



# The Fleming Fund

2020 Management Agent Update



The  
Fleming  
Fund







**The Fleming Fund** is a £265 million UK aid programme supporting up to 24 countries across Africa and Asia to tackle antimicrobial resistance. The Fund is managed by the Department of Health and Social Care and invests in strengthening surveillance systems in low- and middle-income countries. Mott MacDonald has been appointed as the Management Agent for a portfolio of Country and Regional Grants and the Fellowship Programme. This update covers the progress delivered under that portfolio.

Visit [www.flemingfund.org](http://www.flemingfund.org) for more information.

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## Programme Director's Note



**Steve Wilson**  
Programme Director  
Fleming Fund Programme  
Mott MacDonald

It's fair to say that 2020 did not turn out to be the year any of us were expecting!

The COVID-19 global pandemic disrupted the programme significantly, placing a huge strain on everyone involved, impacting stakeholders, grantees and beneficiaries alike. Despite the strong COVID-19 headwinds, the programme has continued to make good progress towards its goals. This annual update reflects on the collective and impressive achievements of the grants programme delivered through Mott MacDonald as the Management Agent.

During 2020, a further 17 grants were issued, bringing our portfolio to 71 grants to date. Support was extended to more than 200 human and animal health laboratories, with 69% reporting improved functional capacity for improved data. Fourteen countries produced data in line with the parameters for quality and quantity of data as laid out in the Global Antimicrobial Resistance Surveillance System (GLASS), up from 4 in 2019. To date, the programme has delivered 16 Mass Spectrometers, 51 Blood Culture instruments and 20 automated Antimicrobial Susceptibility Testing platforms. Procurement was disrupted in 2020, though not as much as feared, with delays in equipment shipping and installation. This should be back on track in 2021. While Country Grants have strengthened key laboratory capacities, Regional Grants have been busy collecting AMR data across some 837 sites in 23 countries, providing important historical data baselines. Regional Grants have helped to expand the network of external quality assurance in Africa and Asia. More on surveillance progress can be found on page 14.

The Fellowship Programme, a key capacity building and sustainability component of the Fund, was also significantly disrupted in 2020. Many of our Fellows

directly supported COVID-19 efforts and many planned mentoring activities were unable to take place due to travel disruptions. Despite this, we welcomed 49 new Fellows into the programme, bringing the total to 131, and Fellows continued many training activities and several important research projects. Fellows in Ghana were the first to 'graduate' from their programme, which was marked by a presentation of their work at the start of January 2021. Other important training activities in Country and Regional Grants were equally disrupted but adapted quickly to remote delivery models to continue programming. Workforce capacity development at all levels is critical to the programme's success, so it was heartening to see ongoing progress. More on this on page 16.

Although it has been crucial to maintain our focus on AMR during the pandemic, there have been some opportunities to flexibly support COVID-19 activities more directly. In some countries, this has meant the temporary use of small items of equipment, coordination of transport for COVID-19 samples or supporting biosafety training. In Africa, we supported COVID-19 isolate sequencing through our whole genome sequencing Regional Grant.

There are many positives from 2020 that we could add to this list but suffice to say, these efforts are hugely impressive. A huge thank you to everyone working across the programme for your extraordinary hard work and dedication in such a difficult environment last year. Looking forwards, we are hopeful the rapid development of vaccines will reduce the COVID-19 impact but anticipate some ongoing disruption throughout 2021 to the programme. However, given the resilience and adaptation demonstrated in 2020 we can be confident that progress will continue to be made in improving AMR surveillance.

## About AMR

### What is AMR?

Antimicrobial resistance (AMR), also known as drug resistance, is one of the largest threats to global health.

**“Antimicrobial Resistance is one of the most urgent health threats of our time.”**

*Dr Tedros Ghebreyesus, World Health Organization*

Resistance occurs naturally when micro-organisms are exposed to antimicrobial drugs and adapt to survive the exposure (AMR is evolution in action). This can happen in humans, animals and the environment. Resistant micro-organisms may then spread over time, becoming commonplace, meaning ordinary medicines are no longer effective.

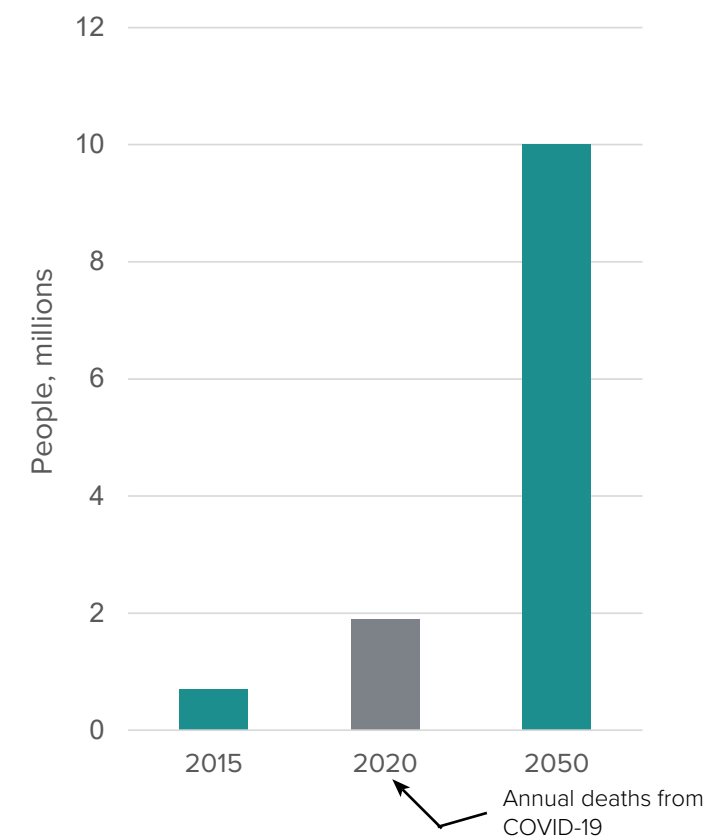
### Why does it matter?

Health economists estimate that by 2050, AMR could result in \$100 trillion lost in economic activity and up to 10 million deaths each year, if current trends continue (UK AMR Review, 2014). AMR affects all countries and resistance can spread across national borders and boundaries. We need to work together to fight the spread of resistance.

### How does AMR spread?

Humans contribute to the spread of AMR through the inappropriate and unregulated use of antimicrobial drugs, along with poor infection prevention and control. Antimicrobial drugs are also used in animal husbandry and veterinary medicine for disease prevention, treatment and growth promotion. Sub-therapeutic doses of medicines used in growth promotion or widespread treatment for disease prevention, contribute to resistance because they give bacteria a greater chance to adapt to their environment and survive exposure. Also use of antimicrobials in crop production can generate resistant bacteria that can spread into water bodies and the environment, thus exposing humans and animals. Resistant bacteria already kills over 700,000 people a year. If current trends continue AMR may be the next pandemic.

