

Editorial

One Health

A New Paradigm for Global Health in the 21st Century

Prof. Aziz-ur-Rehman

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Corresponding Author: Prof. Aziz-ur-Rehman **Email:** profazizurrehman@gmail.com**Received:** 23-02-2026 **Revised:** 01-05-2026 **Accepted:** 03-05-2026 **DOI:** <https://doi.org/10.70302/jpsim.v7i2.2618>**Introduction**

The world is facing profoundly interconnected health challenges that no single discipline, sector, or country can solve alone. The COVID-19 pandemic starkly demonstrated how human health, animal health, and environmental conditions are interwoven and how disturbances in one domain can reverberate across the others. It is within this complex web that the One Health approach emerges—not merely as a slogan, but as a fundamental paradigm shift in how societies understand and manage health. At its core, One Health recognizes that the health of humans, animals, and ecosystems are inseparably linked and must be addressed together if we are to achieve sustainable health outcomes for all.¹

Understanding the One Health Concept: One Health is defined by leading global institutions as a collaborative, multisectoral, and transdisciplinary approach that works at local, national, and global levels. It seeks to achieve optimal health outcomes by acknowledging and addressing the complex interactions among people, animals, plants, and the environment. The World Health Organization (WHO) underscores that the health of humans, domestic and wild animals, plants, and the wider environment—including ecosystems—is closely linked and interdependent. Similarly, the U.S. Centres for Disease Control and Prevention (CDC) describes One Health as a system that brings together experts across human, animal, and environmental health to prevent and mitigate health threats that emerge at their interfaces.²

Historically, the concept has evolved from earlier ideas like “One Medicine,” which emphasized the interconnectedness of human and veterinary medicine. But One Health extends beyond these roots to encompass the environment and broader social and ecological determinants of health, making it a truly holistic framework suited to today’s global challenges.^{3,4}

The Drivers of One Health: From Zoonoses to Antimicrobial Resistance

The driving force behind the global embrace of the One Health approach is the reality of zoonotic diseases—diseases that are transmitted between animals and humans. According to WHO, about 60 percent of emerging infectious diseases reported globally originate in animals. More than 30 new human pathogens have been identified in the last three decades, and around 75 percent of these emerged from animal populations. These statistics make it clear that human health can no longer be dissociated from animal health.

It is not only infectious diseases that make One Health essential. Antimicrobial resistance (AMR): the ability of microbes like bacteria and parasites to withstand drugs designed to kill them, is another pressing threat that crosses the boundaries of human, animal, and environmental health. Resistant organisms develop in medical settings, agricultural environments, and ecosystems, emphasizing the need for a unified response.

Moreover, environmental degradation—driven by pollution, deforestation, climate change, and habitat loss—creates new vectors and opportunities for diseases to spread. These anthropogenic changes disrupt ecological balance, increase human-wildlife contact, and facilitate the spillover of pathogens from animals to humans.

Why One Health Matters Now?

The COVID-19 pandemic exposed the shortcomings of siloed approaches to health governance. Fragmented systems were unable to prevent a virus of likely animal origin from spiralling into a global crisis, revealing gaps in surveillance, preparedness, and coordinated response across sectors. These gaps highlight the essential nature of One Health: only by integrating human health systems with veterinary, environmental, and ecological expertise can we develop robust defences against future

pandemics.

In addition to pandemic prevention, One Health offers practical benefits across other domains. For instance, integrated surveillance of animal and human populations can detect outbreaks earlier, enabling quicker responses and reducing the burden on health systems. Collaborative efforts in food safety ensure safer supply chains, which mitigate foodborne illnesses and protect public well-being. Shared strategies to combat AMR can preserve the effectiveness of life-saving drugs in both human and veterinary medicine.

Applying One Health also provides socio-economic benefits. According to estimates cited by WHO and other organizations, the preventative measures recommended under One Health can yield substantial savings by reducing the frequency and severity of disease outbreaks. These cost benefits far outweigh the investment required for cross-sectoral collaborations and preparedness infrastructure.⁴

Challenges to Implementation

Despite its growing acceptance, operationalizing One Health remains challenging. Coordination across ministries, disciplines, and countries faces institutional inertia, competing priorities, and resource constraints. Implementation requires political will, funding, governance mechanisms, standardized data sharing, and collaborative leadership—none of which are trivial in the context of entrenched bureaucratic structures.

Another hurdle is translating global frameworks into actionable local and community practices. For One Health to succeed, communities must be engaged in surveillance, early warning systems, and environmental stewardship. Building trust among stakeholders—from farmers to public health professionals—is critical for sustained cooperation. Training and capacity building are essential, as traditional education systems often silo practitioners into narrow disciplines, leaving gaps in cross-sectoral competency.

Towards a Healthier and Sustainable Future

The promise of One Health extends beyond crisis response. It offers a pathway to achieving broader global goals, including sustainable development, environmental conservation, and equitable access to health services. By highlighting the interconnectedness of ecosystems and human well-being, One Health also aligns with global efforts to combat climate change, reduce biodiversity loss, and promote food security.

International collaborations, such as the Quadripartite alliance between WHO, the United Nations Environment Programme (UNEP), the Food and Agriculture Organization (FAO), and the World Organisation for Animal Health (WOAH), are advancing coherent global

strategies for One Health. These collaborations create frameworks for shared action, capacity building, and coordinated response to health threats at the human–animal–environment interface.⁵

Conclusion

The One Health approach is not a passing buzzword but a compelling, evidence-based framework that reflects the reality of an increasingly interconnected world. It embraces the complex interplay between human health, animal health, and our shared environment and offers a route to more effective disease prevention, public health resilience, and sustainable development. By shifting from siloed responses to cohesive, collaborative actions, the global community can better anticipate, prevent, and respond to health threats that know no borders.

As the world rebuilds in the wake of COVID-19 and confronts emergent challenges like AMR, climate change, and biodiversity loss, One Health should guide policy, practice, and education. Integrating health systems, strengthening governance, and investing in cross-sectoral capacity are imperative. The health of humans, animals, and ecosystems will determine the health of our planet; recognizing this unity is our best chance at securing a healthier, more resilient future for all.

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