Fleming Fund Country Brief

December 2023

UGANDA

Who we are

The Department of Health and Social Care (DHSC)'s Fleming Fund is a UK aid programme supporting up to 25 countries across Africa and Asia to tackle antimicrobial resistance (AMR), a leading public health threat across the world. The Fleming Fund invests in strengthening surveillance systems through a portfolio of country grants, regional grants and fellowships managed by Mott MacDonald, and global projects managed by DHSC partners.

Focusing on low- and middle-income countries (LMICs), as they bear the heaviest consequences of the spread of drug-resistant infections, the programme generates, shares, and uses robust and quality-assured data to support AMR strategies and interventions.

Supporting AMR data collection and analysis, through a One Health approach across human clinical, animal, and environmental sectors will help improve patient health, inform health policies, and warn of emerging threats.
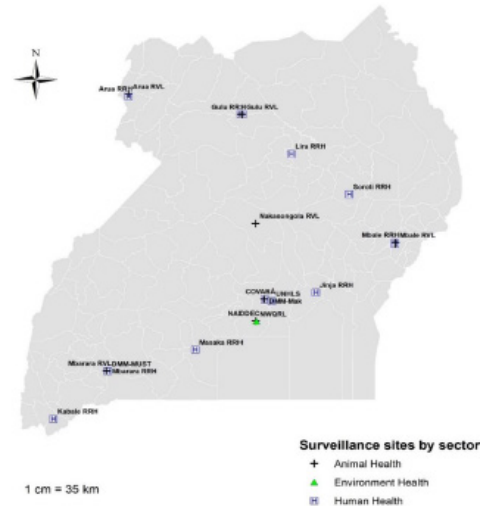
Country context

Built upon the 68th World Health Assembly resolution, 2015, and the 'Political Declaration of the High-Level Meeting of the United Nations General Assembly (UNGA) on Antimicrobial Resistance', 2016, the Fleming Fund programme in Uganda aims to strengthen surveillance systems for AMR, antimicrobial use (AMU) and antimicrobial consumption (AMC) in animal, human and environmental health sectors through a One Health approach.

Guided by the AMR National Action Plan (AMR-NAP) 2018-2023, Uganda's interventions sought to prevent, slow down and control the spread of resistant organisms and protect endangered antimicrobials by influencing change in health practices and policy.

Government support in Uganda

We are strengthening National AMR Governance by contributing to the operationalisation of the National AMR Sub-committee (NAMRSC), a sub-committee of the national One Health Technical Working Group (OHTWG).

NAMRSC quarterly meetings are conducted to discuss AMR data generated and policy recommendations to the OHTWG. Additionally, a draft AMR-NAP Governance Structure in Uganda was developed to streamline governance and leadership of the national AMR surveillance system.

Surveillance sites by sector
+ Animal Health
▲ Environment Health
H Human Health

1 cm = 35 km

Country Grant

Grantee: Infectious Diseases Institute
Value: £5,898,971
Duration: Oct 2020 – Mar 2023

Fellowship Scheme

Fellows: 9 (6 Professional, 2 Policy)
Host Institution: University of Edinburgh
Value: £680,000
Duration: Nov 2018 – Dec 2022

Regional Grants

Grantees: International Vaccine Institute, Technical University of Denmark
Total value: £2,712,824
Duration: Jan 2019 – May 2023

Acting against drug resistance for a healthier world

Country Grant

Management Agent: Mott MacDonald
Grantee: Infectious Diseases Institute (IDI)

Sub-Grantees: College of Veterinary Medicine, School of Pharmacy, Makerere University, HEPS UGANDA

Project objectives

Strengthen the governance of AMR surveillance with a One Health Approach	Sustain existing support to AMR and AMU surveillance in human healthand expand to additional sites	Sustain existing support to AMR and AMU/C surveillance in terrestrial animals, and expand to additional sites	Expand AMR surveillance to include the Environment sector

Investment areas

Laboratory infrastructure enhancement

Human resource strengthening and workforce reforms

Surveillance systems strengthening

Establishing mechanisms for AMR surveillance data use

Promoting rational use of antimicrobial medicines

Achievements

6,102
priority AMR samples processed at 12 human health AMR surveillance sites.

127
laboratory platforms at **7** surveillance sites maintained.

20,502
blood culture samples prepared at NHLDS for External Quality Assurance Proficiency Testing (EQAPT) as part of Antimicrobial Susceptibility Testing (AST).

55
microbiology standard operating procedures (SOPs) to support standardisation of microbiology services across surveillance sites, reviewed and finalised by Department of Medical Microbiology - Makerere University.

