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.

**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](http://flemingfund.org/countries/bangladesh)

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**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

**Map of Bangladesh showing types of labs supported by the Fleming Fund**
**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.

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**Achievements**

| **12** | 6 HH and 6 AH laboratories refurbished, equipped, and technical staff training (including reference laboratories) for basic to advanced microbiological procedures and AST. |
| **5** | Clinical engagement workshops at national level as well as in medical colleges for optimal AMU and AMR containment. |
| 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. |
| 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.

**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.

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

**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.

*(across multiple countries, including Bangladesh)*
### Strategic Alignment Grants

**Management Agent:** Mott MacDonald

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## 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.

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**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.

**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 pathoge AST) interpretation and report generation for AMR analysis.

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* (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](http://www.flemingfund.org).

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