

The Interconnected Crisis: Why One Health is Our Only Answer to Zoonoses and Antimicrobial Resistance

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In my journey as a veterinarian and an epidemiologist, I have witnessed firsthand how closely the health of humans, animals, and our shared environment are intertwined. A contaminated water source on a farm, an outbreak of foodborne illness, or the rapid spread of COVID-19 across the globe—these are stark reminders that pathogens do not respect boundaries. This is why the *One Health* approach is not just a framework but a necessity [1].

I remember vividly leading a rabies vaccination campaign in rural Nigeria—watching families bring their dogs, knowing that one bite could unravel lives. That experience solidified my belief in One Health: the interconnected approach that recognizes we're all part of a single, fragile ecosystem. In today's world, where zoonotic diseases like monkeypox jump from animals to humans with alarming ease, One Health isn't just a concept—it's our lifeline.

The Looming Threat of Zoonoses and AMR

Zoonoses, diseases that cross from animals to humans, account for about 75% of all emerging infectious diseases. They thrive at the human-animal-environment interface, exploiting gaps created by deforestation, climate change, and intensive farming. From my work investigating outbreaks at the Maine Center for Disease Control, I've seen how foodborne illnesses and vector-borne threats can explode without warning. One Health calls us to break traditional silos, ensuring veterinarians monitor wildlife, doctors treat patients, and environmental scientists safeguard habitats. It's about proactive surveillance, like the zoonotic virus detection I did in Nigerian labs using RT-PCR, to catch threats before they explode [2, 3].

A Call for Collective Action

But there is hope. The One Health model calls us to work collaboratively across disciplines and sectors—public health, veterinary medicine, agriculture, environmental science, and beyond. Tackling AMR means ensuring responsible use of antimicrobials, strengthening surveillance systems, and investing in preventive measures like vaccination, sanitation, and safe food systems. It also means empowering communities with knowledge, because behavior changes at the grassroots often determines whether interventions succeed or fail [4].

As a keynote speaker on One Health innovation at global summits, I've witnessed its power to foster collaboration. The fight against zoonoses and AMR is not won in isolation but through partnerships that value equity, respect culture, and prioritize prevention. It's personal—protecting families like those I served in Nigeria and Virginia. The time to act is now. By embracing One Health, we protect not only our present but the health of generations to come [5].

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