



FESTMIH

NEWSLETTER

2026

1ST ISSUE

Dear Readers,

We are pleased to share a comprehensive edition of the FESTMIH Newsletter. While our previous issues focused on looking back, this edition looks forward to the critical global health and environmental milestones of the coming months.

This issue is structured around the United Nations International Days of the 2nd quarter of 2026. We have curated a selection of themes that reflect the diverse challenges of our field: from the clinical complexities of infectious diseases to the fundamental safety of the global workforce and the ecological health of our planet.

Specifically, you will find insights and contributions centered on:

- World Chagas Disease Day (14 April): Raising visibility for a neglected tropical disease.
- World Malaria Day (25 April): Assessing our progress toward a malaria-free world.
- World Day for Safety and Health at Work (28 April): Highlighting the right to a safe and healthy working environment.
- World Bee Day (20 May) & International Day for Biological Diversity (22 May): Exploring the intersection of planetary health and human well-being.

In this edition, you will also find a Mini News of the Month, providing a brief overview of current updates within the FESTMIH network, starting on page 5.

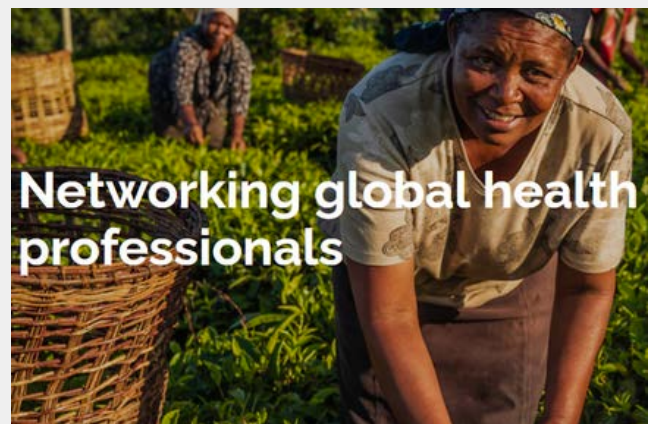
Before you explore these themes, we would like to express our sincere gratitude. Over the past year, your expertise, articles, and field notes have transformed this newsletter into a vibrant space for exchange.

Thank you for the commitment you have invested; without your active participation, this publication would not exist in the form it does today.

Looking ahead, we warmly invite you to contribute to future editions. Short reflections, case insights, project updates, and photo essays are always welcome. If you would like to highlight your work or share a perspective from the field, we would be delighted to hear from you.

Warm regards,

Your FESTMIH Newsletter Team



Networking global health professionals

April 14th
World Chagas Disease

April 25th
World Malaria Day

April 28th
World Day for Safety and Health at Work

May 20th
World Bee Day

May 22nd & June 5th
International Day for Biological Diversity
World Environment Day

Mini NEWS OF THE MONTH
NOTM

WORLD CHAGAS DISEASE DAY

April 14th

Bridging the Gap Between Cardiology and Tropical Medicine

Chagas disease is a neglected tropical disease with profoundly cardiac consequences. In this section, cardiologist Dr. Ana García Álvarez reflects on two decades of clinical work at the intersection of cardiology and tropical medicine — from Barcelona to Bolivia. Her interview is accompanied by a data-driven factsheet drawing on the GBD 2023 estimates and the WHO Global Report on NTDs 2025, highlighting that 10.5 million people remain infected, 70% are undiagnosed, and congenital transmission has emerged as the most relevant route worldwide.

April 25th

WORLD MALARIA DAY

Progress Under Threat: Addressing Blind Spots in Sub-Saharan Africa

Malaria killed 610,000 people in 2024 — most of them children under five. Yet in the same year, one million lives were saved by the tools we already have. This section opens with a factsheet built on the WHO World Malaria Report 2025, followed by Dr. R. Wandia Maina's in-depth analysis of the priorities, blind spots, and systemic failures that shape the fight against malaria in sub-Saharan Africa: from drug resistance and diagnostic gaps to the vulnerability of pregnant women and the promise of new vaccines.

WORLD DAY FOR SAFETY AND HEALTH AT WORK

April 28th

Occupational Health in a Globalised World

As workforces become increasingly mobile and climate change reshapes occupational risk profiles, workplace health demands new answers. In this interview, Dr. Kerstin La Roche, occupational physician at Daimler Truck and member of the DTG Climate Working Group, shares insights on sustainable travel medicine, post-pandemic preparedness, and the challenges of ensuring consistent health protection across borders, cultures, and climates.

May 20th

WORLD BEE DAY

No Bees, No Food, No Medicine: The Triple Threat of Pollinator Decline

In early 2025, the United States experienced its worst bee colony collapse in nearly two decades — over 1.1 million hives lost in a single season. This article traces the consequences of pollinator decline across three dimensions that converge in the clinic: food security and micronutrient deficiency, ecological unravelling and its links to infectious disease, and the pharmaceutical potential of bee products in an era of rising antimicrobial resistance.

**INTERNATIONAL DAY FOR
BIOLOGICAL DIVERSITY
& WORLD ENVIRONMENT DAY**

**May 22nd
June 5th**

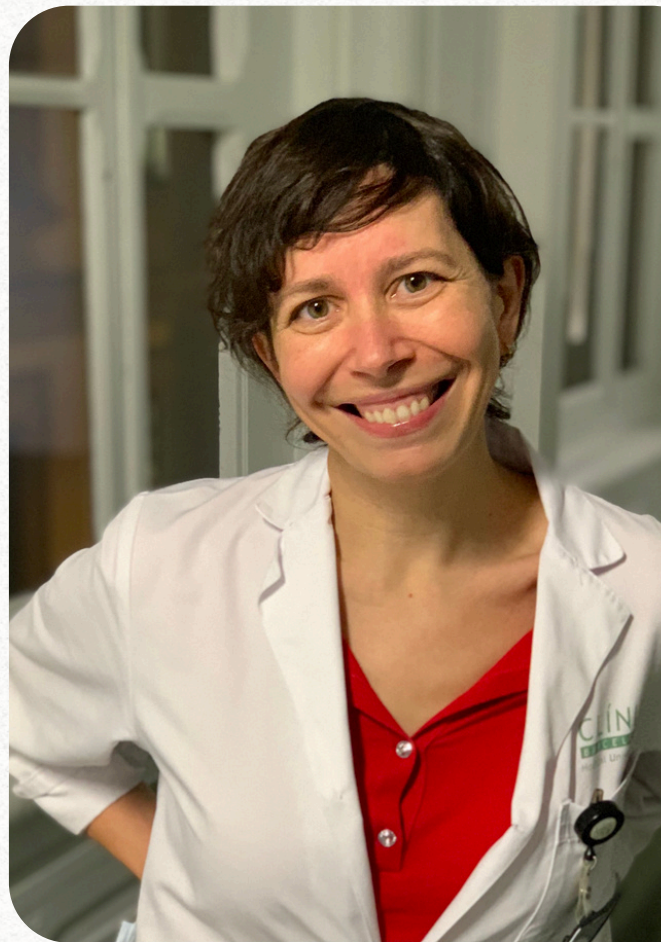
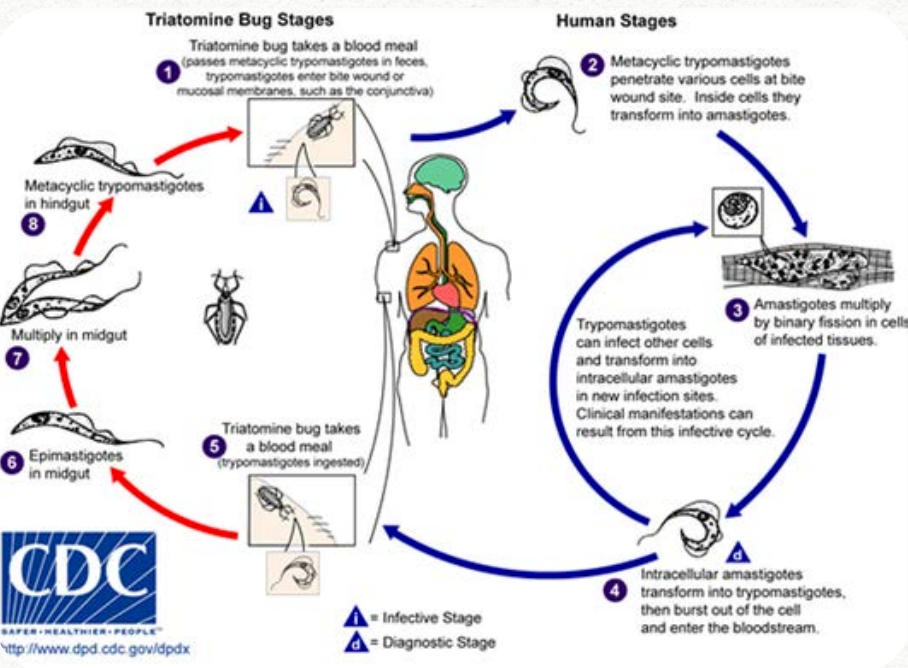
When Ecosystems Collapse, Clinics Fill Up

This long-form feature explores the intricate and often alarming relationship between the health of the planet's ecosystems and the diseases that afflict its human inhabitants. From the dilution effect and deforestation-driven zoonotic spillover to climate change as a force multiplier for vector-borne diseases, the article weaves together current data from Nature, the Lancet, and the WHO with conservation success stories from Brazil, the IUCN, and COP30 — making the case that biodiversity protection is, at its core, preventive medicine at planetary scale.

**NOTM
MARCH 2026**

Updates, Evidence, and Opportunities

This edition's NOTM features an Editor's Choice review of the first-ever meta-analysis of multiple myeloma and MGUS in sub-Saharan Africa (Ojo et al., TMIH 2026), revealing stark survival disparities and a critical HIV–myeloma nexus. You will also find updates on the FESTMIH–NNN partnership, the NTM-PD Global Clinical Survey, the Be-cause Health 2026 conference call for abstracts, and the ESCMID AI in Microbiology survey.



