

November 6, 2023

**RE: National One Health Framework To Address Zoonotic Diseases and Advance Public Health Preparedness in the United States; Docket Number: CDC–2023–0075**

We, the undersigned member and colleague organizations of Keep Antibiotics Working (KAW), appreciate the opportunity to comment upon the [\*National One Health Framework To Address Zoonotic Diseases and Advance Public Health Preparedness in the United States\*](#). Given the incredible harm induced by zoonotic disease, and the increasing frequency of emerging zoonotic disease outbreaks, this One Health Framework (NOHF-Zoonoses) is desperately needed. Despite the devastating impact of the COVID-19 pandemic - a zoonotic disease - pandemic preparedness activities have time after time failed to consider the role of animals in disease transmission. The CDC framework, if strengthened and consistently applied, could help change this. The NOHF-Zoonoses itself has serious gaps, namely its failure to include antimicrobial resistance, failure to acknowledge the unique role of animal agriculture in the multiplication and spread of disease, failure to recognize the heightened risk to farm workers from zoonotic disease, and failure to include the need to examine the adequacy of existing legal authorities to “[p]rotect people and animals in the United States from zoonotic diseases.”

**The NOHF-Zoonoses must include antimicrobial resistance.**

Antimicrobial resistance, including resistance to treatments for zoonotic infections and resistance to secondary infections associated with zoonoses, is an urgent global public health threat, killing at least 1.27 million people each year.<sup>1</sup> In terms of the Prioritized Zoonotic Diseases of National Concern listed in Appendix A of the NOHF-Zoonoses, five of the eight are bacterial pathogens that rely upon effective antibiotics for treatment. Two of the remaining - zoonotic flu and emerging corona viruses - rely on effective antiviral medications for treatment, and are often associated with dangerous bacterial infections. The necessity of including antimicrobial resistance in pandemic response was clearly identified by the Presidential Advisory Council on Combating Antibiotic-Resistant Bacteria in its report, [\*Preparing For The Next Pandemic In The Era Of Antimicrobial Resistance\*](#). It is unclear whether the draft NOHF-Zoonoses meant to exclude antimicrobial resistance, identifying it as a separate One Health challenge, or if the intention is to include resistance among the listed objectives. We recommend that antimicrobial resistance be explicitly acknowledged and included within the framework. It should incorporate:

- An objective to monitor for resistance in zoonotic pathogens;
- An objective to reduce the overuse of antibiotics in domestic animals (both food-producing and companion) including identifying indicators to measure the impacts of efforts to improve stewardship in this sector.

**The NOHF-Zoonoses must address the unique role of animal agriculture in the multiplication and spread of zoonoses.**

New infectious diseases, which are primarily zoonotic, are appearing at an increasing rate in recent decades.<sup>ii</sup> About half of new zoonotic diseases are associated directly with agriculture, with even more linked to agriculture through processes such as land use change.<sup>iii</sup> This is not surprising given the huge number of domestic food-producing animals, which measured in biomass, far surpasses wild warm-blooded terrestrial animals.<sup>iv</sup> Food-producing animals are in close contact with humans, and can transmit pathogens to humans through multiple pathways. This includes, but is not limited to, transmission through food, direct contact by workers, and contamination of water and air by manure. Globally and in the U.S., animal agriculture is intensifying with fewer and fewer operations raising more animals.<sup>v</sup> This intensification is associated with zoonotic disease emergence.<sup>vi</sup> Among the Prioritized Zoonotic Diseases of National Concern listed in Appendix A of the NOHF-Zoonoses, half are directly associated with animal agriculture.

Given the clear, evidentiary link between intensified animal agriculture and zoonotic disease, any effort to control these diseases must have a strong on-farm component that includes both disease surveillance and disease prevention. The failure to clearly include an on-farm component is the greatest weakness of the NOHF-Zoonoses. The NOHF-Zoonosis should include:

- An objective to create a national surveillance system for zoonotic pathogens that includes simultaneous monitoring of both bacterial and viral threats, as well as antimicrobial resistance, from facilities where animals are raised for food. This system should have a particular focus on the largest food-producing animal facilities. A program similar to the National Wildlife Disease Monitoring Program, that looks at both viral and bacterial pathogens should be created to monitor for emerging pathogens in food-production with resources sufficient to address the huge scale of animal agriculture.
- An objective to increase monitoring of feed and other inputs to livestock feeding operations as potential sources of animal and zoonotic illness.
- An objective to increase research on the role of intensification of animal agriculture and animal management on the spread of zoonotic disease, including looking at systems of raising animals that reduce both the number of animals and zoonotic disease risk.

