

Fleming Fund Country Brief

December 2023

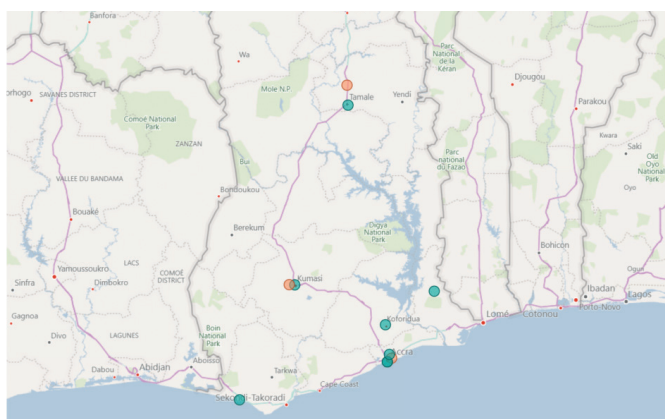


Who we are

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.



Map of Ghana showing lab types supported by the Fleming Fund

Country context

In 2011, the Ministry of Health constituted the National AMR Platform (AMR Coordinating Committee) including ministries and departments from health, agriculture, fisheries and environment, UN agencies (WHO, WOH and FAO), civil society organisations, academic and research institutions. This platform drives a One Health approach in responding to the growing AMR crisis in Ghana.

In 2017, the 'National Policy on Antimicrobial Use and Resistance' was developed and approved by the Ministry of Food and Agriculture, Ministry of Fisheries and Aquaculture, Ministry of Environment, Science, Technology and Innovation, as well as the Ministry of Health. Ghana's first AMR National Action Plan (NAP) was developed with support from WHO, outlining the key national objectives aligned with Fleming Fund support:

- Establishment of a well-functioning One Health governance structure for AMR and Antimicrobial Use (AMU) surveillance.
- Establishment of a government-led system for collecting, collating, analysing, reporting, and disseminating AMR and AMU data on national and international platforms in alignment with the requirements of the Global Antimicrobial Surveillance System (GLASS).
- Strengthening of AMR and AMU surveillance in animals.

More information about Ghana and its work on AMR can be found on the Fleming Fund website:

flemingfund.org/countries/Ghana

Country Grant

Grantees: University of Ghana, Office for Research, Innovation and Development, The Aurum Institute
Value: £2,698,585

Duration: Dec 2018 – Aug 2020, Dec 2020 – Oct 2021, Apr 2023 – Dec 2023

Fellowship Scheme

Number of Fellows: 12
Host Institutions: London School of Hygiene & Tropical Medicine, Technical University of Denmark, International Livestock Research Institute

Value: £717,039
Duration: Oct 2018 – Feb 2023

Regional Grants

Grantees: African Society for Laboratory Medicine, Technical University of Denmark, International Procurement Agency, Ending Pandemics

Value: £18,192,262
Duration: May 2019 – Jun 2023

Country Grants

Management Agent: Mott MacDonald

Grantee: ORID, University of Ghana

Subgrantees: Mangel Klicks

To improve the collection and use of AMR and antimicrobial use data using a One Health approach.



Achievements

165

participants trained in multiple technical areas: Biosafety and biosecurity, Antimicrobial Susceptibility Testing (AST), Quality Management and sample isolates transportation for both animal health (AH) and human health (HH) laboratories.



Governance structures strengthened including several technical working groups (TWGs). HH surveillance TWG developed Framework for 'Surveillance of AMR in Human Pathogens, Ghana'.



Development of AMR National Guidelines including AMR surveillance framework, priority pathogens for Ghana and Standard Operating Procedures (SOPs) on Bacteriology.



Ghana enrolled in GLASS and submitted first report in 2021. AMR TWG reports GLASS data from surveillance sites with accompanying Antimicrobial Susceptibility Testing (AST).



AMR National Reference Laboratories for HH and AH established.



Multicentric Point Prevalence Survey (PPS) carried out in 2019 in all seven HH surveillance sites and findings published in September 2021. The AH AMU survey also provided data for analysis.



Developed and piloted sampling of live birds from open commercial markets for population-based surveillance in poultry.

Grantee: The Aurum Institute

11

surveillance sites and reference laboratories renovated, refurbished, and handed over to Government of Ghana.

69

lab scientists trained in automated blood culture systems across 7 country-grant supported surveillance sites across Ghana, including the National Reference Laboratory (NRL).

