

One Health Une santé

Strengthening ties with public health for joint action on global health threats. Part 2

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Introduction

In the preceding essay of this 2-part piece, I explored some of the drivers and obstacles to One Health serving as a means for public health to balance engagement in the social, environmental, and ecological determinants of health. In this essay, I identify some plausible entry points that could motivate public health involvement in Canadian One Health partnerships. I also examine some changes needed in how we conceive and apply One Health in order for it to serve as a framework for collective action on global health threats.

The perspectives expressed in this essay have been informed by a narrative review of the literature on One Health in environmental public health practice; non-systematic targeted conversations with 17 environmental health frontline practitioners, medical health officers, and One Health practitioners and academics in Canada in 2022; and the author's experiences working in a One Health milieu for more than 25 y.

Pragmatic entry points and opportunities to use One Health in public health practice

There are several pressing environmental health issues in Canada that need to be supported by intersectoral action. However, there are also many pressures that draw resources away from collaboration with external partners having legislative or disciplinary responsibility for animal, environmental, and ecological determinants of health. Well-intentioned collaborators can struggle to gain traction in their joint efforts in the absence of shared "entry points." Entry points are specific parts of the larger issue on which to focus. They provide intersectoral teams with a tangible place to move from conversation to action, while positioning them to learn more about the problem as they proceed. Finding a shared entry point into a problem is often a prerequisite for effective collaboration. Fortunately, there is good alignment between some pressing Canadian public health

issues and stated One Health objectives that can serve as entry points for collective One Health action.

Indigenous reconciliation

Mutually respectful relationships between Indigenous and non-Indigenous peoples require culturally appropriate practices to improve health in ways that are grounded in Indigenous notions of health. The interconnection of land, language, and culture is the foundation of wellness strategies for Aboriginal peoples (1). Indigenous peoples have the right to access their traditional medicines and maintain their health practices, including access to their lands. Being part of collective actions that ensure access to safe and sustained animal and ecosystem resources is a tangible way public health can contribute to reconciliation.

Healthy cities, healthy settings

"The world is undergoing a massive urban transition, which is now both the greatest driver of global environmental change and the most significant influence on human health" (2). Public health programs that support healthy cities and healthy settings are well-placed to address local environment issues. These approaches benefit from intersectoral collaboration to create environments that support health. One Health partnerships could expand capacity to consider the role of the non-built environment and relationships with other species in healthy settings. For example, urban nature planning can provide climate change adaptation by cooling urban areas or mitigating flooding, offering concurrent mental health and conservation co-benefits.

Pandemic preparedness

Due to the prevailing belief that we have established socioecological conditions that favor zoonotic pathogen amplification, spillover, and spread, there is an expectation for ongoing pandemic and emerging disease preparedness and prevention (3). Reports from Africa of a 63% rise in the number of animal pathogens breaching the species barrier in 2012 to 2022 compared to the previous decade may be a harbinger of future global zoonoses risks (4). Public health agencies are collaborating with animal health agencies to facilitate early warning through signals from animal surveillance. However, animal signals alone are insufficient to ensure preparedness. A more fulsome program that expands health intelligence by tracking a wider set of environmental signals is needed for primordial prevention (5).

Antimicrobial resistance (AMR) is another pandemic demanding One Health. Antimicrobial resistance cross-sectoral collaborations have been more consistent than those for emerging and

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pandemic zoonotic disease preparedness due to the chronic and continuous nature of the AMR problem. Regardless, as AMR creates more death and suffering, more system-wide approaches will be needed.

Climate change

Climate change is the game-changer that has yet to receive the investment it requires. Recent experiences with heat domes, fires, and floods are creating a new sense of urgency. As new investments come into public health organizations, there are opportunities to use them to promote coordinated actions across sectors and to improve health intelligence by learning about emerging threats and solutions in other One Health sectors.

Climate change will change the frequency, type, and magnitude of known and endemic health risks and create new and surprising threats, many of which will be within the purview of environmental and veterinary public health (6). Strategies to prepare for surprising health threats from climate change require better connections among diverse sets of information from multiple sources and building community resilience by ensuring healthy ecological systems (6).

Health equity

Ecological degradation and climate change and their impacts on economic stability, environmental safety, food security, and other determinants of health are global health equity threats (7). Ecosystems have changed more rapidly and extensively over the past 6 decades than in any comparable period in human history (8). This has resulted in substantial and largely irreversible interruptions in the flow and sustainability of ecosystem services that determine communities' capacities to adapt to future health challenges (9). However, promoting human health equity at the expense of other species, ecosystems, or generations resembles colonial, racial, and gender inequalities in which one group prospers at the expense of others (10). One Health, along with related concepts such as ecological public health and eco-health, can be frameworks to further public health work on environmental justice. One Health collaborations can provide stronger, united voices to advocate for environmental and ecological justice.

Is One Health up to the task?

One Health is happening, but often in uncoordinated, unsustainable, and unconnected ways. Without a cross-sectoral communication and engagement plan, it can be anticipated that the various One Health actors will work inefficiently and, in some cases, at cross-purposes. The increasing pressure of environmental issues makes the inefficiencies and conflicts in purpose and programs intolerable.

