

September 13, 2022

RE: Antimicrobial Resistance and One Health; Virtual Public Meeting Docket No. APHIS-2022-0027

The undersigned members of Keep Antibiotics Working (KAW) and colleague organizations appreciate this opportunity to comment on USDA's Antimicrobial Resistance and One Health; Virtual Public Meeting.

USDA must acknowledge the public health imperative for reductions in antibiotic overuse, as it considers methods for furthering antimicrobial stewardship and agricultural science on antimicrobial resistance (AMR) across the One Health interfaces of food safety, animal and human health, and the environment.

Overuse is widespread in food-producing animals as it is in human medicine. Solutions for curbing antibiotic overuse in animal agriculture include setting national targets for reducing antibiotic use, implementing on-farm disease surveillance, and researching strategies to mitigate animal disease and decrease the necessity of antibiotic intervention.

Set National Targets for Reducing Antibiotic Use

The overuse of antibiotics in human or animal contexts places selective pressure on bacterial organisms, favoring the emergence of antibiotic resistant bacteria.¹ Given that almost two-thirds² of medically important antibiotics sold in the United States go to food-animal production, stopping the overuse in food animals is needed to mitigate the threat of antibiotic resistance. We call on the U.S. Department of Agriculture to actively acknowledge the need to reduce the use of antibiotics in food animals and to support national public health goals related to reducing this use. We recommend a 50% reduction in the use of antibiotics in food animals by 2025 from 2010 levels of use the second year for which FDA began reporting sales as a proxy for antibiotic use.

This is not only a reasonable and achievable goal, but a necessary one. Targets allow federal agencies to maintain accountability to their public health mission and adequately track progress

¹ World Health Organization. "Antimicrobial Resistance," November 17, 2021.

<https://www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance>.

² Wallinga, David. "U.S. Livestock Antibiotic Use Is Rising, Medical Use Falls." *NRDC Expert Blog* (blog), November 18, 2021.

<https://www.nrdc.org/experts/david-wallinga-md/us-livestock-antibiotic-use-rising-medical-use-falls-0>.

over time. Several countries have established use reduction targets as have agencies within the United States.³ In a program funded by the Department of Health and Human Services (HHS) through the Agency for Healthcare Research and Quality (AHRQ) long-term care facilities use reduction targets to reduce overuse and curb antibiotic resistance.⁴ The first U.S. National Action Plan for Combating Antibiotic-Resistant Bacteria (CARB) has a goal to reduce use in outpatient settings.⁵ CDC reports that “total inappropriate antibiotic use, inclusive of unnecessary use and inappropriate selection, dosing and duration, may approach 50% of all outpatient antibiotic use.” Healthy People 2020 has goals to reduce the number of courses of antibiotics for certain infections.⁶ The World Health Organization has recommended reducing use in animals in order to preserve their effectiveness for human medicine.⁷ Likewise, the World Organization for Animal Health has called for reductions in antimicrobial drugs in the food system.⁸ The Food and Agriculture Organization of the United Nations (FAO) encourages “good policy practices to mitigate the threat of AMR by reducing the use of antimicrobials in agricultural systems and the environment.”⁹

The excessive use of antimicrobials in livestock contaminates the environment, leading to a rise in resistant organisms. Resistant infections - estimated to cause 10 million deaths by 2050¹⁰ - pose a threat to both the health of animals and humans and a sustainable livestock production - threatening food security and people’s livelihoods.”¹¹ Abundant overuse of antibiotics plagues the industrial agriculture sector in the United States. Therefore, more strict guidelines must be

³ O’Neil, Jim. “Antimicrobials In Agriculture and The Environment: Reducing Unnecessary Use and Waste.” The Review on Antimicrobial Resistance, December 2015. <https://amr-review.org/sites/default/files/Antimicrobials%20in%20agriculture%20and%20the%20environment%20-%20Reducing%20unnecessary%20use%20and%20waste.pdf>.