Ana García Álvarez

WORLD CHAGAS DISEASE DAY

Bridging the Gap Between Cardiology and Tropical Medicine

An interview with a senior cardiologist on the challenges, motivations, and the multidisciplinary future of Chagas disease care.

What initially drew you, as a cardiologist, to working on Chagas disease, and what has sustained your interest in this field over time?

"I began working on Chagas disease during my cardiology residency thanks to the influence of a senior cardiologist, Ginés Sanz, who had completed part of his training in Mexico and was collaborating with the tropical diseases group at our center in Barcelona. He invited me to join clinical consultations and research projects, and from the very beginning, I was deeply drawn to the field.

I have always felt a strong motivation to contribute to improving health problems that disproportionately affect vulnerable populations. Even as a medical student, I had the opportunity to work with communities in El Salvador—an experience that profoundly shaped my professional values.

This long-term commitment was consolidated when I decided to pursue my doctoral thesis on Chagas disease, allowing me to explore the condition in depth from both a clinical and research perspective. I have now been working in this field for more than 20 years, combining patient care and research. What sustains my interest is the feeling that meaningful impact is still possible, as well as the richness of working in a truly multidisciplinary environment alongside infectious disease specialists, primary care physicians, and social workers."

Chagas disease is often framed within tropical medicine, yet its most severe manifestations are cardiac. How do you perceive awareness of Chagas disease within cardiology, and what would help strengthen interest?

"Chagas disease has traditionally been framed within tropical medicine, but its most severe consequences are clearly cardiac. In recent years, awareness among cardiologists has improved, at least in Spain. Most cardiologists are familiar with the disease and include it in their differential diagnosis, particularly for patients from endemic areas.

However, awareness does not always translate into structured care. Follow-up protocols are often poorly defined, and many patients are lost over time. Strengthening interest and awareness requires integrating Chagas disease into standard cardiology pathways, including clear referral circuits and long-term follow-up strategies. In this sense, our collaborative work with the Spanish Society of Cardiology is essential."

Persistent gaps in access to diagnosis and treatment contribute to chronic sequelae. From your perspective, where do patients most often 'fall through the cracks'?

"The challenges differ between endemic and non-endemic settings:

- In endemic countries: Limited resources play a major role. We see shortages of trained healthcare professionals, restricted access to basic diagnostic tools like electrocardiography and echocardiography, and insufficient continuing medical education. There is also a fear of diagnosis within affected populations. Even when diagnosed, access to antiparasitic treatment or life-saving interventions—like pacemakers—can be severely restricted.
- In non-endemic countries: The challenges are related to the complexity of healthcare systems. Patients may be lost during referrals between services or during long-term follow-up when care is not well-coordinated.

Our experience collaborating with local Chagas Platforms in Bolivia illustrates how integrated, community-based, and cross-disciplinary models can bridge these gaps by improving access to diagnosis and continuity of care."

Based on your experience, how can collaboration between cardiology and tropical medicine be strengthened to improve outcomes?

"Collaboration is essential. Patients may initially consult either specialist, so reciprocal knowledge and clearly defined referral and shared follow-up protocols are crucial.

Beyond clinical care, interdisciplinary collaboration is key in research at both clinical and preclinical levels. Only by integrating perspectives from cardiology, infectious diseases, epidemiology, and social sciences can we truly improve outcomes for people living with Chagas disease."

Where do you see the most persistent blind spots in care and research today?

"Several blind spots remain unresolved. We urgently need:

1. Reliable biomarkers for the early diagnosis of chronic disease.
2. Safer and more effective treatments and clearer clinical guidelines.
3. Closer collaboration with social services to ensure long-term access to care.
4. Designated expert centers for complex interventions, such as heart transplantation, to guarantee equitable access to highly specialized treatments for this population."

Chagas Disease at a Glance

Global Burden: GBD 2023 Estimates

Indicator	Value
Global prevalent cases (2023)	10.5 million (95% UI: 9.4–11.7 M)
Change in prevalence since 1990	–16.1% (all-age); –55.0% (age-standardised rate)
Annual new infections	~28,000 (down from 700,000 in 1990)
Global deaths (2023)	~8,000 (95% UI: 7,110–8,880)
Decline in mortality rate since 1990	–73.8% (age-standardised)
Population at risk	>100 million
Countries with detected cases (2024)	44 (21 endemic + 23 non-endemic)
Highest prevalence rates (2023)	Southern Latin America (2,486/100k); Andean Latin America (2,314/100k)
Estimated cases in the USA	>300,000
Countries certified malaria-free by WHO	47 (for comparison: 0 countries declared Chagas-free)

Chagas disease (American trypanosomiasis), caused by the protozoan parasite *Trypanosoma cruzi*, remains one of the most significant neglected tropical diseases worldwide. First described by Carlos Chagas on 14 April 1909, the disease is endemic in 21 continental Latin American countries but has become a global health concern through migration. According to the WHO Global Report on NTDs 2025, a total of 44 countries had detected Chagas cases as of December 2024 including the United States, Canada, and 17 European nations. The Pan American Health Organization estimates that 70% of infected individuals are unaware of their condition, and fewer than 10% receive timely diagnosis and antiparasitic treatment.

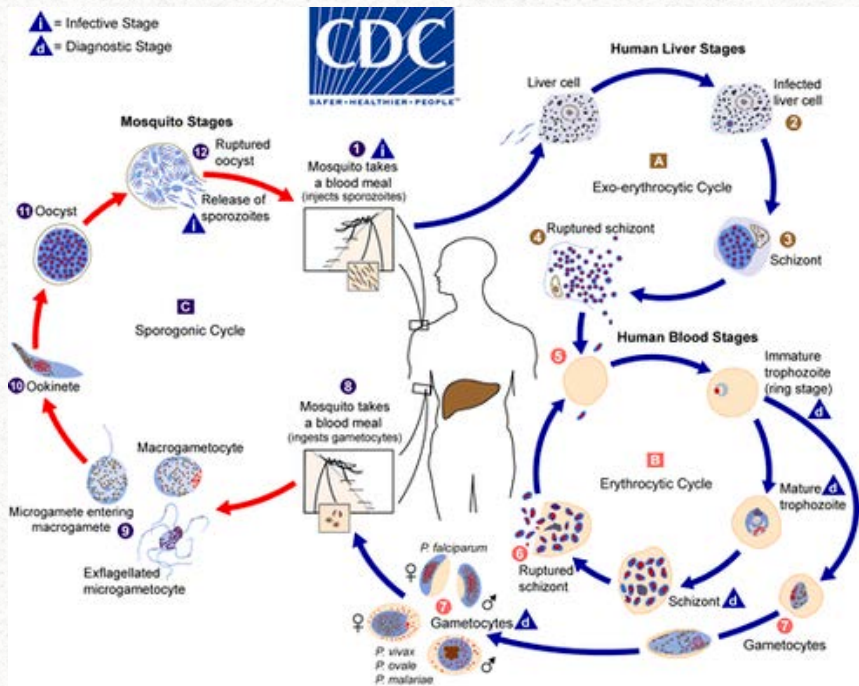
The Cardiac Dimension

Chronic Chagas cardiomyopathy (CCM) is the most severe and clinically consequential manifestation of the disease. Approximately one third of infected individuals develop CCM over their lifetime, with a progression rate of 1–2% per year from the indeterminate chronic phase. Manifestations include dilated cardiomyopathy, conduction abnormalities (particularly right bundle branch block and left anterior fascicular block), ventricular arrhythmias, apical aneurysm, thromboembolic events, and progressive heart failure. CCM is the leading cause of non-ischaemic cardiomyopathy in Latin America and a major driver of Chagas-related mortality — 75.5% of Chagas deaths in Brazilian registry data are attributable to cardiac involvement. Critically, CCM-related deaths are systematically underreported on death certificates, frequently classified as dilated cardiomyopathy or heart failure of unspecified cause, rendering the true burden invisible in national health statistics.

A Globalising Disease

With the significant reduction of domiciliary vectorial transmission in Latin America, migration has reshaped the epidemiology of Chagas disease. The GBD 2023 analysis found that while prevalence decreased in endemic regions, non-endemic countries experienced notable increases driven by immigration from affected areas. An estimated 300,000 or more people live with Chagas disease in the United States; in Europe, Spain carries the largest burden due to strong migratory ties to Bolivia and other Andean countries. Congenital transmission has emerged as the most relevant route worldwide: *T. cruzi* can cross the placenta, with vertical transmission rates estimated at 1–10% depending on maternal parasitaemia and geographic strain. The Region of Murcia in Spain became the first area globally to claim sustained interruption of congenital transmission through systematic screening and treatment of women of childbearing age. For cardiologists and general practitioners in non-endemic settings, the clinical challenge is one of awareness: recognising Chagas cardiomyopathy in the differential diagnosis of unexplained heart failure, conduction disease, or ventricular arrhythmias in patients with a Latin American background.

Sources: WHO Fact Sheet on Chagas Disease (April 2025); GBD 2023 Systematic Analysis — *Lancet Infectious Diseases* (November 2025); PAHO; WHO Global Report on NTDs 2025; RAISE Study (Global Heart, 2024).



WORLD MALARIA DAY

Malaria in 2025: Progress Under Threat

Malaria, caused by Plasmodium parasites transmitted through the bites of infected female Anopheles mosquitoes, remains the deadliest vector-borne disease on the planet. The WHO World Malaria Report 2025, released in December, tells a story of extraordinary achievement and deepening concern in equal measure. Since the year 2000, global malaria interventions have averted an estimated 2.3 billion cases and 14 million deaths — including one million lives saved in 2024 alone. Yet the disease is not retreating fast enough. Cases rose to 282 million in 2024, nine million more than the previous year, while 610,000 people died — the majority of them children under five in sub-Saharan Africa. The 2025 report carries a stark special focus: antimalarial drug resistance, now confirmed or suspected in eight African countries, threatening to undermine the therapeutic backbone of malaria control.

