The Fleming Fund

Taking action against drug resistance for a healthier world
About Us
Who we are

The Fleming Fund is a £265m UK aid programme supporting low and middle income countries to generate, share and use antimicrobial resistance (AMR) data to reduce drug resistance.

The programme was established in response to the 2016 UK AMR Review, the WHO’s AMR Global Action Plan and the IACG’s AMR Framework which called for funding to improve public health surveillance on AMR. It supports public health surveillance which will help improve patient health, inform national health policies and warn of emerging threats.

The programme is managed by UK Department of Health and Social Care and works in 24 priority countries across Africa and Asia.

IACG Framework

The Interagency Coordination Group on AMR brought together partners across the UN, international organizations and individuals with cross-sector expertise, to formulate a blueprint for the fight against antimicrobial resistance.

Global Action Plan

At the World Health Assembly in May 2015, the World Health Assembly endorsed a global action plan to tackle antimicrobial resistance to ensure successful continuity of treatment.
Our Aims

We bring evidence and people together to encourage action against drug resistance for a healthier world.

- Build partnerships across sectors, governments & organisations
- Equip countries to collect & use data on drug resistance
- Encourage clinicians & farmers to use Antibiotics Better
- Encourage governments to invest in tackling AMR for a sustainable future
- Encourage policy makers to make AMR a policy priority
Our Principles

One Health
Because bacteria spreads freely around the environment, we promote a multi-sectoral response, that includes human health, animal health and environmental health.

Alignment
We ensure our funding aligns with broader global and country initiatives like the World Health Organization’s Global Action Plan on AMR.

Sustainability
We ensure that projects, activities and systems are as sustainable as possible, considering resources, motivation and grant design from the start.

Country Ownership
We work closely with national governments to ensure we respond to national priorities set out in their National Action Plans and that all programme activities contribute to national health system strengthening.
Our Five Focus Ares

1) IMPROVING GLOBAL DATA USE AND PUBLIC AWARENESS
   …through improving in-country health economics, health policy, clinical practice and civil engagement

2) DEVELOPING AMR GOVERNANCE
3) IMPROVING GLOBAL SOLIDARITY ON AMR
   …by supporting national action plans, global guidance and protocols, improving drug quality and coordination between the World Health Organization, Food & Agriculture Organization and the World Organisation for Animal Health

4) STRENGTHENING NATIONAL SURVEILLANCE SYSTEMS
5) AMR WORKFORCE CAPACITY
   …through a portfolio of Country, Regional and Fellowship Grants in 24 low and middle income countries in Africa and Asia
Why we do it

700,000 PEOPLE
Globally, some 700,000 people \(^1\) die each year from drug-resistant infections. Without effective interventions this trend is set to rise exponentially.

10 MILLION PEOPLE
By 2050, if current trends continue, some 10 million people could die each year from drug resistant infections. 89% of deaths will occur in low and middle income countries.

100 TRILLION US DOLLARS
Health economists estimate that between now and 2050, there could be up to $100 trillion in lost global production because of AMR.

\(^1\) Review on Antimicrobial Resistance, 2016
What causes AMR

CROP PRODUCTION
Antimicrobials are used to increase the productivity of crops. Drug resistance can spread through the food chain through poorly controlled farming or distribution practices and then can spread into the environment.

HUMAN DRIVERS
Human activity contributes to the spread of AMR through medical practice, unregulated use of drugs, poor prevention control, lack of awareness and poor sanitation.

ANIMAL DRIVERS
Antibiotics are used regularly in animal husbandry for treatment but also for animal growth or as a prophylaxis. Overusing antibiotics can create resistance and but also seep into the environment through manure.
What else is the UK doing to tackle AMR?

GLOBAL ACTIVITIES

- Drive global advocacy, governance and political agenda
- Promote access and responsible use
- Improve detection and surveillance
- Reduce the burden of infection in humans and animals
- Promote R&D

DOMESTIC ACTIVITIES

- Improve IPC practices
- Optimise prescribing practice
- Improve professional education, training and public engagement
- Improve access to and use of surveillance data
- Develop new drugs, treatments and diagnostics

Adapted from the UK’s five year AMR national action plan
Our Approach
Responding to AMR

Many actions are needed to tackle AMR, but we focus on surveillance.
Why surveillance

What is Public Health Surveillance?

An ongoing, systematic collection, analysis and interpretation of health-related data essential to the planning, implementation, and evaluation of public health practice¹.

Why is it needed?

