Full Report on the 1st ODIN Webinar

The webinar *"Utilising Environmental Surveillance to Advance Public Health Action in Africa: The ODIN Wastewater Surveillance Project Experience"* was held on **4 December 2025**, from **1:00 pm to 2:45 pm (UK time)**, with a total duration of **105 minutes**. The event was organised by the **ODIN Knowledge Hub of The Global Health Network (TGHN), University of Oxford (ODIN WP7).**

The session was chaired by **Dr Paul Kingpriest**, Scientific Lead for the ODIN Project and Research Project Coordinator at The Global Health Network. It brought together researchers, laboratory scientists, policymakers, and public health practitioners from across Africa, Europe, Asia, and the Americas to discuss the objectives, structure, and implementation of the ODIN Consortium and its contribution to strengthening pathogen surveillance systems.

Opening Remarks and Webinar Overview

In his opening remarks, Dr Kingpriest welcomed participants from around the world and outlined the purpose of the webinar: to provide a comprehensive overview of the ODIN Consortium and its work in advancing surveillance for priority pathogens across human, animal, and environmental health sectors. He introduced ODIN as a collaborative initiative focused on innovation in genomic surveillance, capacity strengthening, data integration, and sustainability in resource-limited settings.

He highlighted that the webinar would address both technical and operational components of the project, including mobile laboratory deployment, metagenomics, wastewater surveillance, bioinformatics, and priority pathogen selection. Participants were encouraged to engage actively through the Q&A and chat functions.

Administrative guidance was provided, confirming that the webinar was being recorded and would be made available on the **ODIN Knowledge Hub** and **TGHN YouTube channel**. Live captioning was enabled to support accessibility, and participants were informed of webinar protocols due to the high number of attendees.

Attendance and Reach

The webinar attracted **316 registrants** and **130 live attendees** from **64 countries**, demonstrating strong global interest in environmental and genomic surveillance approaches.

Metric	**Number**
Total registrants	316
Live attendees	130
Countries represented	64

Registrations via TGHN newsletter	171
Partner dissemination	57
TGHN social media	73

Technical Presentations

Professor Rolf Lood (Coordinator, ODIN & ODIN-Mpox; Lund University, Sweden) opened the technical session by presenting ODIN as a long-term investment in sustainable, Africa-led genomic surveillance. He emphasised that ODIN was developed in response to real-world outbreak response challenges, including fragmented systems, limited equipment access, weak coordination, and insufficient training. He outlined ODIN's operational strategy, including mobile laboratories, harmonised workflows, standardised protocols, integrated bioinformatics pipelines, and data-sharing frameworks, positioning ODIN as a platform designed for continuity, country ownership, and resilience.

Dr Evodie Ngelesi (Department of Tropical Medicine, University of Kinshasa) presented the experience of the ODIN Consortium operating within the challenging political and operational context of the Democratic Republic of Congo. She highlighted how strategic partnerships, local engagement, and adaptive planning have been essential to advancing the project. She also described how the ODIN-Mpox wastewater surveillance initiative has been integrated into the broader ODIN Consortium activities to strengthen coordinated surveillance and response efforts.

Professor Tarja Pitkänen (Finnish Institute for Health and Welfare and University of Helsinki) presented environmental surveillance activities under ODIN WP2 and ODIN-Mpox WP3 across **Tanzania, Burkina Faso, and the Democratic Republic of Congo**. She described country-led pathogen prioritisation, sampling across sewered and non-sewered systems, and the development of harmonised surveillance protocols. Over **300 environmental samples** were collected between January and September 2025, supported by the ODIN Laboratory Handbook and its mpox-specific amendment.

During the first Q&A session, participants raised questions on sustainability, government ownership, and integration with national surveillance systems. Discussions highlighted ongoing engagement with ministries and opportunities to align wastewater surveillance with existing polio surveillance and public health response frameworks.

Dr Adriana Krolicka (NORCE, Norway) presented the design and deployment of the ODIN mobile laboratory system, highlighting its modular structure, field-based sequencing capacity, and role in training researchers. A deployment in Dar es Salaam generated approximately **70 metagenomes** and supported the training of **25 researchers from four countries**, demonstrating the feasibility of real-time, decentralised genomic surveillance.

Dr Vito Baraka (National Institute for Medical Research, Tanzania) discussed institutional capacity strengthening across participating countries. He outlined persistent challenges, including fragmented governance, limited bioinformatics capacity, and reliance on short-term funding. He described a multilayered capacity development approach spanning sampling, diagnostics, genomics, and postgraduate bioinformatics training, including support for **four master's-level trainees** from national public health institutes.

Dr Sakina Bombaywala (VIB and University of Kent) presented ODIN's bioinformatics infrastructure, describing scalable, automated pipelines for metagenomics, whole-genome sequencing, and viral genomics. She highlighted FAIR data principles, quality control, reproducibility, and interactive dashboards designed to support both technical analysis and decision-making.

Dr Marc Christian Tahita (Clinical Research Unit of Nanoro, Burkina Faso) discussed integrating wastewater surveillance into **Water Safety Plans (WSP)** and **Sanitation Safety Plans (SSP)**. He demonstrated how wastewater surveillance enhances early detection, population-level monitoring, and quantitative microbial risk assessment, while also outlining governance and implementation challenges.

Dr Fadima Yaya Bocoum (CNRST/IRSS, Burkina Faso) concluded the technical session with an economic analysis of wastewater surveillance. She presented an ingredient-based costing approach from a government perspective, focusing on implementation costs, cost drivers, and scalability, and highlighted the importance of generating transferable costing evidence for policy decision-making.

Closing Remarks

In closing, the host thanked all speakers and participants and acknowledged funding support from the **European Commission under Horizon Europe** and **Global Health EDCTP3**. Participants were encouraged to access the webinar recording and materials via the ODIN Knowledge Hub, complete the post-webinar feedback survey, and engage with ODIN investigators for future collaboration. The session concluded with strong participant feedback, highlighting interest in scaling the ODIN model to additional countries and strengthening linkages between laboratory surveillance and public health response systems.

Webinar recording: https://www.youtube.com/watch?v=Jh1FAbWnr4o