New Tools, New Hope ... and New Threats

The past two years have seen a remarkable acceleration in the malaria toolkit. WHO now recommends two malaria vaccines — RTS,S/AS01 (Mosquirix) and R21/Matrix-M — for children in areas of moderate-to-high transmission. By the end of 2024, 24 countries had introduced malaria vaccines into routine immunization programmes, with seven more initiating rollout in 2025. Seasonal malaria chemoprevention reached 54 million children across 20 countries in 2024, up from just 200,000 in 2012. Next-generation insecticide-treated nets now account for 84% of all nets shipped, up from 10% as recently as 2019.

These are transformative gains. Yet they are shadowed by converging threats: partial artemisinin resistance has been documented in East Africa, with confirmed or suspected resistance in eight African countries; the invasive vector Anopheles stephensi has now been reported in nine African countries, bringing urban malaria risk to cities previously unaffected; insecticide resistance remains widespread; and global malaria financing has plateaued at under 4 billion dollars annually — less than half the 9.3 billion dollar target set by the WHO Global Technical Strategy for 2025.

Dr. R. Wandia Maina

Global Burden: WHO World Malaria Report 2025

Indicator	Value
Estimated cases (2024)	282 million (80 endemic countries)
Estimated deaths (2024)	610,000
Change vs. 2023	+9 million cases; +12,000 deaths
WHO African Region share	94% of cases; 95% of deaths
Deaths in children under 5 (Africa)	~75% of all malaria deaths in the region
Three countries driving case increase	Ethiopia, Madagascar, Yemen (58% of increase)
Three countries with highest mortality	Nigeria (31.9%), DRC (11.7%), Niger (6.1%)
Lives saved since 2000	14 million (incl. 1 million in 2024)
Cases averted since 2000	2.3 billion
Countries certified malaria-free (WHO)	47 countries + 1 territory
New certifications (2024–2025)	Cabo Verde, Egypt (2024); Georgia, Suriname, Timor-Leste (2025)
Countries approaching elimination (<1,000 cases)	37 (in 2024)

The Road Ahead

It is against this backdrop — of remarkable progress coexisting with alarming reversals — that the following article examines the priorities and blind spots in sub-Saharan Africa's malaria response. From delayed diagnostics and workforce shortages to the infodemic threatening trust in treatment, from the vulnerability of pregnant women and children under five to the urgent need for integrated fever management, the analysis offers a clinician's roadmap for where the fight must go next. As the WHO report makes clear: the tools exist, the evidence is strong, and lives are being saved at unprecedented scale. But the window for decisive action is narrowing. Drug resistance, climate change, and funding shortfalls could, if left unaddressed, undo decades of hard-won gains.

Sources: WHO World Malaria Report 2025 (December 2025); WHO Fact Sheet on Malaria (December 2025); Medicines for Malaria Venture Fact Sheet 2025; The Global Fund Statement on World Malaria Report 2025.

Malaria Priorities and Progress: Addressing Blind Spots in Sub-Saharan Africa

Sub-Saharan Africa's malaria prevention and care initiatives are hampered by systemic inefficiencies, such as delayed diagnosis, inadequate workforce capacity, diagnostic shortages, and recurring stockouts, alongside community-level factors, such as limited health literacy, inequitable access to vector control and preventive treatments, and fragmented supply mechanisms. Although consistently underappreciated by decision-makers and practitioners, these community-based barriers represent critical drivers of ongoing transmission and require urgent strategic attention.

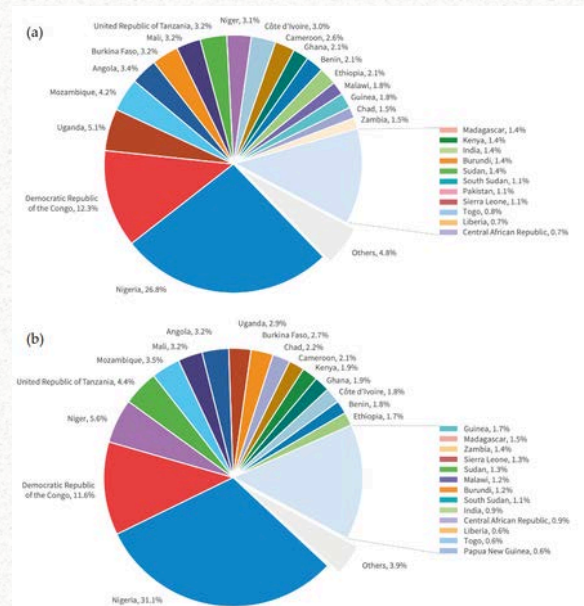
The Threat of Drug Resistance

Drug resistance is an emerging threat, with partial artemisinin resistance documented in East Africa. Peer-reviewed research findings emphasize the urgent need for robust surveillance networks and timely regimen updates. Simultaneously, addressing the infodemic through effective public health education is essential. Communication strategies must sustain trust in current therapies while preparing communities to accept new treatments and vaccines. Without this balance, misinformation can drive harmful behaviors, such as self-medication or treatment avoidance. Ensuring transparency, consistency, and culturally sensitive messaging is critical to maintaining confidence in malaria control interventions.

Protecting Vulnerable Populations

Pregnant women and children under five years of age remain the most vulnerable populations in malaria-endemic regions. Peer-reviewed evidence consistently demonstrates that intermittent preventive treatment during pregnancy (IPTp), widespread use of insecticide-treated nets, and integrated child health packages substantially reduce malaria-related morbidities and mortalities. However, coverage remains uneven due to systemic barriers, such as limited antenatal care attendance, stockouts of preventive commodities, and socioeconomic inequities. Rapid improvements can be achieved by expanding antenatal care visits, ensuring a consistent supply, and embedding malaria prevention within broader maternal and child health services.

Research gaps persist in optimizing delivery models, evaluating the long-term impact of integrated interventions, and addressing the behavioral barriers that limit uptake. Addressing these gaps through operational research and policy innovation will be critical to accelerating progress in protecting high-risk groups and reducing the malaria burden in sub-Saharan Africa.



Global trends in (a) distribution of malaria cases and (b) deaths by country in 2022. Adapted and published under Creative Commons License from World Malaria Report, accessed on 14 February 2024

Diagnostics and Fever Management

Diagnostics and fever management remain persistent weaknesses in malaria-endemic regions, particularly in sub-Saharan Africa. Empirical treatment of febrile illnesses continues to dominate clinical practice, with antibiotics or antimalarials frequently administered without laboratory confirmation. This approach undermines accurate case management and accelerates antimicrobial resistance.

Peer-reviewed systematic reviews highlight that scaling up rapid diagnostic tests (RDTs), improving the quality and reliability of microscopy, and deploying trained community health workers are critical to strengthening “test-first” approaches.

These interventions enhance diagnostic accuracy, reduce inappropriate prescriptions, and reinforce antimicrobial stewardship. However, challenges persist, including inconsistent RDT supply chains, limited laboratory infrastructure, and gaps in provider adherence to diagnostic algorithms. Successes have been documented where integrated fever management programs combine malaria diagnostics with broader infectious disease surveillance, thereby improving rational drug use and improving patient outcomes. Research gaps remain in evaluating the long-term sustainability of community-based diagnostic programs, understanding the behavioral drivers of empirical prescribing, and integrating digital health tools to support decision-making. Addressing these gaps through operational research, policy innovation, and investment in diagnostic capacity is essential for advancing malaria control while simultaneously curbing the broader threat of antimicrobial resistance.

Looking Ahead

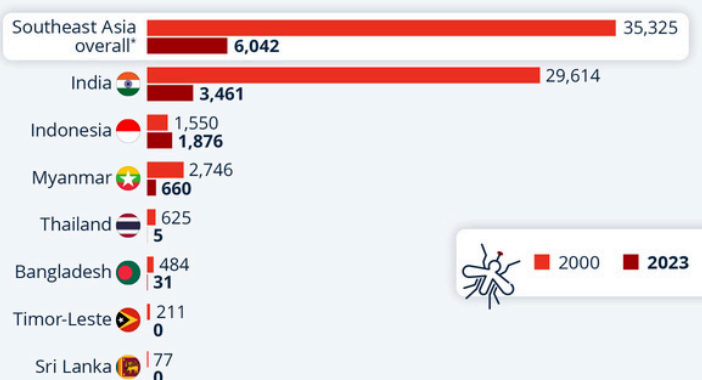
Looking ahead, meaningful progress in malaria control over the next five years must be defined not only by a measurable decline in incidence but also by equitable access to diagnostics, preventive tools, and treatment. Achieving this requires resilient surveillance systems capable of detecting drug resistance early and informing timely policy changes.

Success will depend on moving beyond incremental gains toward integrated strategies that combine biomedical innovation, such as next-generation diagnostics, improved vector control, and new therapies, with strong community engagement and health system strengthening. Sustainable progress relies on embedding malaria interventions within broader health-system reforms, ensuring supply chain reliability, and addressing the social determinants of health.

Equally important is building trust through transparent communication, which supports the uptake of both established and emerging interventions. Research gaps still exist in operationalizing integrated surveillance platforms, evaluating the long-term impact of community-based diagnostic programs, and developing scalable models for maternal and child health integration. Addressing these gaps through interdisciplinary research and policy innovation will be crucial to transforming malaria control from incremental improvements into sustained, measurable impact across sub-Saharan Africa.

Malaria Deaths Plummet in Southeast Asia

Estimated number of malaria deaths in Southeast Asia and selected countries in the region in 2000 and 2023



* Includes countries in Southeast and South Asia
Source: WHO World Malaria Report 2024



While sub-Saharan Africa continues to navigate complex challenges, recent data from the World Health Organization (WHO) proves that massive progress in the global fight against malaria is absolutely possible. The developments in the WHO Southeast Asia Region offer a powerful beacon of hope:

Malaria deaths have plummeted by over 80 percent.