Despite the serious risk that AMR poses to global health little is known about its geographical distribution and the scale of the problem. Without this knowledge our ability to combat the problem is limited. Therefore, gathering data means:

“At the local level, information would help improve patient health. At the national level, surveillance data would help inform health policies and responses to health emergencies. Finally, at the global level, it would provide early warnings of emerging threats and help identify long-term trends.”²

¹ World Health Organization
² Review on Antimicrobial Resistance, 2016
Fleming Fund Theory Of Change

<table>
<thead>
<tr>
<th>OUTPUTS</th>
<th>INTERMEDIATE OUTCOMES</th>
<th>LONG-TERM OUTCOMES</th>
<th>IMPACT</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Quality data produced</td>
<td>Decision makers use quality data for evidence informed health policy and programming</td>
<td>Supports the achievement of the SDGs</td>
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<tr>
<td></td>
<td>Quality data shared</td>
<td>Use of antimicrobial medicines optimized</td>
<td>Global population, including the UK, safe and secure from global health security threats</td>
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<td></td>
<td>Quality data analyses conducted</td>
<td>Political space created to change and fund health systems in response to AMR data</td>
<td>Sustainable investment at country and global levels to counter AMR in place</td>
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<td></td>
<td></td>
<td>Decision makers convinced of need for action on AMR</td>
<td>Strong, resilient and integrated health systems with Antimicrobial Stewardship practices embedded</td>
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<td>Strong country AMR governance &amp; leadership</td>
<td>UK leadership &amp; coordination in international partnerships increased</td>
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One Health

- AMR workforce technical capacity developed
- Lab capacity & surveillance systems established
- Global/regional/national solidarity & consensus created
- Improved awareness & understanding of AMR

Country enabling environment

2016

2022

2030 and beyond
Our Surveillance Approach

We use these steps to support and invest in One Health surveillance systems around the world. Our grantees build partnerships with country governments working through national coordinating centres and supporting national action plans.

1. Develop AMR action plan using WHO template and guidance
2. Incorporating human health, animal health and the environment
3. Identify surveillance sites & current capacities
4. Situational Analysis
5. National Coordination Centre

Country uses surveillance data and reports data into WHO’s Global Antimicrobial Surveillance System (GLASS)

Surveillance Data

Improve bacteriology knowledge & data processes. Deliver, install & maintain laboratory equipment

Implementation

Identify data protocol needs and equipment needs in surveillance sites & plan roll-out

Planning

National Action Plans revised using new data
How data is reported

Countries report human and animal health data to several international bodies.

Types of Data Collected

- Resistance to antimicrobial medicines
- Trends in the use or consumption of antimicrobial medicines
- The quality of antimicrobial medicines
- Burden of disease and contribution of AMR to mortality

*The GRAM project actively gathers data from countries and develops forecasts and predictions about the contribution of AMR to mortality*
Low and Middle Income Countries Face the Biggest Risk

89% of the predicted 10 million fatalities will likely be in Africa and Asia.

Common infections would become difficult and expensive to treat, meaning families who can’t afford health care would suffer the most.

Because less developed countries often have a greater prevalence of infectious disease, controlling and understanding drug resistance patterns is highly complex in these countries.

Poor hygiene and sanitation systems generally contribute to the spread of disease and bacteria, meaning resistant bacteria can spread easier.
How does AMR relate to the Sustainable Development Goals?

Antimicrobial resistance is a global crisis. There is no time to wait. A sustained One Health response with a shared vision and goals is essential to tackle antimicrobial resistance and achieve the Sustainable Development Goals.

Interagency Coordination Group on Antimicrobial Resistance Recommendations

- Accelerate progress in countries
- Innovate to secure the future
- Collaborate for more effective action
- Invest for a sustainable response
- Strengthen accountability and global governance

Sustainable Development Goals

Graphic courtesy of: Interagency Coordination Group on Antimicrobial Resistance. 2019. No Time to Wait: Securing the future from drug-resistant infections
Our Programmes
**STRENGTHENING NATIONAL SURVEILLANCE SYSTEMS & AMR WORKFORCE CAPACITY**

Laboratory and surveillance strengthening and technical capacity development

- **MOTT MACDONALD** up to £233 million
  - Fellowship Schemes
  - Country Grants
  - Itad | £2.8 million
  - **OUCRU** | £2 million
  - International Reference Centre for AMR in Animal Health and Agriculture | £1 million

