



Webinar Report

**Bridging One Health
horizons: Foodborne
and Waterborne
Diseases in a
Changing World**

27th March 2025

Event code W71 OH

www.id-alliance.org/

 **IDA**
Infectious Disease Alliance

About this report

This report presents the key findings and discussions from the webinar "Bridging One Health horizons: Foodborne and Waterborne Diseases in a Changing World," organized by the Infectious Disease Alliance (IDA) on March 27, 2025. The webinar brought together leading experts in the field of global health, infectious diseases, and public policy to explore innovative solutions for the mitigation of impact of food and waterborne diseases, including the need of funding, hygiene and prevention, and community-driven social interventions.

The event featured presentations by Dr. Omar Sultan on Foodborne and waterborne diseases in a changing world, Dr. Charles Akataobi Michael on exploring the Climate Change Nexus with Food and Waterborne Diseases in a Changing World, Dr. Carmen Varela Santos on European perspective of One Health and Dr. Victor Enejoh Daniel on LMIC perspective of One Health. A moderated Q&A session allowed participants to engage with the speakers, addressing critical challenges and potential solutions.

This report is structured to reflect the key themes discussed in the webinar. It provides an overview of the webinar's objectives, speakers, and structure and summarizes the key discussions and findings from the presentations. Last, it highlights engagement metrics, outlines the main takeaways, and presents actionable recommendations for policymakers, researchers, and stakeholders involved in global health initiatives. This report aims to serve as a resource for stakeholders committed to advancing innovative approaches in the fight against food and waterborne diseases.

This webinar report was compiled by:
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Background on One Health, Food and Waterborne diseases

Foodborne and waterborne diseases remain significant global public health threats, exacerbated by climate change, global trade, urbanization, and antimicrobial resistance. These challenges highlight the urgent need for enhanced detection, prevention, and response strategies to safeguard communities and ensure resilient health systems. Despite advancements in food and water safety, outbreaks continue to occur, underscoring the need for coordinated efforts across disciplines and sectors.

By sharing knowledge, fostering collaboration, and advancing One Health solutions, we can strengthen food and water safety, mitigate public health risks, and build more resilient systems to protect human and animal populations alike.

Introduction

On March 27, 2025, the Infectious Disease Alliance (IDA) hosted a webinar titled "Bridging One Health horizons: Foodborne and Waterborne Diseases in a Changing World". The event featured leading experts who shared their insights on strategies to mitigate the impact of foodborne and waterborne diseases and contribute to safe food and water systems. The webinar aimed to highlight innovative approaches and promote collaborations to accelerate progress in the fight against food and waterborne diseases.

Registered
webinar
attendees

36



Geographical
reach

Asia
Africa
Europe
&
America



Total
webinar
attendees

24



The objective of this webinar

To bring together global health experts, researchers, and policymakers to discuss innovative strategies for the mitigation of the impact of food and waterborne diseases.

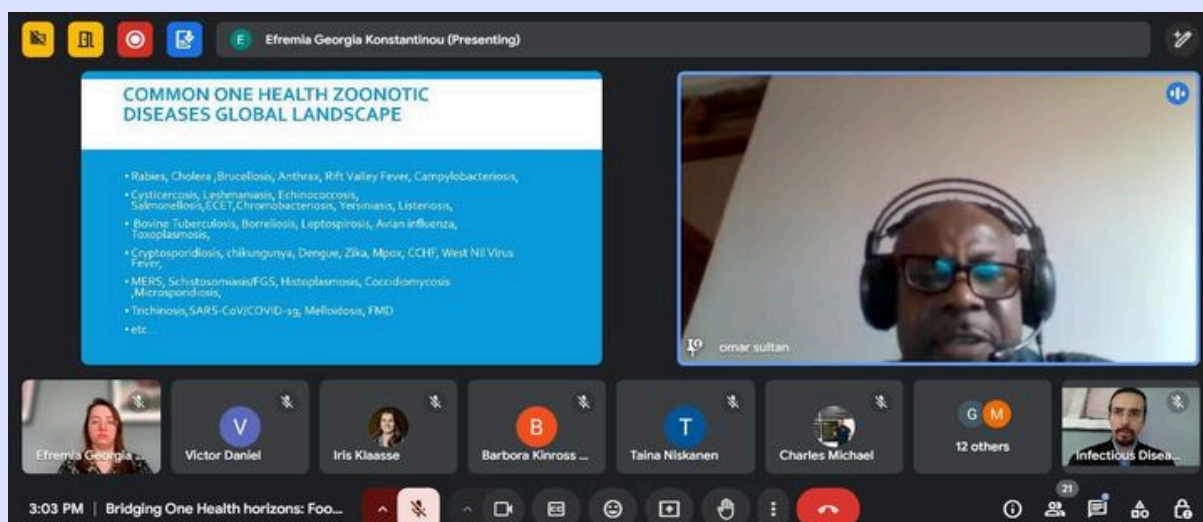
The webinar aimed to:

