

## ECHO Communities of Practice: An Approach to Strengthen AMS in Africa – Lessons Learned From Zambia

### Dr. Leonard Bikinesi, Project ECHO Africa Consultant



Dr. Bikinesi is a specialist family physician and HIV technical expert with 15 years of clinical experience involving HIV and TB care, treatment, prevention, public health, and quality improvement. He served as the Chief Clinical Mentor at the Ministry of Health and Social Services (MHSS) through 2024, leading Namibia's Clinical Mentorship Program which provides ongoing capacity building to healthcare workers on HIV and TB care, treatment, and support, develops and implements HIV/TB guidelines, policies, circulars, and standard operating procedures, and continuously strengthens the provision of comprehensive HIV and TB services with a focus on patient-centered care.

Dr. Bikinesi is also the Project ECHO lead for Namibia and a key regional ECHO Consultant. The Namibia ECHO program has been running since 2015. In addition, he has provided strategic technical guidance to multiple African countries as a consultant, helping them to set up and implement clinical mentorship and Extension for Community Health Outcomes (ECHO) programs. His area of interest includes HIV drug resistance, workforce development, and research.

### Christine Mugo-Sitati, ECHO Africa Program Manager

Christine joined Project ECHO full time in 2024 as the Program Manager for our ECHO Africa office in Nairobi, Kenya, but has worked with Project ECHO in various capacities since 2019 when she became a Hub Coordinator for the Africa Cancer Research and Control ECHO. Christine has over 14 years' experience in organizational leadership and development, program design and management, policy advocacy and external relations, change management, business development, monitoring, evaluation and research, resource mobilization and budget management.



### Dr. Joseph Chizimu, Zambia National Public Health Institute

Doctor of Infectious Diseases, Dr Chizimu has worked as the Antimicrobial Resistance National Focal Point and Coordinator at the Zambia National Public Health Institute (ZNHPI) since 2022 and serves on the Hub Team for the Zambia AMS ECHO Program. Operating under the Ministry of Health, ZNHPI seeks to improve health of all Zambians through coordinating priority public health and health security activities and resources; leveraging strong partnerships at the international, national, and sub-national levels; generating and analyzing scientific evidence for advocacy, policies and programs; and prioritizing public health functions. It serves as the Secretariat to the national AMRCC and is responsible for coordinating the implementation of Zambia's Multi-sectoral National Action Plan on Antimicrobial Resistance.

### **The ECHO Model:**

Inspired by the way clinicians learn from medical rounds during residencies, the ECHO Model has evolved into a learning framework that applies across sectors for sustainable and profound change. ECHO participants engage in a virtual community with their peers where they share support, guidance and feedback. As a result, our collective understanding of how to disseminate and implement best practices across diverse disciplines continuously improves and expands.

During an ECHO session, participants present real (anonymized) cases to the specialists—and each other—for discussion and recommendations. Participants learn from one another, as knowledge is tested and refined through a local lens. This continuous loop of learning, mentoring and peer support is what makes ECHO unique, with a long-lasting impact far beyond that of an in-person training, webinar or e-learning course. Our knowledge-sharing model brings together specialists from multiple focus areas for a robust, holistic approach.

### **The TEACH AMS Initiative:**

The drivers of antimicrobial resistance (AMR) in the human health sector in low- and middle-income countries (LMICs) are multifaceted. Contributing factors include limited laboratory infrastructure and access to diagnostics, inadequate infection prevention and control measures, weak regulatory frameworks, fragmented surveillance systems, and the overuse and misuse of antimicrobials. In line with the WHO Global Action Plan, addressing AMR requires a comprehensive approach involving coordinated, multi-sectoral interventions. Virtual education and training programs on antimicrobial stewardship (AMS) are emerging as valuable tools to strengthen healthcare provider capacity, improve prescribing practices, and complement other AMR and AMS initiatives.

In 2023 Project ECHO partnered with Pfizer to launch the Tele-mentoring, Equity and Advocacy Collaboration for Health through Antimicrobial Stewardship (TEACH AMS) ECHO Program. The initiative leverages the evidence-based learning model of Project ECHO (Extension for Community Healthcare Outcomes) to support hospital AMS committees to implement AMS programs. Since 2023, Project ECHO has partnered with AMR focal points in Uganda, Kenya, Ghana, Malawi, Zambia, Rwanda, and Senegal to develop virtual AMS education programs.

As of March 2025, the 7 programs in Africa conducted 164 sessions with healthcare facilities across their countries, representing over 4,400 unique attendees from multiple disciplines including Physicians/Physician assistants (16%), Nurses (8%), Lab Personnel (14%), and Pharmacy Personnel (43%). These virtual sessions complement existing in-person and online AMR/AMS capacity-building efforts by fostering peer-to-peer learning, multidisciplinary collaboration, and ongoing mentorship from local subject matter experts.

As demonstrated by these country experiences, the TEACH AMS ECHO programs offer a flexible, locally-driven, low-cost approach to AMS training and mentorship. Programs are scalable and can be integrated with other interventions to strengthen systems and improve antimicrobial prescribing practices. With declining resources for in-person training, LMICs must prioritize low-cost, evidence-based solutions to sustain the educational components of their national action plans. Virtual models like the TEACH AMS ECHO provide a promising strategy to maintain momentum in combating AMR through continuous capacity building and support.

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