

INTEGRATING THE ENVIRONMENT INTO ONE HEALTH

PARALLEL SESSION AT THE SEVENTH MINISTERIAL CONFERENCE ON ENVIRONMENT AND HEALTH

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The Seventh Ministerial Conference on Environment and Health was held in Budapest, Hungary, from 5 to 7 July 2023 under the European Environment and Health Process (EHP). The event was organized by the World Health Organization (WHO) Regional Office for Europe, in partnership with the United Nations Economic Commission for Europe (UNECE) and the United Nations Environment Programme (UNEP). The conference focused on the health impacts of the triple planetary crisis of climate change, environmental pollution, and biodiversity loss and land degradation, and was hosted by the President of Hungary, Ms Katalin Novák.

Antimicrobial resistance (AMR) represents a significant threat to human, animal, plant, food, and environmental health. During the conference, a session on 'Integrating the Environment into One Health' was held to discuss AMR, highlight links between the health of humans, animals, plants and the environment, and emphasize the importance of a One Health approach to address AMR. Moderated by Dr Arnold Kreilhuber, Director and Regional Representative, UNEP, panelists shared their experience in addressing AMR using a One-Health approach and why integrating environmental factors into the AMR response is so critical.

- Dr Tamas Pandics, Director General, National Public Health Center, Hungary, provided an overview of the Hungarian experience with AMR and its One Health approach. The existing challenges include a high and increasing AMR burden, low awareness of AMR, lack of dedicated training, a high proportion of broad-spectrum antibiotic use and poor prescription habits in outpatient care, high antibiotic use in the veterinary sector, a lack of monitoring and data, and no specific regulations for hospital wastewater management and low cross-sectoral cooperation. Initial steps taken to tackle AMR include environmental surveillance, pilot surveillance in surface water (antibiotic residues and AMR) and research on wildlife. Efforts are also being made to increase cooperation between sectors, integrate AMR and One Health into the curricula of healthcare and veterinary students, and awareness campaigns for general practitioners and the public. Future directions include introduction of wastewater monitoring for AMR, hospital wastewater management guidelines and emission standards, and better understanding of the role of wastewater reuse and manure application.
- Sinaia Netanyahu, WHO European Centre for Environment and Health, discussed the role of the environment in the development and spread of AMR. The environment acts as a reservoir where substances and nutrients (organisms, pathogens, ARM genes, and chemicals) are accumulated and transported. The environment also hosts natural ecological processes that provide ecosystem services to humans, including those essential for human health. These processes drive evolution of pathogens, resistant microbes, and AMR genes. The environment is also a health mediator and induces positive/negative effects on animal and human health, depending on the health condition of the environment itself. This includes effects on the immune system of animals and humans that drives the rate of pathogen shedding and transfer.

Environmental stressors like land use change, biodiversity loss, climate change and environmental pollution (in air, water and soil) are “threat multipliers” and exacerbate the health effects of animal-mediated diseases.

- Danilo Lo Fo Wong, WHO EURO, presented lessons learned from the Tripartite collaboration to develop national AMR action plans supported by country missions and workshops. He highlighted the Regional One Health Coordination Mechanism for Europe and Central Asia (OHCM) to support the One Health Joint Plan of Action in the region. He also flagged an AMR roadmap in development that will set the direction for the region. The roadmap will be driven by guiding principles of applying a One Health lens and health systems perspective, people-centric approaches, and partnership, and will contribute to the operationalization of the One Health Joint Plan of Action at the regional level.
- Chadia Wannous, World Organisation for Animal Health (WOAH), provided a brief on the status of One Health at the global level and the work of the Quadripartite. She presented the One Health Joint Plan of Action and highlighted Action Track 6, Integrating the environment into One Health, which has the objective of protecting and restoring biodiversity, and preventing the degradation of natural resources and the wider environment to promote the health of people, animals, plants, and ecosystems underpinning sustainable development. She emphasized that protecting ecosystems has a key value for health, and every form of environmental degradation has direct or indirect negative consequences for human and animal health. The Quadripartite is currently working on an implementation guide for the One Health Joint Plan of Action that will be finalized and launched in late 2023.
- Wondwosen Asnake Kibret, UNEP Europe, [discussed](#) the environmental dimensions of AMR and the recent UNEP [report](#) *‘Bracing for Superbugs: Strengthening environmental action in the One Health response to antimicrobial resistance’* which was launched at the 6th meeting of the Global Leaders Group on AMR in February 2023. Based on the UNEP report, he highlighted that three economic sectors and their value chains are potential drivers of AMR development and spread in the environment: pharmaceuticals and other chemical manufacturing, agriculture and food production, and healthcare systems. Several priority actions can help mitigate environmental AMR, including enhancing environmental governance, planning and regulatory frameworks to improve reporting, and surveillance and monitoring to identifying and target priority AMR relevant pollutants. AMR is also linked to the triple planetary crisis of climate change, biodiversity loss, pollution and waste, all of which are driven by human activity.
- Sigrid Weiland, European Commission, Director General Health and Food Safety, discussed the recently approved Council Recommendation to combat AMR, which strengthens EU action on AMR in the fields of human, animal and environmental health, including targets to reduce 20% reduction in total human consumption of antibiotics by 2030 and a to reduce overall EU sales of antimicrobials used for farm animals and aquaculture by 50%.
- Dr Jean Pierre Nyemazi, Quadripartite Joint Secretariat, shared an overview of the work of the Global Leaders Group on AMR, which was established to strengthen political momentum and leadership on AMR globally. He presented the GLG's key priority areas of work, including the environmental dimensions of AMR, and the GLG's suggested areas for bold and concrete commitments at the high-level meeting on AMR in 2024.

The proposed areas of focus by the GLG for the forthcoming AMR HLM include: effective and transformed human health, agri-food and animal health systems; measures to reduce misuse and overuse of antimicrobials; ensuring an adequately financed NAPs, research and development pipeline for new antibiotics and equitable access to them; more accountable global and national governance; AMR addressed as part of biodiversity and climate solutions; the strong link between AMR and PPR and effective implementation of the WHO pandemic accord; robust sector-specific and integrated AMR/U surveillance systems; enhanced information sharing for action in all sectors and targets.

The event concluded with a call to urgently address the environmental dimensions of AMR by supporting measures to minimize releases of antimicrobials, residues, resistant microorganisms and genes into the environment, integration of environmental aspects into AMR national action plans, and integration of AMR into climate action to build resilience to both and increase political advocacy and financing.

The Ministerial Conference adopted a [declaration](#) and a roadmap for healthier people, a thriving planet and a sustainable future 2023–2030. It called for the integration of nature and biodiversity in environment and health policies, and strengthening the integration of the environmental dimension in the implementation of the One Health approach; **addressing the environmental dimension of AMR** by supporting measures to minimize releases of antimicrobials, residues, resistant microorganisms and genes into the environment, as well as by **addressing environmental aspects in AMR national action plans**.