- Increase awareness about the One Health approach in foodborne and waterborne illnesses and strategies for outbreak management.
- Promote participation from professionals, academics, and policymakers across the world.
- Highlight innovative approaches to food and water safety through strategic messaging.

Through expert presentations and an interactive Q&A session, the webinar sought to facilitate knowledge-sharing, promote evidence-based solutions, and encourage actionable commitments to tackle food and waterborne infections effectively.

Key speakers & topics

- **Dr. Omar Sultan:** Foodborne and waterborne diseases in a changing world
- **Dr. Charles Akataobi Michael:** Exploring the Climate Change Nexus with Food and Waterborne Diseases in a Changing World
- **Dr. Carmen Varela Santos:** One Health: a European perspective
- **Dr. Victor Enejoh Daniel:** Bridging One Health horizons: Foodborne and Waterborne Diseases in a Changing World: A LMIC perspective



Summary & key takeaways of the webinar

Dr. Omar Sultan (Prof. at ZAHRI and Technical Advisor, WHO) - Foodborne and waterborne diseases in a changing world

The presentation focuses on the critical role of food and water safety in achieving the Sustainable Development Goals (SDGs), highlighting the growing threats posed by environmental degradation, conflict, climate change, and societal behaviors. While various regional and international One Health initiatives exist, their implementation strength varies. The burden of zoonotic diseases, including rabies, cholera, brucellosis, and Rift Valley Fever, remains significant, with past crises such as cholera outbreaks in Africa, oil spills, and food-related incidents in Europe illustrating the urgency of the issue. Challenges include structural barriers like regulatory gaps, overlapping responsibilities, and surveillance deficiencies, as well as technical limitations such as inadequate coordination, underfunded health systems, and lack of innovation. To address these issues, the presentation recommends establishing dedicated One Health ministries, enforcing regulations, harmonizing food and water safety frameworks, and increasing community engagement, funding, research, and cross-sector collaboration to enhance global food and water security.

GLOBAL CHALLENGES

- Water/Food contamination, Water/Food safety, agribusiness crops safety/agribusiness inter-countries conflicts
 - Conflicts between farmers/herders, miners/farmers, miners/environmentalists, mining/livestock < food/water safety
 - Environmental Ecosystems and Water Sources Protection and Conservation against development
 - Human/Animal Populations Growth and Migrations, Climate Change/Climate Crisis, Conflicts, Water Crisis, Pollution, Sanitation Crisis, Mining, Farming, Industrialization, Urbanization
 - High Food safety and water safety costs
 - Multiple diseases outbreaks (food borne/water borne/airborne/vector borne, etc...)
 - Burden of diseases wide with some diseases not clearly/insufficiently described/understood and several diseases neglected by policy makers
- (many remain undeclared/silently declared outbreaks of food borne and waterborne diseases in several countries:
- Surveillance /Inspection/diseases transmission dynamics/genomics/environmental/Animal Reservoir data limitations (Real Time Collection/sharing before outbreaks preparedness/response planning)
- Overlapping/interfering/Duplication/conflicts of interest (laws/regulators/actors, etc...)

Dr. Charles Akataobi Michael (Senior Technical Officer, Africa CDC)- Exploring the Climate Change Nexus with Food and Waterborne Diseases in a Changing World

The presentation focuses on how climate change exacerbates disease outbreaks in Africa, disproportionately affecting the continent despite its minimal contribution to global emissions. Vulnerable due to poor socioeconomic conditions and weak health systems, Africa experiences a high prevalence of climate-sensitive diseases, including vector-borne (e.g., malaria, dengue), water/food-borne (e.g., cholera, salmonella), and airborne illnesses. From 2001 to 2021, 56% of Africa's public health events were climate-related, with women, children, the elderly, and individuals with preexisting conditions being the most affected. To mitigate these impacts, the presentation emphasizes the importance of a One Health approach that integrates human, animal, and environmental health, alongside strengthened surveillance, early warning systems, and adaptive capacity-building to enhance resilience against climate-induced health emergencies.