**DEVELOPING AMR GOVERNANCE & IMPROVING GLOBAL SOLIDARITY**

Global guidance and action plans

- **World Health Organization** | £9.9 million
- **Food & Agriculture Organization** | £8.5 million
- **FIND** | £1 million
- **World Organisation for Animal Health** | £5 million
- **World Health Organization Substandard & Falsified Medicines** | £4 million

**IMPROVING AWARENESS AND DATA USE**

Drug Quality, Civil Society Participation & Data Use

- **Commonwealth Partnerships for Antimicrobial Stewardship** | £1.3 million
- **ODI Fellowships** | £1.5 million
- **South Centre** | £1 million
- **GRAM** | £6.2 million
Country Grants

The aim of the country grant programme is to establish national surveillance systems to improve country-level AMR data collection and analysis. The programme is conducted over 4 years (2018 – 2022) with grants allocated between 12-24 months. Funding envelopes differ per country based upon the needs and assessed priorities. In most countries, two rounds of grants will be given.

ELIGIBLE FUNDING ITEMS

- Laboratory Infrastructure Enhancement
- Human Resource Strengthening
- Surveillance System Strengthening
- Building Foundations for Surveillance Data Use
- Rational use of Antimicrobial Medicines

Testing samples from laboratory in Nepal show resistant and non-resistant bacteria
Professional Fellowships

The fellowship scheme aims to support the professional development of key practitioners and technical experts across 22 countries. Fellowships will run between 6-24 months and focus on capacity development and building national expertise.

PROFESSIONAL FELLOWSHIPS

Scientists, researchers and clinicians are paired with world class academic and research institutions for 18-24 months of training and mentoring in AMR. Professional fellows conduct collaborative projects and contribute to an evidence to encourage AMR policy changes.

Newly selected fellows attend a kick-off workshop in Vietnam with the British Ambassador present.
**ROUND 1**
The aim of this round is to find and analyse historical AMR data across four regions by working with existing institutions or health facilities. Initially four regional grants will be offered across West Africa, East & Southern Africa, South Asia & South East Asia. This data will help establish baselines and provide early evidence for policy making.

**ROUND 2**
The aim of these grants is to support the investments that are made at the country level through a regional approach. Eight regional grants have been offered across West Africa, East & Southern Africa, South Asia & South East Asia. Grants focus on building capacity, quality diagnostics, building regional infrastructure and planning, policy and advocacy.

- **Grant 1:** External Quality Assurance in Africa
- **Grant 2:** External Quality Assurance in Asia
- **Grant 3:** Common surveillance protocols
- **Grant 4:** Microbiology & Epidemiology Training
- **Grant 5:** Planning, Policy & Advocacy
- **Grant 6:** Regional Infrastructure Capabilities/Barriers Africa
- **Grant 7:** Regional Infrastructure Capabilities/Barriers Asia
- **Grant 8:** Regional Infrastructure Capabilities/Whole Genome Sequencing Africa

Grantees for the Whole Genome Sequencing Grant attend a kick-off workshop in Tanzania.
The South Centre aims to promote common interests among the countries of the South while recognizing and reflecting their diversity. South Centre contribute towards supporting LMICs to take ownership for tackling AMR in their countries.

**Focus Area**

Awareness and Advocacy

**Total Budget**

£1 million

**Timeframe**

Jan 2017 – Dec 2019

**Location**

Global

**Delivery Partner**

South Centre in partnership with other ARC members including; REACT Africa, Third World Network

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Itad provides independent, professional advice and monitors the grant programme performance, including country, regional and fellowship grants. The also provide adaptive management support to the programme to ensure learning is continuously used to improve results.

**Focus Area**

Governance & Policy

**Total Budget**

£2.8 million

**Timeframe**

Oct 2016 – Oct 2021

**Location**

16 Fleming Fund grant programme countries

**Delivery Partner**

Itad
Global Burden of Disease of AMR.

The goal is to collect, synthesise and visualise data on the burden of disease associated with antimicrobial resistance (AMR), quantify the problem and promote policy attention and resource allocation to tackle the issue.

Focus Area

Improving awareness

Total Budget

£6.2 million

Timeframe

Jan 2016 – Jun 2021

Location

Global, 195 countries

Delivery Partner

University of Oxford, Institute of Health Metrics and Evaluation

Economic Fellowships

Using the Overseas Development Institute (ODI) economic fellowship model to place fellows in LMIC One Health Ministries (or relevant institutes) for a minimum of two years. Fellows will develop core economic competencies in their host institutions that underpins the development of evidence-based policy to address AMR.

