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ANTIBIOTIC RESISTANCE

Agencies Have Made Limited Progress Addressing Antibiotic Use in Animals

GAO Accountability * Integrity * Reliability

Highlights

Highlights of GAO-11-801, a report to the Ranking Member, Committee on Rules, House of Representatives

Why GAO Did This Study

Antibiotics have saved millions of lives, but antibiotic use in food animals contributes to the emergence of resistant bacteria that may affect humans. The Departments of Health and Human Services (HHS) and Agriculture (USDA) are primarily responsible for ensuring food safety. GAO reviewed the issue in 2004 and recommended improved data collection and risk assessment. GAO was asked to examine the (1) extent to which agencies have collected data on antibiotic use and resistance in animals, (2) actions HHS's Food and Drug Administration (FDA) took to mitigate the risk of antibiotic resistance in humans as a result of use in animals, (3) extent to which agencies have researched alternatives to current use practices and educated producers and veterinarians about appropriate use, and (4) actions the European Union (EU) and an EU member country, Denmark, have taken to regulate use in animals and lessons that have been learned. GAO analyzed documents, interviewed officials from national organizations, and visited producers in five states and Denmark.

What GAO Recommends

GAO recommends that HHS and USDA (1) identify and evaluate approaches to collecting detailed data on antibiotic use in animals and use these data to evaluate FDA's voluntary strategy, (2) collect more representative data on resistance, and (3) assess previous efforts on alternatives to identify where more research is needed. HHS and USDA agreed with GAO's recommendations.

View GAO-11-801 or key components.
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What GAO Found

HHS and USDA have collected some data on antibiotic use in food animals and on resistant bacteria in animals and retail meat. However, these data lack crucial details necessary to examine trends and understand the relationship between use and resistance. For example, since GAO's 2004 report, FDA began collecting data from drug companies on antibiotics sold for use in food animals, but the data do not show what species antibiotics are used in or the purpose of their use, such as for treating disease or improving animals' growth rates. Also, although USDA agencies continue to collect use data through existing surveys of producers, data from these surveys provide only a snapshot of antibiotic use practices. In addition, agencies' data on resistance are not representative of food animals and retail meat across the nation and, in some cases, because of a change in sampling method, have become less representative since GAO's 2004 report. Without detailed use data and representative resistance data, agencies cannot examine trends and understand the relationship between use and resistance.

FDA implemented a process to mitigate the risk of new animal antibiotics leading to resistance in humans, which involves the assessment of factors such as the probability that antibiotic use in food animals would give rise to resistant bacteria in the animals, but it faces challenges mitigating risk from antibiotics approved before FDA issued guidance in 2003. FDA officials told GAO that conducting postapproval risk assessments for each of the antibiotics approved prior to 2003 would be prohibitively resource intensive, and that pursuing this approach could further delay progress. Instead, FDA proposed a voluntary strategy in 2010 that involves FDA working with drug companies to limit approved uses of antibiotics and increasing veterinary supervision of use. However, FDA does not collect the antibiotic use data, including the purpose of use, needed to measure the strategy's effectiveness.

HHS and USDA have taken some steps to research alternatives to current antibiotic use practices and educate producers and veterinarians on appropriate use of antibiotics. However, the extent of these efforts is unclear because the agencies have not assessed their effectiveness. Without an assessment of past efforts, the agencies may be limited in their ability to identify gaps where additional research is needed. Except for one $70,400 USDA project, all other federal education programs have ended.

Since 1995, the EU, including Denmark, banned the use of antibiotics to promote growth in animals, among other actions. Some of their experiences may offer lessons for the United States. For example, in Denmark, antibiotic use in animals initially decreased following a series of policy changes. The prevalence of resistant bacteria declined in food animals and retail meat in many instances, but a decline in humans has only occasionally been documented. Denmark's data on use and resistance helped officials track the effects of its policies and take action to reverse unwanted trends. The EU faces difficulty collecting data that can be compared across countries, but officials there said such data are needed to fully understand how use in animals may lead to resistance in humans.