

Editorial

One World, One Health: Zoonotic Diseases, Parasitic Diseases, and Infectious Diseases

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When we take into account how the boundaries between human, animal, and environmental health are inextricably linked and increasingly intertwined, it comes as no surprise that the One Health approach has assumed an unprecedented level of importance over the past decade [1]. This holistic, integrated systems-based approach strongly advocates for the interconnectedness of human, animal, and environmental health, putting the emphasis on their mutually dependent well-being [2–5].

At the heart of the One Health approach, the environment plays a pivotal role, acting as a bridge between human and animal health and influencing the occurrence and spread of diseases [6,7]. The World Health Organization (WHO) estimates that one in every four deaths globally can be attributed to environmental factors. These factors can contribute to a wide range of diseases and conditions, disproportionately affecting vulnerable groups such as children and the elderly [8,9]. Thus, it is essential to implement a unified and cross-sectoral global strategy to improve the quality of water, soil, air, and indoor environments, thereby addressing the impacts on ecosystems and mitigating the health effects attributable to environmental risk factors [10–14].

Human activities have an enormous impact on natural environments, i.e., overuse and/or contamination of natural resources threatens ecosystems and affects both human and animal health. For example, contamination of water bodies with harmful chemicals is closely associated with the spread of waterborne diseases [15–19]. Adverse events, such as habitat destruction, climate change, and biodiversity loss, disrupt ecological balances, facilitating the transmission of zoonotic and parasitic diseases, even from animals to humans. As such, deforestation and the encroachment of human activities into wildlife habitats greatly increase the likelihood of disease spillover events. Similarly, climate change alters the geographic range of disease vectors (e.g., mosquitoes), thereby expanding the reach of diseases like malaria and dengue fever [20–22].

The One Health approach recognizes that maintaining environmental integrity is crucial for controlling and preventing zoonotic and parasitic diseases [23–26]. The recent COVID-19 pandemic, as well as avian influenza and Ebola, is a stark reminder of how a disease originating in animals can have a global impact on human health and societies as a whole [27,28]. In fact, one of the most recent Ebola virus disease outbreaks affected over 28,600 cases from 2014 to 2016 in West Africa, with additional cases reported in other countries (Italy, Spain, the United Kingdom, and the United States). Meanwhile, the H5N1 bird flu has been extensively detected in the U.S., with 9253 wild birds and 90,604,876 poultry testing positive in the latest annual survey, posing a serious risk to human health [29,30]. The transmission dynamics of such diseases are often multifaceted: increased urbanization pushes humans into previously unpopulated areas, climate change alters the habitats of disease-carrying species, and global travel and trade facilitate the rapid spread of pathogens [31–33]. In particular, 75% of emerging infectious human diseases



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have an animal origin, and 60% of pathogens that cause human diseases originate from domestic animals or wildlife. In 2022, the most frequently reported zoonotic diseases in humans within the EU were campylobacteriosis, with 137,000 cases, and salmonellosis, with 65,000 cases. Yersiniosis was the third most reported zoonosis, followed by infections caused by Shiga toxin-producing *Escherichia coli* (STEC) and *Listeria monocytogenes* [34,35].

Parasitic diseases, while often less sensationalized, pose a significant and persistent threat to global health [36,37]. Malaria, schistosomiasis, and leishmaniasis affect millions worldwide, particularly in tropical and subtropical regions [38,39]. For instance, in 2020, there were an estimated 241 million cases of malaria globally, leading to approximately 627,000 deaths. Most of these deaths occurred among children in sub-Saharan Africa. Similarly, the WHO Foodborne Disease Burden Epidemiology Reference Group estimated that echinococcosis, whose prevalence among livestock varies from 20–95% in hyperendemic areas, causes up to 19,300 deaths in humans and about 871,000 disability-adjusted life years (DALYs) globally each year. Additionally, prevalence surveys indicate that about 10–30% of dogs and slightly fewer cats are infected with *Giardia*, with younger animals showing higher rates. Whereas, in small ruminants like sheep and goats, the infection rates generally range from 20% to 25%, although they can vary from less than 10% to over 40%, with cattle showing similar patterns [40–42]. Tackling these diseases requires not only medical intervention but also improvements in living conditions and education regarding prevention methods [43,44]. Infectious diseases, whether bacterial, viral, or parasitic, continue to evolve and adapt, presenting ongoing challenges to public health [45,46]. The clinical relevance of these diseases pertains to their impact on individual patients and on public health systems globally. As for individuals, infectious diseases can cause a wide range of symptoms and outcomes, from mild, self-limiting illnesses to severe, life-threatening conditions, and can lead to complications, including organ damage, secondary infections, and long-term disability. Diseases like HIV/AIDS, tuberculosis, and malaria have high mortality rates and are major causes of morbidity worldwide. Moreover, infectious diseases contribute significantly to healthcare costs due to hospitalizations, treatments, lost productivity, and premature death. Concurrently, the overuse of antibiotics has led to the rise of drug-resistant strains of bacteria, while changes in human behavior and the environment may lead to the emergence of new viruses [47–50].

