

Comments for the Presidential Advisory Council on Combating Antibiotic-Resistant Bacteria (PACCARB)

Keep Antibiotics Working (KAW) appreciates the opportunity to comment to the Presidential Advisory Council on Combating Antibiotic-Resistant Bacteria.

Resistant bacterial co- and secondary infections significantly contribute to both morbidity and mortality of novel viral outbreaks, as evidenced by H1N1 influenza and other epidemics of the past.¹ Secondary bacterial infections play an important role in the outcomes of influenza patients, and this impact has been noted during the COVID-19 pandemic as well.² The spread of resistance to antibiotics used to treat secondary infections greatly limits our ability to respond to pandemics and creates additional strains on our health system. As antibiotic resistant bacteria continue to spread, it is more critical than ever to monitor the emergence of these pathogens in light of ongoing and future viral epidemics and pandemics. We urge PACCARB to promote the following:

Comprehensive monitoring on farms and feedlots for zoonotic diseases and antibiotic resistance: The Federal government must sufficiently invest in staff, infrastructure and resources to rapidly identify and track new human infections emerging from farmed animals. Among the public health threats that originate on farms, antibiotic resistance is one of the most prevalent and must be thoroughly monitored and publicly recorded. Comprehensive on-farm monitoring and investigation requires that public health officials have the authority to access farms for zoonotic disease monitoring and to subsequently report this data. On-going active surveillance programs for zoonotic pathogens with pandemic potential should be put in place at slaughter, livestock markets, and animal production facilities.

Prioritize research on preventing infections in food producing animals by promoting animal welfare in order to stop the spread of resistance: One of the most effective ways to prevent the emergence of antibiotic resistance on farms is to alter existing management factors that contribute to disease development, rather than devising mitigation strategies and interventions to control the threat of antibiotic resistance once it has appeared. We urge PACCARB to direct USDA research agencies such as NIFA and ARS to seek applications for research that examines the connections between rearing practices, animal health, and antibiotic use with the goal of improving animal health, reducing the need for antibiotics, and reducing the threat of antibiotic resistance to human and animal health.

USDA is currently directing significant resources to identify practices that reduce the climate impact of agriculture or mitigate the effects of climate change. KAW asks that PACCARB direct USDA to consider how these practices impact animal health, welfare, and antibiotic use. For example, there is ongoing

¹ Morris, Denise E., David W. Cleary, and Stuart C. Clarke. "Secondary Bacterial Infections Associated with Influenza Pandemics." *Frontiers in Microbiology* 8 (June 23, 2017): 1041. <https://doi.org/10.3389/fmicb.2017.01041>.

² Langford, Bradley J., Miranda So, Sumit Raybardhan, Valerie Leung, Duncan Westwood, Derek R. MacFadden, Jean-Paul R. Soucy, and Nick Daneman. "Bacterial Co-Infection and Secondary Infection in Patients with COVID-19: A Living Rapid Review and Meta-Analysis." *Clinical Microbiology and Infection* 26, no. 12 (December 1, 2020): 1622–29. <https://doi.org/10.1016/j.cmi.2020.07.016>;

Randolph, Adrienne G., Frances Vaughn, Ryan Sullivan, Lewis Rubinson, B. Taylor Thompson, Grace Yoon, Elizabeth Smoot, et al. "Critically Ill Children during the 2009-2010 Influenza Pandemic in the United States." *Pediatrics* 128, no. 6 (December 2011): e1450-1458. <https://doi.org/10.1542/peds.2011-0774>.

research on looking at the soil building benefit of intensive grazing systems but these systems likely also provide animal health advantages that will reduce antibiotic use compared to conventional animal feeding systems.

Improve Diagnostics: Diagnostic platforms must be augmented to improve patient outcomes and antibiotic stewardship both during pandemics and inter pandemic periods. It is crucial the US develop rapid and accurate diagnostics for viral infections. Proper diagnostic methods in both animals and humans prevent unnecessary antibiotic prescribing and lower the likelihood of antibiotic resistance development.

Tracking of disparities related to pandemic disease and antibiotic resistance: Pandemic disease threats disproportionately impact socioeconomically vulnerable populations and communities of color. As do antibiotic resistant infections. Marginalized farm workers are at elevated risk for contracting diseases that transmit from animals to people, both viral or bacterial. KAW asks PACCARB to direct CDC and other federal health agencies to collect and report information on disparities.

Thank you for your consideration of these comments.