Food and Water are great medium for Climate Change's Impact on Health



I. Agriculture & Food Security

- **Current:** Vulnerable to climate impacts, affecting nutrition and food safety
- **Improvements:** Increase resilience in agricultural practices and integrate health outcomes in food security strategies

II. Water, Sanitation, & Hygiene (WASH)

- **Current:** Climate variability exacerbates water scarcity and sanitation issues, leading to diseases
- **Improvements:** Enhance climate-adaptive WASH infrastructure and expand health

Dr. Carmen Varela Santos (Principle Expert for One Health in the Disease Programmes, ECDC) - One Health: a European perspective

The presentation focuses on how the European Centre for Disease Prevention and Control (ECDC) is institutionalizing the One Health approach through strengthened legal frameworks, cross-agency collaboration, and digital innovation. The agency's mandate was expanded under EU regulation (2022/2371) to enhance surveillance, modeling, preparedness, and health system capacity, with a particular focus on serious cross-border health threats. Digital transformation is a key pillar, incorporating AI-driven real-time surveillance and the EU Health Task Force to improve outbreak response. One Health is embedded in regulation, with Article 5 requiring ECDC to assess disease risks by integrating climatic, social, economic, and environmental factors, emphasizing zoonotic, food-, and waterborne diseases. Collaboration across agencies, including ECDC, EFSA, EMA, ECHA, and EEA, targets key issues like antimicrobial resistance and fungal pathogen risks. A Cross-Agency One Health Task Force, established after COVID-19, aims to ensure long-term coordination, collaboration, communication, and capacity-building, aligning with the 2024 One Health Framework for Action. Governance and policy integration efforts are ongoing, with an evolving roadmap (2022–2026) to embed lasting One Health strategies at both EU and Member State levels, strengthening Europe's resilience against future health crises.

One Health Strategic objectives for ECDC



1	One Health collaboration and coordination mechanism between relevant EU agencies established (ECDC, EFSA, EMA, EEA, ECHA)
2	One Health EU-wide research and development agenda aiming to close knowledge gaps (AMR, zoonoses, effects of climate change on infectious diseases...) developed
3	Joint risk assessment and scientific advice in collaboration between EU agencies implemented
4	One Health intersectoral coordination mechanism established at national level in all Member States facilitating communication and collaboration across sectors (for prevention, preparedness and response to emergency health crises)
5	One Health intersectoral integrated surveillance and early warning systems established at national level in all Member States
6	One Health capabilities and workforce competences at EU/EEA and Member State level enabling One Health collaboration and crisis response built and strengthened

Dr. Victor Enejoh Daniel (Global Health Advisory Board Member, CABI) - Bridging One Health horizons: Foodborne and Waterborne Diseases in a Changing World: A LMIC perspective

The presentation focuses on Nigeria's public health challenges related to food and waterborne diseases, which cause 200,000 deaths annually and cost the country \$3 billion. Endemic diseases like cholera and typhoid are exacerbated by climate change, as increased floods and droughts worsen contamination and limit access to clean water, while rising temperatures accelerate bacterial growth, such as Salmonella. Challenges include inadequate sanitation, with 23% of the population practicing open defecation, as well as poor disease surveillance and underreporting, particularly in rural areas. Progress has been made through surveillance tools like SORMAS, community education initiatives from organizations like WaterAid, and food safety committees targeting contamination hotspots. To strengthen resilience, the presentation recommends enforcing stricter food safety laws such as HACCP, increasing health system investments to 10% of GDP, training health workers, and establishing regional task forces to enhance response and prevention efforts.

Key Challenges and Gaps in Nigeria	
Challenges	Details
1 Surveillance and Detection Limitations	<ul style="list-style-type: none">• Nigeria lacks a comprehensive national surveillance system for foodborne diseases, leading to significant underreporting and delayed responses• For instance, diseases like <i>Vibrio parahaemolyticus</i> in African salads are underestimated due to inadequate diagnostic tools and limited laboratory capacity• Sporadic waterborne disease tracking further hampers timely outbreak identification, as seen with cholera underreporting in rural areas
2 Resource Constraints in LMICs	<ul style="list-style-type: none">• Limited funding restricts infrastructure development, such as water treatment plants and sanitation systems, with only 4% of Nigeria's GDP allocated to health• Human resources are strained, with just 0.4 physicians per 1,000 people, and rural areas lack trained personnel for disease monitoring and response
3 Policy and Implementation Gaps	<ul style="list-style-type: none">• Weak legislative frameworks fail to enforce food safety standards, with fragmented regulations across agencies like NAFDAC and SON• Implementation is hindered by bureaucratic inefficiencies, lack of accountability, and poor coordination between federal and state levels, delaying interventions like sanitation upgrades and public health campaigns