Focus Area

Improving Data Use

Total Budget

£1.5 million

Timeframe

Jan 2018 – Mar 2023

Location

Nigeria and Thailand

Delivery Partner

Overseas Development Institute
Commonwealth Partnerships for Antimicrobial Stewardship

The scheme funds health partnerships – existing or new – between the UK’s NHS Trusts and hospitals and health institutions in Ghana, Tanzania, Uganda and Zambia. These partnerships will undertake projects of up to 15 months that aim to improve antimicrobial stewardship practices.

Focus Area: Improving data use

Total Budget: £1.3 million

Timeframe: Jan 2018 – Jun 2020

Location: Uganda, Tanzania, Zambia, Ghana

Delivery Partner: Tropical Health and Education Trust, Commonwealth Pharmacists Association

International Reference Centre for AMR in Animal Health & Agriculture

The goal is to ensure countries have access to draw-down services for world class technical assistance, training and quality assurance in animal health, agriculture and aquaculture to support the building of AMR surveillance across all sectors.

Focus Area: AMR Surveillance

Total Budget: £1 million

Timeframe: Jan 2019 – Dec 2020

Location: Available globally, currently in; Nigeria, Bangladesh, Laos, Vietnam, Ghana

Delivery Partner: UK DEFRA ministries; Veterinary Medicines Directorate, Centre for Environment Fisheries and Aquaculture Science and Animal Plant Health Agency
## Detection and Monitoring of Substandard Medicines

To increase the ability of LMICs to detect and respond to substandard and falsified medicines by evaluating the effectiveness of three field-based screening technologies. Improving the identification of substandard and falsified medicines will reduce the spread of AMR by optimising the use of medicines.

**Focus Area**
- Drug Quality

**Total Budget**
- £1 million

**Timeframe**
- May 2018 – Apr 2020

**Location**
- Laos

**Delivery Partner**
- Foundation for Innovative New Diagnostics

## Researching Substandard & Falsified Medicines

Supporting WHO’s work on the prevention, detection and response to substandard and falsified (SF) antibiotics in Africa and South and South East Asia. WHO’s work aims to decrease the risks of SF medical products contributing to AMR, particularly in low and middle-income countries (LMICs).

**Focus Area**
- Drug Quality

**Total Budget**
- £4 million

**Timeframe**
- Apr 2018 – Mar 2022

**Location**
- Sierra Leone, Ghana, Nigeria, Uganda, Burkina Faso, Tanzania, Malawi, Bangladesh.

**Delivery Partner**
- World Health Organization
Tripartite Grant

To support the development and implementation of National Action Plans on AMR, support integrated surveillance and reporting of AMR in animals and to collect, consolidate and publish information on the global consumption of antimicrobial medicines.

Focus Area: Governance & Policy

Total Budget: £5 million

Timeframe: Aug 2016 – Mar 2020

Location: Focus on Sub-Saharan Africa and South and South-East Asia

Delivery Partner: The World Organisation for Animal Health

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Tripartite Grant

Supports countries to develop and implement National Action Plans on AMR, develop global guidance and protocols, increase technical capacity and raise awareness of AMR and change behaviours in targeted sectors.

Focus Area: Governance & Policy

Total Budget: £8.5 million

Timeframe: Jan 2016 – Mar 2020

Location: Laos, Vietnam, Philippines, Sudan, Ethiopia, Kenya, Tanzania, Zambia, Zimbabwe, Ghana, Cambodia

Delivery Partner: Food and Agriculture Organization
**Vietnam Pilot Project**

To build and maintain an AMR reference laboratory with National capacity in the new National Hospital for Tropical Diseases (NHTD) in Hanoi. Additionally, the project supported development of an AMR surveillance system for human health, working across 13 different sites.

**Focus Area**  AMR Surveillance

**Total Budget**  £2 million

**Timeframe**  Dec 2015 – Aug 2019

**Location**  Vietnam

**Delivery Partner**  Oxford University Clinical Research Unit

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**Tripartite Grant**

To support the development and implementation of National Action Plans on AMR, support integrated surveillance and reporting of AMR and to collect, consolidate and publish information on the global consumption of antimicrobial medicines.

**Focus Area**  Governance & Policy

**Total Budget**  £9.9 million

**Timeframe**  Aug 2016 – Mar 2020

**Location**  Countries across the WHO AFRO, WPRO, SEARO and EMRO regions.

**Delivery Partner**  World Health Organization
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