ACT NOW: YOU, ME, COMMUNITY- EMBRACING THE ONE HEALTH APPROACH

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INTRODUCTION

Around the world, the connections between human, animal, and environmental health have never been more obvious. COVID-19 disrupted every aspect of life and reminded us how quickly a virus can jump borders. Avian influenza continues to threaten poultry and occasionally humans. Nipah virus emerges with high fatality rates in South Asia, while African swine fever devastates pig populations and farmer livelihoods. These outbreaks reveal a simple truth- human health is not separate from animal health or the environment we all share. The call to "Act Now: You, Me, Community" captures this interdependence. "You" stands for individual responsibility. "You" is the pet owner vaccinating their dog, the student avoiding unnecessary antibiotics, or the citizen reporting a sick stray. "Me" highlights the duty of professionals such as veterinarians, doctors, researchers, public health workers whose daily choices influence the safety of entire populations. "Community" represents collective action at local, national, and global levels, from village councils to world organizations. Together, these three pillars form the foundation of the One Health approach. The One Health framework is collaborative, cross-disciplinary, and rooted in the recognition that people, animals, and the environment share a single health continuum. When veterinarians, doctors, ecologists, policymakers, and citizens coordinate, they create both an early-warning system and a preventive shield against outbreaks and antimicrobial resistance. This article explores how veterinary work sits at the heart of One Health. Through real-world case studies, data, and lessons, it shows why acting now is not optional. It also outlines what governments, professionals, and communities can do to build resilience before the next crisis arrives.

HUMAN ANIMAL ENVIRONMENT INTERDEPENDENCE

One Health begins with acknowledging that human health cannot be understood in isolation. Three major forces drive this interdependence:

Zoonotic spillover

Over 60% of known human pathogens originate in animals. The way humans alter landscapes through deforestation, rapid urbanization, and intensive farming creates new opportunities for viruses and bacteria to cross species. The closer people and animals live together, the easier it is for pathogens to spill over. Beyond pandemics, this also means communities in rural or peri-urban areas constantly live at risk when veterinary systems are weak.

Food systems

To meet global demand for meat, milk, and eggs, livestock farming is intensifying. High animal density increases the chance of disease transmission. Heavy antibiotic use in animals contributes to antimicrobial resistance (AMR), which then undermines both veterinary and human medicine. The food system is therefore not just about nutrition it is a hidden driver of public health outcomes. Moreover, the shift toward industrial farming often sidelines traditional practices that were more sustainable and resilient. Balancing food security with food safety is one of the greatest challenges of our time.

Climate change

Warmer temperatures and shifting rainfall are expanding the range of mosquitoes, ticks, and other vectors. Diseases like dengue, chikungunya, and malaria are now appearing in places that were once considered safe. For farmers and rural communities, this means losing animals to vector-borne infections and facing new medical costs. Additionally, droughts and floods disrupt feed supplies and reduce livestock productivity, creating food insecurity that directly impacts human nutrition. Veterinarians often see these warning signs first. By monitoring livestock, wildlife, and companion animals, they act as sentinels for human health. The following case studies show what this looks like on the ground.

CASE STUDY A: PASSIVE SURVEILLANCE & RABIES CONTROL, PUNE, INDIA

India records one-third of rabies deaths. Rabies is fatal once symptoms appear but preventable through vaccination. Rabies remains a neglected disease, yet community vaccination and awareness campaigns have proven effective in reducing its burden.

CASE STUDY B: ANTIMICROBIAL RESISTANCE (AMR) PREPAREDNESS, SOUTH INDIA

A survey in South India assessed knowledge and practices of vets and para-vets. It highlighted not only knowledge gaps but also the pressure vets face from farmers demanding quick cures.

CASE STUDY C: RABIES OUTBREAK IN MULES, BINNAGURI, INDIA

In Binnaguri, India, mules showed rabies signs. Brain samples confirmed rabies. The outbreak disrupted transport and livelihoods in the region, underlining the economic dimension of One Health.

CASE STUDY D: AVIAN INFLUENZA CONTROL IN WEST BENGAL, INDIA

Background

Avian influenza (H5N1) has repeatedly struck poultry farms in India, particularly in West Bengal. These outbreaks cause high mortality in birds, economic losses for farmers, and create a risk of spillover to humans.

Response

Veterinary authorities implemented rapid culling of infected flocks, movement restrictions, and strict farm biosecurity. Public health teams monitored poultry workers for influenza-like symptoms and provided protective equipment. Community education campaigns explained why culling was necessary to prevent wider disaster.

Impact

Though economically painful in the short term, the measures successfully stopped outbreaks from spreading to humans. The case highlights how veterinary and human health sectors must coordinate in real time. It also underscores the importance of transparent communication with farmers, since mistrust can lead to underreporting or concealment of sick flocks.