**The NOHF-Zoonosis should explicitly address the increased risk to frontline communities, including food system workers, from zoonotic disease.**

The NOHF-Zoonoses includes “health equity” as one of the guiding principles, but then fails to include any mention of equity within the goals and objectives. The NOHF-Zoonosis should explicitly address the increased risk of zoonotic disease to meat industry workers (e.g. livestock handlers, slaughter, and meat processing workers) and to the rural communities where animals are raised. This risk is exacerbated by limited access to healthcare and other health challenges for these communities.

High levels of pathogens capable of infecting humans can be found in concentrated animal feeding operations. These animal feeding operations intensively use antibiotics and this leads to resistance in bacterial pathogens on farms that can be reduced by reducing antibiotic use.<sup>vii</sup> People living or working on operations where animals are raised are almost 8 times as likely to get zoonotic infections (*Cryptosporidium parvum*, *Campylobacter*, *Escherichia coli*, *Salmonella enterica*, and *Yersinia enterocolitica*) than other people<sup>viii</sup> and these infections are often resistant. People working in meat slaughter and processing are exposed to, and at an increased

risk of infection from pathogens carried by animals including resistant staphylococcus.<sup>ix</sup> Pig feeding operation workers are six times as likely to carry resistant *Staphylococcus* spp. Poultry workers are 32 times as likely to carry resistant *E. coli*. Bacteria from slaughter plant workers are resistant to 2.5 times as many drugs,<sup>x</sup> and dairy workers are at an increased risk of resistant *Salmonella* compared to community members.<sup>xi</sup> When infected workers become sick they have less access to healthcare.<sup>xii</sup> Workers are more likely to be non-white, immigrant, and undocumented than farm owners and other rural community members.

The NOHF-Zoonosis should address the increased risk to food system workers including:

- An objective to seek improved labor protections for meat industry workers and increased access to healthcare.
- An objective to increase monitoring of worker and rural communities for zoonotic disease.
- An objective to increase research on at-risk populations including examination of racial and ethnic disparities from zoonotic disease.

**The NOHF-Zoonoses should include a review of existing authorities and regulations by federal agencies to address zoonotic disease along with recommendations for new authorities and regulations that are needed.**

No federal agency that works to prevent and control zoonotic disease has the authority to act upon or even investigate livestock feeding operations associated with known public health threats. This has inhibited public health activities concerning zoonotic disease. This includes preventing samples from being collected from livestock raising facilities to understand the origins of food-borne outbreaks and antimicrobial resistance<sup>xiii</sup> and precluding timely and effective federal coordination of emerging disease response efforts with industry, states, and other stakeholders.<sup>xiv</sup> The Government Accountability Office has identified a need for better regulation of imported wildlife to reduce the risk of introducing zoonotic disease.<sup>xv</sup> The NOHF-Zoonosis should include:

- An objective to review existing authorities and regulations and to make recommendations for any needed changes.
- An objective to seek authority to investigate and address zoonotic disease threats originating from livestock feeding operations.

Signed,

Center for Biological Diversity  
Center for Food Safety  
Food Animal Concerns Trust  
Humane Society Legislative Fund  
Humane Society Veterinary Medical Association  
The Humane Society of the United States