### Predicted Annual AMR Deaths Globally



Source: UK AMR Review & JHU COVID-19 Tracker

### About the Fleming Fund

The Fleming Fund is a £265 million UK aid programme supporting up to 24 countries across Africa and Asia to tackle antimicrobial resistance. The UK Government established the programme in 2015 in response to the UK AMR Review and the WHO Global Action Plan on AMR, which called for funding to improve AMR surveillance, public awareness and responsible drug use. The programme focuses on low- and middle-income (LMIC) countries because they are expected to bear the heaviest consequences of the spread of AMR. The UK AMR Review estimated that by 2050, up to 90% of all deaths related to AMR will come from Africa and Asia. The Fleming Fund is named after Sir Alexander Fleming, the scientist who discovered penicillin and contributed to the development of the world's first antibiotic drug.



# A Year in Review

## Grant Portfolio



## About Mott MacDonald

Mott MacDonald is a global engineering, management and development consultancy that aims to improve society by considering social outcomes in everything we do. We are the commercially appointed Management Agent for the Fleming Fund Country, Regional and Fellowship Grant programmes. We are responsible for grant scoping, placement and monitoring, coordination, administration, risk management and supporting the Department of Health and Social Care with strategy and technical advice.

## About Department of Health and Social Care



The UK Department of Health and Social Care is our client and responsible for the overall management of the Fleming Fund. They are responsible for oversight of Mott MacDonald and for the additional programmes and grants which make up part of the £265 million official development assistance (ODA) fund. Please visit the [Global Projects](#), section of the Fleming Fund’s website for more details.

## Our Grants

### Country Grants

Country grants support national AMR surveillance systems, build laboratory capacity and help establish AMR governance systems.

### Other Grants

-  **3 Procurement Grants**
-  **2 Online Learning Grants**

-  **27 Grants**
-  **23 Countries**
-  **5 Completed Grants**






### Fellowship Scheme

Fellowships offer mentorship and professional development for practitioners and policymakers engaged in antimicrobial resistance (AMR) surveillance.

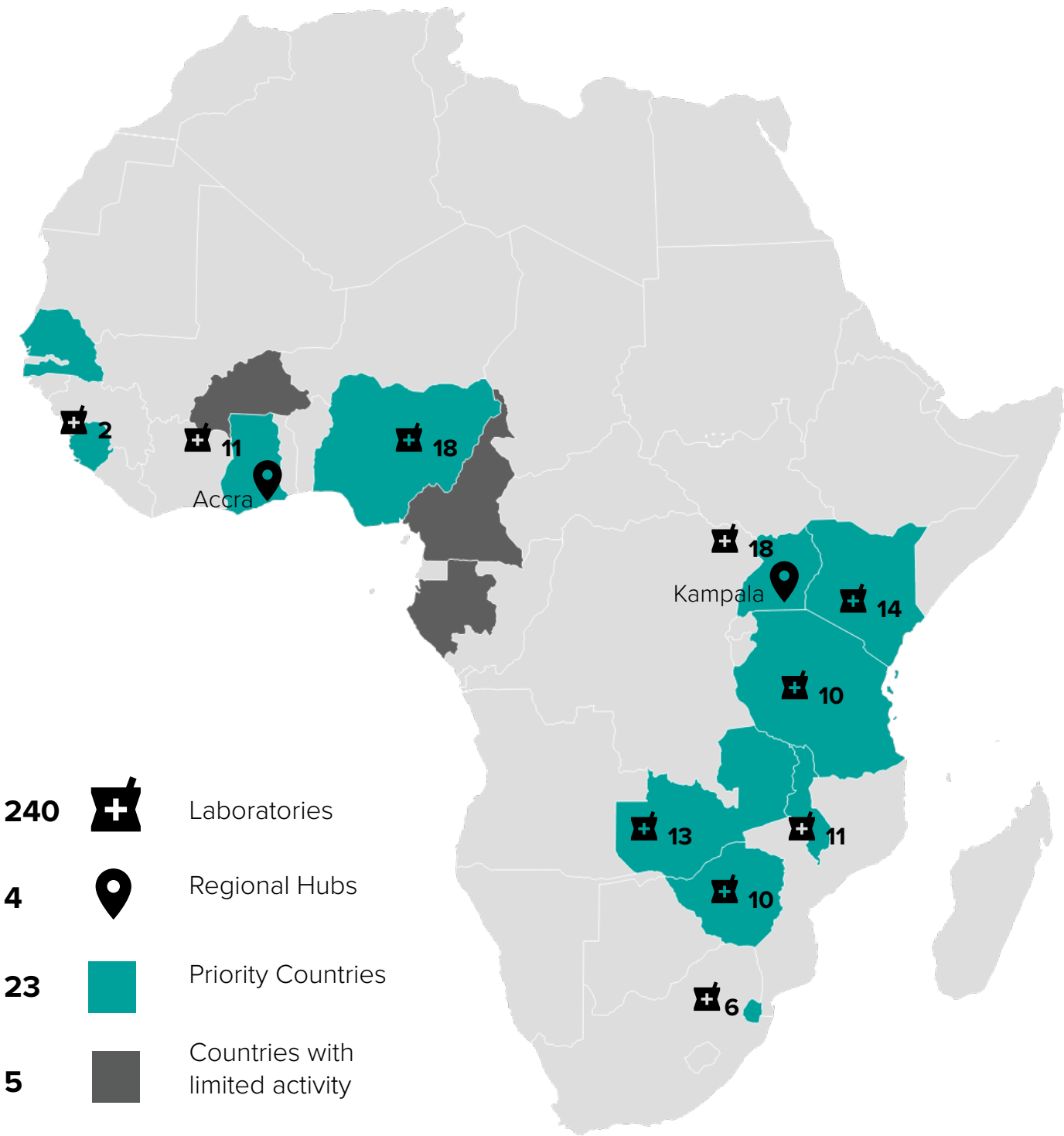
### Regional Grants

Regional Grants operate across four Fleming Fund regions: West Africa, East & Southern Africa, South Asia and South East Asia, to collect historical AMR data and improve training, standardisation and capacity.

