INTRODUCTION: AMR Belongs in the Pandemic Instrument

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Abstract: In the wake of COVID-19, the World Health Organization established an Intergovernmental Negotiating Body to negotiate a new instrument for pandemic prevention, preparedness, and response. This special issue of the *Journal of Law, Medicine & Ethics* brings together multidisciplinary scholarship to address the question of whether antimicrobial resistance should be included in this new instrument. Drawing from disciplines including law, anthropology, history, public health, public policy, economics, and veterinary medicine, this special issue explores the inclusion of AMR within the Pandemic Instrument from three perspectives: first, through the lens of global AMR governance, second, from the perspective of technical governance challenges and opportunities affecting the global ability to address AMR and future pandemics, and third, from the perspective of pandemic instrument mechanisms for strengthening global AMR governance. Each paper makes a concrete recommendation with respect to the importance of including AMR within the scope of the pandemic instrument.

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This special issue of the *Journal of Law, Medicine & Ethics* brings together multidisciplinary scholarship that addresses the question of whether antimicrobial resistance should be included in a new global health in a new global health treaty on pandemic prevention, preparedness, and response.

In the wake of COVID-19, the WHO established an Intergovernmental Negotiating Body to negotiate a new instrument for pandemic prevention, preparedness, and response. Despite initial calls for a broad scope — recognizing that pandemics and other major health emergencies require One Health international cooperation[1] — in the working draft of the text for INB2 in July 2022, pandemic preparedness efforts are limited to emerging viral diseases such as COVID-19, but does not address other bacterial and fungal pandemic threats including antimicrobial resistance (AMR).

AMR is accurately described as a serious threat to global health and wellbeing, with 1.27 million deaths attributable to bacterial AMR and a further 3.68 million deaths associated with bacterial AMR in 2019, a "health problem whose magnitude is at least as large as major diseases such as HIV and malaria, and potentially much larger."[2] This burden falls disproportionately on low- and middle-income regions of the world, and especially children under five, threatening achievement of several Sustainable Development Goals.[3] AMR reflects social gradients, such as poverty and the lack of access to infection prevention and aggravates inequalities by disproportionately falling upon the poorest amongst us.[4]

AMR is also an important health issue in high-income countries — one that has been exacerbated by COVID-19.[5] The Centers for Disease Control and Prevention estimated more than 35,000 died in the

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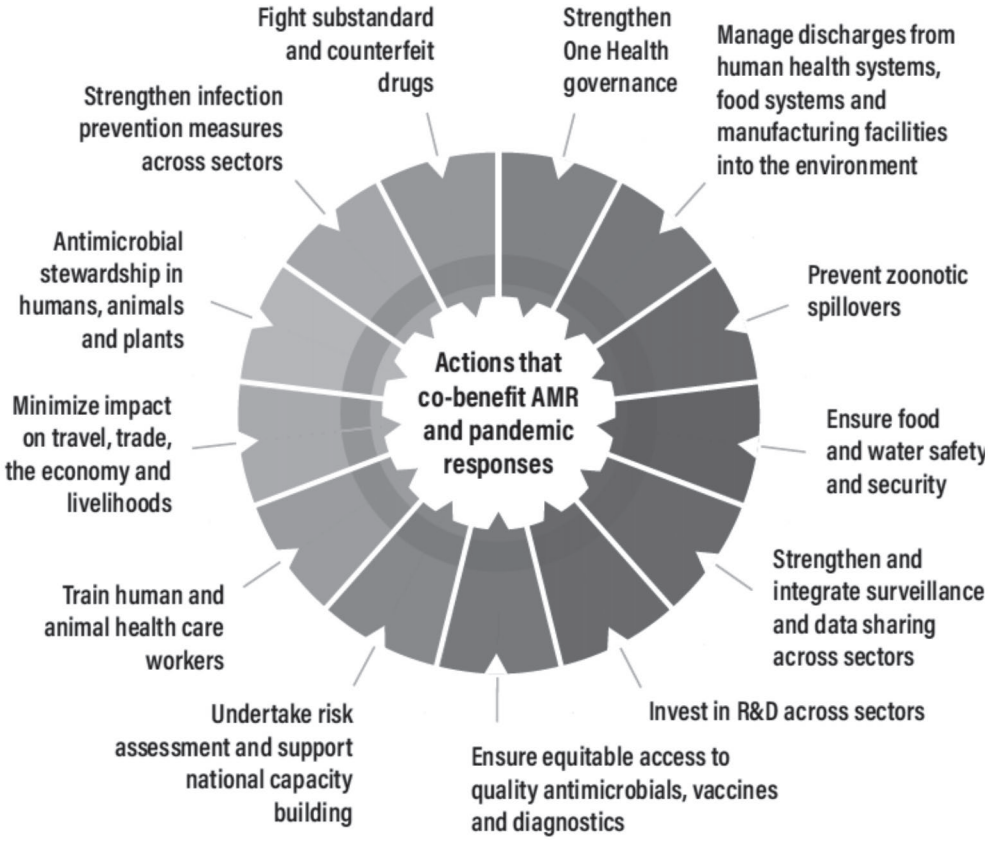

