



THE PUBLIC HEALTH WIRE

ONE HEALTH : WHEN HUMANS, ANIMALS AND NATURE COLLIDE

NEWSLETTER OF
THE GLOBAL
INSTITUTE OF PUBLIC
HEALTH



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ONE HEALTH : CONNECTING HUMAN, ANIMAL AND ENVIRONMENTAL WELLBEING

One Health recognizes the close interconnection between the health of people, animals, and the environment. Around 75% of emerging infectious diseases are zoonotic, including COVID-19, Nipah, and Ebola. Factors such as climate change, deforestation, and wildlife trade increase the risk of disease spillover from animals to humans. By promoting integrated surveillance, interdisciplinary research, and collaboration across human, animal, and environmental sectors, the One Health approach strengthens prevention, early detection, and preparedness for future pandemics.

"The next pandemic may begin not in a hospital, but in a forest, farm, or marketplace."



NIPAH IN KERALA: LESSONS FROM EVERY OUTBREAK

The World Health Organization conducted an external review of the 2018 outbreak at the request of the Kerala government and described the response as a success story, while also identifying lessons and areas for improvement. Nipah is a highly fatal zoonotic disease transmitted from fruit bats (*Pteropus* spp.), the virus's natural reservoir.

Rapid diagnosis, contact tracing,



isolation, containment measures, and strong coordination with national health agencies have enabled Kerala to contain successive outbreaks effectively. Continuous surveillance, strengthened laboratories, trained healthcare teams, and public awareness now form the backbone of the state's response.

MICROPLASTICS: A HIDDEN THREAT TO ONE HEALTH



Plastic particles smaller than 5 mm called *microplastics* are an emerging threat to environmental, animal, and human health. They contaminate soil, freshwater, oceans, food, drinking water, and even the air we breathe. Growing evidence suggests they may contribute to inflammation, oxidative stress, endocrine disruption, and immune dysfunction, although their long-term health effects are still being studied.



ALARMING NUMBERS – KERALA (2021–May 2026)



15 lakh dog bite incidents reported in the past five years (2021–2025)



3 lakh dog bite incidents reported in 2025 (Jan–May 2026)



122 rabies deaths reported in five years (2021–2025)



28 rabies deaths reported this year (Jan–May 2026)



₹1.29 crore compensation distributed since 2023



279 out of 1,522 compensation cases filed by victims settled



RABIES: 100% PREVENTABLE, YET STILL FATAL

Rabies is a deadly zoonotic disease caused by the *Lyssavirus*, transmitted mainly through the bites of infected dogs. Although almost always fatal once symptoms appear, it is 100% preventable through immediate wound washing with soap and water for at least 15 minutes and timely post-exposure prophylaxis (PEP).

India continues to bear one of the world's highest rabies burdens, and Kerala has witnessed rising dog-bite incidents and preventable rabies deaths. Addressing this challenge requires mass dog vaccination, Animal Birth Control (ABC) programmes, accessible vaccines, effective surveillance, scientific waste management, and greater public awareness.



Achieving the global "Zero by 30" goal ending human deaths from dog-mediated rabies by 2030 depends on coordinated action across the human, animal, and environmental sectors.

WHEN THE PLANET HURTS, WE FEEL IT TOO

Understanding Eco-Anxiety and the Mental Health Cost of Climate Change

Climate change is more than an environmental crisis; it is a profound public mental health challenge. People increasingly experience climate-related distress even without living through a natural disaster.

Scientists identify three distinct pathways of impact: acute trauma from extreme weather, chronic distress like *solastalgia* (the grief of watching familiar surroundings degrade) and symbolic exposure from relentless climate news. This constant awareness fuels eco-anxiety, defined as persistent worry, emotional distress, and apprehension regarding the future of our planet and human health.



While eco-anxiety feels overwhelming, it is not an illness; it is a natural, healthy response to a genuine global crisis. The most effective antidote to this paralyzing worry is active agency.

Transforming passive anxiety into positive environmental



action such as community conservation and advocacy restores a vital sense of control.

Prioritizing mental resilience while defending nature safeguards both current public health and future generations. Action is the ultimate antidote: protect your mind by protecting the planet.

THE TAKEAWAY:

Action is the antidote to eco-anxiety: protect your mind by protecting the planet.