770
AMR isolates re-tested, confirmed and archived at National Health Reference Laboratory at National Health Laboratory and Diagnostic Services.

SOPs shared, adopted, and customised at 12 human surveillance sites, with DMM-Mak developing and implementing AMR surveillance protocols for specialised healthcare units including intensive care units and cancer wards.

National AMR dataset for 2020 submitted to World Health Organization Global Antimicrobial Resistance Surveillance System (GLASS).

8
district One Health taskforces activated and trained on NAP-AMR, providing leadership on implementation of AMR activities at sub-national level.

7
Medicines and Therapeutic Committees (MTC) at Fleming Fund supported regional referral hospitals (RRHs) appointed with terms of reference. MTCs trained in GLASS diagnostic and antimicrobial stewardship (D-AMS) and Point Prevalence Survey (PPS) methodologies.

Microbiology quantification workbook developed with support from Uganda's Ministry of Health as integral part of ten-year National Health Supply Chain Roadmap to increase local financing for microbiology services.

250 best practice documents developed for MTCs to aid standardisation in implementation of AMR surveillance activities.

AMU activities incorporated into National Pharmaceutical Sector Strategic Plan IV 2021-2025 to establish continuity of AMU interventions, supported by Uganda's Ministry of Health Pharmacy Department.

5
point prevalence surveys (PPS) conducted at **9** RRH using the WHO PPS tool.

Laboratory staff training at **19** AMR surveillance sites, including LQMS, basic microbiology techniques, national Trainer of Trainers (TOT), Biosafety and Biosecurity techniques, and AMR data management including WHONET©.

Draft National Antimicrobial Stewardship (AMS) manual developed with support from Makerere University Pharmacy Department (Mak-PD).

2,968
AMR isolates from surveillance sites to National Health Laboratories and Diagnostics Services (NHLDS).

MTCs at nine RRHs received targeted mentorships in D-AMS and continuing medical education (CMEs) sessions to discuss AMR data for improved patient care.

Increasing patient sampling for AMR detection andsustainability of facility-led AMR stewardship programme.

National microbiology mentorship programme developed to guide national capacity development efforts in microbiology.

Fellowship Scheme

Management Agent: Mott MacDonald

Professional Cohort I: AMR Surveillance, AMR Laboratory and AMU Surveillance Fellows in Human Health (HH) and Animal Health (AH)
Professional Cohort II: Bioinformatics and Sequencing, AMU/C Surveillance Fellows in AH, plus AMR Laboratory Fellow in HH
Policy Fellows: AH and HH

Achievements

Key role in organising annual national events for World One Health Day and World Antimicrobial Awareness Week, and regional outreach including farmers in Masaka District to understand AMU and AMR perception.

Assisted drafting of policy brief on status of AMR in Uganda for Ministry of Agriculture, Animal Industry and Fisheries (MAAIF).

Worked with Commonwealth Partnerships Programme on Antimicrobial Stewardship (AMS) to develop and implement AMS checklist for Sub-Saharan Africa.

AH fellows partnered with HH fellows on whole genome sequencing of samples collected to develop own expertise and transfer best practice procedures to AH laboratories.

Policy fellows contributed to draft principles for 'Animal Diseases Amendment Bill 2022' and drafted AMR policy brief with inter-ministerial staff.

Collaborated with fellows from Malawi and Kenya to discuss and harmonise approaches to, and practices in AMR surveillance.

Fellows trained new staff from host institutions in statistical computing and design 'R' software and laboratory personnel in management and quality assurance of AMR data.

10 fish farms in Mukono, Wakiso, and Luwero districts conducted AMU/AMC surveys which showed minimal use of antibiotics in aquaculture at the time of the survey in 2022.

MTC plan developed by Cohort II Fellow at Arua Regional Referral Hospital together with MTC - covering training, mentorship, development of hospital antibiograms, and awareness raising.

Policy Fellows playing leading role in reviewing Uganda NAP.

Provided multiple training sessions with laboratory and hospital staff on laboratory use in AMR surveillance and stewardship to improve take-up of testing within clinical settings.

Fellows provided training in biochemical identification of Gram-negative organisms, WHONET,culture plates and bioinformatics to study AMR genes. Participants included hospital personnel: surgeons, medical officers, doctors, nurses, and clinic/departmental In-charge staff.