- **Remarkable Decline:** Between 2000 and 2023, the mortality rate saw a massive reduction. While an estimated 35,325 people succumbed to the mosquito-borne disease in 2000, that figure dropped significantly to just 6,042 in 2023.
- **Local Milestones:** A closer look at country-level data highlights outstanding successes. Countries like Sri Lanka and Timor-Leste now proudly record zero malaria deaths.
- **Current Focus:** The remaining challenges in the region are heavily concentrated in India and Indonesia, which together accounted for the vast majority of the region's deaths in 2023 (a combined 5,337).

WORLD DAY FOR SAFETY AND HEALTH AT WORK

Occupational Health in a Globalised World: The Hidden Toll

with Dr. Kerstin La Roche

Indicator	Value
Annual work-related deaths (2019)	2.93 million (+12% since 2000)
Deaths from occupational diseases	2.6 million (89% of total)
Deaths from occupational accidents	330,000 (11% of total)
Non-fatal work injuries per year	395 million
Leading cause of work-related death	Long working hours: 745,000 deaths/year
Most hazardous sectors	Agriculture, construction, forestry, fishing, manufacturing
Regional burden (highest)	Asia-Pacific: 63% of global work-related mortality
Fatal injury rate disparity	Africa & Asia: 4–5× higher than Europe
Workforce without OSH training	62% globally (World Risk Poll 2024)
ILO Global Strategy	OSH Strategy 2024–2030: right to safe work as fundamental right

Every year, nearly three million people die from work-related accidents and diseases — more than the combined annual toll of road accidents, wars, violence, and HIV/AIDS. According to the most recent ILO global estimates, 2.93 million workers lost their lives to occupational causes in 2019 alone, a figure that has risen by over 12 percent since 2000. An additional 395 million workers sustain non-fatal injuries each year. The vast majority of these deaths — 89 percent — are not caused by acute accidents but by occupational diseases:

The Global Burden: ILO & WHO Estimates

circulatory conditions, cancers, and respiratory illnesses linked to prolonged exposure to workplace hazards. Yet despite the scale of this burden, almost two thirds of the global workforce have never received any form of occupational safety and health training. The toll is not evenly distributed: fatal injury rates in Africa and Asia are four to five times higher than in Europe, and workers in precarious, informal, or migrant employment bear disproportionate risk.

Where Occupational Health Meets Tropical Medicine

For the FESTMIH community, occupational health may seem distant from the core concerns of tropical medicine and international health. It is not. Globally operating companies send employees into malaria-endemic regions, dengue hotspots, and areas affected by emerging pathogens — and the occupational physician is often the first point of medical contact before departure and the last upon return. Climate change is intensifying this overlap: rising temperatures are pushing heat stress in tropical and subtropical factories to the limits of what protective measures can absorb, while the geographic expansion of vector-borne diseases means that travel medicine counselling must now account for risks that did not exist a decade ago. The COVID-19 pandemic, meanwhile, exposed how quickly infectious disease can become an occupational health crisis on a global scale — and how essential pandemic preparedness plans, vaccination infrastructure, and international coordination are for companies with a mobile workforce.

About the Interviewee

Dr. Kerstin La Roche is a specialist in occupational medicine and travel medicine at Daimler Truck AG, one of the world’s largest commercial vehicle manufacturers with production sites and employees across all continents. She is an active member of the DTG Climate Working Group (German Society for Tropical Medicine, Travel Medicine and Global Health) and has published on sustainable travel medicine counselling in occupational health settings. In the interview that follows, she shares practical insights from the frontlines of global workforce protection — from pandemic planning and standardised audits across continents to the cultural sensitivities of conducting medical examinations with international colleagues, and the quiet but significant role that companies can play in raising occupational health standards in countries where local systems fall short.

Sources: ILO, *A Call for Safer and Healthier Working Environments (2024)*; WHO/ILO *Joint Estimates of the Work-related Burden of Disease and Injury*; ILO *Global Strategy on OSH 2024–2030*; *Lloyd’s Register Foundation World Risk Poll 2024*; *UN Global Compact*.

As an occupational physician at a global company like Daimler Truck, what are the most pressing health and safety challenges you currently face when employees travel to different regions worldwide, and how has your approach to pre-travel medical consultations evolved in recent years?

The greatest risks continue to be in traffic and food hygiene. Depending on the region, crime and corresponding behavior in the country also play a major role. Due to global warming, vector-borne diseases are also becoming increasingly important in our part of the world. Daytime mosquitoes pose a particular threat in this regard. The importance of mosquito protection cannot be overstated. While many travelers are already familiar with yellow fever vaccinations in South America and Africa, the spread of Dengue, Chikungunya, Zika, Nipah, and other viral diseases presents us with a challenge. On the one hand, it is important to alleviate fears about Nipah virus disease, for example, to provide information about Zika, and, if indicated, to vaccinate against dengue and/or chikungunya in accordance with STIKO recommendations, in collaboration with the DTG and RKI.

Your 2024 publication addresses 'sustainable travel medicine counseling' in occupational health. Can you explain how sustainability principles can be integrated into workplace health and safety practices beyond travel medicine and why this matters for the future of occupational health?

Daimler Truck is a globally active company. Audits are carried out within this framework. These audits cover occupational safety and environmental protection. In addition to country-specific requirements, our standards in Germany are also applied. In addition to occupational safety for employees, the focus is primarily on environmental protection. Environmental pollution should also be ruled out in advance in the event of natural disasters (e.g., earthquakes with the corresponding potential consequences for people and the environment).

In addition, a GreenAward is presented internally every two years on a global basis. Individual departments and plants can apply for this award in the field of environmental protection. There are several categories, such as green production, green products, and green supply chain. The same standards are used at all locations worldwide.

Given your expertise in infectious disease control and tropical diseases, what lessons from the COVID-19 pandemic should multinational companies permanently integrate into their occupational health and safety strategies, particularly regarding employee mobility and international assignments?

First of all, all locations worldwide need a pandemic plan. This is also requested in the audits. As in the German plants, the large locations (global) have a company medical service that can quickly carry out, for example, a vaccination campaign for employees. However, vaccine ordering and availability vary greatly from country to country.

In the event of a pandemic, we also follow the WHO guidelines. Our pandemic plan describes a 3-stage model that the Group crisis management team can follow in the event of a pandemic. This also regulates the issue of employee mobility.

In this context, it is also important to always cooperate with the authorities, both globally and internationally. These networks should be used by all companies with global assignments.

You've worked on standardization and quality assurance in travel medicine counseling. In your experience at Daimler Truck, what role does standardization play in ensuring consistent health and safety protection across different countries and cultural contexts and what are the biggest challenges in achieving this?

In many countries, these standards represent a significant improvement in healthcare for local employees. Our healthcare for employees is in line with the German outpatient system, so that our travelers can also make use of it if necessary. Often, the standard is even exceeded. Daimler Truck thus contributes to relieving the burden on the local healthcare system.

Conversely, local employees at the plant are also provided with healthcare at the company's expense, regardless of the existing healthcare system. Thanks to standardized occupational safety measures, accidents at work in our plants, as in Germany, occur almost exclusively as a result of non-compliance with prescribed safety rules. The same occupational safety and health guidelines apply worldwide.

Special cultural challenges usually arise when colleagues from other countries visit us (short stays). Since the "family doctor" on site is the factory medical service, this is also taken for granted in Germany. We try to cover this as far as possible. However, it does present a challenge.

Another challenge often lies in the medical history or physical examination. Here, I often notice a great deal of embarrassment among my colleagues. This must be taken into account and not violated.

As a member of the DTG Climate Working Group, how do you see climate change impacting occupational health risks for employees in the automotive and transport industry, and what preventive measures should companies prioritize on this World Day for Safety and Health at Work?

Climate change is leading to increasingly extreme weather conditions. In particular, the increasing heat waves in tropical/subtropical countries, with extreme rainfall or long periods of drought, are sometimes pushing occupational health and safety measures to their limits. Even in Germany, we are already facing the problem of cooling in factories in some cases. Priority should therefore be given to cooling measures using green energy wherever possible, whether through fans or ventilation systems. Unfortunately, this is rarely achieved by installing air conditioning systems in large production halls. In addition, many countries often offer safe transportation for employees to and from their workplaces.

Looking ahead, what innovations or approaches in occupational medicine do you believe will have the greatest impact on protecting worker health and safety in globally operating companies over the next 5-10 years; what message would you like to share with occupational health professionals worldwide on this important day?

As a globally active company, we are also investing in new local plants on all continents. In my opinion, this is an opportunity to take a stand against the sometimes difficult working conditions on site and to implement European standards for occupational health and safety in these countries as well.

However, one message that I personally would like to convey is the importance of respecting cultural backgrounds. Diversity is an asset and should continue to be embraced and respected. Only in this way can we all work together to tackle the major challenges of climate change.

BY MAXIMILIAN FÖRSTER

MAY 20TH

WORLD BEE DAY NO BEES, NO FOOD, NO MEDICINE



THE TRIPLE THREAT OF POLLINATOR DECLINE — AND WHY IT ENDS UP IN THE WAITING ROOM

In January 2025, as commercial beekeepers across the United States began preparing their hives for the annual migration to California's almond orchards, they found something deeply wrong. Hive after hive stood silent. The honey stores were full, the queens often still present — but the worker bees had vanished. A national survey conducted by the nonprofit Project Apis M. soon confirmed the scale of the disaster: commercial beekeepers had lost an average of 62 percent of their colonies between June 2024 and March 2025 — more than 1.1 million hives gone. The USDA estimated the immediate economic damage at 600 million dollars. Some operations reported losses of 100 percent. It was the worst collapse since Colony Collapse Disorder first made headlines in 2006 — and possibly worse.