A ONE HEALTH DETECTIVE STORY: FIND THE CULPRIT

Can you match each animal to the disease it can spread to humans? Use your One Health detective skill!

MATCH THE PAIRS!

SUSPECTS	DISEASES
A  Rat	1 RABIES Viral disease transmitted through the bite of an infected animal.
B  Camel	2 BRUCELLOSIS Bacterial infection transmitted through contact with infected animals or their products.
C  Birds (Poultry & Wild Birds)	3 AVIAN INFLUENZA Viral infection that rarely affects human.
D  Cattle	4 LEPTOSPIROSIS Bacterial infection spread through contaminated water or soil.
E  Dog	5 MERS-CoV Viral respiratory illness

UNSCRAMBLE ME !

CANITACNOIV

ESIQOTUMOS

DEIYBOVRSIT

RUNMIVEONTN

NIATSANOIT

YGNIEHE

SCOYTSEME

RVELILAVNCES

TPLEOSIPOROSIS

RAGEBGA

BEYOND PASTEURIZATION: THE SCIENTIST WHO VACCINATED THE FUTURE

Louis Pasteur is best known for pasteurization, but his greatest contribution was demonstrating that vaccines could protect both humans and animals. His work laid the foundation for modern immunology and continues to shape infectious disease prevention. In 1881, Pasteur's **anthrax vaccine** protected livestock from a devastating disease, safeguarding animal health, farmers' livelihoods, and food security. In 1885, his **rabies vaccine** transformed a once-fatal disease into a preventable one.

Pasteur's **germ theory of disease** revolutionized medicine by establishing that microorganisms cause infections, leading to advances in hygiene, sterilization, and disease prevention. His discoveries also inspired Joseph Lister's antiseptic surgical practices, dramatically improving patient safety.

More than a century later, Pasteur's legacy remains highly relevant. His work demonstrated that preventing disease in animals can protect human health, a principle that continues to guide modern approaches to tackling infectious diseases and safeguarding global health.

ZOONOTIC DISEASE
SPOTLIGHT THIS ISSUE

LEPTOSPIROSIS

A PREVENTABLE DISEASE. A SHARED RESPONSIBILITY.

Let's learn about it!

1. CAUSE

Leptospirosis is caused by bacteria of the genus *Leptospira*.



2. TRANSMISSION

Humans get infected through direct or indirect contact with contaminated water, soil or mud.



! Rats and other animals (cattle, dogs, pigs) can carry the bacteria without showing illness and contaminate the environment.

3. SYMPTOMS

Symptoms usually appear 2-14 days after exposure.



Severe cases can lead to kidney failure, meningitis, liver damage and even death if not treated early.

4. PREVENTION

Simple steps can keep you safe!



! Early diagnosis and treatment with antibiotics can prevent complications.



FROM FOREST TRAILS TO CITY STREETS: HUMAN–ANIMAL INTERACTIONS AND ZOO NOTIC RISKS

In today's rapidly changing world, the boundaries between humans, animals, and the environment are becoming increasingly interconnected. As people increasingly venture into forests for trekking, tourism, and development, while deforestation and urban expansion encroach upon wildlife habitats, human–animal interactions are becoming more frequent. Wildlife displaced from their natural environments often comes into closer contact with people and domestic animals, increasing the risk of zoonotic diseases such as rabies, leptospirosis, avian influenza, and Nipah virus.

Habitat loss, climate change, and poor waste management further disrupt ecosystems, creating new pathways for disease transmission. Simple preventive measures respecting wildlife habitats, avoiding direct contact with wild animals, vaccinating pets, maintaining good hygiene, and supporting environmental conservation can greatly reduce zoonotic risks. Protecting nature is not only essential for biodiversity but also for safeguarding public health and building healthier, more resilient communities.

RWANDA'S UPSTREAM SHIELD: A TOPOLOGICAL ONE HEALTH BLUEPRINT



Preventing epidemics requires intercepting zoonotic pathogens before they reach clinical waiting rooms. Rwanda offers an inspiring blueprint for healthcare systems worldwide through its Upstream Drivers and Land Use Model.

Known as the "Land of a Thousand Hills," Rwanda's high population density and terraced farming create an abrupt "hard edge" where agricultural valleys directly meet biodiverse rainforests. This compressed topography pushes humans and livestock into frequent contact with wildlife reservoirs, escalating spillover risks.