⁴ Agency for Healthcare Research and Quality. “New Study Shows Reduced Antibiotic Use at Long-Term Care Facilities Participating in HHS-Funded Program,” February 28, 2022. <https://www.ahrq.gov/news/newsroom/pressreleases/reduced-ltc-antibiotic-use.html>.

⁵ Federal Task Force on and Combating Antibiotic-Resistant Bacteria. “National Action Plan for Combating Antibiotic-Resistant Bacteria, 2020-2025.” ASPE, October 8, 2020. <https://aspe.hhs.gov/reports/national-actionplan-combating-antibiotic-resistant-bacteria-2020-2025>.

⁶ Office of Disease Prevention and Health promotion. “Search the Data | Healthy People 2020.” Accessed August 17, 2022.

<https://www.healthypeople.gov/2020/data-search/Search-theData?topicid=23&topic=Immunization%20and%20Infectious%20Diseases&objective=IID-5&anchor=372>.

⁷ WHO guidelines on use of medically important antimicrobials in food-producing animals. Geneva: World Health Organization; 2017. Licence: CC BY-NC-SA 3.0 IGO.

⁸ World Organisation for Animal Health. “World Leaders and Experts Call for Significant Reduction in the Use of Antimicrobial Drugs in Global Food Systems,” August 24, 2021. <https://www.woah.org/en/world-leaders-andexperts-call-for-significant-reduction-in-the-use-of-antimicrobial-drugs-in-global-food-systems/>.

⁹ UN Environment Programme. “Advancing the One Health Response to Antimicrobial Resistance (AMR).” UNEP - UN Environment Programme, January 11, 2021. <http://www.unep.org/events/webinar/advancing-one-health-response-antimicrobial-resistance-amr>.

¹⁰ O’Neil J. Tackling drug-resistant infections globally: final report and recommendations. In: Ro A, ed. *Resistance*. London, United Kingdom: 2016; 1, 84.

https://amr-review.org/sites/default/files/160518_Final%20paper_with%20cover.pdf

¹¹ Food and Agriculture Organization of the United Nations. “Animal Health | Antimicrobial Resistance.” Accessed September 6, 2022. <https://www.fao.org/antimicrobial-resistance/key-sectors/animal-health/en/>.

established for the use of antibiotics in order to meet reduction targets. The World Health Organization recommends putting a stop to the use of antibiotics to promote growth and prevent disease in healthy animals.¹² However, in the United States ninety-four percent of antibiotics sold for use in food animal production are put into feed or water for groups of animals¹³ — often for “disease prevention” when no clinical infections are present. Current FDA rules allow many of these drugs to be fed to all animals on a farm for their entire lives. FDA approved most of these antibiotics decades ago, long before the agency’s safety determination required it to consider how exposing healthy herds to antibiotics for very long durations of time would increase selection for antibiotic resistance.

Antibiotic drugs should only be allowed for use to treat sick animals, to control disease outbreaks verified by a licensed veterinarian, and in limited other circumstances on individual animals. Limits must also be set regarding the length of time antibiotics can be used. Without further government action to eliminate the overuses and misuses of antibiotics in the U.S., practices will continue, largely unchanged, putting public health at risk.

Prioritize On-Farm Research focused on Minimizing Antibiotic Use

Given the need to reduce the use of antibiotics in food animals, KAW asks that the USDA research agencies National Institute of Food and Agriculture (NIFA) and USDA Agricultural Research Service (ARS) prioritize research and funding research into ways to raise cattle and swine that reduce the amount of antibiotics used. This should focus on improved management practices and effective means to maintain animal health and reduce both the need for antibiotics and associated resistant infections. Research in this sector may include risk-management and mitigation interventions as well as disease outbreak prevention via improved husbandry practices, changes to diet, methods to improve the diversity of the animal microbiome, vaccination, improved nutrition and later weaning.

USDA is currently promoting the adoption of climate smart practices to mitigate climate change¹⁴. In terms of animal agriculture, regenerative grazing systems are one of the areas with potential to reduce climate impacts. We recommend that USDA fund research into how regenerative grazing systems and other practices aimed at mitigating climate change impact animal health and antibiotic use.

