

Fleming Fund Country Brief

December 2023

INDONESIA



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, animal, and environmental health sectors will help improve patient health, inform health policies, and warn of emerging threats.



Country Grant

Grantee: DAI
Value: £7,787,904
Duration: Dec 2019 – Jun 2023

Fellowship Scheme

Number of fellows: 10
Host Institution: Erasmus University Medical Centre (MC)
Value: £880,000
Duration: Dec 2019 – Jun 2023

Regional Grants

Grantee: International Vaccine Institute (IVI), Technical University of Denmark (DTU)
Value: £7,787,904
Duration: Dec 2019 – Jun 2023

Country context

Indonesia's National Action Plan (2016-2019) includes five key strategies, aligned with the Global Action Plan objectives covering human, animal, agriculture, aquaculture, and environment sectors. More information about Indonesia and its work on AMR can be found on the Fleming Fund website at: flemingfund.org/countries/Indonesia.

Government support in Indonesia

The government of Indonesia (GoI) provides strong support for the AMR activities in-country by budgeting and implementing AMR surveillance at various scales, as well as leadership in data dissemination among stakeholders.

The government of Indonesia (GOI) counterparts have demonstrated a strong commitment to sustained Indonesian efforts to combat AMR through robust decision-making, surveillance system strengthening, and integration of data across sectors.

As demonstrated by the formal dissemination of the NAP 2020-2024 - visibly acknowledging the Fleming Fund and UK support, a host of decrees, high-level meetings, and major events - such as the G20 Side Event, which drew heavily on support from the Country Grant.

The level of national buy-in has grown steadily from the Fleming Fund Country Grant, accelerated by both the Indonesian G20 Presidency and G20 Health Working Group and their respective outcome documents, alongside the G20 Side Events. This has laid the foundations for a sustainable, integrated One Health AMR surveillance system, directing improved stewardship efforts across sectors.

Country Grants

Management Agent: Mott MacDonald

Grantee: DAI

Sub Grantees: Ausvet, Health Security Partners, Eijkman Institute for Molecular Biology, Liverpool School of Tropical Medicine



Achievements

24

Surveillance sites including four National Reference Laboratories (NRLs): **13** Human Health (HH) and **11** Animal Health (AH).

1,080

poultry farms took part in nationwide AMU (antimicrobial use) survey in **12** provinces and **36** districts.



Implementation of National Action Plan on AMR (2020-2024).

Raised AMR profile as part of the national agenda by organising side events dedicated to AMR at the G20 summit in Bali.

600

samples collected from fish farms across **15** provinces and **45** districts for active AMR surveillance in aquaculture,

The first AMR monitoring of aquatic animals at this scale in Indonesia. The aquaculture AMU survey was conducted in parallel reaching a comparable number of farms, districts, and provinces.



High-level coordination committees, task force and reference laboratories equipped to perform AST (antimicrobial susceptibility testing) and provide EQA (external quality assessments) services to data surveillance sites.

Plan and protocol for AMR data surveillance in Animal Health and aquaculture developed.



Integrated information system, AMR Information System Indonesia (AMRISIN) developed and piloted at the Ministry of Marine Affairs and Fisheries.

14

advance surveillance platforms installed in laboratories – including MALDI-TOFs, blood culture, bacterial identification systems and Antimicrobial Susceptibility testing (AST) – upgraded infrastructure, technical staff training, and automation of manual sample process to improve result turnaround time.

210

animal and environmental isolates identified from whole genome sequencing during piloting of Tricycle project (2018-2019) - WHO-supported Global Integrated Survey on ESBL producing E. coli.

1,439

training sessions in human resource to help build capacity in AMR surveillance across human, animal and environmental health sectors.



The Tricycle programme collected samples from humans, animals, and the environment to encourage AMR surveillance across sectors. Human samples were sequenced under the MoH budget.



Data networks of IVLAB: a LIMS laboratory information system for animal health laboratories under the Ministry of Agriculture for data management and sharing.

Fellowship Scheme

Management Agent: Mott MacDonald

Host Institution: Erasmus MC

Professional Cohort I and Policy Fellows:

Bioinformatics and Sequencing, AMR Surveillance and Laboratory (including advanced AST and quality management), AMU/AMC Surveillance across AH, HH and aquaculture



Achievements



Published AMR pilot study in the *One Health Journal 13 (2021)* - a collaborative project between Ministry of Health, Ministry of Agriculture and Ministry of Environment and Forestry in 2018-2019 (led by the AMR Focal Point/ Fellow's supervisor).



Supported facilitation of Ministry of Health meeting attended by colleagues from the Directorate of Pharmaceuticals, Directorate of Medical Service and ARCC.



21 training events delivered – coaching 145 local government veterinary officers.

