

## EDITORIAL

# Zoonotic Diseases: A Changing Landscape Demands Global Action

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### ARTICLE CYCLE

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During recent years, the globe-wide zoonotic disease landscape has evolved drastically posing significant challenges to the health of the individual and environmental sustainability. Zoonotic illnesses, which occur in animals and are transmission-capable to people, have been an ever-present risk throughout history. According to the "World Health Organization (WHO)", an estimated 60% of known infectious diseases and around 75% of new or emerging infectious diseases are zoonotic in origin. These illnesses have the potential to inflict widespread morbidity and mortality, along with severe economic losses. However, today's dynamics of our changing environment, which include urbanization, climate change, and growing human-animal interaction, are increasing the probability of zoonotic spillover occurrences.(1) The worldwide spread of the consequences of zoonotic illnesses underscores the critical need for collective effort through international leadership frameworks integrating government, private industry, and civil society.

**"The Global Health Security Agenda (GHSA)"** and the WHO are collaborating on projects to address these concerns and improve global health security. The WHO launched the "One Health Joint Plan of Action," which intends to inscribe health hazards to humans, animals,

plants, and the environment. It emphasizes the interconnection of human, animal, and environmental health.(2)

The interconnection of ecosystems is a crucial factor driving the spread and genesis of zoonotic diseases.(3)

In this regard, the 2014 outbreak of the Ebola virus in West Africa was associated with the inception of humans into forested areas where the virus is normally found in animal populations. Similarly, the emergence of COVID-19 has been interlinked with the dissemination of the SARS-CoV-2 virus possibly from bats to human beings, possibly via an intermediate animal host, in an environment aggravated by urbanization and global travel patterns.(4)

Climate change has a substantial repercussion on the stretch of vector-borne diseases, which are transferred to humans by the bites of infected vectors including mosquitoes, ticks, and fleas. As the temperature warms, illnesses such as malaria, dengue fever, and Lyme disease may re-emerge. Temperature, precipitation, and other climate-related elements all have an impact on disease-carrying vectors like mosquitoes and ticks' survival, population, and feeding behavior.(5)

The complex combination of human, animal, and environmental factors is one of the grueling parts of dealing with zoonotic illnesses. For illustration, the introduction of the Nipah virus in Malaysia” was connected to the scaling up of pig farming into bat habitats, resulting in the virus being transmitted from bats to pigs and ultimately to humans. Similarly, “the Ebola virus” emerged in West Africa because of bushmeat hunting and consumption, which allowed the virus to spread from sick animals to humans.(6,7). To address these complex challenges posed by zoonotic diseases, multidisciplinary approaches that integrate knowledge from different areas are needed. By Bringing together proficiency from many domains, we can gain a deeper comprehension of the intricate interactions between human, animal, and environmental factors that bestow to the origin and outspread of zoonotic illnesses.

“The One Health” Concept emphasizes the interrelated importance of human, animal, and environmental health, and has been successful in superintending zoonotic infections. One Health initiatives seek to disclose and minimize health hazards at the human-animal environmental interface by encouraging collaboration across disciplines and sectors.(8)

“One Health framework for controlling zoonotic illnesses has been suggested, providing a foundation for implementing this approach in programmes. This approach emphasizes the necessity for specialized technical competence along with integrated anticipation and control programmes.(9)

Investments in research, capacity development, and international cooperation are critical for strengthening One Health frameworks and increasing resilience to emerging zoonotic threats. By encouraging holistic and collaborative approaches to disease deterrence and prevention, we can better safeguard “both human and animal” populations from the consequences of zoonotic illnesses.(10)

As the world's population deals with the evolving landscape of zoonotic illnesses, proactive steps must be implemented to reduce the risks posed by emerging infections. One Health programmes serve an important role in preventing and managing zoonotic illness. By recognizing the interconnectedness of human, animal, and environmental health, One Health approaches can help identify and address the source of zoonotic disease outbreaks.

#### **DECLARATION OF GENERATIVE AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS**

The authors haven't used any generative AI/ AI assisted technologies in the writing process.

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