

Fleming Fund Country Brief

December 2023

BANGLADESH

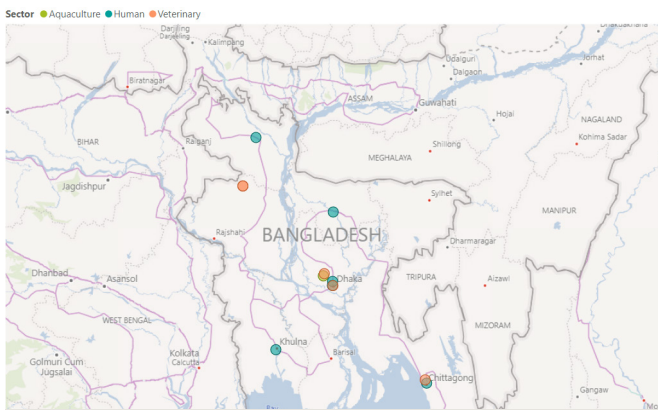


Who we are

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 Bangladesh showing types of labs supported by the Fleming Fund

Country context

The 'National Strategy for antimicrobial Resistance Containment in Bangladesh: 2017-2021' was developed by a multisectoral 'Core Working Group' with the support of WHO. In January 2022, the 'National Strategy and National Action Plan for AMR containment 2021-2026' was approved by the National Technical Committee and is currently under cabinet review.

The Fleming Fund country grant provided technical support to revising the approved national AMR surveillance strategy. Under the revised surveillance strategy, a National Reference Laboratory (NRL) has been identified for human health, animal health and aquaculture, and these reference laboratories are equipped to perform automatic antimicrobial resistance susceptibility testing (AST). There has also been extended training on AMR surveillance provided to professionals across One Health sectors.

The costing of a national AMR action plan (NAP) is being carried out based on the PEA (political economy analysis) conducted, an integrated One Health point-prevalence survey in hospitals, poultry farms and aquaculture farms.

More information about Bangladesh can be found on the Fleming Fund website: flemingfund.org/countries/bangladesh

Country Grant

Grantee: DAI Global Health
Value: £4,997,360
Duration: Jan 2020 – Jun 2023

Fellowship Scheme

Number of Fellows: 11
Host Institution: International Livestock Research Institute
Total value: £880,000
Duration: Jun 2020 – Nov 2022

Regional Grants

Grantees: International Vaccine Institute, Technical University of Denmark, African Society for Laboratory Medicine
Total value: £12,613,293
Duration: Jan 2019 – Feb 2023

Country Grant

Management Agent: Mott MacDonald

Grantee: DAI Global Health

Sub-grantees: International Centre for Diarrhoeal Disease Research, Bangladesh; Chattogram Veterinary and Animal Sciences University; Liverpool School of Tropical Medicine

Supporting national and sector-specific surveillance strategy, strengthening multisectoral governance of AMR, AMC (antimicrobial consumption), and AMU (antimicrobial use) surveillance, with One Health approach.



Achievements



Supported revision of National AMR surveillance strategy (2020-2025), including private sector in AMR data sharing.



Directorate General of Drug Administration (DGDA) imposed new regulation of health warning on antibiotics packaging produced by drug manufacturers and branded in red to increase awareness of antibiotics among public.



First in-country political and economic analysis (PEA) for AMR Containment advocacy to map and analyse AMR stakeholders and their resources. This also predicts economic impact of AMR and value for money for potential AMR interventions.

12

6 HH and 6 AH laboratories refurbished, equipped, and technical staff training (including reference laboratories) for basic to advanced microbiological procedures and AST.



Supported implementation of active AMR data surveillance in AH and aquaculture sectors.

5

Clinical engagement workshops at national level as well as in medical colleges for optimal AMU and AMR containment.



Revitalised and facilitated meetings of high-level committees responsible for stewardship and governance of National AMR Containment.



Supported establishment of NRL for AMR in human health (HH), animal health (AH) and aquaculture.



Infrastructure enhancement of AH and HH laboratories under AMR surveillance network equipped with BSL2 (Biosafety Level 2) standards to enable generation and sharing of AMR data.



One Health PPS in hospitals, pharmacies, poultry, and aquaculture farms to estimate AMU trend in Bangladesh.

