

One health implementation

Abstract

The One Health approach holds an immense promise for addressing global health challenges. Yet, why does its implementation so often fall short? Could it be that we're too focused on crises and human-centric perspectives, missing the broader opportunities this approach offers? This article explores these questions and invites readers to consider taking practical steps to move the One Health from concept to impactful action. According to the author, increasing public and political awareness about One Health, fostering interdisciplinary education, enhancing coordination and collaboration, optimizing resources, and leveraging data are key to unlock a healthier and more sustainable future for all.

Keywords: one health, implementation, governance, opportunity, meaningful progress

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Diana Teixeira¹

¹AnimalhealthEurope, Belgium

Correspondence: Diana Teixeira, AnimalhealthEurope, Brussels, Belgium, Tel +32490425270

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Abbreviations: AI, artificial intelligence; AMR, antimicrobial resistance; CGSA, chief group of scientific advisors; CT, computerised tomography; ECDC, European centre for disease control; ECHA, European chemicals agency; EEA, European environment agency; EFSA, European food safety authority; EMA, European medicines agency; EU, European union; GloPID-R, global research collaboration for infectious disease preparedness; NGOs, non-governmental organisations; OHHLEP, one health high-level expert panel; SAPEA, science advice for policy by European academies; STAR-IDAZ, global strategic alliances for the coordination of research on the major infectious diseases of animals and zoonoses; UNEP, united nations environment programme; UNFAO, food and agriculture organization of the united nations; WHO, world health organization; WOA, world organisation for animal health

Introduction

The One Health approach has long been heralded as a game-changer in addressing global health challenges. However, its implementation often falls short. Perhaps its inherently complex nature and multiple areas of focus are the main reasons why it remains more of a buzzword than a concept applied in practice. To dive deeper into such an endeavour, a lot of motivation, education, coordination and collaboration between relevant decision makers, academia, health professionals, NGOs, communities and industry are required. While the concept seems to be gaining traction in the past few years, especially because of the recent pandemic, there are, for me, still three critical barriers to its implementation:

- I. A disproportionate focus on human medicine
- II. An overemphasis on negative health impacts
- III. Inaction at different levels

The three hinder the transformative potential of One Health to act as a truly integrative, holistic framework for global well-being.

Moving beyond human-centric approaches

The imbalance described as the first barrier often results in underfunding or neglect of initiatives in animal health and environmental health, despite their profound influence on human health outcomes. One health should not follow a vision tunnel where direct benefits for human health are the only target to aim at. So, what if we changed the conversation? What if we recognized that humans are just one species among many?¹ Could adopting such a holistic

view help us balance our priorities and finally stop wasting resources? Could this shift, for example, help us see the value of breaking disease cycles before they even affect humans?

Moreover, the crucial role of healthy ecosystems and biodiversity in supporting both animal and human health is frequently overlooked, limiting the broader impacts of this approach. To cover this aspect, SAPEA, in their Evidence review report on "One Health governance in the European Union"² proposed the following refinement to the OHHLEP definition:³ "One Health is an integrated, unifying approach that aims to sustainably balance and optimise the health of ecosystems. It recognizes the health of humans, domestic and wild animals, and the environment are closely linked and interdependent."

Focusing on opportunities, not just crisis

Regarding the usual focus on crisis management, I would say that we, as human beings, have an unconscious unwillingness to explore things we perceive as negative. How we interpret definitions and facts it's totally up to us to decide. We can look at a glass filled with water until its middle and whether consider it half empty or half full. We can also choose to look at animals whether as sources of disease spillover⁴ and users of antimicrobials⁵ or as the heroes in cancer detection,⁶ allies on healthy aging,⁷⁻¹⁰ physical activity¹¹⁻¹³ and human disease prevention.¹⁴⁻¹⁷ Taking the example of non-communicable diseases (NCD), we can see environmental exposure as a negative interaction, and we can see wild animals as sentinels for environmental hazards.

So why can't we decide to preferentially explore the positive interactions rather than the negative? Why can't we decide to be more proactive than defensive? Could highlighting these positive outcomes inspire greater engagement from policymakers, communities, and industries alike? Could this more optimistic narrative inspire people to act?

