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Hearing on H.R. 1549,
Preservation of Antibiotics for Medical Treatment Act

Chairwoman Slaughter and distinguished members of the committee, my name is Lance Price. I am the director of the Center for Metagenomics and Human Health at the Translational Genomics Research Institute in Arizona. I am also a microbiologist with over 15 years of research experience. I appear today to present testimony in support of the "Preservation of Antibiotics for Medical Treatment Act of 2009".

Antibiotic resistance is one of the greatest public health threats that we face today. For decades, the discovery of new antibiotics out-paced the emergence of antibiotic resistant bacteria. In recent years, however, the rate of new antibiotic discovery has plummeted; and, we are now witnessing the emergence of bacterial pathogens that are resistant to all of our approved antibiotics. Sadly, thousands of Americans die every year from infections that were once treatable with antibiotics.

Antibiotics save human lives by killing or inhibiting bacteria when administered at proper doses and for sufficient time. When antibiotics are administered at low doses—a practice common in food animal production—then antibiotic resistance emerges quickly.

Concentrated animal feeding operations present an ideal setting for the growth of antibiotic resistant bacteria—thousands of animals are densely packed under unhygienic conditions and fed antibiotics at sub-therapeutic doses. Most of the 9 billion food animals raised in the United States are raised in concentrated animal feeding operations and administered antibiotics on a regular basis.

Antibiotics select for resistant bacteria in the gastrointestinal tract of treated animals. These resistant bacteria are rapidly disseminated to the entire flock or herd via fecal contamination. Fecal waste inevitably contaminates animal carcasses during the slaughter process; thus, antibiotic resistant bacteria are common contaminants of meat and poultry consumer products. Furthermore, the enormous quantities of fecal waste produced by food animals in the United States are applied to agricultural land with minimal treatment that is insufficient to kill many bacteria. Crops grown in these fields are prone to contamination by antibiotic resistant bacteria.

Surveys of human gastrointestinal tracts indicate that people carry antibiotic resistant bacteria and that these bacteria likely come from the consumption of contaminated foods. The antibiotic resistant bacteria found on food and in human gastrointestinal tracts include some of the same organisms that are currently plaguing our hospitals.

Regular antibiotic use in food animal production is an unnecessary public health risk and a crutch for improper animal husbandry practices. If an animal production system requires regular antibiotic inputs to keep the animals from becoming sick, then the system is broken. Except in extremely rare situations, we do not try to prevent outbreaks of *human* diseases using population scale antibiotic treatment. The prevention of infectious diseases within the human population is based largely on public health and hygiene interventions (e.g., underground sewage). We would never consider doing away with our hygiene-based interventions and relying solely on antibiotics to maintain human health, so why do we do this with animals? The military learned long ago that if bunks were placed too close together then troops would fall ill from bacterial infections. The military's response was not to prescribe prophylactic antibiotics to all the recruits—the answer was to impose minimum distances between bunks.

The US food animal industry must find alternatives to antibiotics for preventing the spread of bacterial infections among the animals they produce. Successful models for large-scale antibiotic-free, animal production already exist and are used to produce millions of animals in the US every year. However, until there is legislation to prevent unnecessary use of antibiotics then most producers will continue to use antibiotics to patch their outdated practices. Given the potential health risks posed by the overuse of

antibiotics and the nonessential nature of their use in food animal production, society would be better served by preserving the utility of these antibiotics for treating sick people.

Antibiotic resistance may be inevitable; however, we can slow the onset of resistance by eliminating all unnecessary uses of antibiotics. If we can slow the emergence of resistance, we give ourselves more time to develop alternative treatment strategies and discover new antibiotics. Eliminating the regular use of antibiotics by food animal producers should be one of our top priorities for slowing the emergence of antibiotic resistant bacteria. The “Preservation of Antibiotics for Medical Treatment Act of 2009” is a solid first step towards curbing unnecessary antibiotic use in food animal production.

I commend the distinguished Chairwoman for her commitment to address this important issue and thank you for the opportunity to appear before this committee today.