-  **11 Grants**
-  **28 Countries**

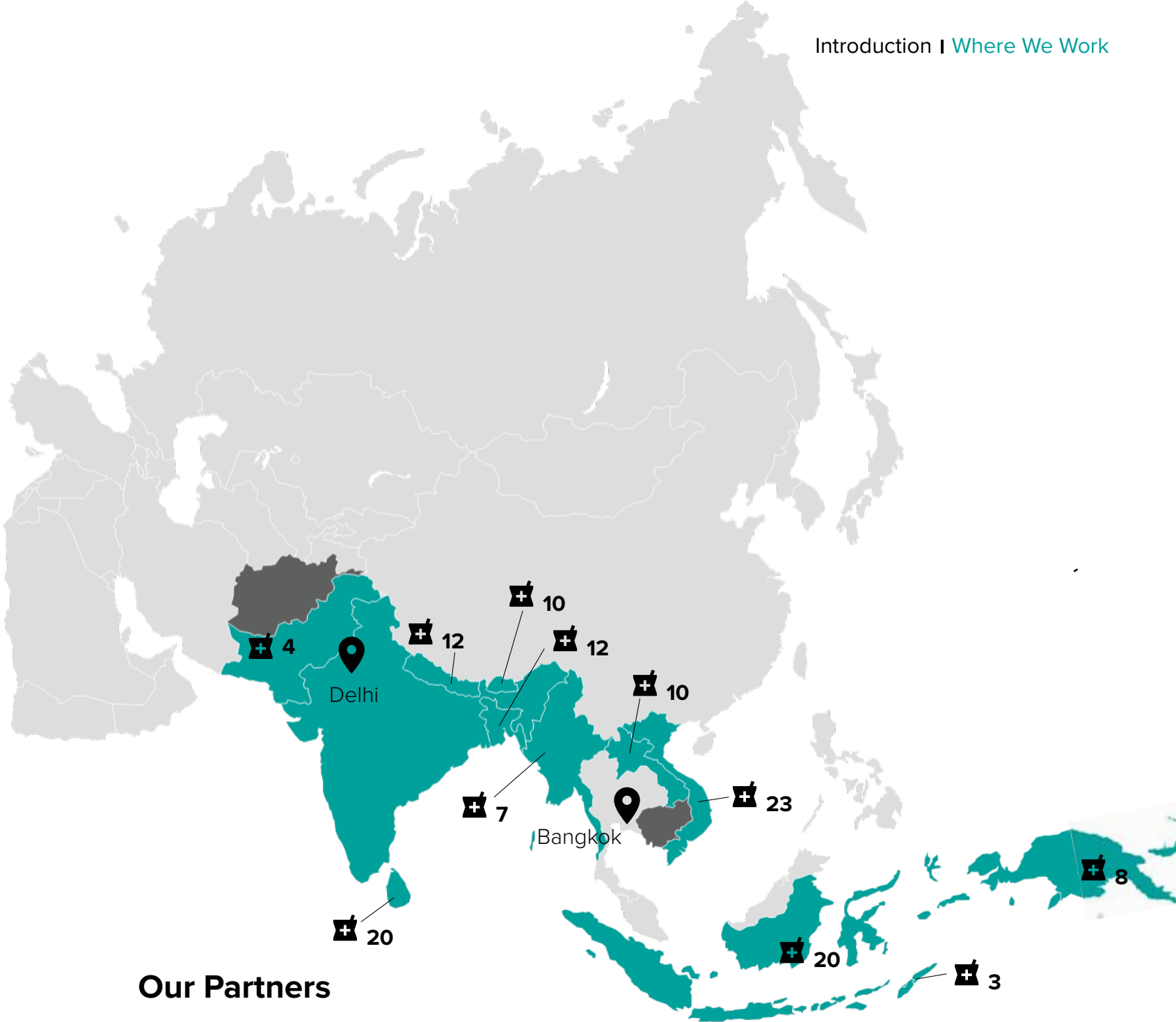
-  **131 Fellows**
-  **73 Males**
-  **58 Females**
-  **23 Grants**
-  **21 Countries**

# Where We Work



- 240 Laboratories
- 4 Regional Hubs
- 23 Priority Countries
- 5 Countries with limited activity

Map represents UN country borders. It does not imply any opinion whatsoever concerning the legal status of any country, territory or delimitation of frontiers or boundaries.



## Our Partners

- African Society for Laboratory Medicine
- American Society for Microbiology
- Aurum Institute
- BD
- BioMérieux
- Burnet Institute
- Centre for Infectious Disease Research in Zambia
- DAI
- Ending Pandemics
- Erasmus University Medical Centre
- Ernst & Young
- FHI 360
- Fondation Mérieux
- Food and Agriculture Organization of the United Nations
- Government of Bhutan, Department of Medical Services
- ICAP at Colombia University
- Infectious Disease Institute
- International Livestock Research Institute
- International Vaccine Institute
- International Procurement Agency
- London School of Hygiene & Tropical Medicine
- Mahidol University
- Massey University
- Menzies School of Health Research
- PATH
- Public Health England
- School of Public Health, Hong Kong University
- Technical University of Denmark
- The Open University
- The Peter Doherty Institute for Infection and Immunity
- The University of North Carolina at Chapel Hill
- United Nations Office for Project Services
- University of Edinburgh
- University of Ghana, ORID
- World Health Organization

## Our Values in Action

### ALIGNMENT ACROSS AFRICA

*We ensure our funding aligns with key global frameworks, including the World Health Organization's Global Action Plan on AMR, and we ensure not to duplicate other donors' efforts.*

Across Africa, the ongoing work of our whole genome sequencing grantee, Technical University of Denmark (DTU), has improved sequencing collaboration and alignment throughout the continent. The grant aims to build bioinformatics and genomics capacity across centres in South Africa, Tanzania, Ghana and Nigeria. However, following the onset of COVID-19, DTU were informed that multiple sequencing opportunities were becoming available across the continent with manufacturers, other donors and the Africa CDC.

DTU recognised the importance of coordination to avoid duplication, initiating a meeting with Africa CDC to divide viral and bacterial sequencing resources amongst CDC's 55 member states. As a result, DTU began contributing to the CDC's Africa Pathogen Genomics Initiative which now operates as a coordinating body between various actors. This has allowed DTU to offer sequencing services to a larger number of countries. They have also offered virtual bioinformatics training and participation in an external quality assurance network (which is part of their grant) to all members of the Africa Genomics Initiative, beginning in 2021.

### SUSTAINABILITY IN TIMOR-LESTE

*The Fleming Fund's investments are designed with long-term sustainability in mind. We consider countries' resources, capacity, motivations and existing AMR activities from the start.*

In Timor-Leste, the ongoing work of grantee Menzies has resulted in considerable improvement in clinical and laboratory collaboration and testing. Nevio Sarmento, who has worked as a scientist in the Timorese health system for 10 years and has recently been recruited by Menzies said, "When I returned to Timor-Leste after my masters in 2015, we were testing 5-10 samples a day in the laboratory, now we test 30-50 samples. Menzies are never absent; they always help us interpret results."

Nevio says better communication has also had a tangible impact on patient health. For example, in one case, test results from an intensive care patient showed the presence of a multi-resistant pathogen. New equipment from the Fleming Fund helped ensure testing accuracy and confirmed the pathogen's antibiotic resistance pattern. As a result, the hospital closed the intensive care ward to completely disinfect the environment, avoiding further infection transmission.