Broader Evidence: Zoonotic Outbreaks and Veterinary Health Indicators

Numbers tell the same story as narratives. Between 2018 and 2023, India reported 6,948 disease outbreaks under the National Integrated Disease Surveillance Programme.

Of these, about 583 (8.3%) were zoonotic, meaning they originated in animals but threatened humans. The most common were Japanese Encephalitis (29.5%), Leptospirosis (18.7%), Scrub Typhus (13.9%), and Rabies (10.6%). In Pune alone, the rabies surveillance system handled 90,700 calls, confirming 749 rabid dogs and four rabid animals of other species. Meanwhile, in the South India AMR survey, 73 veterinary staff were evaluated, revealing major gaps between knowledge and practice. Taken together, these numbers emphasize how essential veterinary monitoring is for early detection and control of zoonoses. They also reveal where systems are weakest: antibiotic stewardship, rural surveillance, and integration of human-animal data. Without investment in these areas, the

likelihood of the next pandemic rises. Numbers, therefore, are not only statistics but warnings that call for urgent reform.

GLOBAL LESSONS FOR ONE HEALTH

India is not alone in facing these challenges. Around the world, countries have piloted One Health approaches with valuable lessons:

Africa

Uganda and Kenya have created joint human-animal rapid response teams, which have contained Ebola and Rift Valley fever outbreaks more effectively.

Southeast Asia

Thailand's "One Health University Network" trains students from veterinary, medical, and environmental sciences together, preparing a new generation of professionals.

Europe

The Netherlands uses integrated livestock and hospital AMR databases, allowing authorities to track resistance trends across species in real time.

Latin America

Brazil's integrated approach to zoonotic surveillance in Amazon regions has reduced the impact of yellow fever and monitored spillover from wild primates to humans.

North America

The United States CDC operates a One Health Office that coordinates across state and federal agencies to prevent outbreaks like West Nile Virus.

Global

The WHO, FAO, and WOAH (formerly OIE) have formed a tripartite collaboration, creating global action plans on AMR and zoonotic diseases. This demonstrates that One Health is not just a national priority but a global necessity. These examples show that One Health is not an abstract idea but a working model. By adapting such practices to local contexts, India and similar countries can strengthen their health security. Learning from others avoids reinventing the wheel and helps ensure limited resources are used wisely.

LESSONS FROM THE CASE STUDIES

The four case studies illustrate core principles of One Health.

1. Integrated Surveillance Saves Lives. The Pune model shows how a citizen-veterinarian partnership can identify and contain rabies before it spreads to humans.
2. Antimicrobial Stewardship Requires Veterinary Leadership. Vets and para-vets are gatekeepers for antibiotics. Training and regulation are critical to prevent resistant "superbugs."
3. Rapid Veterinary Response Protects Communities. The Binnaguri mule outbreak underscores the importance of swift diagnostics and containment to stop deadly pathogens at their source.
4. Transparent Communication Builds Trust. The avian influenza case demonstrates how communities must be engaged honestly to ensure compliance and prevent concealment of outbreaks.

These principles, though demonstrated in specific contexts, have universal value. Every community, whether urban or rural, can adapt them to suit local realities.

Recommendations for One Health Implementation

Strengthen Surveillance: combine citizen reporting, farm monitoring, and shared databases. Linking databases across human, animal, and environmental health agencies ensures faster response to outbreaks.

FUTURE DIRECTIONS FOR ONE HEALTH

Looking ahead, One Health must evolve in three ways:

Technology Integration

Digital tools such as mobile reporting apps, satellite-based climate monitoring, and genomic sequencing will allow faster outbreak detection. Artificial intelligence can analyze trends across animal and human

health data to predict risks before they become crises.

Education Reform

Universities should embed One Health into their core curricula, ensuring that veterinary, medical, and environmental science students learn together. This fosters collaboration from the beginning rather than trying to bridge gaps later in professional life.

Policy Innovation

Governments must move from temporary outbreak responses to permanent systems that integrate ministries of health, agriculture, and environment. International cooperation should also be deepened, as no single country can manage global health threats alone.

By embracing these directions, One Health will not only prevent the next pandemic but also create healthier, more sustainable societies. In addition, there is a growing recognition that mental health should be included within the One Health framework. Communities facing repeated outbreaks experience stress, fear, and economic loss, which directly affect psychological well-being. Future One Health programs must therefore provide mental health support alongside medical and veterinary services. Equally, environmental restoration projects such as reforestation or wetland conservation can help buffer zoonotic spillover, showing that ecological health interventions have human benefits.

CONCLUSION: ONE HEALTH AS A SHARED RESPONSIBILITY

"Act Now: You, Me, Community" is a roadmap where citizens vaccinate pets and report illness; professionals follow science; communities fund surveillance and protect habitats. Acting together ensures resilience not only for today's communities but for future generations facing new pathogens.

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