Combatting Antimicrobial Resistance in Zimbabwe through a One Health Framework: Insights from Multi-Partner Trust Fund Interventions

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Antimicrobial Resistance (AMR) is a global threat to human, animal, and environmental health, exacerbated by inappropriate antimicrobial use. The Multi-Partner Trust Fund (MPTF) allocated $1 million to implement the One Health AMR National Action Plan, focusing on innovation, knowledge generation, and capacity building to mitigate risks and improve communication around AMR pathogens. This abstract summarizes key achievements from MPTF Phase One. Interventions included establishing Farmer Field Schools (FFSs) for 239 broiler farmers, improving practices like brooding, housing, and record-keeping, leading to reduced antibiotic use. A pilot study mapped substandard and falsified veterinary medicines, detecting 41% (n=110) in unlicensed urban and rural premises. Retrospective analysis of 3,795 typhoid cases (2017-2024) showed reduced attack rates, particularly in Harare's Western district (417 to 66 per 100,000) after introduction of vaccine. Healthcare-Associated Infection surveillance was piloted in two hospitals, identifying presumed sepsis (7.2% of 2,915 samples), post-Caesarean surgical site infections (6.3% of 1,554 samples), and catheter-associated UTIs (21 of 87 samples). A major achievement was the Zimbabwe production of over 300,000 doses of Theileria vaccine, crucial for combating tick-borne diseases and providing an alternative to antimicrobials. National Infection Prevention and Control (IPC) documents were also developed with stakeholder engagement. These interventions highlight the effectiveness of a One Health approach and MPTF's catalytic funding in tackling AMR. The findings emphasize the need for sustained efforts, including expanding FFSs, strengthening regulatory frameworks, improving water/sanitation infrastructure, enhancing surveillance, and leveraging alternatives like vaccines. Such measures are vital for combating AMR and improving public health in resource-limited settings, building resilient health systems, and ensuring food and environmental security.

Dr Tapfumanei Mashe is the Antimicrobial Resistance (AMR) Project Coordinator in Zimbabwe, where he leads efforts to combat AMR through his work with the World Health Organization (WHO) in collaboration with quadripartite partners, including FAO, WOAH and UNEP. Seconded to the Ministry of Health and Child Care (MoHCC) at the National Microbiology Reference Laboratory (NMRL), he provides technical guidance on AMR and One Health strategies.

His expertise includes genomic analysis of cholera and typhoid, supporting evidence-based interventions such as vaccination campaigns. Dr Mashe's leadership, cross-sectoral collaboration and scientific contributions, including first-author publications in The Lancet, Nature and The New England Journal of Medicine, position him as a key figure in shaping sustainable health policies and strengthening health systems in Zimbabwe and beyond.