### ONE HEALTH IN BHUTAN

*By investing in both human and animal health laboratories and promoting data sharing, analysis and even joint action between human, animal, agriculture and environment government ministries, we support national One Health AMR surveillance systems.*

In Bhutan, animal and human health practitioners have been working together to make decisions and improve laboratory work. In particular, laboratory staff say they are collaborating better on media preparation of blood agar.

Media preparation is the process of mixing various substances to create an ideal environment for bacterial growth on a culture plate. The most effective blood agar is made from sheep blood, meaning sheep need to be reared near a laboratory where technicians can regularly collect blood vials.

Support from Fleming Fund means that the animal health laboratory practitioners now care for the sheep and share blood vials with human health laboratories. "We are very close to the human health laboratory here, so we meet them frequently. We care for the sheep and then share with our colleagues in human health. This helps us to streamline our services," said Dr N.K Thapa, Animal Health Specialist at the National Centre for Animal Health.

He says better collaboration has also had long-standing health system strengthening impacts. "During the COVID-19 response we shared equipment with human health colleagues - that would not have happened without existing sharing of resources. Now, compared to the past, we are having Technical Working Group meetings more frequently. We come together and discuss common issues and we are identifying what other resources could be shared."

### COUNTRY OWNERSHIP IN PAKISTAN

*We are committed to working closely with national governments to ensure that all programming contributes to national health system strengthening and prioritises investment in public sector laboratories.*

In partnership with country grantee, DAI, authorities in Pakistan have increased support for AMR initiatives. In 2020, the country held a National AMR Symposium bringing animal health, human health and environment stakeholders together. The National Institute of Health also started a national AMR newsletter highlighting achievements and One Health collaboration.

Farzana Altaf Shah, AMR Environment Focal Person at Pakistan's Environmental Protection Agency said: "AMR is an emerging public health concern - antimicrobials are found not only in humans and food animals, but also in the environment, more specifically in water sources. AMR bacteria presence in our ecosystem is now widely recognized, needs greater focus and more harmonized consideration as an environmental health hazard and must be addressed through integrated prevention and control measures."







# | Our Activities

*Photo: Equipment manufacturers in Belgium load laboratory instruments into a shipping container for transport to laboratory sites*



# Strengthening Surveillance Systems

Strengthening surveillance systems and laboratory capacity is the bedrock of the Fleming Fund programme. Without data from surveillance systems, the global community will struggle to respond to the AMR crisis. And to generate AMR data, laboratories must continually test a significant number of samples and be equipped with the right tools, training and technology to analyse results.

In 2020, we built key laboratory capacities across all of our countries, supported better engagement between clinicians and laboratory staff and encouraged national and international sharing of AMR surveillance data.

We delivered state-of-the-art laboratory equipment, including blood culture and antimicrobial susceptibility testing instruments and mass spectrometers to animal and human health laboratories, helping to improve testing quality and accuracy. We supported biosafety and biosecurity programmes, external quality assurance programmes and helped laboratories install information management systems to manage data and samples.



## Data Sharing & Use

### Local

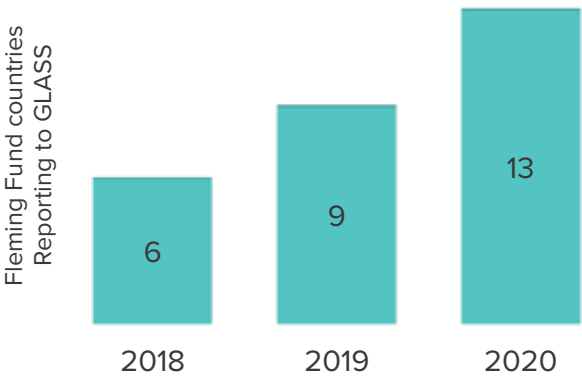
In 2020, many of the laboratories we supported began to analyse and use data locally. Laboratory scientists, clinicians and hospital administrators formed antibiotic stewardship committees to better understand drug use in hospitals and analyse local trends in resistance. Several sites also developed their own antibiogram, a periodic summary of antimicrobial susceptibilities in local bacteria isolates.

### National

Across many countries, data from local laboratories, was fed up to national Technical Working Groups or decision-making bodies and has been used to help shape policy and technical documents (see governance section).