Taking practical steps towards meaningful progress

Mapping

Some consider calling something One Health only when the 3 spheres intersect, while others think it suffices when 2 of the spheres intersect. What is the correct answer? Regardless of which approach is most accurate, it is essential to map existing resources and initiatives to identify connections and common interests between their promoters.

In 2022, the Quadripartite (UNFAO, UNEP, WHO, and WOA) signed their Memorandum of Understanding¹⁸ regarding cooperation to combat health risks at the animal-human-ecosystems interface in the context of the One Health approach and including antimicrobial resistance. Since then, they developed the Theory of Change,¹⁹ and an Implementation Guide for the One Health Joint Plan of Action for 2022–2026.²⁰

In 2024, GloPID-R and STAR-IDAZ published their report “An Exploration of the Global Funding Landscape for One Health Research”.²¹ Also last year, CABI One Health released the publication of the collaborative project “An integrated inventory of One Health tools: Mapping and analysis of globally available tools to advance One Health”.²² It includes tools that were publicly available since 1999.

Are we paying enough attention to these resources? Several sectors, stakeholders, countries, regions, teams and individuals are working on One Health in one way or another. Is someone listing them to proceed to organised collaboration? Are we paying enough attention to their initiatives? Aren't they overlapping? Couldn't we all become stronger and progress faster if we find a way to pair similar or complementary projects and actions?

Awareness, literacy, education

Once we understand what we are talking about and have mapped what exists around the topic, it's time to invest in the most important tool to achieve meaningful impact in a long-term perspective. As Nelson Mandela once said, “Education is the most powerful weapon which you can use to change the world”.

Efficiently communicate One health from a young age to elderly is an essential and yet challenging task. The inclusion of concepts like One Health Management²³ in academic curricula and professional-oriented awareness campaigns is equally critical.

Some initiatives have contributed to creating public awareness and increasing literacy on this topic in the past few years, such it's the case of the One health lessons²⁴ in schools. Universities are also increasingly teaching future health professionals about One Health, in both graduate and post graduated programs.²⁵

We can't speak about awareness and literacy without speaking about advocacy and inspiration. So, would it be an idea to bet in equipping early career professionals and community leaders with the right skills? Why can't we bet more on inclusion, and we start having more joint post graduate training, knowledge exchange platforms and interdisciplinary teams? Can we create mechanisms to compensate professionals that educate their communities? Knowledge is one of the only things that, when shared, can only become bigger and better.

Collaboration and coordination

Once education takes time and considerable effort, it's important to bet on solutions that allow us to regain that time and effort back. Collaboration and coordination can be a good answer for optimising resources.

The European Union (EU) has established a Cross-Agency Task Force on One Health involving ECDC, ECHA, EFSA, EEA, and EMA.²⁶ couldn't establishing multisectoral and multidisciplinary discussion groups or forums, surveillance initiatives, and research under the EU umbrella provide significant benefits and bridge some of gaps identified?

Diseases do not recognize geographical barriers. While Global and European coordination efforts are gaining momentum and are undeniably essential, are we overlooking the power of local and national harmonization? Some One Health Institutes are starting to emerge in France, the Netherlands, Canada, and the United States.^{27–31}

Nevertheless, we must not neglect local coordination, where tailored strategies can address region-specific challenges more effectively. While some guidance is always welcomed, caution is needed. Do we truly understand what works and what doesn't? Context matters. For instance, managing vector borne diseases in the Nordics is vastly different from managing vector borne diseases in the Mediterranean.

Collaborative efforts must also extend beyond academia and governments to include and local communities, private industry and organisations. There are already so many Guidelines, Best practices and Success stories. Are we doing enough to share lessons and adapt them to diverse settings? Can we learn more from each other's successes and failures?

There are certain diseases and conditions where human medicine can learn from animal medicine (and vice-versa) in terms of research, treatment and/or diagnosis.^{32–40} Plus, an anecdotal demonstration of cooperation needs is the use of veterinary CT scans for imagiology of obese human patients.