Fellowship Scheme

Management Agent: Mott MacDonald

Host Institutions: LSHTM, DTU, ILRI

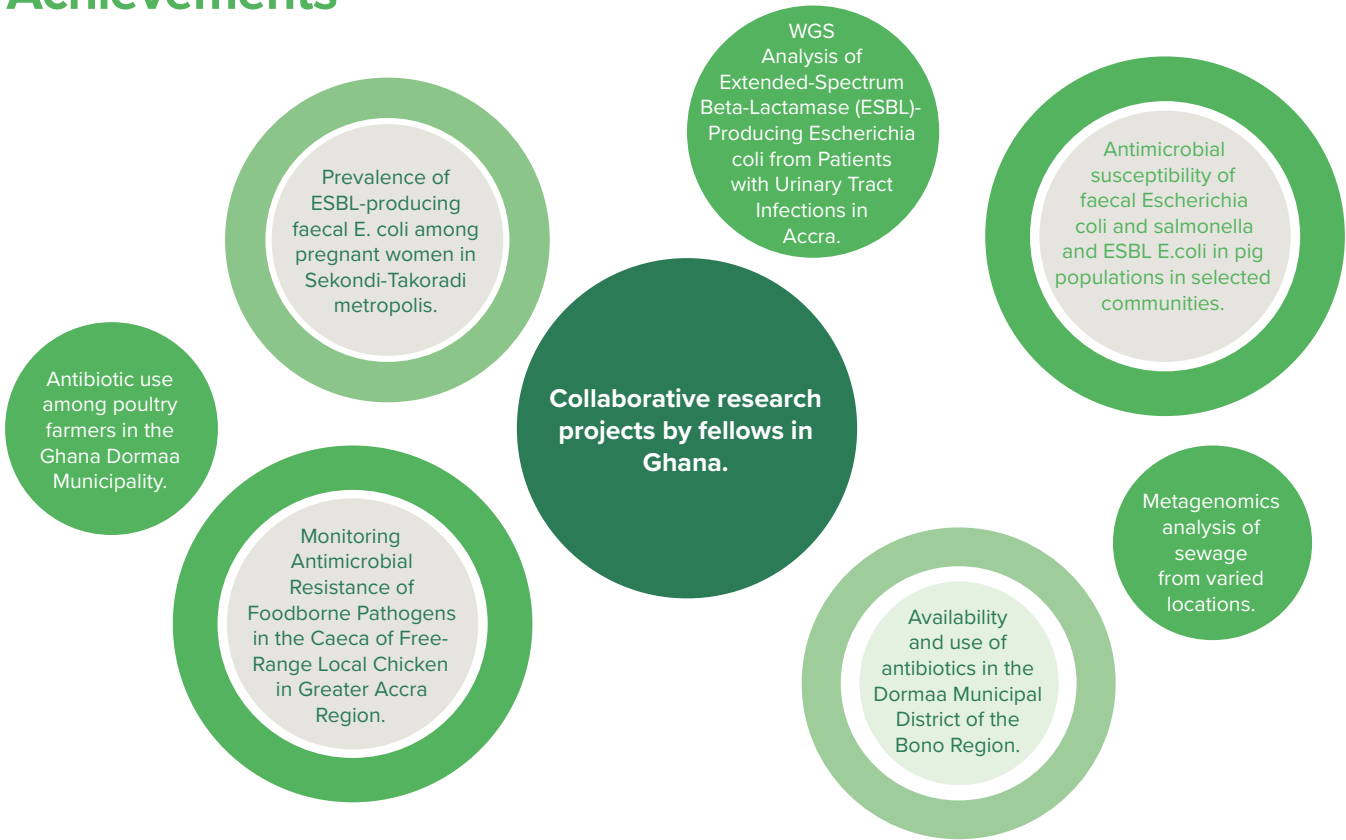
Professional Cohort I: AMR/U Surveillance in AH and HH


Professional Cohort II: AMR Health Informatics, Bioinformatics and Sequencing, AMU/C Surveillance in Aquaculture and AMU/C Surveillance in Pharmacy

Policy Fellows: AMR Policy Analysis in HH and Advocacy, and Resource Mobilisation in AH



Achievements




 Led HH NRL in Ghana to develop Quality Manual and bench aides to guide laboratory testing in accordance with medical requirements and international standards.


50 medical laboratory scientists trained in Ghana on WHONET during their scientific week celebration.

5 SOPs developed according to Clinical and Laboratory Standards Institute at national and regional veterinary laboratories.

6 Fellows trained on WHONET and AST data analysis.

 Led National Food Safety Lab to participate in EQA events (WHO External Quality Assurance for Salmonella and the Vetqas Proficiency testing for E. coli).

7 FF-supported surveillance sites and NRL provided with technical support and training on Quality Assurance and Biorisk management.

 Provided training and coaching for staff at Veterinary Services Directorate on using SOPs, quality assurance systems, WHONET, and laboratory testing techniques.