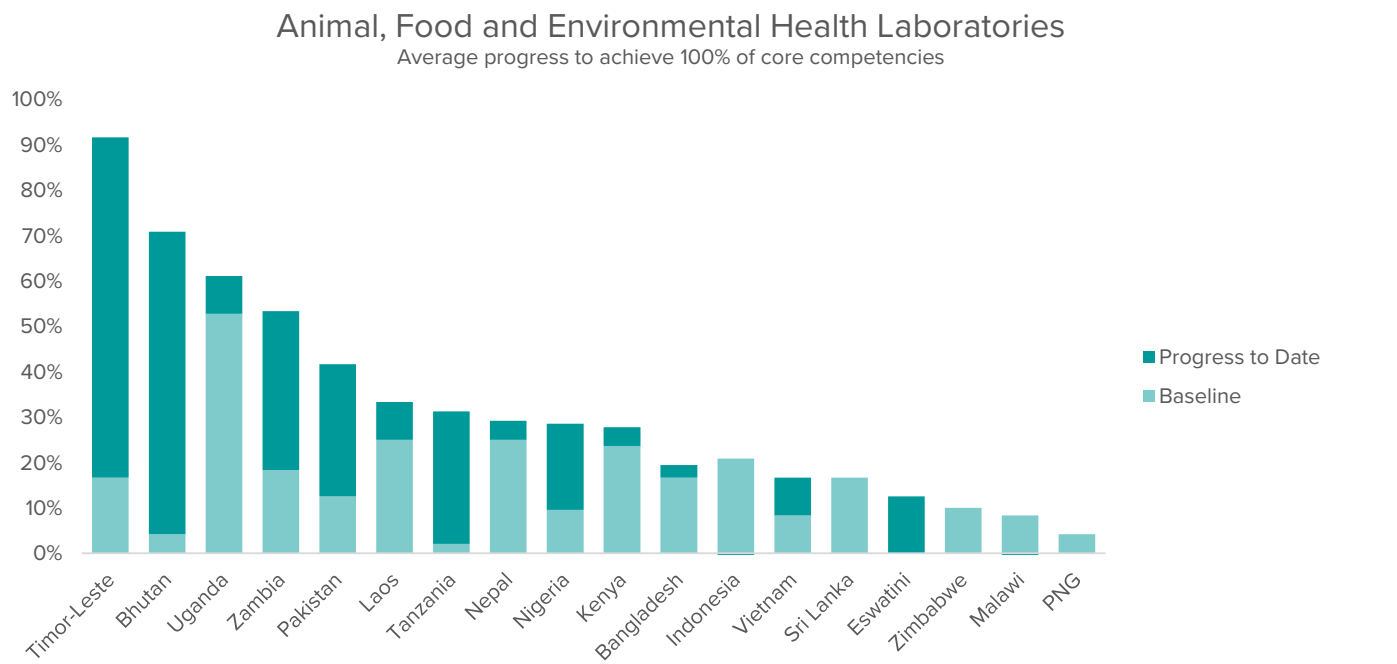
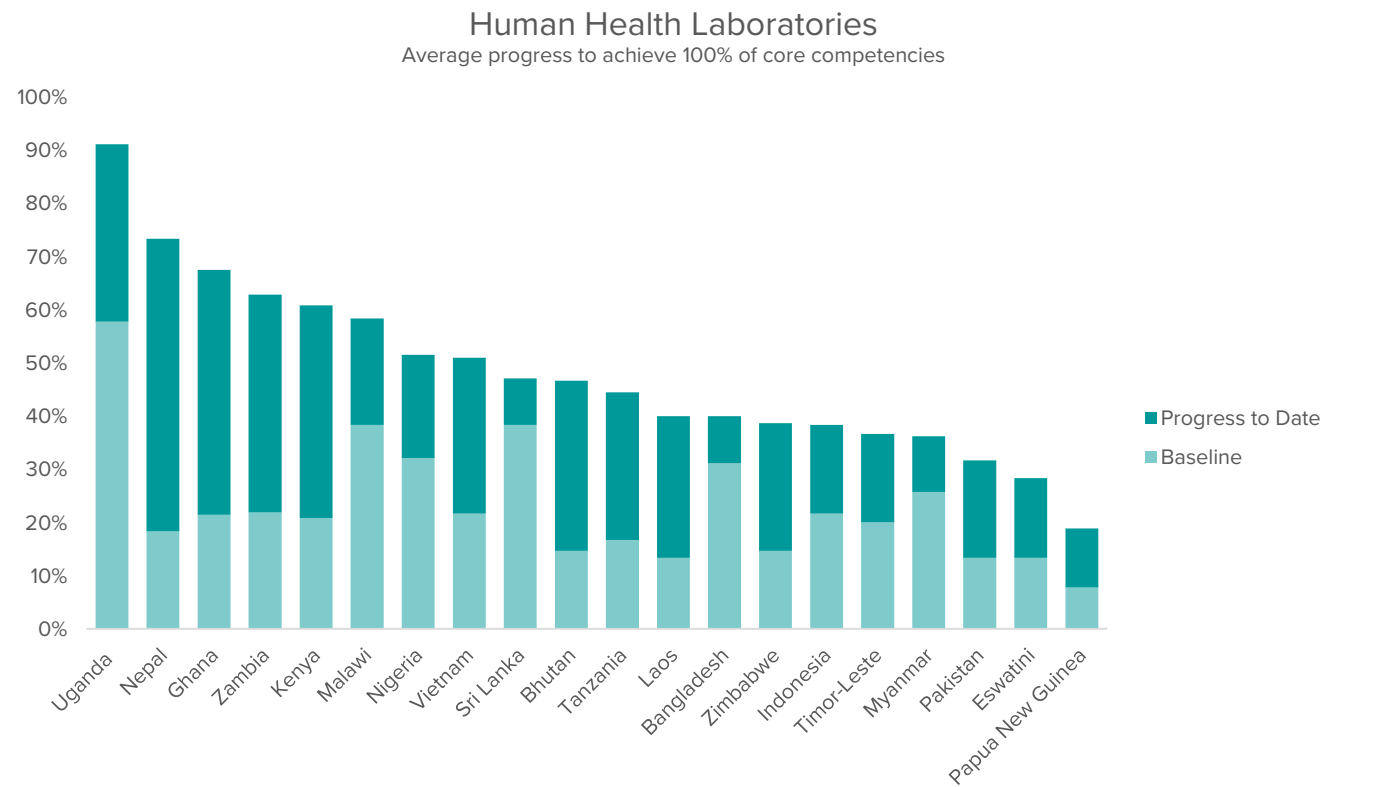
### International

An increased number of countries also reported data into the Global AMR Surveillance System (GLASS) which is managed by the World Health Organization. GLASS data can help international bodies spot emerging trends and predict possible outbreaks. Similarly for animal health, an increasing number of countries reported data to the World Organisation for Animal Health (OIE). (NB: Below, 2020 data is based on country interviews, official numbers will be published in 2021)



## Laboratory Strengthening

The Fleming Fund invests in laboratory capacity by supporting training, data management systems, laboratory equipment and biosafety. Throughout the programme laboratories benchmark achievements against a set of critical competencies like culturing specific bacteria, conducting susceptibility testing, managing data, etc. The graphs below highlight each country's average progress to achieving 100% of core competencies within our framework.





# Supporting Workforce Capacity

AMR is a complex issue that requires significant expertise among scientists, policymakers and data analysts.

By training and equipping thousands of technical staff around the world, our grants aim to help countries to respond to drug resistance better.

All of our Country, Regional and Fellowship Scheme Grants include capacity building, mentoring or training components.

Primarily, we support training and mentorship in the following areas, Microbiology, Epidemiology, Surveillance System Design & Analysis, Quality Management, Leadership, Communication & Policy, Data Collection, Management & Analysis, Sampling and Transport, and Clinical Skills.

## COVID-19 & Capacity Building

Throughout 2020, the Fleming Fund partnered with sequencing facilities in Denmark, Ghana, Nigeria, Tanzania and South Africa to build technical genomics and AMR surveillance capacity in Africa. But this year, scientists in South Africa are using support from the Fleming Fund to sequence samples of COVID-19.

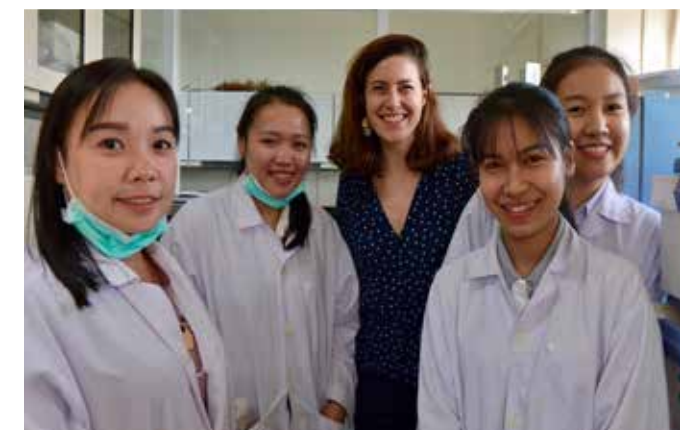
Jinal Bhiman, a Medical Scientist who works at South Africa's National Institute for Communicable Diseases (NICD) worked around the clock from the beginning of the pandemic and said Fleming Fund support had increased sequencing capacity.

