

PolicyPennings by Daryll E. Ray & Harwood D. Schaffer

National plan to combat antibiotic resistant bacteria on multiple fronts

In early March 2015, McDonalds USA announced “new menu sourcing initiatives including only sourcing chicken raised without antibiotics that are important to human medicine.” This new policy is consistent with a direction the company began in 2003 when it introduced its “global antibiotics policy [that] includes supplier guidance on the thoughtful use of antibiotics in all food animals (<http://tinyurl.com/pswbpef>).

The issue of the use of antibiotics in food animals received additional attention at the end of March, when the US Secretaries of the Departments of Health and Human Services, Agriculture, and Defense announced their “plan to combat and prevent antibiotic resistant bacteria” (<http://tinyurl.com/png2qyp>). The announcement included the release by the White House of the “National Action Plan for Combating Antibiotic Resistant Bacteria.”

The plan is built on 5 goals and will have an impact on the use of antibiotics by humans and in food animal production. The first goal seeks to “slow the emergence of resistant bacteria and prevent the spread of resistant infections.” According to the plan, the “judicious use of antibiotics in healthcare and agricultural settings is essential to slow the emergence of resistance and extend the useful lifetime of effective antibiotics.”

Among other things, the plan hopes to reduce the inappropriate human use of antibiotics by 50 percent in outpatient settings and 20 percent in inpatient settings by 2020. When it comes to agriculture, the plan will eliminate “the use of medically-important antibiotics for growth promotion in food-producing animals” and require “veterinary oversight for [the] use of medically-important antibiotics in the feed or water of food-producing animals.”

Part of the achievement of the first goal will be the “establishment of State Antibiotic Resistance Prevention (Protect) Programs in all 50 states to monitor regionally important multidrug resistant organisms and provide feedback and technical assistance to healthcare facilities.”

Achievement of the second goal of strengthening surveillance efforts to combat resistance will include the establishment of regional antimicrobial resistance detection “laboratories that will provide a standardized platform for resistance testing and advanced capacity for genetic characterization of resistant bacteria, including whole genome sequencing. In addition, Goal 2 activities will enhance monitoring of antibiotic sales, usage, resistance and management practices at multiple points along in the food-production chain, from farms to processing plants to supermarkets.” By 2020, achievement of this goal will include the “routine reporting of antibiotic use and resistance data

to the [National Healthcare Safety Network] (NHSN) by 95 percent of Medicare-eligible hospitals, as well as by DOD and VA healthcare facilities.”

Goal 3 seeks to advance the development and use of rapid and innovative diagnostic tests for the identification and characterization of resistant bacteria. Part of this goal is the development of tests that can rapidly distinguish between bacterial infections and viral infections and determine antibiotic resistance. In the 1980s, Harwood had a doctor who used a slower version of this kind of test. When the test showed that there wasn’t a bacterial infection he refused to prescribe an antibiotic. It took some getting used to, even though Harwood understood the purpose. But even more concerning were the times when a test would show a bacterial infection that was resistant to two or more commonly used antibiotics.

The fourth goal is to accelerate research to develop new antibiotics, and other therapeutics, vaccines, and diagnostics. “Antibiotics that lose their effectiveness for treating human disease through antibiotic resistance must be replaced with new drugs; alternatives to antibiotics are also needed in veterinary medicine. The advancement of drug development requires intensified efforts to boost basic scientific research, attract greater private investment, and facilitate clinical trials of new antibiotics. These activities are imperative to increase the number of antibiotic drug candidates in the drug-development pipeline.”

“By 2020, one significant outcome of Goal 4 will [be the] characterization of the gut microbiome—the communities of microorganisms that live within the gastrointestinal tract—of at least one animal species raised for food. This outcome will help us understand how antibiotic treatments disrupt normal gut bacteria and how animal growth might be promoted—and bacterial diseases might be treated—without using antibiotics.”

The fifth goal is to “improve international collaboration and capacities for antibiotic resistance prevention, surveillance, control, and antibiotic research and development.” In response to this goal “the United States will support the development of the WHO Global Action Plan on Antimicrobial Resistance, strengthen cooperation under the European Union-United States Trans-Atlantic Task Force on Antimicrobial Resistance (TATFAR), promote antibiotic resistance as an international health priority, and mobilize resources for global activities through bilateral, regional, and multilateral venues such as the Global Health Security Agenda.”

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The goal is lofty and the challenge will have significant elements that will impinge upon both US households and US food animal producers. But as Mike Andres, McDonald's US President said, "Our customers want food that they feel great about eating—all the way from the farm to the restaurant—and these moves take a step toward better delivering on those expectations." And, we all want access to effective treatment options when we or a loved one becomes infected.

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