Rather than operating in isolated health sectors, Rwanda's One Health strategy targets this ecological boundary. To operationalize defense, Rwanda implements Joint Risk Assessment (JRA) and Surveillance Operational Tools uniting veterinary, medical, and environmental practitioners. This framework merges disease tracking directly with ministries governing deforestation, agriculture, and land planning, using conservation as a preventive shield.

While international initiatives now urge nations to adopt this upstream model, with leaders like Uganda and Vietnam adapting similar frameworks, Rwanda remains the gold standard. Uniting human medicine, veterinary science, and land governance proves that protecting nature is our most powerful defense against pandemics.

CINEMA FOR SCIENCE: When Movies Become Public Health Lessons

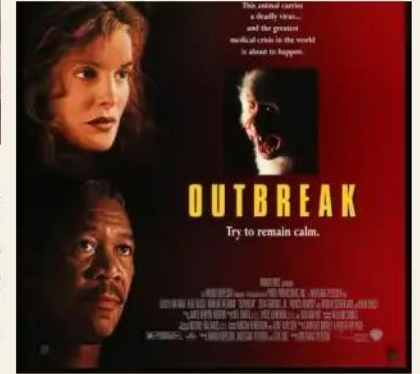
Lesson in Zoonotic Spillover:

CONTAGION (2011) presents a fictional pandemic caused by a virus transmitted from bats to pigs before infecting humans. Remarkably accurate in its depiction of disease spread, it demonstrates the value of epidemiology, vaccination, and global collaboration.



Lesson in Rapid Containment:

OUTBREAK (1995), which shows a fast-spreading pathogen via a host animal, in a host town portrays military scientists and public health officials battling an airborne epidemic. It highlights the challenges of strict quarantine, the importance of biosafety protocols and ethical dilemmas faced during emergency disease control.



Lesson in Emergency Preparedness:

FLU (2013), a South Korean medical thriller, depicts a fast-spreading respiratory epidemic that overwhelms hospitals and challenges emergency preparedness. The film explores quarantine measures, ethical dilemmas, and the critical role of public health systems during crises.

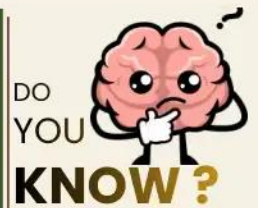
THE TAKEAWAY:

When human habitats and wildlife collide, pandemics aren't just cinema but a warning that proactive One Health surveillance, rapid science, and global solidarity are our ultimate survival script.

ZOONOTIC DISEASES: EXPLODING COMMON MYTHS

Understanding One Health for Global Safety

ONE HEALTH: MYTHBUSTERS
FACTS YOU NEED TO KNOW



DO YOU **KNOW?**
Zoonotic spillover occurs when a pathogen naturally crosses from its animal reservoir host to a new susceptible host (e.g., human), potentially leading to disease outbreaks.

e.g., Avian influenza (H5N1): The virus spreads from infected poultry to humans.

MYTH:

Diseases from animals rarely affect humans.



FACT:

Around 60% of known infectious diseases and 75% emerging infectious diseases originate from animals.

MYTH:

If an animal looks healthy, it can't transmit disease.



FACT:

Healthy-looking animals can carry pathogens. Vaccination, hygiene, and safe handling are essential.



MYTH:

Human medicine is the most important component.



FACT:

One Health gives equal importance to human, animal, and environmental health.



MYTH:

Zoonotic diseases only occur in tropical places.



FACT:

Zoonotic diseases occur worldwide in both tropical and temperate regions.



MYTH:

Wild animals are the biggest disease threat.