"We are completely overwhelmed at the moment, so having additional staff is so helpful. We are really appreciative of Fleming Fund for supporting us!" Read the whole story [here](#).

## Online Learning

In 2020, the Open University began developing several online learning modules to provide laboratory professionals, clinicians, veterinarians and policy makers with a greater understanding of AMR. In 2021, 25 modules will be produced and made available for free to the public on the Open University website.

Students can specialise in 10 different pathways according to their roles as laboratory, clinical or policy professionals. Available modules and progress can be viewed on the Open University [website here](#).



## Fellowship Research Projects

Scientists and policymakers taking part in our Fellowship Scheme, work with a university mentor and other fellows on research projects. These projects explore key AMR questions and issues within a Fellow's home country. In 2020, ongoing research included the following topics:

### Ghana

Availability and use of antibiotics in Brong Ahafo Region

Antibiotic use among selected poultry farmers in the Brong Ahafo Region

### Nigeria

Drug resistance patterns of *E.coli* and *Salmonella* in cattle & pigs and antimicrobial use patterns in slaughterhouse workers

Examining the linkages between AMR and antimicrobial use in poultry farms in Nigeria and the potential for impact on human health

### Uganda

Developing a One Health AMR Surveillance System for Uganda: A study in Jinja & Mbarara Districts

### Laos

Antimicrobial Consumption (AMC) Surveillance in Food Animals in Laos

AMC surveillance in humans at national level in Laos

### Sri Lanka

Design and development of an AMR surveillance program for *E. coli* under the One Health concept to ensure data quality





# Building Strong AMR Governance



Much of the Fleming Fund's success rests upon commitments from governments to act against drug resistance once the project ends. That's why we equip governments with the necessary structures, strategies and supplies to tackle AMR, including:

**Policy & Technical Documentation:** we support development of policy documents, like health strategies or MOUs, and technical documents, like scientific protocols or national laboratory guidelines.

**Economic Analyses:** we support individuals to carry out budgeting and planning exercises that highlight the resources required to continue AMR surveillance.

**Political Advocacy:** we support global and national policy studies and political advocacy to encourage antimicrobial regulation and investment.

**Committees & Working Groups:** we help establish committees and technical working groups across ministries to facilitate data analysis and policy-making.

## Policy & Technical Documents

In 2020, Fleming Fund programming supported countries and governments to develop considerable policy and technical documentation, outlining their governance system and the long-term strategy for AMR surveillance.

Across nearly all Fleming Fund countries, grantees have supported technical working groups to develop technical documents such as national biosafety and biosecurity manuals, sample transportation guidelines or microbiology manuals and curriculum.

## Analysis & Advocacy

In 2020, we supported the RADAAR (Regional AMR Data Analysis for Advocacy, Response & Policy) consortium to develop three global briefs which explore policy-making in animal and human health using AMR data.

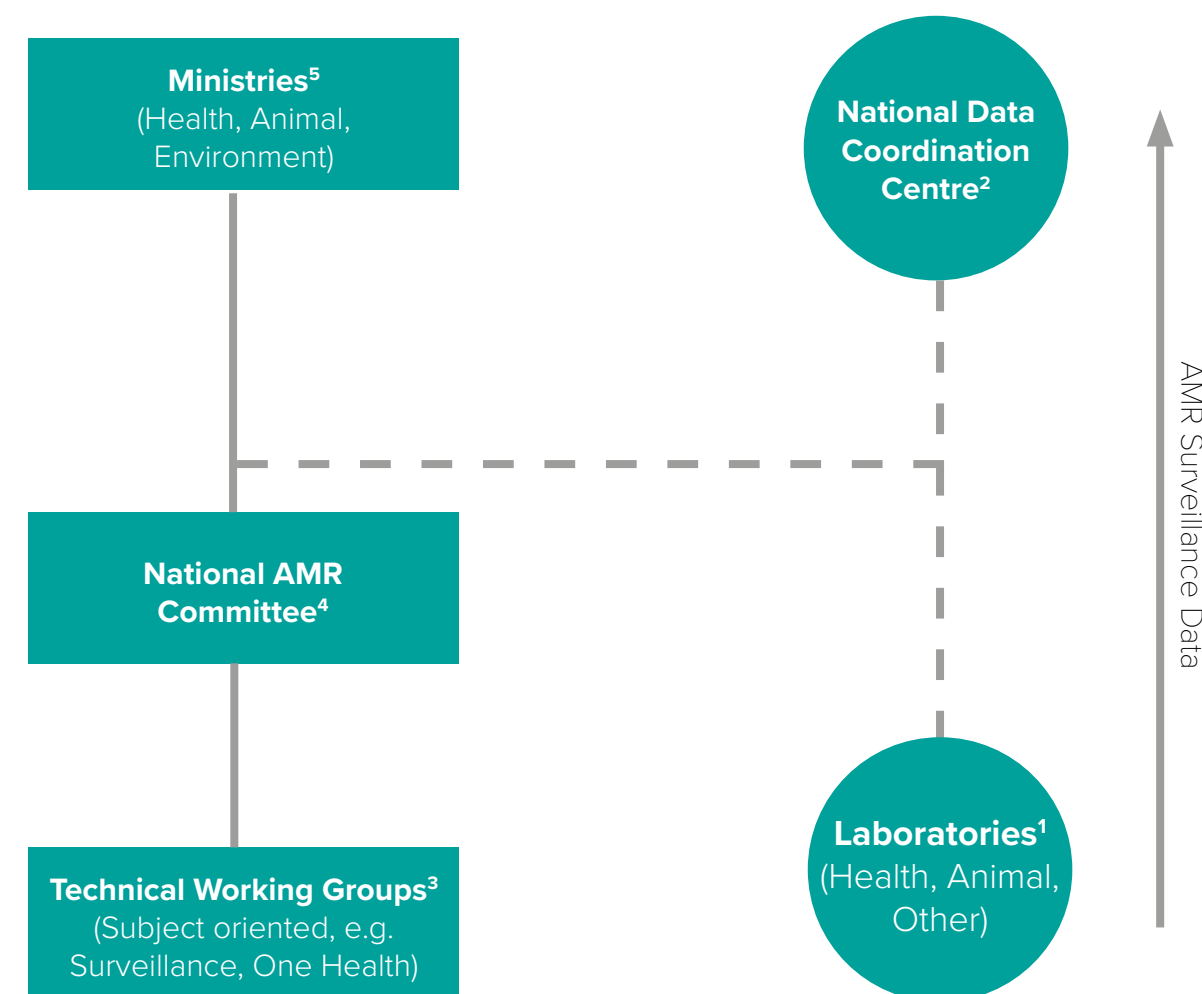
The consortium has published a policy landscape analysis on *Accelerating policy development and implementation in low-and middle-income countries through regional AMR data sharing and analysis*. The analysis includes recommendations for framing and communicating AMR.