## References

- <sup>i</sup> Murray CJL, Ikuta KS, Sharara F, et al. Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis. *The Lancet*. 2022;399(10325):629-655. doi:10.1016/S0140-6736(21)02724-0
- <sup>ii</sup> Jones KE, Patel NG, Levy MA, et al. Global trends in emerging infectious diseases. *Nature*. 2008;451(7181):990-993. doi:10.1038/nature06536; Marani M, Katul GG, Pan WK, Parolari AJ. Intensity and frequency of extreme novel epidemics. *Proceedings of the National Academy of Sciences*. 2021;118(35):e2105482118. doi:10.1073/pnas.2105482118
- <sup>iii</sup> Hayek MN. The infectious disease trap of animal agriculture. *Sci Adv*. 2022;8(44):eadd6681. doi:10.1126/sciadv.add6681
- <sup>iv</sup> Greenspoon L, Krieger E, Sender R, et al. The global biomass of wild mammals. *Proceedings of the National Academy of Sciences*. 2023;120(10):e2204892120. doi:10.1073/pnas.2204892120; Bar-On YM, Phillips R, Milo R. The biomass distribution on Earth. *Proc Natl Acad Sci USA*. 2018;115(25):6506. doi:10.1073/pnas.1711842115
- <sup>v</sup> MacDonald JM, McBride WD. The Transformation of U.S. Livestock Agriculture: Scale, Efficiency, and Risks. Accessed November 2, 2023. <http://www.ers.usda.gov/publications/pub-details/?pubid=44294>
- <sup>vi</sup> Jones BA, Grace D, Kock R, et al. Zoonosis emergence linked to agricultural intensification and environmental change. *Proc Natl Acad Sci U S A*. 2013;110(21):8399-8404. doi:10.1073/pnas.1208059110; United Nations Environment Programme and International Livestock Research Institute. Preventing the Next Pandemic: Zoonotic diseases and how to break the chain of transmission. 2020. Nairobi, Kenya. Accessed November 6, 2023. <https://unsdg.un.org/sites/default/files/2020-07/UNEP-Preventing-the-next-pandemic.pdf>
- <sup>vii</sup> Tang KL, Caffrey NP, Nóbrega DB, et al. Comparison of different approaches to antibiotic restriction in food-producing animals: stratified results from a systematic review and meta-analysis. *BMJ Glob Health*. 2019;4(4):e001710. doi:10.1136/bmjgh-2019-001710
- <sup>viii</sup> Klumb CA, Scheftel JM, Smith KE. Animal agriculture exposures among Minnesota residents with zoonotic enteric infections, 2012–2016. *Epidemiology & Infection*. 2020;148:e55. doi:10.1017/S0950268819002309
- <sup>ix</sup> 1. Klous G, Huss A, Heederik DJJ, Coutinho RA. Human–livestock contacts and their relationship to transmission of zoonotic pathogens, a systematic review of literature. *One Health*. 2016;2:65-76. doi:10.1016/j.onehlt.2016.03.001
- <sup>x</sup> NRDC, Fact Sheet: Workers Suffer When Meat Producers Overuse Antibiotics, 2019, accessed 11/2/2023. <https://www.nrdc.org/sites/default/files/workers-meat-producers-overuse-antibiotics-fs.pdf>;
- <sup>xi</sup> Holschbach CL, Peek SF. Salmonella in Dairy Cattle. *Vet Clin North Am Food Anim Pract*. 2018;34(1):133-154. doi:10.1016/j.cvfa.2017.10.005
- <sup>xii</sup> 1. Palacios EE, Sexsmith K. Occupational Justice for Latinx Livestock Workers in the Eastern United States. In: Arcury TA, Quandt SA, eds. *Latinx Farmworkers in the Eastern United States: Health, Safety, and Justice*. Springer International Publishing; 2020:107-131. doi:10.1007/978-3-030-36643-8\_5
- <sup>xiii</sup> Richtel M. Tainted Pork, Ill Consumers and an Investigation Thwarted. *The New York Times*. <https://www.nytimes.com/2019/08/04/health/pork-antibiotic-resistance-salmonella.html>. Published August 4, 2019. Accessed November 2, 2023.
- <sup>xiv</sup> Yeung B, Grabell M, Hwang I, Simon M. America’s Food Safety System Failed to Stop a Salmonella Epidemic. It’s Still Making People Sick. *ProPublica*. Published October 29, 2021. Accessed November 2, 2023. <https://www.propublica.org/article/salmonella-chicken-usda-food-safety>
- <sup>xv</sup> U.S.GAO. Zoonotic Diseases: Federal Actions Needed to Improve Surveillance and Better Assess Human Health Risks Posed by Wildlife | U.S. GAO. Published May 31, 2023. Accessed November 2, 2023. <https://www.gao.gov/products/gao-23-105238>