The culprit, or at least a major one, was identified within weeks. USDA scientists found that Varroa destructor mites collected from the dead colonies had developed resistance to amitraz, the most widely used miticide in American beekeeping. These parasitic mites weaken bees by feeding on their fat bodies and transmit a cocktail of viruses — Deformed Wing Virus, Acute Bee Paralysis Virus — that can annihilate a colony in weeks. With the primary chemical defense now failing, beekeepers were left exposed. As Steven Coy, president of the American Honey Producers Association, told reporters: if another collapse of this magnitude hits in the near future, the industry may not survive.

But the 2025 crisis is not an isolated American problem. It is the acute flare-up of a chronic, global condition — and one whose consequences reach far beyond honey production, deep into the domains of food security, nutrition, and ultimately, human medicine.

A GLOBAL DECLINE, UNEVENLY DISTRIBUTED

The world hosts over 20,000 known bee species, from the familiar European honeybee *Apis mellifera* to thousands of solitary and wild species that pollinate without ever producing a drop of honey. Their collective decline has been documented with increasing precision. A 2021 analysis of occurrence records from the Global Biodiversity Information Facility — described as the first long-term global assessment of its kind — found that the number of bee species being observed or collected had fallen steeply since the 1990s, with approximately 25 percent fewer species recorded in the period 2006–2015 compared to before 1990. A 2025 assessment published in the Proceedings of the National Academy of Sciences, examining nearly 1,600 pollinator species in North America, found that more than one in five is at risk of extinction, with bees showing the highest proportion of imperiled species among all pollinator groups assessed.



The picture is not uniformly bleak. Managed honeybee colonies have actually increased globally — driven largely by a boom in commercial beekeeping in China, India, Turkey, and Iran. But this growth in managed hives masks a deeper crisis in wild bee diversity, which underpins the resilience of pollination as an ecosystem service. In North America, the American bumblebee has lost nearly 90 percent of its population in two decades. The Rusty Patched Bumblebee has vanished from over 95 percent of its historic range. In Europe, the landmark Krefeld study documented a 75 percent decline in flying insect biomass over 25 years at 63 monitoring sites in Germany. An estimated 40 percent of invertebrate pollinator species globally are now considered at risk of extinction, according to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.

The drivers are multiple and synergistic: habitat loss from agricultural expansion, exposure to pesticides — particularly neonicotinoids, which impair navigation, reduce queen production, and decrease drone fertility by roughly 39 percent even at sublethal doses — climate change disrupting the synchrony between flowering and foraging, parasites like *Varroa destructor*, and pathogens spread through global trade in managed colonies. No single factor explains the decline; it is the convergence that makes it so dangerous.

1 THREAT ONE: WHEN POLLINATION FAILS, FOOD SYSTEMS FOLLOW

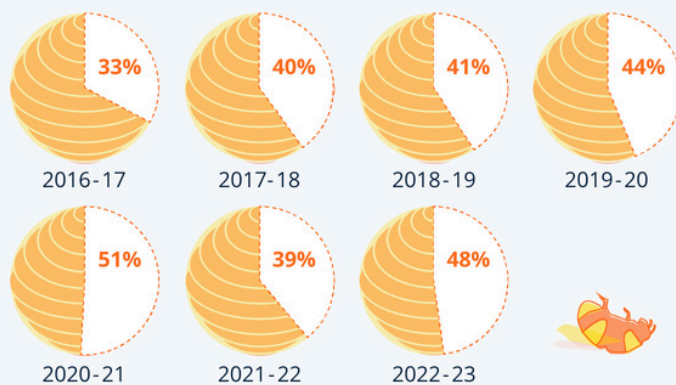
The arithmetic of pollination is stark. Over 75 percent of the world's flowering plant species depend on animal pollinators for reproduction, and 87 of the leading global food crops — representing 35 percent of total production volume — require pollination services. The global economic value of insect pollination has been estimated at between 195 and 577 billion dollars annually. In North America alone, bee pollination contributes over 15 billion dollars to agriculture each year. Without bees, there are no almonds, few apples, limited blueberries, diminished coffee, and drastically reduced yields of dozens of crops that form the nutritional backbone of diets worldwide.

What makes this precarious is a temporal mismatch: while the demand for pollination-dependent crops has tripled over the past half-century, bee populations in key agricultural regions have declined. The system has been running on increasingly thin margins. California's almond industry — a 7.6-billion-dollar sector — depends almost entirely on migratory honeybee colonies trucked in from across the country each spring. The 2025 collapse hit just as those trucks were rolling. Pollination contracts were broken, orchards went under-serviced, and the downstream effects on almond prices, supply chains, and farmer livelihoods are still unfolding. But the food security implications extend well beyond economics. A growing body of research links pollinator decline to micronutrient deficiency — a connection with direct clinical relevance. Pollinator-dependent crops are disproportionately rich in vitamins, minerals, and phytonutrients.

Fruits, vegetables, nuts, and seeds — the foods most reliant on bee pollination — are precisely the ones that supply vitamin A, folate, iron, zinc, and essential fatty acids. Modelling studies have projected that a collapse in pollination services could increase the global burden of vitamin A deficiency, folate deficiency, and associated conditions including neural tube defects, anemia, and cardiovascular disease. In low- and middle-income countries, where rural populations depend on wild-growing pollinated fruits and wild bee populations rather than managed hives, the nutritional consequences of pollinator decline could be severe and largely invisible — manifesting not as empty supermarket shelves but as rising rates of non-communicable disease.

U.S. Honeybees Suffer Second Deadliest Season on Record

Estimated share of bee keepers' colonies lost in the United States from 2016-17 to 2022-23*



* Years ending April 1

Source: Bee Informed Partnership



2

THREAT TWO: AN ECOLOGICAL UNRAVELLING

Beyond agriculture, pollinators are keystone actors in terrestrial ecosystems. They drive the reproduction of the vast majority of wild flowering plants, which in turn provide food and habitat for countless other species — birds, mammals, insects — in cascading ecological relationships. When pollinators decline, these networks do not degrade gradually; mathematical models of plant-pollinator networks show that they can function remarkably well under increasing stress, but when a critical threshold is crossed, the entire network can collapse simultaneously.

The Cambridge-led planetary risk index for pollinator decline, the first of its kind, assessed the consequences across six global regions. Latin America emerged as the region with the most to lose: insect-pollinated crops like cashew, soybean, coffee, and cocoa are essential to both domestic food supply and international trade, while large Indigenous populations depend on pollinated wild plants. In Africa and Asia-Pacific, the loss of wild pollinators threatens rural communities that rely on wild fruits and forest products for nutrition and income.

For clinicians, there is a dimension of the bee crisis that rarely makes the headlines but deserves attention: the pharmaceutical one. Bee products — honey, propolis, royal jelly, bee venom — have been used in traditional medicine for millennia, from Hippocrates applying bee stings to treat pain in 460 BC to ancient Egyptian wound dressings made with honey. What has changed in recent years is the quality of the evidence supporting these applications.

Medical-grade honey — particularly Manuka honey and its clinical formulation Medihoney — has demonstrated efficacy against antibiotic-resistant wound infections, including MRSA and *Pseudomonas aeruginosa*, in clinical settings. The mechanism is multifactorial: honey's low water activity, acidic pH, and hydrogen peroxide production create a hostile environment for bacteria, while its viscosity forms a physical barrier that promotes moist wound healing. A 2025 review in *Pharmaceuticals* confirmed its effectiveness across species and wound types, including chronic and infected wounds.

Even in Europe and North America, where managed hive systems provide a buffer, the decline of wild pollinator diversity erodes the resilience of the system — making it increasingly dependent on a single, vulnerable species: the managed honeybee. The ecological dimension connects directly to the biodiversity-disease nexus explored elsewhere in this newsletter. Pollinators maintain the plant diversity that sustains the dilution effect — the ecological mechanism by which species-rich communities buffer against infectious disease transmission. When pollinators disappear, plant communities simplify, habitats degrade, and the ecological conditions that favor zoonotic spillover and vector proliferation are strengthened. The decline of bees is not a sentimental story about flowers; it is a structural weakening of the ecosystems on which human health depends.

THREAT THREE: THE PHARMACY IN THE HIVE

3

Propolis, the resinous substance bees collect from plant buds to seal their hives, has shown broad-spectrum antimicrobial, anti-inflammatory, and anticancer properties in laboratory and preclinical studies. Its active compounds — flavonoids, phenolic acids, and their esters — inhibit cyclooxygenase, reduce cytokine production, and disrupt microbial cell membranes. Clinical trials have found that propolis may improve recovery from COVID-19 and reduce dental plaque and gingivitis. Bee venom, containing the peptide melittin, has demonstrated anti-inflammatory effects relevant to arthritis, neuropathic pain, and — in preclinical models — anticancer activity against prostate, breast, and liver cancer cell lines.

3

None of this constitutes a call for apitherapy as a replacement for evidence-based medicine. Bee venom carries real risks, including anaphylaxis; propolis and honey vary enormously in composition depending on geographic source; and much of the evidence remains preclinical. But in an era of rising antimicrobial resistance — when the pipeline of novel antibiotics is dangerously thin and the WHO lists AMR among the top global health threats — the broad-spectrum antimicrobial properties of bee products represent a research frontier that depends, fundamentally, on the continued existence of healthy bee populations. Every colony lost is not just a pollination deficit; it is a natural pharmaceutical laboratory closed.

A PRESCRIPTION FOR ACTION

World Bee Day, established by UN General Assembly Resolution A/RES/72/211 and observed annually on May 20, was created to raise awareness of a crisis that sits at the intersection of ecology, agriculture, and health. The 2025 colony collapse in the United States has given that mission an uncomfortable urgency. With over a fifth of North American pollinator species at elevated extinction risk, with wild bee diversity declining globally since the 1990s, and with the chemical tools used to protect managed hives now failing against resistant parasites, the margin for complacency has vanished.