We also began a policy fellowship programme that aims to train and equip candidates with existing leadership and influencing roles to raise AMR awareness within their government.

Policy fellows also help translate AMR data into policy recommendations, draft budgets for national AMR plans or conduct further economic analysis. This year we appointed 6 fellows in 3 countries and plan on appointing more in 2021.

## Committees & Working Groups

AMR Governance Structures: Managing Surveillance Data



**22 Countries where AMR Governance is supported**

**15 Surveillance Technical Working Groups formed**

**92 Human Health Laboratories Reporting into a surveillance system\***

\*Data as per WHO's GLASS reports

### Explanatory Notes

5) *Ministries* are the final recipients of surveillance data and are responsible for decision-making.

4) *National AMR Committees*, comprised of technical and academic practitioners, are responsible for developing policy recommendations from the data for ministers.

3) *Technical Working Groups*, comprised of technical staff from laboratories and academia, are responsible for analysing data on a subject level.

2) *Data Coordinating Centres* receive and analyse data from laboratories.

1) Animal, environmental and human health *Laboratories* gather data, analyse it on a local level and send it for further national analysis.





# | Regional Profiles

*Photo: Mott MacDonald staff, Winfred Amia meets with Uganda's Assistant Commissioner in the Veterinary Diagnostics and Epidemiology Division*



# East & Southern Africa

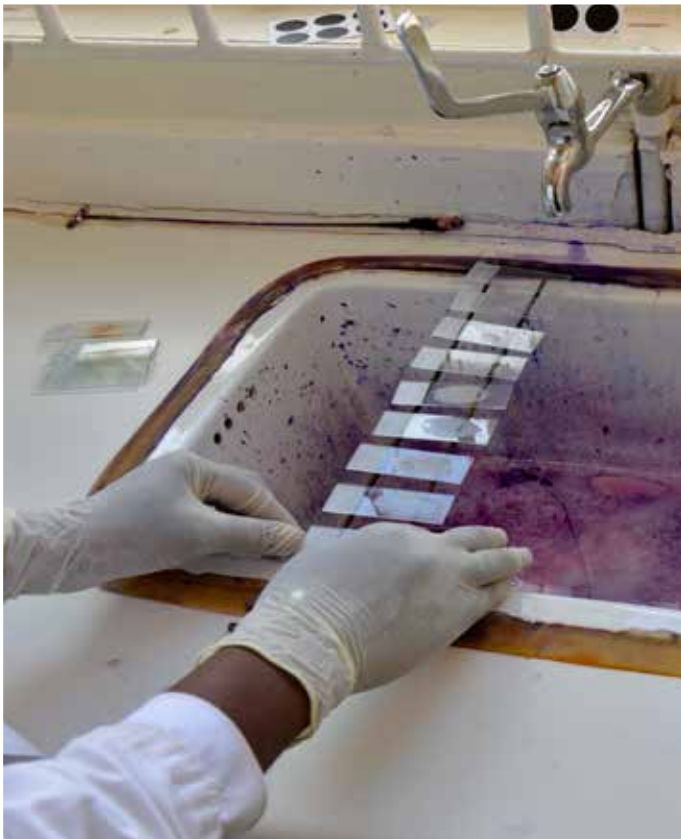


**Patrick Mubangizi**  
Regional Coordinator

Overall, our biggest achievement in 2020 was seeing state-of-the-art laboratory equipment delivered across all countries in the region, except in Zimbabwe. This was a major logistical challenge which we were able to overcome thanks to support from our procurement partner and several charter flights.

In Uganda, we strengthened the One Health AMR governance structure, installed key laboratory equipment and began procurement of reagents and consumables across the country. In Zambia, approx 80% of laboratory renovations were completed and the grantee has initiated some mechanisms to support the country with its COVID-19 response. In Malawi, renovations were completed in reference laboratories and the AMR surveillance strategy was put into place. Most significantly, the country has improved its AMR governance structure and collaboration has improved between human and animal health sectors. In Tanzania, more than 80% of laboratory renovations were completed. In Kenya and Zimbabwe laboratories have developed standard operating procedures and bench aids and in Eswatini AMR leaders have started discussions around costing and budgeting for the country's national AMR action plan.




Fellows throughout the region are all progressing with key activities, and importantly policy fellowships have started in Uganda to help turn evidence into action.




### Key Statistics

-  **7** Countries
-  **8** Country Grants
-  **37** Fellows
-  **1** Grant Completed

### Country Grant Achievements

-  **34** Blood Culture instruments delivered
-  **9** Mass Spectrometers delivered
-  **11** Antimicrobial Susceptibility Testing instruments delivered

### Fellowship Achievements

-  **25** institutions benefited from well-trained Fleming Fund Fellows

### Regional Grant Achievements

-  Historical AMR data collected in 323 sites across **7** countries
-  **2** regional sequencing centres supported for whole genome sequencing

### In Their Own Words

*Support from the Fleming Fund has helped Uganda's national COVID-19 response. Because of Fleming support, people had already been trained to collect swabs and many of the COVID-19 workers came from the microbiology laboratory; these staff were integral to the initial phase of the response. In addition, the laboratories were also already equipped with face shields, standard operating procedures, laboratory work flow guidance and sample collection protocols. Biosafety and biosecurity guidelines were also in place, which helped. Even members of the national AMR committees, were able to apply their experience with AMR governance as members of the COVID-19 task-force.*

**Francis Kakooza, Country Grantee Uganda**

*The Fleming Fund Fellowship has taught us to work better together. Recently, my colleague and I decided to conduct laboratory field assessments together. We realised that many animal and human health sites are a stone's throw away from each other and technicians can easily support each other – either with expertise, resources or sharing space. Many animal health laboratories have also been able to support media production for human health laboratories. We are all on the same team.*

**Mpanga Kasonde, Human Health Fellow Zambia**



# West Africa



**Adjo Mfodwo**  
Regional Coordinator

In 2020, the Fleming Fund made a significant contribution to building workforce capacity and strengthening surveillance systems across the region.

In Ghana, the country grant helped to strengthen the One Health governance structure for AMR surveillance and the country’s animal health sector developed surveillance protocols and piloted them through Kobo Toolbox. In Nigeria, the Country Grant provided technical and financial support for the inaugural national AMR coordination committee meeting and developed an AMR surveillance framework for the aquaculture sector. Nigeria also held several key trainings to improve skills and knowledge across the animal health sector.

In Sierra Leone and Senegal, four new grants were signed across the two countries, in the last quarter of the year, paving the way for new activities to take off in 2021.