According to the WHO, a collaborative, cross-disciplinary approach is essential in the fight against these health threats. Such an approach involves, among other things, strengthening health systems, improving surveillance and response capabilities, and investing in research and development for new treatments and vaccines. It is important to note that efforts must also focus on preventing outbreaks at their source, which means protecting natural habitats, regulating wildlife trade, and improving animal health [51,52]. Consequently, the WHO, in collaboration with the Food and Agriculture Organization of the United Nations (FAO), the United Nations Environment Program (UNEP), and the World Organization for Animal Health (WOAH), has implemented a joint action plan through an integrated approach in which knowledge and skills are oriented towards a culture of transversality, which translates into the One Health Action Plan 2022–2026 [53].

In this context, food traceability plays a pivotal role in the control and prevention of infectious diseases transmitted through the food supply. Effective traceability systems help in identifying the origin of contamination more rapidly and accurately, facilitating targeted recalls, preventing further consumption of tainted products, and effectively limiting the spread of foodborne illnesses. In the broader context of public health, food traceability is not just a tool for crisis management but a foundational aspect of preventive health policies, helping to mitigate the risk of large-scale foodborne outbreaks and enhancing the overall safety of the food supply [54,55]. The critical importance of these systems was starkly highlighted by the mad cow disease outbreak (Bovine Spongiform Encephalopathy, BSE). This crisis revealed that prions could be transmitted to herbivores through non-cannibalistic routes, specifically via meat-based feeds. The incident accelerated the rapid development of stringent traceability and tracking systems aimed at preventing such mistakes from recurring [56,57].

The One Health concept becomes even more pertinent when considering the complex challenges of the 21st century. Globalization and the rapid pace of urbanization, significantly increasing the interconnection between people, animals, and goods across borders, have exacerbated the spread of diseases. In response, the development of technologies like genomic sequencing, AI, and remote sensing can improve disease surveillance, track environmental changes, and further our understanding of the complex interactions between human, animal, and environmental health [58–63].

Fortunately, climate-related concerns have now moved to the forefront of global public consciousness, profoundly shaping political, social, and economic narratives. The escalating awareness of climate change, underscored by alarming scientific findings and the direct consequences of extreme weather phenomena, a rise in sea level, and biodiversity loss, has sparked an unparalleled sense of urgency worldwide. This heightened public concern has not only fueled innovation in the renewable energy sector but has also played a crucial role in driving the implementation of more rigorous environmental policies across many nations. In essence, the influence of climate issues on public opinion is forging a new paradigm, one that emphasizes sustainability and a shared commitment to our planet's well-being [64–66].

In summary, the One Health concept is not merely a theoretical model but also a practical necessity in our interconnected world. It calls for a collaborative, cross-sectoral, and transdisciplinary approach, integrating human, animal, and environmental health. As we face an increasing number of zoonotic, parasitic, and infectious diseases, governments, international organizations, health professionals, and communities worldwide must embrace and integrate the One Health approach to safeguard the health of our planet and its inhabitants [67–69].

