



Policy Comment



Health literacy, governance and systems leadership contribute to the implementation of the One Health approach: a virtuous circle

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ABSTRACT

One Health is an important approach to addressing health threats and promoting health through interdisciplinary health, policy, legislation and leadership research to achieve better human and animal health and better outcomes for the planet. The Covid-19 pandemic has triggered an urgent awareness of the need to develop innovative integrative solutions to address root causes of such threats to health, which requires collaboration across disciplines and amongst different sectors and communities. We explore how achieving the Quadripartite Organizations' One Health Joint Plan of Action can be supported by the concepts of 'One Health literacy' and 'One Health governance' and promote both academic and policy dialogue. We show how One Health literacy and One Health governance influence and reinforce each other, while an interdisciplinary systems leadership approach acts as a catalyst and mechanism for understanding and enacting change. Based on our understanding of how these elements influence the implementation of the One Health approach, we describe a model for considering how external triggering events such as the Covid-19 pandemic may prompt a virtuous circle whereby exposure to and exploration of One Health issues may lead to improved One Health literacy and to better governance. We close with recommendations to international organisations, national governments and to leaders in policy, research and practice to enhance their influence on society, the planetary environment, health and well-being.

1. Introduction

Although the link between animal and human life has long been recognized, the link to environmental health has been re-emphasized through the development of the One Health concept, which emerged from the Manhattan Principles [1]. The One Health concept recognizes the interconnections between human, animal and environmental health and promotes collaborative and interdisciplinary efforts to address health issues [2,3]. In addition, the implementation of the One Health

approach empowers societies to prevent, predict, detect, understand and respond to global health threats, such as the Covid-19 pandemic. The implementation of this approach is not only important in areas where diseases, such as viral or bacterial infectious diseases spread between animals and humans and where environmental conditions promote this spread [4,5], but is an imperative to sustainably balance and optimize the health of humans, animals, plants and ecosystems [6]. It is in these areas that collaboration amongst different sectors, disciplines and communities is paramount to develop innovative solutions to address

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root causes and create long-term, sustainable and positive outcomes. Several global initiatives to implement and promote the One Health approach to addressing global health threats have begun. However, the implementation of One Health in practice is continually challenging, as it comprises multiple barriers, concerns, competing interests and financing deficits [6].

Embedding One Health principles across society is not just the responsibility of supra-, inter-, or national policymakers; they need to find their way into all the day to day activities in our lives, driven by both top down and bottom-up strategies. Leaders in politics, culture, science, health and industry as well as the general population need to be supported to develop and live by One Health principles. One Health is a multidimensional concept and often the mechanisms for implementing action are complex, requiring good understanding, the alignment of many stakeholders and good governance [7,8]. With this policy commentary, we argue that a self-reinforcing cycle contributes to the implementation of the One Health approach. The cycle is initiated by an external triggering event, such as the Covid-19 pandemic, which fosters One Health literacy and One Health governance and is facilitated by systems leadership.

2. One health literacy, one health governance and systems leadership

2.1. One health literacy

Health literacy empowers people “[...] to make sound health decisions in the context of everyday life” [9] and the European Health Literacy Survey conceptual framework implicitly includes the One Health approach. However, in order to highlight the importance of the One Health approach in human health, we integrate the concepts of health literacy [10], sustainability literacy [11], environmental health literacy [12] and planetary health literacy [13] explicitly in our definition of One Health literacy. We define *One Health literacy as the knowledge, motivation and competencies to access, understand, appraise and apply all relevant information that are related to One Health in order to make judgments, take decisions and actions in everyday life concerning healthcare, disease prevention and health promotion to sustainably balance the health and quality of life of us humans, the animals and the environment.*

2.2. One health governance

Governance describes structures of control and regulation in private and public organizations to pursue its objectives [14] defining how we behave, live and interact together. They can manifest themselves in the ways in which institutions function, affecting and influencing our entire lives. We define *One Health governance as the structures and regulations that are designed to promote and support the implementation of the One Health approach.* However, the creation of governance structures that enhance One Health literacy or that contribute to the Quadripartite Organizations’ One Health Joint Plan of Action [6] is challenging. Disrupting familiar academic and disciplinary boundaries and forming fresh patterns of learning and connection are needed to solve a so-called ‘grand challenge’ [15].