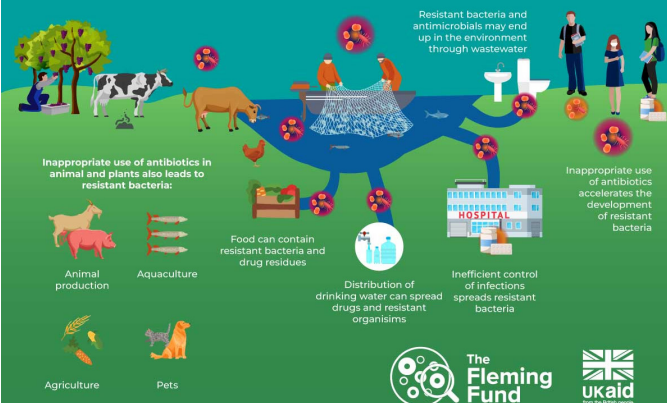


Training events lead to Indonesia's participation in the Global Antimicrobial Resistance Surveillance – Antimicrobial Consumption (GLASS-AMC) agreement to submit AMC (antimicrobial consumption) data.

What is Antimicrobial Resistance?

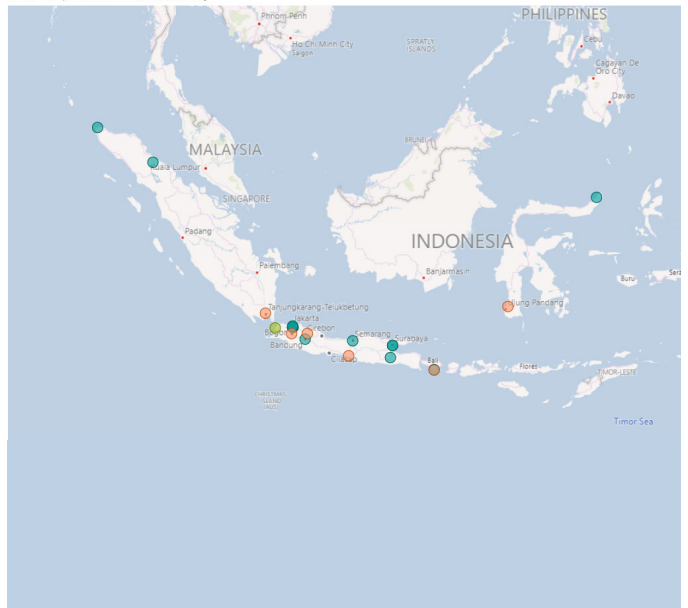
Antimicrobial resistance (AMR) relates to overuse and inappropriate use of medicines, such as antibiotics which makes them ineffective. It is an international threat to human life, food security, animal and plant health, the environment and the economy. It was responsible for 1.27 million deaths in 2019.

AMR affects all countries and resistance can spread across national borders. We need to work together to fight the spread of antimicrobial resistance.



DAI Indonesia exhibition infographic at the G20 event

Sector ● Aquaculture ● Human ● Veterinary



Map of Indonesia showing types of labs supported by the Fleming Fund

Regional Grants

Management Agent: Mott MacDonald

CAPTURA

Gathering Historical AMR Data, IVI

Value: £2,712,824*

Duration: Jan 2019 – Feb 2023

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



Achievements

144

laboratories and pharmacies in-country, in collaboration with the Indonesian MoH, conducted AMR and AMU questionnaire to map out current data availability and capacity.

Based on questionnaire findings, data visualisations shared with key stakeholders and country final report developed to summarise CAPTURA's learnings, major results and recommendations.



Provided WHONET training and technical assistance on AMR data management and analysis in coordination with the Fleming Fund Country Grantee, DAI.



EQASIA

External Quality Assurance – Asia, DTU

Value: £4,247,345*

Duration: Jan 2020 – Dec 2022

Supporting the 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: Sept 2019 – Apr 2023

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

Achievements

14 countries

participating in building capacity in AST through EQAs to NRLs and Centres of Excellence.



The Centre for Health Laboratory and the Centre for Quality Testing and Certification of Animal Products Reference Laboratory both enrolled in EQASIA programme and took part in the Proficiency Testing trials and capacity building training activities.

Achievements

4 regional

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

Delivered both regional data and policy workshops to review existing material and visualisation approaches - developing plans to improve data sharing and analysis.



*(across multiple countries, including Indonesia)

Strategic Alignment Grants

Management Agent: Mott MacDonald



Achievements

WHONET

Grantee: Brigham and Women's Hospital

Value: £889,044*

Duration: Apr 2022 – Dec 2023

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

Ran centralised training and identifying gaps for specialist training in Fleming Fund-supported countries.

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

Supporting the development of modules, including online data entry and integration platform compatible with DHIS-2, and providing scientific guidance for breakpoints (aiding pathogen AST) interpretation and report generation for AMR analysis

FIND

Grantee: FIND

Value: £2,586,226*

Duration: Apr – Dec 2023

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

Uses 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.

SPARC

Grantee: Commonwealth Pharmacists Association

Value: £1,152,947*

Duration: Dec 2021 – Dec 2023

Assisting with antimicrobial use surveillance and using surveillance data to improve prescribing practices. 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 Indonesia)

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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