Considering all this, how can we ensure that One Health solutions are both inclusive and impactful? Can establishing multi-stakeholder platforms, create public-private partnerships and organise joint simulation exercises⁴¹ foster mutual recognition, trust and action?

Financing and resources optimisation

For implementing initiatives, creating resources and scaling up collaborations, not only time and skills are needed, but also money. Financing can be a delicate subject, but what if it didn't have to be? Is it so unreasonable to make (or at least saving) money while saving the world?

By principle, investing in preparedness and prevention should be smarter than spending money in treatments or even lose lives. The social and ethical side of this question is easy to understand, however more studies that support the economic aspects of this claim are lacking.⁴² Could strengthening the economic case for One Health through robust data and analyses attract greater investment from both public and private sectors? I hope the answer is yes and that the Community of practice on Return on Investment for One Health and One Health Investment Planning⁴³ powered by the Quadripartite will largely contribute to it.

Meanwhile, what if we could break disease cycles before it even compromises one single human life? What if offering incentives for citizens to have a pet can help governments saving money on human healthcare?^{44–46} What if we could learn more from each other and work more together? Wouldn't we avoid duplication of efforts and, therefore, prevent wasting money and time?

The unexplored potential of data

Let's imagine that we can unlock a considerable amount to financing for One Health. How can we better understand where to invest that money? How can we take more informed decisions? How can we harness the power of data to improve health outcomes across sectors?

From big data to Artificial Intelligence (AI) and predictive analytics, the possibilities are endless. How can we better integrate data across sectors to inform decision-making and drive innovation? We are already collecting big amounts of data, but how can we integrate it? Can AI and machine learning tools further enhance the utility of data? Maybe yes, but first we need to make sure that the data we are collecting and analysing is harmonised or at least interoperable. Maintaining the spirit of optimising already existing resources, can we use the One Health Consensus Report Annotation Checklist (OH-CRAC)⁴⁷ to support harmonized surveillance?

I believe that, at the EU level, the European Health Data Space initiative could inspire the creation of an EU Animal Health and Welfare Dataspace.⁴⁸ Couldn't connecting these 2 platforms to integrate disease surveillance, food safety, provide actionable insights, supporting evidence-based policymaking and early intervention strategies? Could we have an integrated surveillance system potentiated by AI that would cross check disease outbreaks and symptoms between species and help health professionals identify new pathogens?^{49,50}

The role of policies and governance

Policies and governance are in the backbone of all the previously presented practical steps to achieve meaningful progress. This said, are we giving them the attention they deserve? Are the existing frameworks sufficient to address the complexity of One Health challenges and drive the progress we need?

Policies and governance can connect all the topics above by:

- I. Leading the way, starting by adopting a shared vision
- II. Working across institutional silos, ensuring coherence between policies
- III. Allocating sufficient resources, including financing, for One Health initiatives
- IV. Providing a platform to coordinate geographic and cross sectoral efforts

The Chief Group of Scientific Advisors' opinion on "One Health Governance in the European Union" offers valuable recommendations. Especially worth to highlight as good examples of short-term actions are recommendation 2.1 "Create a High-level One Health coordination mechanism", 2.6 "Consider the establishment of a Multistakeholder Platform on One Health" and 3.1 "Develop a strategy with short-, medium- and long-term goals to match the United Nations' Theory of Change and adapt it to local, national, and European-wide needs".⁵¹

Conclusion

I strongly believe that One health implementation, more than a necessity, it's an opportunity! And that, to realize its full potential, One Health must evolve beyond its current focus on human medicine and its crisis-oriented narrative. It's relatively easy to reach an agreement on the belief that health of our planet is inextricably linked to the health of all its inhabitants. However, how willing to explore that connections are we? Will achieving a healthier, more equitable, resilient and sustainable future for all be sufficient reason to led us all to embrace a balanced, ecosystem-centred approach? The answers to these questions can determine whether One Health becomes a transformative force or remains just another unfulfilled promise.

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Conflicts of interest

The author declares that there are no conflicts of interest.

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