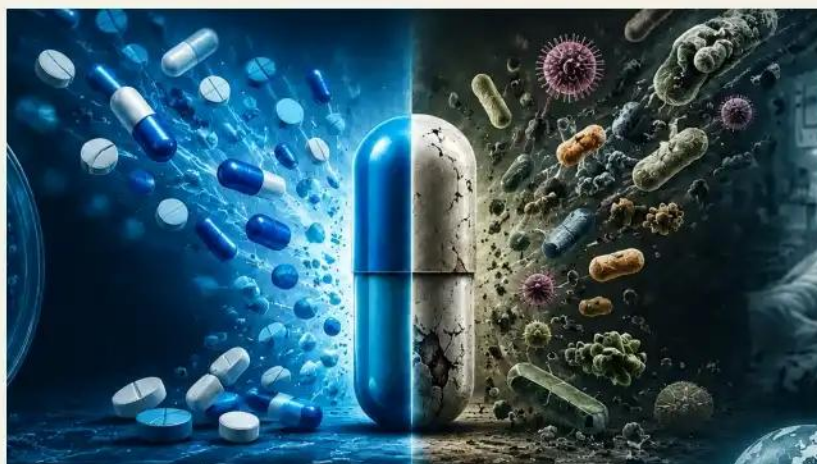


MYTH:

Domestic animals on intensive farming.



Domestic animals and livestock also significantly contribute to pathogen transmission, especially in large operations.



ANTIMICROBIAL RESISTANCE (AMR): THE SILENT PANDEMIC

Antimicrobial resistance (AMR) often called the "silent pandemic", occurs when microorganisms become resistant to medicines, making infections harder to treat. Misuse and overuse of antimicrobials in humans, animals, and agriculture are major drivers of AMR.

AMR is associated with over one million deaths each year, and without urgent action, annual deaths could reach 10 million by 2050. Preventing AMR requires responsible antimicrobial use, strong infection prevention, vaccination, improved sanitation, and continuous surveillance.

IDENTIFY THE HEALTH RISK



WHERE WILDLIFE MEETS PUBLIC HEALTH : AN INTERVIEW WITH

DR. MIDHUN NEELAMKAVIL

**ASSISTANT FOREST VETERINARY OFFICER
THRISSUR ZOOLOGICAL PARK**



1. Could you describe your responsibilities as the Assistant Forest Veterinary Officer at Thrissur Zoological Park?

Thrissur Zoological Park houses over 400 animals across 35+ species, including 15 tigers and 5 leopards. My role includes managing animal health and welfare, supervising behavioral enrichment, overseeing vaccinations, and providing emergency medical care and surgeries. Prevention is the cornerstone of zoo medicine—a quiet day reflects effective animal care.

2. What does the One Health approach mean in your work, and how does the zoo prevent zoonotic diseases?

The One Health approach guides our daily work through strict biosecurity, regular monitoring of animal enclosures and feed quality, routine health check-ups and vaccinations for staff, screening and quarantine of new animals. Rodent, insect, and wild bird control further reduce disease risks. We also collaborate with the Kerala Forest Department to rescue, treat, rehabilitate, and release wildlife whenever appropriate.

3. What challenges does climate change pose, and how does the zoo promote responsible antibiotic use?

Climate change has increased heat stress, vector-borne diseases, fungal infections, and human-wildlife interactions, raising the risk of zoonotic disease spillover. Antibiotics are used only when necessary after culture sensitivity and antibiotic susceptibility testing (ABST). Preventive care and proper nutrition reduce antibiotic dependence and help combat antimicrobial resistance.

4. What role does the zoo play in conservation and One Health collaboration?

The zoo supports wildlife rescue, rehabilitation, conservation breeding, and regulated animal exchange programmes. Effective conservation depends on collaboration among veterinarians, public health professionals, forest authorities, and research institutions for early disease detection and coordinated outbreak response.

5. What message would you like to share with our readers and future public health professionals?

Protect wildlife by respecting habitats, avoiding feeding or disturbing animals, and maintaining a safe distance. For public health professionals, prevention remains the best strategy. Antimicrobial stewardship, disease surveillance, and early detection are essential to protecting human, animal, and environmental health through the One Health approach.

ONE HEALTH

WORD PUZZLE

FIND ALL THE TEN HIDDEN WORDS RELATED TO ONE HEALTH THEME AND **WIN ₹1000**



U S O U M L D B B N T C V X A S I U
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send your answers to public.health.wire@gmail.com

