



The Fleming Fund



Fleming Fund Country Brief

January 2024

SENEGAL



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 Multisectoral National Action Plan for Surveillance and the Fight against AMR Senegal (2017-2022) was developed in December 2017, led by the Ministry of Health and Social Action through the Directorate of Laboratories. This also involved input from multisectoral stakeholders, including the Ministries of Agriculture and Farming, Fisheries, Environment, and Commerce.

The overall goal of the National Action Plan was to provide an effective response to the growing threat of AMR, through an integrated One Health approach. This was aligned with the Global AMR Action Plan and main objectives to:

- Strengthen the capacity of laboratories in all sectors for the detection and reporting of AMR priority pathogens.
- Monitor infections caused by all AMR-priority pathogens.
- Combat hospital-acquired nosocomial infections.
- Ensure the rational use and effective management of antimicrobials.
- Inform and raise awareness on the issue of AMR.

The AMR NAP was supported by a costed implementation plan supported by the Fleming Fund, through the country grants and the AMR MPTF, along with other development partners.

The development of a second multisectoral National Action Plan for AMR for Senegal (2023-2027) progressed significantly in 2023, led by the High Council for Global Health Security-One Health Platform, after a review of the achievements and challenges faced in the implementation of the first National Action Plan. Development of the plan was still in process at the start of 2024.

More information about Senegal and its work on AMR can be found on the Fleming Fund website: flemingfund.org/countries/senegal/

Country Grant

Grantees: Food and Agriculture Organisation (FAO)
Value: £1,253,767.29
Duration: Nov 2020 – Mar 2024

Grantee: PATH
Subgrantees: IPD, IUCN, FMX
Value: £ 3,000,000
Duration: Nov 2020 – Oct 2023

Fellowship Scheme

Number of Fellows: 6
Host Institutions: Fondation Mérieux
Total Value: £560,000
Duration: Dec 2019 – July 2022

Regional Grants

Grantees: Technical University of Denmark, African Society for Laboratory Medicine, International
Value: £21,088,399
Duration: Nov 2018 - Nov 2023

Country Grant

Grantee: Food and Agriculture Organisation (FAO)

Strengthening One Health governance structure for AMR and AMU (antimicrobial use) surveillance in all One Health sectors.



Achievements



Active surveillance protocol developed and piloted for commercial poultry sector, data analysed and isolates of interest sequenced. Data gathered shared with multi-sectorial stakeholders.

6,500

estimated samples reported from **2** supported animal health AH laboratories over **5** quarters.

1,140

poultry farms in the Thies and Dakar regions, which represent most poultry farms in Senegal, surveyed and mapped.



Good practice guidelines on AMU in the animal sector developed and shared with key stakeholders.



Active surveillance activities conducted in Dakar and Thiès. Faecal samples collected from 353 broilers, 182 hens and 58 from the abattoirs.



Data for the sector also been shared with World Organisation for Animal Health from 2020-2022.

15

veterinary staff trained on protocol for active AMR surveillance in commercial poultry farms, and sensitised on AMR and poultry sample collection from their farms.



Survey carried out on incorporation of antimicrobials into poultry feed and presence of antimicrobial residues in eggs.



Retrospective survey on AMU and levels of biosecurity in poultry conducted.



Supported the provided to Directorate of Veterinary Services for installation of data management system to facilitate sharing data with AMR stakeholders and other partners.

2

training modules developed on AMR/AMU for producers in food and agriculture sector tailored in-country, first for poultry farmers and second for ruminant breeders.

Country Grant

Grantee: PATH
Subgrantees: IPD, IUCN, FMX

Data analysis from whole genome sequencing of resistant isolates and shared with multi-sectorial stakeholders.



Achievements

7

bacteriology laboratories supported with equipment reagents and consumables. 5 renovated.



April 2023, Senegal enrolled in the Global Antimicrobial Resistance and Use Surveillance System (GLASS) platform for AMR data submission.

100

participants attended Symposium organised for knowledge sharing, awareness campaigns during World Antimicrobial Awareness Week 2021, and training of media personnel on AMR and its public health implications.

3

AMU Point Prevalence Surveys conducted at 3 surveillance site hospitals using Global PPS tool.

5

human health laboratories – procedure for prevention of healthcare-associated laboratory information management system, LabBook software updated from 2.0 to 3.0 version and staff trained.



Collaborated with Directorate of Hospital Quality, Safety and Hygiene to establish multidisciplinary committee fighting healthcare-associated infections in Albert Royer Children's Hospital and Saint Louis Regional Hospital, with action plan developed for each site.



Tools for early detection, monitoring, and reporting of healthcare-associated infections implemented.

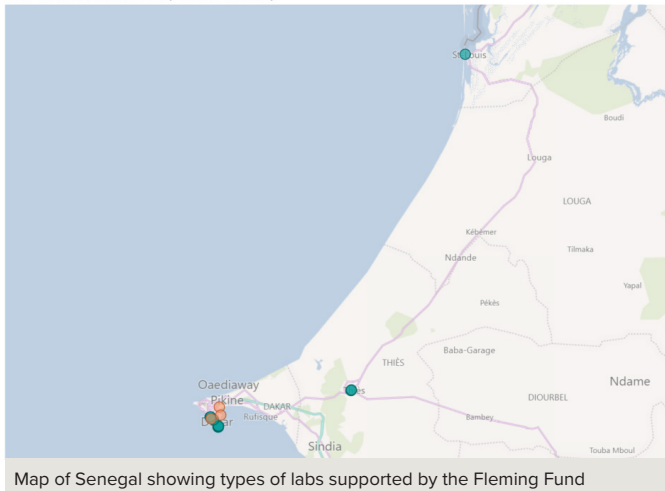
2

FF-supported hospitals – procedure for prevention of healthcare-associated infections developed and piloted.

