Question

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How can deep time perspectives contribute to tackling contemporary One Health challenges, improving understanding and disease mitigation?

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Context

The One Health concept explicitly acknowledges that the well-being of humans, animals and environments are linked. These relationships are complex and dynamic, evolving through time. Temporal perspectives also frame biological evolution and contextualise changes in our knowledge base and disease mitigation measures.

One Health approaches, aimed at improving health understanding and outcomes, are interdisciplinary and multisectoral. It is the case, however, that they seldom effectively draw on evidence from disciplines that offer deeper time-depth perspectives, and when they do, this is generally restricted to evolutionary biology and the reconstruction of long-term infectious agent phylogeny based on available genetic sequences (e.g. Düx et al., 2020). Yet, other disciplines, such as archaeology and history, can address, complement or contextualise the contemporary health challenges that face local and global communities. In a study to characterise the discourse and contributions between disciplines on zoonotic spillover, for example, those that study the past are absent (Sánchez et al., 2021). As a counterpoint to this, it can be argued that full understanding of the complexity of zoonoses should be based on their long-term development from natural history origins, through spillover events, to later anthropogenic adaptations.

Records from the past hold information on long-term changes in human-animal-environment relationships and speak, for example, to processes of domestication, industrialisation, globalisation and changing health in a warming world. Analyses of these records can provide integrated and contextualised biological and cultural records with powerful insights into the complexity of the social-ecological interactions that shaped health experiences. The completed experiments of the past are thus available for us to learn from. Knowledge of past emergence and transmission of specific diseases, for example, can help inform current behaviours and decisions, with the potential to inform risk reduction and disease mitigation (Boualam et al., 2021; Seetah et al., 2020).

The success of One Health approaches rests not only on the effective analysis and understanding of complex socio-ecological systems and their evolution but also on the effective communication and public acceptance of health messaging. In this regard, there is often popular interest in archaeological and historical narratives, which may be better mobilised to contextualise public knowledge and support improved health communication (Bendrey and Fournié, 2021).

Perspectives from the past are currently undervalued and often overlooked in One Health approaches, and we invite authors to explore how deep time perspectives can contribute to tackling contemporary health challenges, through enhancing understanding of the factors promoting disease emergence and burden, and supporting disease mitigation. Investigating how knowledge of the past can meaningfully and tangibly contribute to improving present health experiences will be a key component in addressing this question.

How to contribute to this Question

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Competing interests. The authors declare none.

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