Fellowship Scheme

Management Agent: Mott MacDonald
Host Institution: International Livestock Research Institute (IRLI)

Professional Cohort I: AMR/AMU/AMC Surveillance and AMR Laboratory Fellows in human health (HH), animal health (AH) and aquaculture.

Policy Fellows: AMR Policy Fellow in One Health



Achievements



Contributed to development of national AMR Surveillance Strategy (2021-2015) and national strategic plan for AMR containment in Bangladesh.



Completed training on data analysis: whole genome sequencing, next-generation sequencing in clinical microbiology and infectious disease, nanopore sequencing, AMR advanced tested, PPS techniques, WHONET, and aquatic epidemiology.



Participated in training from international organisations including WHO, CDC and WorldFish.



Conducted advocacy workshops and training for colleagues and country workforce on AMR and AMU/C surveillance, laboratory protocols, data management, data analysis and AST. This developed standard operating procedures (SOPs) to ensure best practice adherence.



Prepared protocols for implementing testing methods at National Health Laboratory.



Cohort I fellows worked on One Health collaborative project: "Prevalence of extended-spectrum beta-lactamases (ESBL) and carbapenemase-producing Escherichia coli in different human, livestock, aquaculture, and environmental samples in a semi-urban area of Bangladesh".



Improved drug packaging to raise AMR awareness, at the manufacturing, retailing and policy levels.



Undertook knowledge, attitudes, and practice (KAP) study of drug sellers, with focus on antibiotic stewardship, in selected districts of Bangladesh.



Participated in joint stakeholder and AMR Technical Working Group meetings, and presented AMU data to national technical committee.



Developed AMR surveillance protocol and data collection tools for Department of Livestock Services.

Regional Grants

Management Agent: Mott MacDonald
Grantees: International Vaccine Institute, Technical University of Denmark, African Society for Laboratory Medicine



Achievements

CAPTURA

Collection of Historical AMR Data, IVI

Total value: £2,712,824*

Duration: Jan 2019 – Feb 2023

Supports the collection and analysis of historical AMR data across key Fleming Fund countries to provide early information for policymaking.

184

AMR/AMU/AMU data sources in Bangladesh identified in consultation with Directorate General of Health Services, Centers for Disease and Control Prevention, Institute of Epidemiology Disease Control and Research, Ministry of Health and Family Welfare.

AMR and AMU questionnaires plus rapid laboratory quality assessment (RLQA) conducted to verify data availability and grade data.



1 million

This process led to over 1 million isolates of AMR, AMU and AMC collected from 2016 - 2020.

EQASIA

External Quality Assurance – Asia, DTU

Value: £4,247,345

Duration: Jan 2020 – Dec 2022

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

RAADAR

Policy, Practice & Advocacy, IVI

Value: £2,715,217

Duration: Sep 2019 – Nov 2022

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

QWARS

Microbiology & Epidemiology Training, ASLM

Value: £3,924,547

Duration: Oct 2019 – 31 Dec 2022

Supports delivery of quality microbiology training to AMR laboratory staff from surveillance sites.

Laboratory of Food Safety and One Health, Laboratory Sciences, Institute of Epidemiology, Disease Control & Research (IEDCR) and Bangladesh Livestock Research Institute, Antimicrobial Resistance Reference Laboratory enrolled in EQASIA programme participated in Proficiency Testing trials and capacity-building training activities.



4 countries

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

375 students from 17 countries

participated in QWARS training courses; including 28 participants from Bangladesh.

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



*(across multiple countries, including Bangladesh)

Strategic Alignment Grants

Management Agent: Mott MacDonald



Achievements

FIND

Grantee: FIND

Value: £2,586,226*

Duration: Apr – Dec 2023

Enhances 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 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 - CPA

Grantee: CPA

Value: £1,152,947*

Duration: Dec 2021 – Dec 2023

Assists with AMU surveillance and uses surveillance 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.

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

WHONET

Grantee: Brigham and Women's Hospital

Value: £889,045*

Duration: Apr 2022 – Dec 2023

Providing 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 pathogen AST) interpretation and report generation for AMR analysis.

*(across multiple countries, including Bangladesh)

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](#).

To contact the Management Agent, Mott MacDonald, email flemingfundSEA@mottmac.com