

Brief on climate, health equity and antimicrobial resistance in East and Southern Africa



Regional Network for Equity in Health in east and southern Africa (EQUINET) through TalkAB^{MR} with Training and Research Support Centre June 2026

Background

Climate justice and equity, is an urgent issue for communities, countries, and the region, and intersects with, impacts on and is intensified by other areas of inequality that the Regional Network for Equity in Health in east and southern Africa (EQUINET) is focused on. Given this, EQUINET is sharing knowledge, experiences and learning on health equity impacts of climate in [webinars on various areas of health equity](#). The webinars include voices and expertise at community, local, national and regional levels within East and Southern Africa (ESA), as well as from global level actors to better understand the health equity impact of climate trends, the intersect with the other drivers/ determinants of inequity, and the implications for policy, research and action that links climate to health equity.

The ninth webinar and this brief from it focuses on the interplay between antimicrobial resistance, health equity and climate. Antimicrobial/antibiotic resistance (AMR/ABR) has reached significant levels in all regions, including Africa, and is a significant threat to public health. Although considered the 'silent' pandemic, its impact is immense, threatening to reverse decades of gains in human, animal and environmental health, agriculture, and sustainable development. Without urgent, collective and coordinated national, regional and global action, AMR could reduce global average life expectancy by 1.8 years within a decade, cause up to 39 million deaths by 2050, push annual global treatment costs and productivity losses to US\$ 412 billion and US\$ 443 billion respectively by 2035. Vulnerable populations, especially those in Africa, bear a disproportionate burden.

The webinar on climate, health equity and antimicrobial resistance in East and Southern Africa (ESA) held on 2nd June 2026 hosted by TalkAB^{MR} with TARSC explored the inequalities in and intersecting impacts in AMR, health and climate change through voices, experiences and evidence from local, national and international level, with participant discussions on how we can act and build co-benefit between action on AMR, climate responses and health equity in ESA and globally. The webinar involved 35 participants and was moderated by Dr Connie Walyaro - TalkAB^{MR}, International Society for Infectious Diseases, WHO CSO Task Force on Equity and AMR and EQUINET Steering Committee member, with technical support provided by Belinda Ncube - TARSC consultant. Three panellists explored the issues from local, national and regional/global level respectively: Dr. Esmita Charani - CoLead CAMO NET South Africa; Associate Professor University of Cape Town, Adjunct Professor, Amrita Institute of Medical Sciences, Kochi; Prof Samuel Kariuki, Continental Lead Africa and Eastern Africa Director, Drugs for Neglected Diseases initiative and WHO Strategic Advisory Group on AMR and Prof Sabiha Essack, South African Research Chair in Antibiotic Resistance and One Health, Professor in Pharmaceutical Sciences, University of KwaZulu-Natal and member, WHO Strategic Advisory Group on AMR. The presentations were followed by participant discussions.

This brief summarises key issues raised in the webinar related to:

- The interconnectedness and impact of climate change and AMR from a health equity lens
- Actions proposed to address these issues at local, national, regional and in global level processes;
- Issues for further research and discussion

The Impact and Interconnectedness of climate change and AMR from a health equity lens

AMR arises from the overuse, misuse and abuse of antimicrobials in the human, animal and agriculture sectors, and paradoxically also by lack of access to quality affordable antibiotics/antimicrobials. AMR is also caused by inadequate water and sanitation infrastructure and hygiene/prevention practices and weak implementation and enforcement of AMR policies; lack of quality diagnostics and thus reliance on empirical diagnosis; low vaccination rates, inadequate health financing and socioeconomic support. Climate change and AMR are interconnected and interdependent, disproportionately impacting ESA and low-income countries and vulnerable groups within them, despite these regions and groups contributing least to their causes. AMR affects major diseases like TB, malaria, typhoid, meningitis and cholera. Africa has the highest AMR related mortality rates exceeding HIV, tuberculosis (TB) and malaria combined.

As one speaker noted: The world cannot be understood without numbers, but numbers alone are not enough for understanding AMR and its impacts and range of causes at different levels. AMR is a result of socioeconomic and other determinants of health such as where one lives, one's position in the family and their lived experiences, and their access to power and privileges at home, work, in society. All of this affects health and service behaviours - antibiotic use, prescribing- and service and infrastructure access, which in turn affect health and AMR outcomes. Healthcare systems, resources and innovation vary greatly within and across countries. This affects how infections are managed, and antibiotics/vaccines optimized. Informal, impoverished communities and those with limited access to socioeconomic support and resources are most vulnerable. In understanding and its equity impacts there are notable gaps in data, with a preference for certain indicators. Gender has been greatly studied and advocated for, and even been included in policies and guidelines for AMR. However, factors like rurality, migration status, lived experiences, economic stability, profession, are less well assessed.