Figure 1

Overlap in strategies and co-benefits for AMR and pandemic prevention, preparedness and response. Global Leaders Group Position Statement, April 2022.[11]

United States from antibiotic-resistant infections in 2017,[6] while AMR deaths in Europe more than doubled from 2007 to 2015, reaching 33,110 deaths.[7]

Resistance is a natural evolutionary response to the presence of antimicrobial drugs driving selection in the ecosystem.[8] Humans have intervened by introducing vast quantities of antimicrobial drugs into human, industrial, and agricultural systems, and hence into the global environment,[9] necessitating a One Health approach. But instead of holistic approaches, global health initiatives have frequently been organized in silos driven by biological taxonomy (and the availability of funding streams). If the pandemic instrument is limited to viral diseases and ignores other microbial threats like bacteria, another silo will have been constructed, missing the opportunity for important cross-linkages between bacterial and viral diseases such as WASH, surveillance, equitable access, food safety and security, health system strengthening, infection prevention, animal welfare, and priority setting (Figure 1).[10]

Given the many positive co-benefits described in Figure 1 by the Global Leaders Group on AMR, a compelling case must be articulated before excluding bacterial infections, in human history have included pandemics such as the plague. In addition to acknowledging the pandemic potential of bacterial infections, it is crucial to recognize that (1) antibiotics are an essential resource for responding to pandemic emergencies that must be protected, and (2) that the use of

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antibiotics during pandemic emergencies exacerbates the AMR threat. While antibiotics saved the lives of many who contracted secondary bacterial infections during the COVID-19 pandemic, their use also precipitated a 15% increase in both resistant hospital-onset infections and deaths during the first year of the COVID-19 pandemic in the United States.[12] Developing a treaty focused on pandemic preparedness and response that neglects to prepare or respond for the growing challenge of resistance is ill-advised.

Instead of looking to the full range of human behaviors for solutions, most of the COVID-19 research funding has gone to creating new medical countermeasures. AMR research has followed a similar pattern. For such problems rooted in both microbiology and complex human behavior, multidisciplinary approaches seem advisable. The Pandemic Instrument offers an opportunity to address this imbalance through a suite of new, and synergistic, governance strategies that go beyond funding for medical countermeasures.

We are pleased to offer this peer-reviewed selection of papers exploring the advisability of including AMR within the pandemic instrument, drawing from disciplines such as law, anthropology, history, public health, public policy, economics, and veterinary medicine. These papers explore the inclusion of AMR within the pandemic instrument from three perspectives: first, through the lens of global AMR governance, second, from the perspective of technical governance challenges and opportunities affecting the global ability to address AMR and future pandemics, and third, from the perspective of pandemic instrument mechanisms for strengthening global AMR governance. Each paper makes a concrete recommendation with respect to the importance of including AMR within the scope of the pandemic instrument.

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References

1. WHO, "COVID-19 Shows Why United Action Is Needed for More Robust International Health Architecture," *available at* <https://www.who.int/news-room/commentaries/detail/op-ed---covid-19-shows-why-united-action-is-needed-for-more-robust-international-health-architecture> (last visited September 29, 2022).
2. C.J. Murray, K.S. Ikuta, F. Sharara, L. Swetschinski, G. Robles Aguilar, A. Gray, et al., "Global Burden of Bacterial Antimicrobial Resistance in 2019: A Systematic Analysis," *The Lancet* 399, no. 10325 (2022): 629-655.
3. WHO, "Antimicrobial Resistance and the United Nations Sustainable Development Cooperation Framework: Guidance for United Nations Country Teams," 2021.
4. L.A. Wilson, S. Rogers Van Katwyk, P. Fafard, A.M. Viens, and S.J. Hoffman, "Lessons Learned from COVID-19 for the Post-Antibiotic Future," *Global Health* 16, no. 1 (2020): 94.
5. CDC, National Center for Emerging and Zoonotic Infectious Diseases, *COVID-19: U.S. Impact on Antimicrobial Resistance, Special Report 2022*, *available at* <https://stacks.cdc.gov/view/cdc/117915> (last visited September 29, 2022).
6. CDC, US Department of Health and Human Services, "Antibiotic Resistance Threats in the United States," 2019.
7. P. Venkatesan, "2022 Post-ECCMID Day on Antimicrobial Resistance," *The Lancet Microbe* 3, no. 8 (2022): e565-6.
8. F. Baquero, C. Alvarez-Ortega, and J.L. Martinez, "Ecology and Evolution of Antibiotic Resistance," *Environmental Microbiology Reports* 1, no. 6 (2009): 469-476.
9. S. Hernando-Amado, T.M. Coque, F. Baquero, and J.L. Martínez, "Defining and Combating Antibiotic Resistance from One Health and Global Health Perspectives," *Nature Microbiology* 4, no. 10 (2019): 1432-1442.
10. Global Leaders Group on Antimicrobial Resistance, "Why AMR Must Be a Substantive Element of the International Instrument on Pandemic Prevention, Preparedness and Response," *available at* <https://www.amrleaders.org/resources/why-amr-must-be-a-substantive-element-of-the-international-instrument-on-pandemic-prevention-preparedness-and-response> (last visited September 29, 2022).
11. *Id.*
12. See CDC, *supra* note 5.

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