Despite its strong motivating rationale, One Health remains at the margins of most local Canadian public health practices. Sustained collaboration among veterinary medicine, environmental protection, and public health sectors is not yet a fully achieved goal across Canada or globally, although several working examples exist. Although the ideal of intersectoral health actions is great in principle, they can be difficult to initiate, sustain, and evaluate (11). Despite scarce empirical evidence of

the effectiveness or impact of intersectoral approaches, there is still a strong belief that they are essential to remedy significant public health problems (12). Much of what has been written about the value and challenges of deploying One Health in practice mirrors what was previously said about intersectoral actions on the social determinants of health.

Although there are some basic principles for collaborations and partnerships, the unique combinations of context, problem, personnel, and resources for each One Health issue require intersectoral collaborations to be purpose-built and adapted for their own distinctive settings. There has been inadequate scholarship dedicated to establishing the value propositions for One Health and demonstrating how that value can best be achieved to produce co-benefits across species and generations within various health contexts. One Health often focuses on technical and biological enquiries with no obvious link to other disciplines' needs to answer such questions (13).

Is One Health properly framed for the changing risk landscape?

The usual visual representation of One Health delineates human, animal, and environmental health as distinct entities that overlap on a subset of issues (*e.g.*, zoonoses) rather than as an entangled assemblage of interactions among determinants of health (14). The usual presentation of overlapping circles suggests an unproblematic alignment of 3 sets of interests that are typically treated and managed separately. Separating these interests into 3 categories of health rather than grouping them as 1 interconnected category can allow for one type of health (usually human) to overwhelm other types.

Instead of distinct spheres that overlap on some issues, One Health can be conceived of as a way to think about how human, animal, and environmental health are "bundled" in distinctive social, behavioral, ecological, and biological relationships unique to a setting. Operationalizing One Health requires recognition that the bundles are messy and not discreet. The consideration of linked health requires an analytical framework that can accommodate bundles of information. The preoccupation of One Health with zoonotic diseases has led to an emphasis on epidemiological approaches rather than socioecological systems approaches (15). Too often, One Health tends to reproduce biomedical ways of thinking rather than enabling novel intersectoral action on interdependencies among human, animal, and environmental health (14).

Is One Health sufficient?

The needs described herein do not naturally lead to the conclusion that One Health is the path forward. One Health is only one viable, and currently popular, way forward. Many concepts such as eco-health, planetary health, health promotion, and One Health share similar foundations and methods, such as inter-to-transdisciplinarity, participatory data sharing and integration for shared intelligence, intergenerational equity, and attention to the connections between our health and the health of the world around us. Proliferation of these and other system-based approaches to health suggest that no single approach has been able to address all needs and problems.

The biomedical focus of much of One Health has left it little space to pay attention to the social configuration of health and health equity (16). One Health is regarded by some “as only superficially covering social, political and economic processes” (14). The related concepts of equity and ecological justice may provide the common ground needed to bring coherence to One Health’s various roles in identifying, preventing, and mitigating health risk and in positively influencing social and ecological conditions that keep things well (17). Understanding and managing health from an interspecies point of view calls for the awareness of similarities and differences between the needs of various living things in the same setting. Ecological justice requires respect for the entitlements of human and nonhuman beings, as well as just relationships within and between species.

Conclusion

It is hard to argue against the propositions that human health is utterly dependent on a healthy biosphere and that many of the most pressing public health problems (*e.g.*, climate change and pandemics) cannot be addressed without partnerships and collaborations. Despite clear and escalating signs of increasing vulnerability to environmentally derived health threats, the global response has been muted and national efforts continue to fall far short (18). In 2020, Parkes *et al* (19) said, “The health implications of far-reaching social and ecological change are creating new demands on how the (public) health sector will prepare for the future.” In the intervening years, it seems increasingly true that the future is now. Given that extreme weather, emerging infections, declining air quality, and food security crises are now commonplace, it is also hard to argue against the recommendations to reimagine how public health practice creates and applies intersectoral means to move beyond the social dimensions of population health.

The current popularity and political profile of One Health could create new opportunities for funds and shared capacities to address environmental determinants of health in a fulsome and sustained manner. Public health has a long and successful history of cross-sectoral collaborations. One Health offers a perspective to more consistently and regularly work with an expanded set of partners to foster “multisolving” situations that allow more efficient use of public funds; offer win-win-win-win solutions for health, agriculture, economic, and environmental agencies; and foster innovations to get ahead of anticipated problems and make progress on some complex environmental health issues.

The duration and extent of current commitments to invest in One Health are unclear. Addressing some of the deficiencies and deploying it in a manner that alleviates the pressure on public health systems will be key to One Health becoming an avenue to balancing public health engagement in the social, environmental, and ecological determinants of health. Reframing public health practices as activities inside and outside of the legislated public health sector and making it “someone’s job” to build the necessary trust, relationships, and collaborations seems a logical — and pressing — priority. Whether or not the results are called “One Health” seems irrelevant.

Acknowledgment

This work was supported by contract SOW20220601NCCEHCS to C. Stephen from the National Collaborating Center for Environmental Health (NCCEH).

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