2.3. Systems leadership

Systems leadership encompasses a shift from a linear and narrow approach to a complex adaptive arrangement spanning across organizations and institutions [16]. This leadership style is paramount for implementing the One Health approach that needs inter- and trans-disciplinary collaboration. The One Health approach requires dedicated systems thinking and leadership at all levels. *Within the context of One Health, we understand systems leadership as a leadership style that accounts for the interconnectedness of the human, agricultural and environmental sectors and the ambition for transdisciplinarity to achieve a common goal.*

2.4. Relationship of one health literacy, one health governance and systems leadership

We need to understand One Health literacy and One Health governance as elements that influence and reinforce one another, with systemic leadership as the catalyst reinforcing their interplay (see Fig. 1). This reinforcement cycle begins with an external trigger that brings the topic of One Health to the fore. The increased engagement and communication following an external trigger will inevitably lead to greater awareness, which may differ according to the type of trigger. For example, the Covid-19 pandemic had a stronger impact on One Health literacy than the swine flu pandemic in 2009 or the ongoing silent pandemic of antimicrobial resistance. Improved One Health literacy will then have an impact on policymakers resulting in changes in governance through enforcing pandemic preparedness plans, regulations for agriculture, veterinary and human medicine, public health interventions and enhanced health curricula/training. In addition, One Health literacy induces changes in institutional cultures or business models reinforcing the individuals’ and communities’ exposure to, awareness and application of the principles of One Health. Thus, the increased exposure to such action leads to an increased familiarity with One Health principles, which in turn enhances One Health literacy and continues the cycle. Courageous and agile systems leadership in an environment that is characterized by complexity, conflict and uncertainty facilitates the capacity building of One Health literacy and the implementation of good governance structures.

3. Discussion

Although we see several challenges that constrain the implementation of the One Health approach, which may reduce the speed of the self-reinforcing cycle, we believe that four key areas in society, research, policy and industry might inhibit or facilitate the implementation.

3.1. Participatory and collaborative strategies

To be successful in implementing the One Health approach, leaders need participatory, collaborative and open strategies [17]. Open strategies include transparency and openness with diverse communities within and across national boundaries and cultures. Those strategies will be necessary to ensure One Health literacy and buy-in by the widest

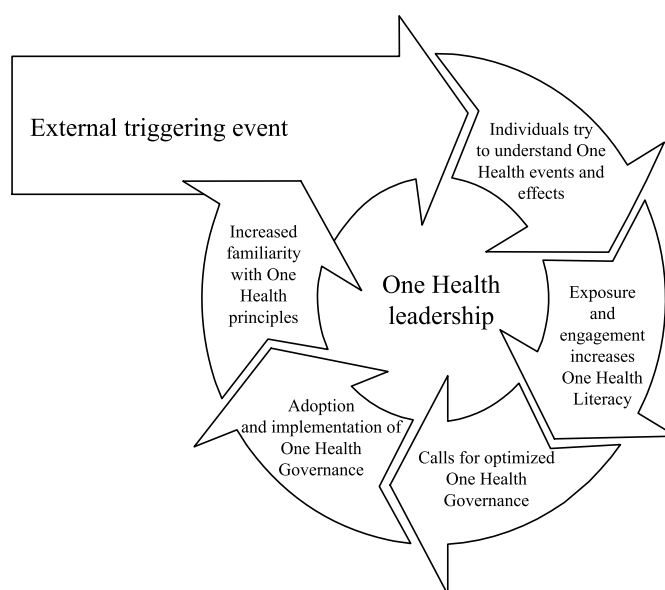


Fig. 1. Reinforcing the relationship between One Health literacy and One Health governance.

possible range of stakeholders, to gain traction and embedding of One Health governance. Particular attention will need to be given to vulnerable or disadvantaged sectors of the community to ensure they have access to information and this participatory approach. This intersectional process will need to acknowledge the power differentials across different sections of society.