The solutions are known, if not yet implemented at scale: reducing neonicotinoid use and enforcing pollinator-protective pesticide regulations; restoring and connecting pollinator habitats along agricultural landscapes; supporting diverse, sustainable beekeeping practices that reduce dependence on chemical treatments; investing in surveillance of bee pathogens and parasites; and funding research into both pollinator health and the medicinal potential of hive products.

For the medical community specifically, recognizing the links between pollinator decline, nutritional deficiency, and antimicrobial resistance offers a reason to engage with conservation that goes beyond altruism — it is a matter of clinical foresight.

The poet Kahlil Gibran wrote that the bee gathers nectar for the flower as much as for itself. The truth may be more radical: the bee gathers for all of us — for our food, for our ecosystems, for our medicine cabinets. Whether we prove worthy stewards of that gift remains, for now, an open question.

INTERNATIONAL DAY FOR BIOLOGICAL DIVERSITY & WORLD ENVIRONMENT DAY

Growing up in the Allgäu region of the German Alps, nature was always much more to me than just a beautiful backdrop. Long before my academic journey began, I was deeply passionate about active nature conservation and protecting our fascinating species diversity. This early fascination eventually led me to Hamburg, where I completed my Bachelor's degree with a focus on Molecular Plant Science. Today, however, I no longer look at the complex web of nature solely through a botanical or ecological lens, but increasingly through the lens of global health.

As we mark the International Day for Biological Diversity on May 22 and World Environment Day on June 5, we are taking a closer look at this exact intersection in this issue. We will explore the intricate and often alarming relationship between the health of the planet's ecosystems and the infectious diseases that afflict us.

The takeaway from current data is as fascinating as it is sobering: genuine conservation is no longer just about preserving ecosystems; at its core, it is preventive medicine at a planetary scale.

I HOPE YOU FIND THIS READ INSIGHTFUL!
YOURS, MAXIMILIAN FÖRSTER

WHEN ECOSYSTEMS COLLAPSE, CLINICS FILL UP

HOW BIODIVERSITY LOSS IS RESHAPING THE LANDSCAPE OF INFECTIOUS DISEASE AND WHY CONSERVATION MAY BE THE BEST MEDICINE

In the spring of 2024, something unusual happened in France. For the second year running, locally transmitted dengue cases appeared; not imported by travelers returning from the tropics, but acquired right in the south of the country, where the Asian tiger mosquito *Aedes albopictus* had quietly established itself over the preceding decade. That same year, the WHO World Malaria Report documented 282 million malaria cases worldwide, nine million more than the year before, while the invasive mosquito species *Anopheles stephensi* was reported in nine African countries spreading urban malaria risk into cities that had never seen it. Meanwhile, in the Brazilian Amazon, a 13-year study had already shown that a 10 percent increase in deforestation led to a 3.3 percent rise in local malaria rates.

These are not isolated data points. They are threads in a much larger tapestry that scientists, public health officials, and increasingly also clinicians are learning to read: the intricate, sometimes counterintuitive, and often alarming relationship between the health of the planet's ecosystems and the diseases that afflict its human inhabitants. As we mark the International Day for Biological Diversity on May 22 and World Environment Day on June 5, it is worth pausing to examine this relationship; not with the fatalism of a crisis report, but with the critical eye of a clinician assessing both the pathology and the prognosis.

THE DILUTION EFFECT: WHEN NATURE ACTS AS A BUFFER

The idea that biodiversity might protect humans from infectious disease is neither new nor uncontested but the evidence supporting it has grown substantially in recent years. The central concept, known as the "dilution effect," was first formalized in the context of Lyme disease in the northeastern United States. In diverse ecosystems, ticks feed on many vertebrate hosts, most of which are poor reservoirs for *Borrelia burgdorferi*, the bacterium that causes Lyme disease. The white-footed mouse, by contrast, is an excellent reservoir; and it thrives in degraded, species-poor habitats. As biodiversity declines, the proportion of tick meals taken from highly competent hosts increases, and with it, disease transmission.

The principle has since been documented across a wide range of systems. In Central and South America, agricultural expansion reduces rodent diversity to a handful of generalist species, many of which happen to be excellent hosts for hantaviruses. In Southeast Asia, land-use change shifts the composition of mosquito communities, creating conditions that favor malaria-transmitting species. A landmark 2024 meta-analysis published in *Nature*, led by Jason Rohr and colleagues, analyzed nearly 3,000 observations across 1,497 host-parasite combinations and found that biodiversity loss was consistently associated with increases in disease-related endpoints.

Of all the global change drivers examined; climate change, chemical pollution, introduced species, urbanization; biodiversity loss emerged as one of the most potent disease amplifiers.

Yet the relationship is not a simple equation. A 2025 reappraisal published in *Ecology and Evolution*, using Lyme disease as a case study, cautioned that the dilution and amplification frameworks, as traditionally formulated, can resist falsification: a null result can be explained either as no effect or as opposing forces canceling each other out. The authors advocated for more mechanistic approaches; modeling biodiversity and disease risk as latent variables in causal frameworks rather than relying on net-effect correlations alone. This is an important nuance, and it reflects the maturation of a field that is moving beyond slogans toward precision.



CDC - Lyme Disease Surveillance Data

DEFORESTATION, SPILLOVER, AND THE PANDEMIC PIPELINE

If the dilution effect describes what happens when ecosystems degrade gradually, zoonotic spillover is its acute counterpart; the moment a pathogen leaps from an animal host into a human population. And the frequency of these events is accelerating. A 2023 study in *BMJ Global Health*, surveying data from 1963 to 2019, found that spillover events of well-reported zoonotic viruses have been increasing at a rate of nearly five percent per year. COVID-19, of course, was not included in that dataset.

The drivers are well-characterized. Deforestation displaces wildlife, forces species into closer proximity with humans and livestock, and creates the fragmented habitat edges where contact and transmission is most likely. The WHO estimates that over 75 percent of emerging infectious diseases are zoonotic in origin and frequently arise in areas where ecosystems have been disrupted by deforestation or land-use change. The evidence is not merely correlational. In the Brazilian Amazon, the link between forest loss and malaria has been demonstrated repeatedly: as trees fall, sunlit pools form, mosquitoes breed, and case counts climb.

A study spanning 795 municipalities over 13 years found that the early stages of deforestation; when forest edges are shifting most rapidly, showed the strongest effect on malaria outbreaks.

A January 2025 review in *Nature Reviews Biodiversity*, by Colin Carlson and colleagues, synthesized the evidence into a unified framework. The authors emphasized that biodiversity loss and disease emergence share common upstream drivers: deforestation, agricultural expansion, urbanization and that addressing these root causes, rather than treating individual outbreaks, represents the most cost-effective path to pandemic prevention. Their estimate, drawing on earlier work in *Science Advances*, suggests that investing an additional 22 to 31 billion US dollars annually in pandemic prevention through surveillance, habitat protection, and wildlife trade regulation would represent just two percent of the estimated cost of the COVID-19 pandemic.

CLIMATE CHANGE: THE AMPLIFIER

Layered on top of habitat destruction is climate change, which acts as a force multiplier for vector-borne diseases. Rising temperatures expand the geographic range of disease vectors, shorten pathogen incubation periods, and lengthen transmission seasons. The effects are already measurable. According to a 2023 study in *Biology Letters*, malaria-carrying *Anopheles* mosquitoes in Africa have been gaining an average of 6.5 meters of elevation per year and shifting their southern range limits poleward by 4.7 kilometers annually — a slow but relentless expansion that is bringing malaria risk to highland populations with no prior exposure and no acquired immunity.

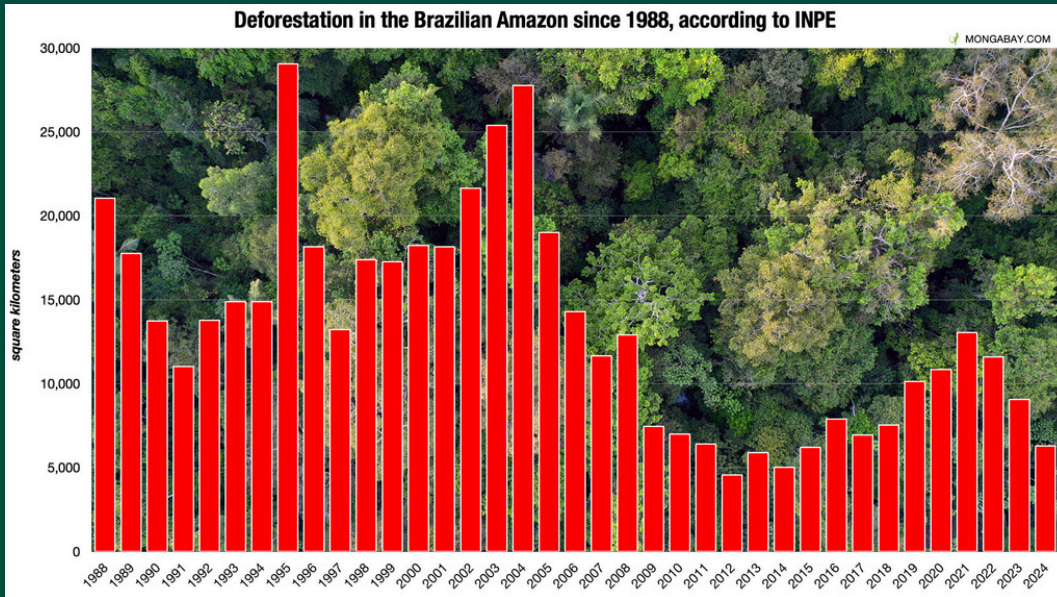
In Europe, the picture is similarly unsettling. Following heat waves in 2022, France recorded its highest-ever number of locally acquired dengue cases. West Nile virus outbreaks have followed heat events across southern Europe. In Canada, the tick species *Ixodes scapularis* — the primary vector for Lyme disease — is expanding northward as temperatures rise. A 2024 editorial in *Medical Science Monitor* noted that progress toward the WHO's 2025 malaria targets was off course by 55 percent, with climate change identified as a key factor alongside drug resistance, insecticide resistance, and funding shortfalls.

