there alternatives to antimicrobial use?
A. USDA strongly promotes biosecurity practices that can thwart disease spread and keep livestock and poultry healthy. We also recommend and research strategies that optimize nutrition in farm animals, an essential factor to their overall well-being. Vaccination is another important tool to protect animals from diseases; USDA tests and determines the viability of vaccines for animal agriculture and approves their use. These efforts, combined with the judicious use of antimicrobials, help support a strong, healthy, and thriving U.S. animal-agriculture system and promote public health.

Q. How does USDA work with veterinarians to make sure producers receive the guidance they need to keep their animals healthy?
A. USDA’s Animal and Plant Health Inspection Service (APHIS) focuses on disease prevention, preparedness, detection, and early response activities to help producers protect the health of their animals and minimize the impact of animal disease issues. We are also working to make sure veterinarians have the most current knowledge on this topic so they can provide the best guidance to their clients. Finally, USDA’s National Institute of Food and Agriculture oversees the Veterinary Medicine Loan Repayment Program, which was established by the National Veterinary Medical Services Act of 2003. This program helps qualified veterinarians repay their student loans in return for their service in areas suffering from a shortage of veterinarians.

Q. Where can I learn more about judicious use of antimicrobials?
A. There are many resources available to help you learn more about this topic.

- FDA’s Antimicrobial Resistance Web site: www.fda.gov/AnimalVeterinary/SafetyHealth/AntimicrobialResistance
- FDA’s Judicious Use Web site: www.fda.gov/AnimalVeterinary/SafetyHealth/AntimicrobialResistance/JudiciousUseofAntimicrobials/default.htm
- NARMS Web site: www.fda.gov/AnimalVeterinary/SafetyHealth/AntimicrobialResistance/NationalAntimicrobialResistanceMonitoringSystem/default.htm
- American Veterinary Medical Association’s Web site on judicious use of antimicrobials: www.avma.org/KB/Policies/Pages/Judicious-Therapeutic-Use-of-Antimicrobials.aspx

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