Implement a One Health centered, On-Farm Disease Surveillance System

¹² World Health Organization. “Stop Using Antibiotics in Healthy Animals to Preserve Their Effectiveness,” November 7, 2017.

<https://www.who.int/news/item/07-11-2017-stop-using-antibiotics-in-healthy-animals-to-prevent-the-spread-of-antibiotic-resistance>.

¹³ US Food and Drug Administration, 2019 Summary Report on Antimicrobials Sold or Distributed for Use in FoodProducing Animals, December 2020.

¹⁴ U.S. Department of Agriculture. “Climate Solutions.” Accessed September 6, 2022. <https://www.usda.gov/climate-solutions>.

The COVID-19 pandemic has illustrated the critical linkage between the human and animal interface, and the need for improved surveillance.¹⁵ As noted in a recent webinar by the Food and Agriculture Organization of the United Nations (FAO) and The South Centre and the United Nations Environment Programme (UNEP) “COVID-19 has also highlighted the importance of looking at the emergence of zoonotic diseases including infections caused by resistant pathogens and therefore the importance of preventing infectious diseases, protecting biodiversity and encouraging agricultural practices that rely on the prudent use of antimicrobials”.¹⁶ As reported by the CDC, the COVID-19 pandemic directly set back efforts to address antibiotic resistance. Increases in resistant hospital infections and deaths, increased antibiotic use, and disruptions in the monitoring of resistant infections setback years of efforts to reduce antibiotic use and combat AMR. As stated by CDC, “This setback can and must be temporary.”¹⁷ Considering three out of every four new or emerging infectious diseases in people come from animals, there is a need for much greater on-farm monitoring and surveillance of potential pathogens.¹⁸ We recommend APHIS create a monitoring system that allows it to widely monitor livestock production facilities for dangerous organisms. This monitoring system should be designed to collect data on viral pathogens and bacterial pathogens at the same time. An existing program, the National Wildlife Disease Monitoring Program, looks at both viral and bacterial pathogens. A similar program needs to be put in place to monitor for emerging pathogens in animals held on farms and in feedlots. In addition, APHIS should clarify existing authorities and seek, as needed, strengthened authority to act when dangerous pathogens are detected on farms that raise animals. We have had very clear examples of both the failure of federal authorities to access farms when such access has been needed for outbreak investigations and examples of clear failures to act when certain facilities are repeated sources of human illness.¹⁹

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¹⁵ Animal and Plant Health Inspection Service. “APHIS’ American Rescue Plan (ARP) Surveillance Program: Strategic Framework,” February 9, 2022, 6.

https://www.aphis.usda.gov/publications/aphis_general/arp-strategic-framework.pdf

¹⁶ UN Environment Programme. “Advancing the One Health Response to Antimicrobial Resistance (AMR).” UNEP - UN Environment Programme, January 11, 2021.

<http://www.unep.org/events/webinar/advancing-one-health-response-antimicrobial-resistance-amr>.

¹⁷ CDC. “COVID-19 & Antibiotic Resistance.” Centers for Disease Control and Prevention, August 11, 2022.

<https://www.cdc.gov/drugresistance/covid19.html>.

¹⁸ CDC. “Zoonotic Diseases | One Health | CDC,” July 1, 2021.

<https://www.cdc.gov/onehealth/basics/zoonotic-diseases.html>.

¹⁹ Richtel, Matt. “Tainted Pork, Ill Consumers and an Investigation Thwarted.” The New York Times, August 4, 2019, sec. Health. <https://www.nytimes.com/2019/08/04/health/pork-antibiotic-resistance-salmonella.html>. ; Robertson, Scott A, et al. “Onsite Investigation at a Mail-Order Hatchery Following a Multistate Salmonella Illness Outbreak Linked to Live Poultry—United States, 2018.” Poultry Science 98, no. 12 (December 2019): 6964– 72. <https://doi.org/10.3382/ps/pez529>.

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