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References

1. World Health Organization. One Health. Questions and Answers. Available online: <https://www.who.int/news-room/questions-and-answers/item/one-health> (accessed on 22 April 2024).
2. World Health Organization. One Health. Health Topics. Available online: https://www.who.int/health-topics/one-health#tab=tab_1 (accessed on 22 April 2024).
3. Destoumieux-Garzón, D.; Mavingui, P.; Boetsch, G.; Boissier, J.; Darriet, F.; Duboz, P.; Fritsch, C.; Giraudoux, P.; Le Roux, F.; Morand, S.; et al. The One Health Concept: 10 Years Old and a Long Road Ahead. *Front. Vet. Sci.* **2018**, *5*, 14. [CrossRef]
4. Barton Behravesh, C. Introduction. One Health: Over a decade of progress on the road to sustainability. *Rev. Sci. Tech.* **2019**, *38*, 21–50, (In English, French, Spanish). [CrossRef]
5. World Health Organization. 5 Things to Know about One Health in the WHO European Region. Available online: <https://www.who.int/europe/news/item/23-03-2023-5-things-to-know-about-one-health-in-the-who-european-region> (accessed on 22 April 2024).
6. Centers for Disease Control and Prevention. One Health Basics. Available online: <https://www.cdc.gov/onehealth/basics/index.html> (accessed on 22 April 2024).
7. Horizon Europe. Work Programme 2023–2024. Food, Bioeconomy, Natural Resources, Agriculture and Environment. European Commission Decision C (2023) 2178 of 31 March. Available online: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2023-2024/wp-9-food-bioeconomy-natural-resources-agriculture-and-environment_horizon-2023-2024_en.pdf (accessed on 22 April 2024).
8. World Health Organization. Environmental Health. Available online: https://www.who.int/health-topics/environmental-health#tab=tab_1 (accessed on 22 April 2024).
9. Zarocostas, J. Millions of deaths from environmental causes are preventable, says WHO. *BMJ* **2006**, *332*, 1412. [CrossRef] [PubMed]
10. Ghosh, S.; Sinha, J.K.; Ghosh, S.; Vashisth, K.; Han, S.; Bhaskar, R. Microplastics as an Emerging Threat to the Global Environment and Human Health. *Sustainability* **2023**, *15*, 10821. [CrossRef]
11. Masia, M.D.; Dettori, M.; Deriu, G.M.; Soddu, S.; Deriu, M.; Arghittu, A.; Azara, A.; Castiglia, P. Microbial Monitoring as a Tool for Preventing Infectious Risk in the Operating Room: Results of 10 Years of Activity. *Atmosphere* **2021**, *12*, 19. [CrossRef]
12. Manisalidis, I.; Stavropoulou, E.; Stavropoulos, A.; Bezirtzoglou, E. Environmental and Health Impacts of Air Pollution: A Review. *Front. Public Health* **2020**, *8*, 14. [CrossRef] [PubMed]
13. Deiana, G.; Arghittu, A.; Dettori, M.; Masia, M.D.; Deriu, M.G.; Piana, A.; Muroli, M.R.; Castiglia, P.; Azara, A. Environmental Surveillance of *Legionella* spp. in an Italian University Hospital Results of 10 Years of Analysis. *Water* **2021**, *13*, 2304. [CrossRef]
14. Bernard, S.M.; Samet, J.M.; Grambsch, A.; Ebi, K.L.; Romieu, I. The potential impacts of climate variability and change on air pollution-related health effects in the United States. *Environ. Health Perspect.* **2001**, *109* (Suppl. S2), 199–209. [CrossRef] [PubMed]