The 2025 WHO World Malaria Report paints a stark picture of these converging pressures. Globally, malaria killed an estimated 610,000 people in 2024, with 95 percent of deaths occurring in the WHO African Region and 75 percent of those more than 434,000 among children under five. As Peter Sands, Executive Director of the Global Fund, put it in his response to the report: when a child dies every minute from a preventable disease, it constitutes not just a health failure but a political, financial, and moral one. And the projections are not encouraging: early data for 2025 suggest further increases in cases and deaths.

THE OTHER SIDE OF THE LEDGER: CONSERVATION THAT WORKS

Against this sobering backdrop, there is genuine cause for measured optimism ... and this is where the story becomes relevant not only for epidemiologists but for anyone invested in the future of global health.

Start with deforestation. In Brazil, Amazon deforestation has fallen for four consecutive years. Official satellite data from INPE show that forest loss in the 12 months ending July 2025 dropped to 5,796 square kilometers; the lowest figure in 11 years and more than 55 percent below the recent peak. Burned areas also declined by 45 percent year-on-year. Satellite alerts extending into early 2026 suggest the downward trend is continuing, with Brazil's Environment Minister suggesting the country could achieve the lowest deforestation rate in its historical record.



At COP30 in Belém, the proposed 125-billion-dollar Tropical Forest Forever Facility aims to pay tropical countries to keep their forests standing — a direct financial incentive for ecosystem preservation.

Instituto Nacional de Pesquisas Espaciais

The biodiversity news, too, has bright spots. The IUCN's latest Red List update downlisted 20 species, most notably the green sea turtle, which moved from "endangered" to "least concern" after decades of conservation effort. The Yale Map of Life's 2025 Species Protection Report documented a six percent increase in land-based conservation efforts and a four percent increase at sea. In southern Africa, elephant populations have reversed their declines. Rhino poaching in Africa has been falling since 2021 and reached its lowest rate since 2011 in 2024, with a study in *Science* demonstrating a 78 percent reduction in poaching at reserves that dehorn their rhinos. In England, wild beavers gained formal legal protection for reintroduction in 2025. Przewalski's horses are being returned to the Central Asian steppe. European wildcats are breeding in Scotland. On the policy front, COP16 in Rome produced a commitment by 196 states to mobilize at least 200 billion dollars per year by 2030 for biodiversity conservation.

Nine tropical forest countries at COP30 pledged to recognize 160 million hectares of Indigenous land tenure significant because Indigenous-managed lands consistently show lower deforestation rates and higher biodiversity than surrounding areas. Colombia established a 1.1-million-hectare protected territory for uncontacted peoples. Suriname pledged to protect roughly 90 percent of its rainforests. New Zealand granted legal personhood to another mountain; the third natural landmark to receive this status. A 2025 study in *PLOS Biology*, led by researchers from Cambridge and the IUCN, found that conservation measures have contributed to genuine improvements in the status of threatened species: a clear signal that investment in conservation delivers measurable returns.

BIODIVERSITY AS MEDICINE: THE PHARMACOLOGICAL ARGUMENT

For clinicians, there is an additional dimension to the biodiversity crisis that deserves attention: the pharmaceutical one. An estimated 50 to 70 percent of all drugs in current clinical use are derived from or inspired by natural products. Artemisinin, the backbone of modern malaria treatment, comes from *Artemisia annua* a plant used in Chinese traditional medicine for centuries. The discovery of cyclosporine (from a soil fungus), taxol (from Pacific yew bark), and countless antibiotics (from soil bacteria) all depended on the existence of diverse ecosystems harboring diverse chemistry. The WHO's Global Centre for Traditional Medicine supports the documentation of knowledge systems that depend, fundamentally, on intact biodiversity.

Wild mammals alone harbour an estimated 320,000 undiscovered viruses, according to a widely cited estimate. Between 88 and 98 percent of fungal species remain unknown to science. This uncharted biological diversity represents not only a reservoir of potential pathogens but also a vast, largely untapped pharmacopoeia. Every species lost — every ecosystem simplified — narrows the chemical library from which future medicines might be drawn. In an era of rising antimicrobial resistance, when the pipeline of novel antibiotics is dangerously thin, this loss has direct clinical implications.

ONE HEALTH, PLANETARY HEALTH, AND THE CLINICIAN'S ROLE

The intellectual framework for understanding these connections already exists. The One Health approach — endorsed by the WHO, FAO, UNEP, and WOAHA — recognizes that human, animal, and environmental health are fundamentally interdependent. Planetary Health extends this further, situating human wellbeing within the broader context of Earth's natural systems. What has been lacking, until recently, is the political and financial architecture to operationalize these frameworks at scale.

There are signs of progress. The Kunming-Montreal Global Biodiversity Framework commits signatory nations to the "30 by 30" target: protecting 30 percent of the Earth's land and ocean by 2030. As of 2025, roughly 17.6 percent of land and less than 10 percent of oceans are formally protected; so the ambition is real but the gap remains wide. The High Seas Treaty, finalized in 2025, provides a legal mechanism for establishing marine protected areas in international waters. WHO has begun developing biodiversity-informed public health plans, integrating ecological data into disease surveillance and health system planning.

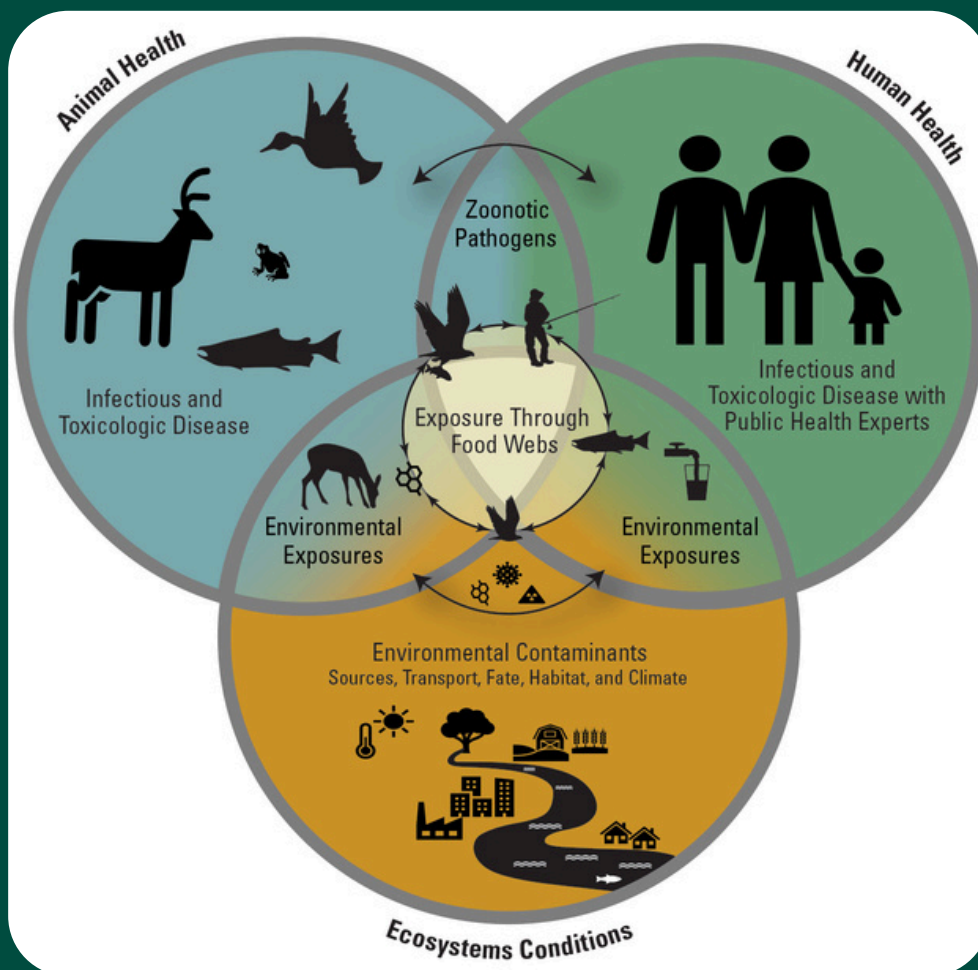
For clinicians and public health professionals, the implications are both theoretical and practical. Understanding that deforestation drives malaria transmission changes the calculus of intervention design. Recognizing that biodiversity loss amplifies the risk of zoonotic spillover reframes pandemic preparedness as, in part, a conservation issue. Appreciating that climate change is expanding the geographic range of vectors means that diseases once confined to the tropics must now feature in the differential diagnosis of febrile illness in temperate regions ... including, increasingly, in Europe.

A PROGNOSIS, NOT AN OBITUARY

The relationship between biodiversity and human health is complex, context-dependent, and still incompletely understood. The dilution effect is real but not universal. Deforestation drives disease, but the mechanisms vary by pathogen, vector, and landscape. Conservation works, but it requires sustained investment, political will, and **critically** the engagement of communities on the front lines.

What the evidence does support, with increasing clarity and force, is a core message: the health of ecosystems and the health of humans are not separate concerns. They are the same concern, viewed from different angles. Every hectare of forest protected is not only carbon stored and species preserved — it is also, potentially, a spillover event prevented, a disease outbreak averted, a child's fever that never spikes. Every species conserved is not only a victory for biodiversity — it is a chemical library kept open, a dilution host preserved, a buffer maintained.

As the global community marks both the International Day for Biological Diversity and World Environment Day this spring, the message for the health community is clear: conservation is not someone else's job. It is upstream public health. It is preventive medicine at planetary scale. And in an era when a child still dies of malaria every minute, when new zoonotic threats emerge with accelerating frequency, and when climate change is rewriting the geography of disease — it may be the most consequential intervention we have.



The "One Health" Approach at a Glance: This graphic illustrates the undeniable interconnection between human health, animal health, and environmental conditions. It maps how environmental factors, contaminants, and pathogens move through the ecosystem to eventually reach humans and wildlife—underscoring that preventive public health must always begin with protecting our shared environment.