3.2. Non-partisan system leadership

One Health governance structures must be developed by non-partisan systems leadership, with citizen collaboration, open strategizing and the freedom for a collaborative approach. More democratic systems are more likely to be able to approach this process with their citizens and different strategic drivers may be necessary where this is not possible. Good governance facilitates individual agency and trust, enhances perceived human security and autonomous decisions, reduces polarized views and increases coalition-building among others.

3.3. Business models and workforce

Businesses and their workforces will be particularly impacted by One Health governance structures. Business models will need to move away from a traditional mindset to one with an altruistic impact on society. The benefits may be increased job satisfaction and sense of purpose in addition to the tangible societal benefits but may challenge traditional economic models or working patterns and may require different skill sets and values. The disruption of traditional concepts will need to be renegotiated at many different levels taking time and energy but has the potential for a more values driven and One Health aware workforce to generate the mutual coexistence of human, animal and planetary health in line with the inherent values of an altruistic society.

3.4. Education in the digital era

Digitalization offers a variety of tools that allows us to collect and analyse the information collected through such processes. Newer developments in the field of artificial intelligence may support decision-making. Nevertheless, digitalization does not inevitably lead to out-of-the-box, ground-breaking advances, but is likely to support only incremental progress limited by our level of One Health literacy. Without an appreciation of complex adaptive systems, breakthroughs in our historically evolved structures and vested interests may continue [18]. We therefore call for more interdisciplinary embedding of digital tools to contribute to the implementation of the One Health approach.

4. Conclusion

With our self-reinforcing cycle, we postulate a model that explains how external triggers improve One Health literacy, leading to adapted One Health governance, facilitated by systems leadership. We believe that this understanding supports societies in embedding good governance structures that enable timely responses to global health threats by prevention, prediction and detection. However, the cycle still has to be fuelled by the actions of international organizations, national governments, researchers and industry as well as practitioners. We therefore call upon international organisations, such as the WHO, United Nations Environment Programme (UNEP), Food and Agriculture Organization of the United Nations (FAO) and World Organisation for Animal Health (WOAH), to further facilitate mutual learning across countries and sectors and provide guidance to countries as with the One Health High-Level Expert Panel (OHHLEP) or the One Health Joint Plan of Action [6]. National governments should create the conditions for good One Health governance in a preventive and forward-looking manner. This includes supporting research institutions that address cross-cutting, inter- and transdisciplinary issues and enable the education system at primary, secondary and tertiary levels to strengthen the One Health literacy of

our populations. With good governance and good health literacy, practitioners such as healthcare professionals in the human health sector, farmers in the veterinary sector and experts in other industries may be empowered to integrate the One Health approach in their decision-making. Ultimately, successful implementation of the One Health approach will rely on leaders in policy, research and practice to broaden their focus and enhance their influence on society, the planetary environment, health and well-being.

CRedit authorship contribution statement

Carl Rudolf Blankart: Conceptualization, Funding acquisition, Project administration, Writing – original draft, Writing – review & editing, Visualization. **Saskia Maria De Gani:** Conceptualization, Funding acquisition, Project administration, Writing – original draft, Writing – review & editing. **Helen Crimlisk:** Conceptualization, Funding acquisition, Project administration, Writing – original draft, Writing – review & editing. **Mario Desmedt:** Conceptualization, Funding acquisition, Project administration, Writing – original draft. **Birgit Bauer:** Conceptualization, Funding acquisition, Project administration. **Gerardine Doyle:** Conceptualization, Project administration, Writing – original draft, Writing – review & editing.

Declarations of competing interest

None.