Plan for continued engagement

- **Follow-up communication:** Share a post-event package with participants, including the event report, recording, and next steps.
- **Stakeholder network development:** Establish a platform for continued dialogue and collaboration among participants.
- **Periodic webinars and workshops:** Organize follow-up events to monitor progress and explore new innovations in addressing food and waterborne infections.
- **Annual convening:** Build momentum for an annual event to evaluate progress and share best practices in combating food and waterborne diseases.

Call to Action to mitigate the impact of food and water borne diseases

Dear Global Health advocates, leaders and organizations,

We stand at a critical juncture in the fight against foodborne and waterborne diseases, where a One Health approach is essential to safeguarding global health. Foodborne and waterborne illnesses account for significant morbidity and mortality worldwide, disproportionately affecting low- and middle-income countries. Factors like extreme weather, unsustainable agricultural practices, and gaps in water sanitation have exacerbated disease incidence. The One Health framework, linking human, animal, and environmental health, provides a comprehensive pathway for addressing these interconnected issues.

The Crisis at Hand

The world is facing an unprecedented rise in foodborne and waterborne diseases due to climate change, urbanization, and increasing antimicrobial resistance (AMR). Contaminated food and water account for millions of illnesses and deaths annually, particularly in vulnerable communities. Flooding, extreme weather events, and weakened sanitation systems are accelerating the spread of pathogens, putting global health at risk.

The Consequences of Inaction

Failure to act now will have severe repercussions:

- Rising outbreaks of cholera, salmonellosis, and other life-threatening infections.
- Strained healthcare systems unable to manage surging cases, leading to preventable deaths.
- Economic burden from lost productivity, food insecurity, and medical costs.
- Global ripple effects, with diseases spreading across borders due to increased travel and trade.

Why This Matters for Global Health Security

Foodborne and waterborne diseases are not just local concerns—they are global threats. A failure to contain outbreaks could fuel the next pandemic, jeopardizing international stability. Investing in One Health solutions strengthens disease surveillance, promotes cross-sector collaboration, and ensures safer food and water supplies worldwide.

IDA's Call to Action

We call on governments, health organizations, scientists, industry leaders, and civil society to take urgent steps:

- **Governments & Policymakers:**
 - Strengthen food safety regulations and enforcement to prevent contamination at all levels of the food supply chain.
 - Invest in water sanitation infrastructure to ensure access to clean drinking water and improved hygiene.
 - Support global disease surveillance systems to detect and contain outbreaks early.
- **Healthcare & Public Health Organizations:**
 - Improve diagnostics and treatment protocols for foodborne and waterborne infections.
 - Expand public awareness campaigns on food safety, hygiene, and the dangers of antimicrobial resistance.
 - Collaborate with international partners on One Health research and intervention programs.
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- **Agricultural & Food Industry Leaders:**

- Implement strict hygiene standards in food production and processing.
- Reduce the misuse of antibiotics in livestock and agriculture to curb antimicrobial resistance.
- Invest in sustainable and resilient food systems to adapt to climate change.

- **Researchers & Scientists:**

- Develop new technologies for rapid pathogen detection in food and water.
- Study the impact of climate change on disease transmission and propose mitigation strategies.
- Innovate safer food preservation methods to minimize contamination risks.

- **Civil Society & Global Citizens:**

- Demand policy action from governments to ensure food and water safety.
- Support and advocate for organizations working on foodborne and waterborne disease prevention.
- Adopt safe food handling practices and advocate for clean water access in local communities.
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Time is Running Out.

Act Now!

The cost of inaction is too high. Immediate action is essential to protect public health, food security, and global stability. Join us in our fight against foodborne and waterborne diseases—**sign the call to action, advocate for policy change, and participate in IDA's upcoming webinar.**

Join us in demanding urgent action. Sign this call to action and help us protect the world's most vulnerable populations from preventable diseases.

[Click here to sign the Call to Action](#)

[Click here to watch the webinar recording](#)

The IDA thanks all speakers, participants, and partners for their contributions to this insightful discussion. By working together, we can drive meaningful change in global health and combat food and waterborne infections.