Regional Grants

Management Agent: Mott MacDonald
Grantees: International Vaccine Institute (IVI), Technical University of Denmark (DTU)

Achievements

MAAP
Gathering Historical AMR Data, ASLM
Value: £3,159,258*
Duration: Nov 2018 – June 2022
Supports the collection and analysis of historical AMR data across key Fleming Fund countries to provide early information for policymaking.

Worked with local stakeholders on AMR, AMC, and AMU.

88,116 total blood culture results collected from **16** facilities. Data collection conducted in **11** targeted pharmacies.

Shared data analysed for national information on surveillance capacity, data availability, resistance epidemiology, and AMC patterns.

Country reports shared with recommendations for policymakers and health care providers on AMR/AMC surveillance.

EQuAFRICA
External Quality Assurance, Africa - ASLM
Value: £4,511,176*
Duration: Oct 2019 – Mar 2023
Supports development of External Quality Assurance (EQA) practices in laboratories around Asia to ensure confidence in laboratory testing results.

Supported development of National Laboratory Quality standards and policies.

Established and strengthened Quality Management Systems (QMS) in AH and HH National Reference Laboratories in **14** African countries.

Strengthened pathogen ID and AST while improving access to EQA in **14** African countries.

4 laboratories In Uganda enrolled in EQA programme.

QWArS
Training on Epidemiology & Microbiology, ASLM
Value: £3,924,547*
Duration: Oct 2019 – May 2023
Supports human resources strengthening and capacity building for laboratory AMR surveillance through epidemiology and microbiology training.

QWArS developed series of training courses on epidemiology and laboratory microbiology at skilled and expert levels.

375 students from **17** countries taken QWArS courses including participants (13) from Uganda.

RADAAR
Policy, Practice & Advocacy, IVI
Value: £2,715,217*
Duration: Sep 2019 – April 2023
Supports data sharing for global AMR planning and advocacy, providing evidence to policymakers for robust, data-based policy recommendations.

4 regional analyses, including all Fleming Fund priority countries, to identify data-sharing bottlenecks.

Delivered both regional data and policy workshops, developing plans to improve data sharing and analysis.

4 countries, including Uganda, developed pilot initiative to strengthen capacities in translating emerging AMR data/evidence for informed policy briefs, with Evidence-informed Policy Network (EVIPNet).

SEQAFRICA
Whole Genome Sequencing in Africa, DTU
Value: £6,766,632*
Duration: May 2019 – Feb 2023
Supports development of regional capacity for and bioinformatics.

5 regional sequencing centres reviewing and accepting isolates/samples for whole genome sequencing (WGS) on rolling basis across 18 African countries.

140 individuals trained by SEQAFRICA in WGS and bioinformatics for bacterial AMR and SARS-CoV-2 surveillance.

*(across multiple countries, including Uganda)

Strategic Alignment Grants

Management Agent: Mott MacDonald

Achievements

FIND
Value: £2,586,226*
Duration: Apr 2022 – Dec 2023

Enhances common approaches to laboratory QMS, bacteriology laboratory network design, collation and analysis of AMR surveillance data, and clinical engagement strategies.

Used digital tools to reduce time taken to clean AMR data received from surveillance sites, leading to more efficient HH and AH data analysis, and national-level reporting.

New opportunities for cross-sectoral AMR data use and interventions based on the collation of AH and HH AMR data in single repository.

Commonwealth Pharmacists Association
Value: £1,152,947*
Duration: Dec 2021 - Dec 2023

Assists with AMU surveillance and using data to improve prescribing practices.

CPA networks established in Fleming Fund-supported countries to provide HH and AH guidelines for uploading data sharing permission documents .

Identified clinical sites for PPS training aligning with sustainable model to ensure capacity in-country to undertake and support future AMR studies.

WHONET
Value: £889,045*
Duration: Apr 2022 – Dec 2023

Provides training and technical support to use free WHONET desktop application for managing and analysing microbiology laboratory data, with focus on AMR surveillance.

Ran centralised training (both on-site and remotely) and identified gaps for specialist training in Fleming Fund-supported countries.

Developed training materials and provided ongoing technical support to software users.

Supported development of modules, including online data entry and integration platform compatible with DHIS-2 software, and provided scientific guidance for breakpoints (aiding pathoge AST) interpretation and report generation for AMR analysis.

*(across multiple countries, including Uganda)

The Fleming Fund supports a range of additional projects delivered at national, regional, and global levels to support the generation, sharing, and use of high-quality AMR data. These all align closely with the country and regional grants and fellowships portfolio and support further achievement of the Fleming Fund objectives. A full list of global grants is available on the **Fleming Fund website**.

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