4

surveillance sites hospitals – biosafety and biosecurity assessment conducted to evaluate application of trainings provided.

Sector ● Environmental ● Food Safety ● Human ● Veterinary



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

Fellowship Scheme

Host Institution: Fondation Mérieux

Professional Cohort I: AMR Surveillance, AMU/C Surveillance and AMR Laboratory in HH and AH



Achievements

Published papers:

Phenotypic characterization of uropathogenic bacteria isolated at Fann

Phenotypic and Genotypic Characterization of Salmonella Isolated from Asymptomatic Carriers in the Suburb of Dakar.

Collaborative research project:

'Characterisation of resistant strains of Escherichia coli from human and animal origin using a One Health approach in the regions of Dakar and Saint-Louis.'



Fellow participated in development of draft research project: 'Covid-19 and Vulnerability', accepted following a call for projects from the Agence Universitaire de la Francophonie.



Fellow together with mentors provided training to laboratory staff on methods of Antibiotic Susceptibility Testing and interpretation of susceptibility tests.



Fellow involved in development of Standard Operating Procedures for inspection of establishments selling veterinary drugs in Senegal.



Fellow hired by country grantee (FAO) as consultant to develop surveillance protocol for AMR in poultry sector.



Fellow conducted survey (supported by the country grantee – FAO) on use of antibiotics by private veterinarians and para veterinarians in Senegal.



Fellow involved in developing associated training content required for field inspectors undertaking inspections of establishments selling veterinary drugs in Senegal for wholesalers, retailers, cabinets, and veterinary clinics.



Fellow conducted survey (supported by the country grantee – FAO) to determine use of antibiotics in livestock sector.



Fellow provided technical coaching sessions to staff of public and private laboratories on biological specialties (bacteriology, haematology, parasitology, and biochemistry) in Senegal regions (Matam, Ourosogui, Saint Louis, Kolda and Sédhiou).



Fellow led workshop on antimicrobial surveillance awareness for Senegalese veterinary council.



Fellow requested to go on FAO mission to evaluate AMR surveillance system in the Democratic Republic of Congo and Cameroon with AMR ATCLASS tool.



Together with One Health national platform, Fellow participated in weekly online technical committee meetings for development of national manuals on AMR surveillance, biosafety, and sample transport.



Fellows completed training programmes: Quality Management in Medical Biology Laboratory, Epidemiological Surveillance of AMR and Spatiotemporal Epidemiology, Bioinformatics, Biostatistics, Veterinary Clinical Approach to AMR, Animal Health Approach to Prevention of AMR and One Health/Global Health Leadership Course in France.



Fellows participated in AMR Symposium to share results of activities carried out by FF country grantees in Senegal, organised by PATH and FAO in collaboration with Permanent Secretariat of National High Council on Global Health Security.



Regional Grants

Management Agent: Mott MacDonald

Grantees: Technical University of Denmark (DTU), African Society for Laboratory Medicine (ASLM), and International Vaccine Institute (IVI)



Achievements

MAAP

Collection of Historical Data, ASLM

Value: £3,340,705*

Duration: Nov 2018 – Nov 2023

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

Senegal

participated in the regional collection of retrospective AMR and AMU data for 2016 - 2019.

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Retrospective data analysis was conducted on AMR and AMU data collected in 2016-2018 in 16 laboratories with different levels of service and variable testing capacity.

78,000

culture sample results were collected from 16 healthcare facilities, as well as pharmacy data from 17 targeted pharmacies, capturing the majority of AMC in public health facilities.

EQuAFRICA

External Quality Assurance – Africa –, ASLM

Value: £ 4,364,228*

Duration: Oct 2019 – Sep 2023

Supports the development of external quality assurance practices in laboratories around Africa which ensures confidence in laboratory testing results.

QWArS

Microbiology and Epidemiology Testing, ASLM

Value: £ 3,924,547*

Duration: Oct 2019 – Apr 2023

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

11

sites from Senegal enrolled in the network and IPD is one of the EQuAFRICA EQA providers.

6

microbiologists and 1 an epidemiologist successfully passed final QWArS professional exam.

SEQAFRICA

Whole Genome Sequencing – SEQAFRICA, DTU

Value: £6,743,702*

Duration: May 2019 – Apr 2023

Supports development of regional capacity for Whole Genome Sequencing (WGS) and bioinformatics.

RADAAR

Value: £2,715,217*

Duration: Sep 2019 – Nov 2023

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

* (across multiple countries, including Senegal)

Strategic Alignment Grants

Management Agent: Mott MacDonald



Achievements

WHONET

Grantee: Brigham and Women's Hospital

Value: £889,044*

Duration: Apr 2022 – Dec 2023

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

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

Ran centralised training (both on-site and remotely) and identifying gaps for specialist training in Fleming Fund-supported countries.

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



* (across multiple countries, including Senegal)

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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