15. Chu, E.W.; Karr, J.R. Environmental Impact: Concept, Consequences, Measurement. In *Reference Module in Life Sciences*; Elsevier: Amsterdam, The Netherlands, 2017. [CrossRef]
16. Centers for Disease Control and Prevention. Disease Impact of Unsafe Water. Available online: <https://www.cdc.gov/healthywater/global/disease-impact-of-unsafe-water.html> (accessed on 22 April 2024).
17. Dettori, M.; Piana, A.; Castiglia, P.; Loria, E.; Azara, A. Qualitative and quantitative aspects of drinking water supply in Sardinia, Italy. A descriptive analysis of the ordinances and public notices issued during the years 2010–2015. *Ann. Ig.* **2016**, *28*, 296–303. [CrossRef] [PubMed]
18. Dettori, M.; Arghittu, A.; Deiana, G.; Castiglia, P.; Azara, A. The revised European Directive 2020/2184 on the quality of water intended for human consumption. A step forward in risk assessment, consumer safety and informative communication. *Environ. Res.* **2022**, *209*, 112773. [CrossRef] [PubMed]
19. Lin, L.; Yang, H.; Xu, X. Effects of Water Pollution on Human Health and Disease Heterogeneity: A Review. *Front. Environ. Sci.* **2022**, *10*, 880246. [CrossRef]
20. Barbier, E.B. Habitat loss and the risk of disease outbreak. *J. Environ. Econ. Manag.* **2021**, *108*, 102451. [CrossRef] [PubMed]
21. Tajudeen, Y.A.; Oladunjoye, I.O.; Bajinka, O.; Oladipo, H.J. Zoonotic Spillover in an Era of Rapid Deforestation of Tropical Areas and Unprecedented Wildlife Trafficking: Into the Wild. *Challenges* **2022**, *13*, 41. [CrossRef]
22. Mojahed, N.; Mohammadkhani, M.A.; Mohamadkhani, A. Climate Crises and Developing Vector-Borne Diseases: A Narrative Review. *Iran. J. Public Health* **2022**, *51*, 2664–2673. [CrossRef]
23. Mumford, E.L.; Martinez, D.J.; Tyance-Hassell, K.; Cook, A.; Hansen, G.R.; Labonté, R.; Mazet, J.A.K.; Mumford, E.C.; Rizzo, D.M.; Togami, E.; et al. Evolution and expansion of the One Health approach to promote sustainable and resilient health and well-being: A call to action. *Front. Public Health* **2023**, *10*, 1056459. [CrossRef] [PubMed]
24. Mackenzie, J.S.; Jeggo, M. The One Health Approach—Why Is It So Important? *Trop. Med. Infect. Dis.* **2019**, *4*, 88. [CrossRef] [PubMed]
25. World Health Organization. Zoonoses. Available online: <https://www.who.int/news-room/fact-sheets/detail/zoonoses> (accessed on 22 April 2024).
26. Cutler, S.J.; Fooks, A.R.; van der Poel, W.H. Public health threat of new, reemerging, and neglected zoonoses in the industrialized world. *Emerg. Infect. Dis.* **2010**, *16*, 1. [CrossRef] [PubMed]
27. Ryu, W.S. New Emerging Viruses. In *Molecular Virology of Human Pathogenic Viruses*; Academic Press: Cambridge, MA, USA, 2017; pp. 289–302. [CrossRef]
28. Islam, A.; Ferdous, J.; Islam, S.; Sayeed, M.A.; Dutta Choudhury, S.; Saha, O.; Hassan, M.M.; Shirin, T. Evolutionary Dynamics and Epidemiology of Endemic and Emerging Coronaviruses in Humans, Domestic Animals, and Wildlife. *Viruses* **2021**, *13*, 1908. [CrossRef] [PubMed]
29. Centers for Disease Control and Prevention. 2014–2016 Ebola Outbreak in West Africa. Available online: <https://www.cdc.gov/vhf/ebola/history/2014-2016-outbreak/index.html> (accessed on 22 April 2024).
30. Centers for Disease Control and Prevention. H5N1 Bird Flu: Current Situation Summary. Available online: <https://www.cdc.gov/flu/avianflu/avian-flu-summary.htm> (accessed on 22 April 2024).
31. Ahmed, S.; Dávila, J.D.; Allen, A.; Haklay, M.M.; Tacoli, C.; Fèvre, E.M. Does urbanization make emergence of zoonosis more likely? Evidence, myths and gaps. *Environ. Urban.* **2019**, *31*, 443–460. [CrossRef] [PubMed]
32. Jato-Espino, D.; Mayor-Vitoria, F.; Moscardó, V.; Capra-Ribeiro, F.; Bartolomé Del Pino, L.E. Toward One Health: A spatial indicator system to model the facilitation of the spread of zoonotic diseases. *Front. Public Health* **2023**, *11*, 1215574. [CrossRef] [PubMed]
33. Esposito, M.M.; Turku, S.; Lehrfield, L.; Shoman, A. The Impact of Human Activities on Zoonotic Infection Transmissions. *Animals* **2023**, *13*, 1646. [CrossRef] [PubMed]
34. World Organisation for Animal Health. One Health. Available online: <https://www.woah.org/en/what-we-do/global-initiatives/one-health/> (accessed on 22 April 2024).
35. European Food Safety Authority. The European Union One Health 2022 Zoonoses Report. Available online: <https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2023.8442> (accessed on 22 April 2024).
36. Theel, E.S.; Pritt, B.S. Parasites. *Microbiol. Spectr.* **2016**, *4*, 4. [CrossRef] [PubMed]
37. Lu, X.T.; Gu, Q.Y.; Limpanont, Y.; Song, L.G.; Wu, Z.D.; Okanurak, K.; Lv, Z.Y. Snail-borne parasitic diseases: An update on global epidemiological distribution, transmission interruption and control methods. *Infect. Dis. Poverty* **2018**, *7*, 28. [CrossRef] [PubMed]
38. World Health Organization. Vector-Borne Diseases. Available online: <https://www.who.int/news-room/fact-sheets/detail/vector-borne-diseases> (accessed on 22 April 2024).
39. Croft, S.L.; Vivas, L.; Brooker, S. Recent advances in research and control of malaria, leishmaniasis, trypanosomiasis and schistosomiasis. *East. Mediterr. Health J.* **2003**, *9*, 518–533. [CrossRef] [PubMed]
40. Centers for Disease Control and Prevention. Parasites—Malaria. Available online: <https://www.cdc.gov/parasites/malaria/> (accessed on 22 April 2024).
41. World Health Organization. Echinococcosis. Available online: <https://www.who.int/news-room/fact-sheets/detail/echinococcosis> (accessed on 22 April 2024).
42. The Merck Veterinary Manual. Giardiasis in Animals. Available online: <https://usw-s2-sc-nextv.merckvetmanual.com/digestive-system/giardiasis-giardia/giardiasis-in-animals> (accessed on 22 April 2024).