Fellows in Ghana and Nigeria acquired skills in laboratory quality assurance and antimicrobial susceptibility testing. Several fellows submitted abstracts to the 6th World One Health Congress and most have submitted their collaborative research projects for ethical approval or are gathering and analysing data for their reports. We are ending the year with renewed energy in the region, with new grant activities underway and many more scheduled for 2021.




### Key Statistics

-  **4** Countries
-  **7** Country Grants
-  **22** Fellows
-  **1** Grant Completed

### Country Grant Achievements

-  **7** Blood Culture instruments delivered
-  **2** Mass Spectrometers delivered
-  **2** Antimicrobial Susceptibility Testing instruments delivered

### Fellowship Achievements

-  **16** institutions benefited from well-trained Fleming Fund Fellows

### Regional Grant Achievements

-  Historical AMR data collected in **379** sites across **7** countries
-  **2** regional sequencing centres supported for whole genome sequencing

### In Their Own Words

*The Fellowship programme has completely changed the way I think on the job. In the past, I used to run a standard panel of tests [antimicrobial susceptibility testing] to determine whether a specific drug could be used to fight a particular bacteria. But through the Fellowship, I learned about the intrinsic or natural resistance of specific pathogens. I’ve learned how to do antimicrobial susceptibility testing completely differently. Our visit to our academic mentors blew our minds.*

**Eme Enkeng, Human Health Fellow**  
**Nigeria**

*Since Fleming Fund has come along, we’ve been able to broaden the number of people who are receiving Whole Genome Sequencing training which is important for sustainability. When I was a graduate student it was difficult to get support to do research for surveillance. But now there is much more support – I’m so grateful that funders have taken an interest in building these capacities in Africa. Its enriching to my students and more importantly it’s giving us skills we need for the future so thank you.*

**Iruka Okeke, Regional Grantee**  
**Nigeria**



# South Asia



**Vikas Aggarwal**  
Regional Coordinator

In South Asia, the Fleming Fund continued to support AMR governance and strengthen laboratory capacity across the region.

In Nepal, the grant supported strong governance systems and the country increased the number of laboratories reporting into its surveillance system. In Bhutan, laboratories across the country’s surveillance system have been renovated and the country has developed a robust One Health AMR governance system. In Bangladesh, the National AMR Surveillance Strategy has been drafted after a series of consultations. Laboratory assessments in all target sites were also completed. In Sri Lanka, grantees have continued engagement and collaboration with national governments. And in Pakistan, the grantee has advocated for action against AMR at the highest level, improving coordination between animal and human health. Major renovations to three national health reference laboratories will be completed in early 2021.

Fellows across all countries have begun activities, including a cohort of two policy Fellows in Bhutan, responsible for improving AMR awareness and helping turn AMR data and evidence into policies. In Nepal, two animal health Fellows were appointed as honorary staff members at the University of Melbourne. And in Sri Lanka, one of the Fellows has been responsible for training hundreds of nurses in COVID-19 infection control procedures.



## Key Statistics

- 6** Countries
- 5** Country Grants
- 40** Fellows
- 1** Grant Completed

## Country Grant Achievements

- 5** Blood Culture instruments delivered
- 3** Mass Spectrometers delivered
- 5** Antimicrobial Susceptibility Testing instruments delivered

## Fellowship Achievements

- 25** institutions benefited from well-trained Fleming Fund Fellows

## Regional Grant Achievements

- Historical AMR data collection estimated in **106** sites across **5** countries
- Established external quality assurance network across Asia with **25** laboratories

## In Their Own Words

*We’re very pleased to collaborate closely with the UK Government Fleming Fund grant who are supporting us in our efforts to prevent antimicrobial resistance in Pakistan; we see them as a key partner in providing critical technical and laboratory strengthening support.*

Aamer Ikram, National Institute of Health  
Government of Pakistan

*I know [the Fleming Fund] will make a huge difference in addressing AMR. This programme supports our surveillance system. Through this grant we are able to build the capacity and competency of our people.*

Dechen Wangmo, Minster of Health  
Government of Bhutan

*The Fleming Fund in Nepal, has helped strengthen our surveillance system by providing necessary equipment and training for our professionals. It has facilitated meetings among the One Health partners and has helped with the preparation of standard protocols for microbiology.*

Dr Jyoti Acharya, National Public Health Laboratory  
Government of Nepal



# South East Asia



**Stanley Fenwick**  
Regional Coordinator

Across the region, grantees and fellows continue to make great strides in tackling AMR.

In Myanmar, laboratory assessments have been completed for seven laboratories and refurbishment plans have been approved. In Laos, government AMR committee meetings were held for the first time since 2018 and training of laboratory staff in human and animal health sites continued. In Vietnam, several core policy documents were created included the implementation of a One Health Partnership Strategy and a National Framework on Drug Resistance Prevention. The grantee also supported the successful linking of laboratory and patient data across hospital information systems. Timor-Leste recently enrolled in WHO’s Global AMR Surveillance System (GLASS) and completed refurbishments and information management system installation within the National Reference Laboratory. In Papua New Guinea, the government signed an MOU formalising its approach to One Health Collaboration. The AMR Secretariat has also developed and disseminated an AMR newsletter, highlighting activities to government authorities, donors and the private sector. In Indonesia, grantees have continued engagement and collaboration with the national governments.




Fellows across Vietnam, Laos, Timor-Leste, Papua New Guinea and Indonesia are also actively engaged in learning and professional development.




### Key Statistics

-  **6** Countries
-  **7** Country Grants
-  **31** Fellows
-  **1** Grant Completed



### Country Grant Achievements

-  **5** Blood Culture instruments delivered
-  **2** Mass Spectrometers delivered
-  **2** Antimicrobial Susceptibility Testing instruments delivered

### Fellowship Achievements

-  **27** institutions benefited from well-trained Fleming Fund Fellows

### Regional Grant Achievements

-  Historical AMR data collection estimated in **29** sites across **4** countries
-  Established external quality assurance network across Asia with **25** laboratories

### In Their Own Words

*Today is a memorable day in the history of health cooperation between Indonesia and the United Kingdom. After going through a series of discussion, finally we agree to strengthen our cooperation through a Memorandum of Understanding. We hope that the implementation of the MOU could be successful, and the outputs are achieved in a timely manner.*

**Terawan Agus Putranto, Minister of Health Government of Indonesia**

*With the support of the Fleming Fund, my country has finally been able to conduct regular technical working group meetings between key government agencies. These meetings are an essential aspect of leading the country’s coordinated fight against antimicrobial resistance, bringing together stakeholders that have been working independently. It means that actors working on human health are able to work hand-in-hand with the animal health sector on activities such as surveillance and biosafety. I am excited about the prospect of new leadership capacity, supported through the Fleming Fund Fellowship program and look forward to leading higher level steering committee meetings to drive the Antimicrobial Resistance response at the top level.*

**Graham Wavimbukie, Team Leader for the AMR Secretariat Papua New Guinea**