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References

- [1] Cook R, Karesh W, Osofsky S. One world, one health: building interdisciplinary bridges to health in a globalized world. Bronx, New York, USA: Wildlife Conservation Society; 2004. http://www.oneworldonehealth.org/sept2004/owoh_sept04.html (accessed July 2, 2023).
- [2] dos S. Ribeiro C, van de Burgwal LHM, Regeer BJ. Overcoming challenges for designing and implementing the One Health approach: a systematic review of the literature One Health 2019;7:100085. <https://doi.org/10.1016/j.onehlt.2019.100085>.
- [3] Conrad PA, Meek LA, Dumit J. Operationalizing a One Health approach to global health challenges. Comp Immunol Microbiol Infect Dis 2013;36:211–6. <https://doi.org/10.1016/j.cimid.2013.03.006>.
- [4] Collignon P. The importance of a One Health approach to preventing the development and spread of antibiotic resistance. One Health: The Human-Animal-Environment Interfaces in Emerging Infectious Diseases: Food Safety and Security, and International and National Plans for Implementation of One Health Activities 2012:19–36.
- [5] Cunningham AA, Daszak P, Wood JL. One Health, emerging infectious diseases and wildlife: two decades of progress? Philosophical Transactions of the Royal Society B: Biological Sciences 2017;372:20160167.
- [6] World Health Organization. One health joint plan of action (2022–2026): working together for the health of humans, animals. Plants and The Environment 2022.
- [7] Rüegg SR, Nielsen LR, Buttigieg SC, Santa M, Aragrande M, Canali M, et al. A systems approach to evaluate One Health initiatives. Frontiers in Veterinary Science 2018;5:23.
- [8] Forman R, Azzopardi-Muscat N, Kirkby V, Lessof S, Nathan NL, Pastorino G, et al. Drawing light from the pandemic: rethinking strategies for health policy and beyond. Health Policy (New York) 2022;126:1–6. <https://doi.org/10.1016/j.healthpol.2021.12.001>.
- [9] Kickbusch I, Wait S., Maag D. Navigating health: the role of health literacy 2005.
- [10] Sorensen K, Van den Broucke S, Fullam J, Doyle G, Pelikan J, Slonska Z, et al. Health literacy and public health: a systematic review and integration of definitions and models. BMC Public Health 2012;12:80. <https://doi.org/10.1186/1471-2458-12-80>.
- [11] Décamps A, Barbat G, Carteron J-C, Hands V, Parkes C. Sulitest: a collaborative initiative to support and assess sustainability literacy in higher education. The

- International Journal of Management Education 2017;15:138–52. <https://doi.org/10.1016/j.ijme.2017.02.006>.
- [12] Symma Finn, Liam O'Fallon. The Emergence of Environmental Health Literacy—From Its Roots to Its Future Potential. *Environ Health Perspect* 2017; 125:495–501. <https://doi.org/10.1289/ehp.1409337>.
- [13] Jochem C, von Sommoggy J, Hornidge A-K, Schwienhorst-Stich E-M, Apfelbacher C. Planetary health literacy: a conceptual model. *Front Public Health* 2023;10:980779.
- [14] International Organization for Standardization (ISO). ISO 37000:2021 Governance of organizations - Guidance 2021:36.
- [15] Barth RP, Messing JT, Shanks TR, Shanks TRW, Williams JH. *Grand challenges for social work and society*. Oxford University Press; 2022.
- [16] Bigland C, Evans D, Bolden R, Rae M. Systems leadership in practice: thematic insights from three public health case studies. *BMC Public Health* 2020;20:1735. <https://doi.org/10.1186/s12889-020-09641-1>.
- [17] Whittington R. *Opening strategy: professional strategists and practice change, 1960 to today*. Oxford University Press; 2019.
- [18] Gomersall T. Complex adaptive systems: a new approach for understanding health practices. *Health Psychol Rev* 2018;12:405–18. <https://doi.org/10.1080/17437199.2018.1488603>.