Regional Grants

Management Agent: Mott MacDonald

Grantees: African Society for Laboratory Medicine (ASLM), Technical University of Denmark (DTU), International Procurement Agency (IPA), Ending Pandemics



Achievements

MAAP

Collection of Historical Data, ASLM

Value: £2,937,906* **Duration:** Nov 2018 – Jun 2023

Supports collection and analysis of historical AMR data across key FF countries to provide preliminary information for policymaking.

Analysed retrospective data in Ghana and produced country report shared with stakeholders, along with recommendations for policymakers and healthcare providers on AMR/AMC surveillance.

24,427 total culture results collected from **16** facilities in Ghana. Pharmacy data collection successfully conducted in **25** targeted pharmacies.

Grant Barriers to Logistics

IPA

Value: £52,000* **Duration:** Apr 2020 – Dec 2020

Understands barriers to logistics, imports and exports, and supply chains

Conducted in-depth research into major determinants of logistical and supply chain constraints and bottlenecks in AMR surveillance across all FF-supported countries, including Ghana.

Review resulted in comprehensive report with recommendations to accelerate procurement processes, disseminated to key stakeholders (including other FF grantees).

SEQAFRICA

Whole Genome Sequencing, DTU

Value: £6,766,632.33* **Duration:** May 2019 – Apr 2023

Supports development of regional capacity for WGS 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 in WGS and bioinformatics for bacterial AMR surveillance and SARS-CoV-2 surveillance.

Focus in Ghana on extending and enabling capacity to service as national and regional (West Africa) sequencing centre. Support for development of national surveillance system for GLASS priority pathogens (both clinical and veterinary).



*(across multiple countries, including Ghana)

Regional Grants (continued)

Management Agent: Mott MacDonald

Grantees: African Society for Laboratory Medicine (ASLM), Technical University of Denmark (DTU), International Procurement Agency (IPA), Ending Pandemics



Achievements

PARSE

Ending Pandemics

Valuation £2,194,068* **Duration:** Sept 2019 – Jan 2022

Produces common protocols to support and inspire AMR surveillance.

Regional Mapping and Gap Analysis reports - situational analyses on the status of AMR surveillance in the regions including Ghana.

Pilot study based on a One Health AMR surveillance protocol for Blood Stream Infections (BSIs). Identifying:

334 gram-negative isolates from human blood cultures with very high rates of resistance to local first-line antibiotics.

26 out of **56** farms sampled have at least one hen house positive for Salmonella, and high rate of resistance to commonly used antibiotics also found.

EQuAFRICA

External Quality Assurance, ASLM

Value: £4,511,176* **Duration:** Oct 2019 – Mar 2023

Supports development of external quality assurance practices in laboratories around Africa to ensure confidence in laboratory testing results

Supported development of AMR National Laboratory Quality standards and policies.

9 labs in Ghana enrolled in External Quality Assurance (EQA) programme across **3** cycles.

14 African countries established and strengthened with Quality Management Systems in AH and HH NRLs.

QWArS

Microbiology & Epidemiology Testing, ASLM

Value: £3,924,547.26* **Duration:** Oct 2019 – Apr 2023

Improves data sharing for global AMR planning and advocacy to provide policymakers with evidence to make robust, data-based policy recommendations.

Developed set of short training courses on epidemiology and laboratory microbiology at skilled and expert levels.

375 students from **17** countries completed QWArS courses, including **24** participants from Ghana.

*(across multiple countries, including Ghana)

Strategic Alignment Grants

Management Agent: Mott MacDonald



Achievements

WHONET

Grantee: Brigham and Women's Hospital

Value: £596,768*

Duration: Apr 2022 – May 2023

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

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

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

Supported development of modules, including online data entry and integration platform compatible with DHIS-2, and providing scientific guidance for pathogen breakpoint interpretation and report generation for AMR analysis.

FIND

Grantee: FIND

Value: £2,329,777*

Duration: Apr – Dec 2022

Enhance common approaches to laboratory quality management systems, bacteriology laboratory network design, collation and analysis of AMR surveillance data, and clinical engagement strategies.

Digital tools to reduce time taken to clean and ensure accuracy of AMR data 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 collation of AH and HH AMR data to single data repository.

3 laboratories trained in technical gaps, with improvements observed in AST reporting, blood culture, and turnaround time. Training tools developed to further improve clinicians' antimicrobial stewardship and prescribing practices.

Commonwealth Pharmacists Association – CPA

Grantee: CPA

Value: £763,069*

Duration: Dec 2021 – Sep 2022

Assists with antimicrobial use (AMU) surveillance and using surveillance data to improve prescribing practices.

Prescribing app successfully piloted in Ghana, Tanzania, Uganda, and Zambia. CPA networks established in Fleming Fund-supported countries to provide HH & AH guidelines for uploading permission documents.

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

*(across multiple countries, including Ghana)

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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