43. Mata, L. Sociocultural factors in the control and prevention of parasitic diseases. *Rev. Infect. Dis.* **1982**, *4*, 871–879. [[CrossRef](#)] [[PubMed](#)]
44. Hotez, P.J. A plan to defeat neglected tropical diseases. *Sci. Am.* **2010**, *302*, 90–94+96. [[CrossRef](#)] [[PubMed](#)]
45. Nii-Trebi, N.I. Emerging and Neglected Infectious Diseases: Insights, Advances, and Challenges. *BioMed Res. Int.* **2017**, *2017*, 5245021. [[CrossRef](#)] [[PubMed](#)]
46. Baker, R.E.; Mahmud, A.S.; Miller, I.F.; Rajeev, M.; Rasambainarivo, F.; Rice, B.L.; Takahashi, S.; Tatem, A.J.; Wagner, C.E.; Wang, L.F.; et al. Infectious disease in an era of global change. *Nat. Rev. Microbiol.* **2022**, *20*, 193–205. [[CrossRef](#)] [[PubMed](#)]
47. Ellwanger, J.H.; Veiga, A.B.G.; Kaminski, V.L.; Valverde-Villegas, J.M.; Freitas, A.W.Q.; Chies, J.A.B. Control and prevention of infectious diseases from a One Health perspective. *Genet. Mol. Biol.* **2021**, *44* (Suppl. S1), e20200256. [[CrossRef](#)]
48. World Health Organization. Antimicrobial Resistance. Available online: <https://www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance> (accessed on 22 April 2024).
49. Prestinaci, F.; Pezzotti, P.; Pantosti, A. Antimicrobial resistance: A global multifaceted phenomenon. *Pathog. Glob. Health* **2015**, *109*, 309–318. [[CrossRef](#)]
50. Llor, C.; Bjerrum, L. Antimicrobial resistance: Risk associated with antibiotic overuse and initiatives to reduce the problem. *Ther. Adv. Drug Saf.* **2014**, *5*, 229–241. [[CrossRef](#)] [[PubMed](#)]
51. Ung, L.; Stothard, J.R.; Phalkey, R.; Azman, A.S.; Chodosh, J.; Hanage, W.P.; Standley, C.J. Towards global control of parasitic diseases in the COVID-19 era: One Health and the future of multisectoral global health governance. *Adv. Parasitol.* **2021**, *114*, 1–26. [[CrossRef](#)] [[PubMed](#)]
52. Hassan, O.A.; de Balogh, K.; Winkler, A.S. One Health early warning and response system for zoonotic diseases outbreaks: Emphasis on the involvement of grassroots actors. *Vet. Med. Sci.* **2023**, *9*, 1881–1889. [[CrossRef](#)] [[PubMed](#)]
53. FAO; UNEP; WHO; WOA. *One Health Joint Plan of Action (2022–2026). Working Together for the Health of Humans, Animals, Plants and the Environment*; FAO: Rome, Italy; UNEP: Nairobi, Kenya; WHO: Geneva, Switzerland; WOA: Paris, France, 2022. [[CrossRef](#)]
54. U.S. Food and Drug Administration. Tracking and Tracing of Food. Available online: <https://www.fda.gov/food/new-era-smarter-food-safety/tracking-and-tracing-food#:~:text=Food%20traceability%20is%20the%20ability,of%20food%20products%20and%20ingredients> (accessed on 22 April 2024).
55. Food and Agriculture Organization of the United Nations. Traceability & Recalls. Available online: <https://www.fao.org/food-safety/food-control-systems/supply-chains-and-consumers/traceability-and-recalls/en/> (accessed on 22 April 2024).