Climate Change compromises the ecological and environment integrity of living systems that are linked to the drivers of AMR, and the health and disease impacts, including AMR, especially for more marginalised communities. The determinants include water availability- viz: access/contamination; food production – viz: agriculture, livestock, aquaculture supply, safety, and security; cities, settlements and infrastructure – viz: displacement, flooding, storms and damage to infrastructure. They also include economic sectors and biodiversity and ecosystems, with changes in structure, species and seasonal timing. The routine use of antibiotics in subtherapeutic quantities/prophylaxis/meta-phylaxis in animal food and water to enhance growth, productivity and income contributes to AMR, and its preference by farmers is based on the fact that it is cheaper and less intensive in comparison to the rigorous biosecurity/good animal husbandry measures required to prevent infections and the need for antibiotics.

Biodiversity losses have increased wildlife - human contact, with increased human infiltration of natural habitats and ecosystems. At the micro level there are resulting increases in zoonotic diseases spreading between humans and animals as were seen in the Ebola outbreaks. Extractive and ecologically depleting agriculture itself contributes to biodiversity losses and greenhouse gas emissions, primarily due to large-scale land clearing, use of synthetic fertilizers, and methane from livestock. In livestock farming, antibiotic use is driven largely by high demand for animal protein, and the need to maximize meat and milk production in high density conditions with suboptimal hygiene and biosecurity.

Changes in temperature, rainfall and sea levels, and retreating glaciers have increased the threat of AMR. At macro level, transport and population growth and climate change have increased the spread of waterborne, food borne and vector borne diseases of humans, animals and plants. Increased water and food scarcity impact on water and hygiene infrastructures, nutrition and immunity. At a micro level, increases in temperature have created changes in pathogen growth, survival and virulence, increasing bacterial/pathogen growth and infection rates, gene transfer, and diseases spread to higher altitudes/latitudes. AMR pathogens are also being released from permafrost and spreading globally through ocean currents.

Actions on health equity, AMR and climate links and impacts

AMR cannot be managed without new antibiotics and diagnostics, but by themselves they are not enough. The panellists and discussion turned to what actions will reduce these AMR and health risks. AMR and its intersect with climate change impacts are One Health issues, calling for the One health approach to be operationalised at all levels.

There was a strong view that health equity and AMR call for greater community recognition, engagement and empowerment - putting communities at the heart of health and climate systems and solutions. This implies engaging, incentivising and building the capacity of those on the frontlines of informal healthcare provision, community leaders/champions, both formal and informal community health workers, to help them make better and more informed decisions about infection management, including antibiotic prescription/rational use/preservation, and AMR surveillance. Equally, communities are central to better responding to/lessen climate shocks and risks through the promotion of clean energy sources, the establishment of early warning systems, climate resilient health systems, climate smart-adaptive agriculture and other responses to climate impacts. AMR waste water surveillance is for example a powerful community-level public health resource that helps us better understand AMR, including in surveillance and early detection of outbreaks. Community trust, voice and contribution can be amplified and strengthened by leveraging invaluable local perspectives and lived experiences to jointly identify challenges, concerns and priorities, and to codevelop and co-implement solutions, adapting them to different country and community perspectives, contexts and socioeconomic and climatic conditions.

There is a clear need to increase AMR awareness, understanding and behaviour change, especially regarding the rational use and preservation of antimicrobials, while addressing their misuse, overuse and abuse. This includes addressing prescribing practices, while ensuring uninterrupted access to the required quality antibiotics/antimicrobials, and reducing disease risks through increased investment in healthy living environments. Achieving this includes ensuring equitable and improved diagnostic capacities and access, especially in resource-constrained environments. It includes avoiding unfair treatment costs to those already suffering economic burdens through optimal patient care. All of these are key mitigation interventions.

Within countries actions need to promote whole of society engagement in multistakeholder, multidisciplinary collaborations and partnerships within One Health. At global level there is also need to address the commercial determinants of health that undermine health equity and make some communities even more vulnerable to both AMR and climate change. Interventions should not further burden those already facing significant socioeconomic challenges. Health equity and social determinants of health should be integrated within policies, processes and programmes to address AMR and climate change, including through effective financing, implementation, and regulation and enforcement of the Global Action Plan on AMR, the AMR action blueprint, and through implementing the Abuja Declaration and the Sustainable Development Goals, including on Universal Health Coverage.

Issues for further research and discussion

The information shared and discussion in the webinar raised a number of issues for follow up research, noting that research provides evidence to inform policies and interventions and to measure impact. Research and empirical evidence can help us better understand the burden, emergence, spread, and risks of AMR to guide sound decision making, inform policy, and drive improvements and innovations, including in technologies and health systems and solutions. This includes ethnographic and participatory research that exposes social determinants and responses, as well as the assessment of socioeconomic, commercial and other determinants that impact health equity. There are evidence gaps to address, including on the link between AMR and long term climate change impacts, noting that both modelling studies and lived experience are valuable sources of evidence. For equity a core question is 'how can we put communities more sustainably and effectively at the centre of health systems strengthening and climate smart systems and solutions' as this will assist to address drivers of the intersecting impacts of climate change and AMR in promoting health equity.