TOPICS

Editors Choice

Myeloma in Sub-Saharan Africa

Events

- Global Clinical Survey on NTM-PD Launched
- Be-cause health 2026
- ESCMID Survey
- Utrecht Global Health Summer Series 2026



EDITORS CHOICE

Myeloma in Sub-Saharan Africa: An Under-Recognised Burden Comes Into Focus

A first-of-its-kind meta-analysis reveals stark survival disparities, diagnostic gaps, and a critical HIV-myeloma nexus

Why This Study Matters

Multiple myeloma ranks as the third most common haematological malignancy worldwide, yet its burden in Sub-Saharan Africa has remained largely invisible. Despite well-established evidence that Black populations carry a disproportionately higher risk of both MGUS and MM – with age-adjusted MGUS prevalence three times higher in Black Americans than in White Americans, and a striking familial odds ratio of 20.9 for MM in Black individuals versus 2.0 in Whites – epidemiological data from the continent with the world's largest Black population have been sparse and fragmented.

This systematic review and meta-analysis by Ojo and colleagues, published in *Tropical Medicine & International Health* in 2026, is the first to synthesise the evidence across 45 studies from 14 Sub-Saharan African countries, covering more than 22,000 patients.

KEY FINDING

Pooled MM prevalence in SSA	7.8% (95% CI: 5.6–10.4%) — 45 studies, >22,000 patients
Pooled MGUS prevalence	3.1% (95% CI: 0.8–12.0%) — likely underestimated due to diagnostic gaps
Mean survival (MM)	34.7 months; 1-year OS: 46.0%; 5-year OS: 20.7%
5-year survival comparison	SSA: 20.7% vs. USA (SEER): 55.6%
Late presentation (Stage III)	62.1% of patients diagnosed at advanced stage
HIV–MM prevalence	7.2% of MM patients were HIV-positive; in South Africa: 16.6%
HIV impact on survival	HIV+: 9.9 months vs. HIV–: 36.7 months
Renal failure at diagnosis	30.1% of MM patients (95% CI: 23.5–37.6%)
Regional MM burden (highest)	Southern Africa: 11.7%; Central Africa: 10.4%





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The HIV-Myeloma Nexus: A Tropical Medicine Priority

Perhaps the most clinically consequential finding concerns HIV. The pooled prevalence of MM among people living with HIV in SSA was 7.2%, rising to 16.6% in the South African subgroup. More strikingly, mean survival in HIV-positive MM patients was just 9.9 months – compared with 36.7 months in HIV-negative patients. HIV-driven immune dysregulation is known to accelerate plasma cell disorders and shift disease onset to younger ages, compounding both the clinical and socioeconomic burden in a region where an estimated 25.6 million people live with HIV. The authors note that no studies yet exist measuring MGUS prevalence specifically in HIV-positive cohorts, representing a critical gap: if HIV accelerates the MGUS-to-MM progression, early screening in PLHIV could offer a tangible intervention point – but only if diagnostic infrastructure exists to detect it.

A Survival Gap That Demands Action

The five-year overall survival of 20.7% in SSA stands in stark contrast to the 55.6% reported by the US SEER programme for 2016–2020. Behind this gap lies a cascade of systemic failures: 62.1% of patients present at Stage III disease; access to serum protein electrophoresis, immunofixation, and free light chain assays remains limited; cytogenetics and FISH are largely unavailable; and modern therapies including proteasome inhibitors, immunomodulatory drugs, and autologous stem cell transplantation are out of reach for most patients. Renal failure, present in 30.1% of patients at diagnosis, reflects both late presentation and the pre-existing renal vulnerability common in populations with high rates of hypertension, diabetes, and HIV-associated nephropathy. The study's conclusion is unequivocal: strengthening diagnostic infrastructure, implementing routine screening for at-risk populations, and improving access to contemporary therapies are urgently needed to close a survival gap that is, at its core, a gap in health equity.

NEWS



**NEGLECTED TROPICAL DISEASE
NGO NETWORK**

FESTMIH ANNOUNCES OFFICIAL ASSOCIATION WITH THE NNN NETWORK

FESTMIH continues to expand its international reach.

The organization has officially announced its association with the Neglected Tropical Disease NGO Network (NNN).

The NNN is a global forum comprising over 100 member organizations. Their shared mission is the control, elimination, and management of neglected tropical diseases (NTDs), aligned with the World Health Organization's (WHO) official NTD Roadmap.

Through this association, FESTMIH strengthens its commitment to global health. The partnership with the NNN facilitates enhanced technical exchange, joint advocacy, and a more powerful collective contribution from NGOs worldwide. Together, they aim to accelerate progress toward achieving global NTD targets.

For more information on the network's work, visit their official website.

ntd-ngonetwork.org



<https://www.festmih.eu/>



secretariat.festmih@gmail.com



GLOBAL CLINICAL SURVEY ON NTM-PD LAUNCHED - CALL FOR PARTICIPATION

FESTMIH is pleased to support the launch of the NTM-PD Global Clinical Survey. This study aims to capture a worldwide snapshot of how clinicians interpret and apply diagnostic criteria for Nontuberculous Mycobacterial Pulmonary Disease (NTM-PD) in diverse real-world settings.

Why Participate?

The survey seeks to bridge the gap between official guidelines and day-to-day clinical practice, exploring how factors like TB-burden and resource availability influence treatment decisions.

- **Target Audience:** All physicians (Pulmonologists, TB/ID specialists, GPs, etc.) managing patients with pulmonary NTM.
- **Recognition:** Contributors will be recognized through collaborative authorship in the resulting scientific paper.
- **Time Commitment:** Approximately 15-20 minutes (with an option to save and return).

Take Action

We encourage all eligible clinicians within the FESTMIH network to participate and share this invitation with colleagues. The survey is available in multiple languages and closes on March 28th, 2026.

- **English (EN):** [Complete the Survey](#)
- **French (FR):** [Répondre au questionnaire](#)
- **Spanish (ES):** [Completar la encuesta](#)
- **Arabic (AR):** [إكمال الاستبيان](#)
- **Russian (RU):** [Пройти опрос](#)

Lead Contact: Dr. Nityanand Jain (KU Leuven, Belgium) - [E-Mail](#)

BE-CAUSE HEALTH 2026 INTERNATIONAL CONFERENCE: "DO WE CARE?" CALL FOR ABSTRACTS



Join the Be-cause health hybrid conference on October 20, 2026 (Brussels & online) to address urgent challenges in global care systems and strengthen international cooperation. We invite the FESTMIH network to submit scientific abstracts or creative works across three thematic tracks:

- **Track 1: Commercialisation of Care:** The impact of private for-profit actors on health governance and access.
- **Track 2: Quality Without Borders:** Tackling global disparities to ensure equitable, just care for all.
- **Track 3: How Do We Care?:** Genuine patient-centered care, ethics, and meaningful community participation.

Submissions from LMIC colleagues, young professionals, and marginalized groups are strongly encouraged (limited travel grants available).

- **Deadline:** April 26, 2026
- **Date & Location:** October 20, 2026 | Egmont Palace, Brussels & Online

[Read the Concept
Note & Submit Here](#)





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EVENTS

AI IN CLINICAL MICROBIOLOGY (ESCMID SURVEY)

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If you have made it to this page, you have just spent time with stories about silent parasites and collapsing bee colonies, about children dying of preventable fevers and forests that protect us in ways we are only beginning to understand. You have read about survival gaps measured in decades and diagnostic tools that exist but never reach the patients who need them. And if, somewhere between the statistics and the science, you felt something - a quiet unease, a flicker of urgency, perhaps even a stubborn refusal to accept the status quo ... then this newsletter has done what it set out to do.

We live in a moment that can feel, to many of us, as though the world is coming apart. The headlines speak of retreating multilateralism, shrinking aid budgets, rising nationalism, and a political climate in which solidarity itself has become a contested idea. For those of us working in global health, whether in research, in clinics, in policy, or in the field; the ground beneath our feet can feel less stable than it did a decade ago. It would be understandable to feel powerless.

But this newsletter, and the community that produces it, tells a different story. It tells the story of a cardiologist in Barcelona who has spent twenty years bridging two disciplines because she believes Chagas patients deserve better. Of a clinician in sub-Saharan Africa documenting the blind spots in malaria care so that others might see them. Of researchers in Leeds and Ibadan pooling data from fourteen countries to make visible a cancer that has been invisible for too long. Of scientists and citizens, from Belém to Brussels, who refuse to accept that biodiversity loss is someone else's problem.

None of these people changed the world alone. But each of them changed something. A protocol, a dataset, a patient's trajectory, a conversation. And that is perhaps the most honest message we can offer as this edition draws to a close: the world does not need you to fix everything. It needs you to fix the thing you can see.

We would like to express our heartfelt thanks to everyone who made this edition possible. To Dr. Ana García Álvarez, for her generous and deeply personal reflections on two decades of Chagas disease care. To Dr. R. Wandia Maina, for an article that combines clinical rigour with a clear-eyed view of where the malaria fight must go next. To Dr. Kerstin La Roche, for bringing the often-overlooked dimension of occupational health into our pages with both expertise and conviction. And, as always, to Dr. Sophie Schneitler, whose editorial eye, steady reliability, and tireless engagement continue to be the backbone of this publication. This newsletter would not be what it is without her.

As we look ahead to the coming months, we want to leave you with an invitation that is also a conviction: global health is not built in summit halls or funding cycles alone. It is built in the choices we make every day. The question we ask at the bedside, the paper we choose to read, the colleague we encourage, the student we mentor, the conversation we start even when we are tired. It is built, above all, by people who show up.

This newsletter exists because you show up. And for that, we are deeply grateful.

With warmth, gratitude, and the stubborn belief that this work matters,

Maximilian Förster

on behalf of the FESTMIH Newsletter Team