56. European Food Safety Authority. Bovine Spongiform Encephalopathy (BSE). Available online: <https://www.efsa.europa.eu/en/topics/topic/bovine-spongiform-encephalopathy-bse> (accessed on 22 April 2024).
57. Prusiner, S.B. Prion diseases and the BSE crisis. *Science* **1997**, *278*, 245–251. [[CrossRef](#)] [[PubMed](#)]
58. Wu, T.; Perrings, C.; Kinzig, A.; Collins, J.P.; Minter, B.A.; Daszak, P. Economic growth, urbanization, globalization, and the risks of emerging infectious diseases in China: A review. *Ambio* **2017**, *46*, 18–29. [[CrossRef](#)] [[PubMed](#)]
59. Serwecińska, L. Antimicrobials and Antibiotic-Resistant Bacteria: A Risk to the Environment and to Public Health. *Water* **2020**, *12*, 3313. [[CrossRef](#)]
60. Manyi-Loh, C.; Mamphweli, S.; Meyer, E.; Okoh, A. Antibiotic Use in Agriculture and Its Consequential Resistance in Environmental Sources: Potential Public Health Implications. *Molecules* **2018**, *23*, 795. [[CrossRef](#)] [[PubMed](#)]
61. Urban, L.; Perlas, A.; Francino, O.; Martí-Carreras, J.; Muga, B.A.; Mwangi, J.W.; Boykin Okalebo, L.; Stanton, J.L.; Black, A.; Waipara, N.; et al. Real-time genomics for One Health. *Mol. Syst. Biol.* **2023**, *19*, e11686. [[CrossRef](#)]
62. Zhang, L.; Guo, W.; Zhang, Y.; Liu, S.; Zhu, Z.; Guo, M.; Song, W.; Chen, Z.; Yang, Y.; Pu, Y.; et al. Modern Technologies and Solutions to Enhance Surveillance and Response Systems for Emerging Zoonotic Diseases. *Sci. One Health* **2004**, *3*, 100061. [[CrossRef](#)]
63. Pillai, N.; Ramkumar, M.; Nanduri, B. Artificial Intelligence Models for Zoonotic Pathogens: A Survey. *Microorganisms* **2022**, *10*, 1911. [[CrossRef](#)] [[PubMed](#)]
64. Shivanna, K.R. Climate change and its impact on biodiversity and human welfare. *Proc. Indian Natl. Sci. Acad.* **2022**, *88*, 160–171. [[CrossRef](#)]
65. Organization for Economic Co-Operation and Development. Green Finance and Investment. Available online: <https://www.oecd.org/cgfi/forum/The-governments-role-in-mobilising-investment-and-innovation-in-renewable-energy-Insights.pdf> (accessed on 22 April 2024).
66. Fox, M.; Zuidema, C.; Bauman, B.; Burke, T.; Sheehan, M. Integrating Public Health into Climate Change Policy and Planning: State of Practice Update. *Int. J. Environ. Res. Public Health* **2019**, *16*, 3232. [[CrossRef](#)] [[PubMed](#)]
67. Sinclair, J.R. Importance of a One Health approach in advancing global health security and the Sustainable Development Goals. *Rev. Sci. Tech.* **2019**, *38*, 145–154. [[CrossRef](#)] [[PubMed](#)]
68. Garg, S.; Banerjee, B. One World, One Health. *Indian J. Community Med.* **2021**, *46*, 581–583. [[CrossRef](#)] [[PubMed](#)]
69. Machalaba, C.C.; Salerno, R.H.; Barton Behraves, C.; Benigno, S.; Berthe, F.C.J.; Chungong, S.; Duale, S.; Echalar, R.; Karesh, W.B.; Ormel, H.J.; et al. Institutionalizing One Health: From Assessment to Action. *Health Secur.* **2018**, *16*, S37–S43. [[CrossRef](#)] [[PubMed](#)]

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