GIPH CORNER

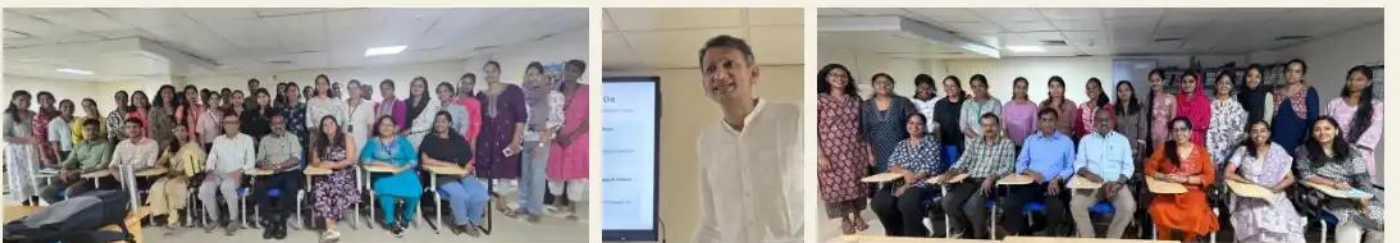
GIPH NEVER HOLDS BACK WHEN IT COMES TO CELEBRATING DAYS THAT INSPIRE AWARENESS, ACTION AND POSITIVE CHANGE. Our Environmental Day and World Population Day celebration was a reflection of our unwavering commitment to environmental sustainability and the principles of One Health. Through enthusiastic participation, engaging activities, and collective efforts, students and faculty came together to reaffirm that protecting our environment is a shared responsibility. The celebration served as a reminder that every small action today contributes to a greener, healthier, and more sustainable future for all.



GIPH 8TH BATCH ON FIELD



We are delighted to continue the tradition of hosting distinguished guest speakers who enrich the academic environment at GIPH. For us as Master's in Public Health students, these sessions offer valuable insights from real world practice and global perspectives, while encouraging critical thinking and meaningful dialogue.



This edition featured a distinguished panel of speakers, including Dr Rajesh Divakaran (UN Refugee Agency, Geneva), Dr Joe Thomas, Dr Rakesh (Rtd Executive Director, Bristol-Myers Squibb), Prof. Thankom Arun (University of Essex), and Vipin Yadav (Founder and CEO, DURE Technologies, Geneva). Their diverse expertise enriched academic discussion and inspired active engagement within the GIPH community.

ALL ABOUT THE FIFTH EDITION

The Public Health Wire 5th Edition was officially released by Dr Saira Banu (Surveillance Medical Officer, WHO Country Office India). As part of our outreach programme, the newsletter was distributed to healthcare professionals at Govt Public Health Training School, WHO-Thiruvananthapuram, KSACS, DMO Office and Kerala State Mental Health Authority.



FROM THE CHIEF EDITOR'S DESK

Welcome to the 6th edition of The Public Health Wire.

With 75% of emerging infectious diseases originating in wildlife, the next global health crisis won't start in a clinic but in a forest, farm, or marketplace.



This issue champions our urgent theme, **"One Health: When Humans, Animals and Nature Collide"**, navigating vital intersections from Kerala's Nipah and rabies frontlines to Rwanda's upstream land-use defences, the "silent pandemic" of antimicrobial resistance, and an exclusive wildlife interview with forest veterinarian Dr Midhun Neelamkavil. Beyond the science, we introduce engaging new features like Cinema for Science, our Word of the Wire decoding "solastalgia" and eco-anxiety, interactive One Health puzzles, and celebratory highlights in our GIPH Corner.

Bringing a publication of this scale to life requires an incredible village, and I extend my deepest gratitude to our patrons, faculty, alumni, specialised GIPH centres, and dedicated editorial team. We hope these pages inspire meaningful dialogue and remind us that protecting nature is, fundamentally, protecting ourselves.

Remember: Protecting nature is, fundamentally, protecting ourselves.

Happy reading!

Dr Kehren R Rayma
Chief Editor
The Public Health Wire

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Article references>>>>



ON INSTAGRAM



ON LINKEDIN



WORD OF THE WIRE

Solastalgia

Solastalgia (n.) [so-luh-stal-juh]

Origin: Solace (comfort) + Desolation (loss) + -algia (pain). Coined by environmental philosopher Glenn Albrecht.

Definition: The emotional distress caused by environmental degradation to your familiar surroundings. Unlike nostalgia, it is the pain of feeling "homesick" while you are still living at home.

One Health Context: A Wayanad resident experiences solastalgia after recurring landslides alter their familiar forest landscape, leaving a profound grief for the environment they once knew.

TEAM

