



BHUTAN



The Department of Health and Social Care (DHSC)'s Fleming Fund is a UK aid programme that supports up to 25 countries across Africa and Asia to tackle antimicrobial resistance (AMR), a leading public health threat, globally. 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.



Country Context

Bhutan developed a National Action Plan (NAP) on Antimicrobial Resistance (2018 – 2022) which was approved by the Ministry of Health and endorsed by Cabinet. The NAP features an integrated One Health approach to address AMR and the transmission of drug-resistant pathogens between humans, animals, and the environment. Conducted a critical review of the NAP with a costing plan and a crosscutting sectoral report on AMC and AMU.

To further sustain the national AMR surveillance system the Royal Government of Bhutan has incorporated tackling AMR into its national budget. This includes the upkeep of grant-procured laboratory equipment by on-site biomedical engineers and consumables and reagent replacements.

The Fleming Fund Bhutan Country Grant in phase 2 aims to build on and maximise the impact of investments made to date by supporting the multi-stakeholder revision of the NAP for AMR. This involves consolidating surveillance toward an integrated One Health system to produce data-driven decisions and policymaking, and continue to decentralise the AMR response.

Phase 2 Country Grant – Expected Results



The national AMR surveillance strategy (for all sectors) and protocols reviewed and revised.



Support the development of protocols for conducting AMR surveillance in the environmental sector and implementing active AMR surveillance in the dairy sector.



Support existing Fleming Fund sites in reaching and maintaining core standards as per the London School of Hygiene & Tropical Medicine Road Map and participate in External Quality Assessments (EQAs).



The antimicrobial use (AMU) surveillance strategy and protocols are to be reviewed for the human health (HH) and animal health (AH) sectors.



Antimicrobial consumption (AMC) strategy and protocols developed, reviewed, and implemented for HH and AH sectors.



The revision and costing of the new National Action Plan on AMR, and surveillance reports used to inform practice and policy.

Phase 2



Country Grant

Grantee: Royal Government of Bhutan

Value: £1,422,008

Duration: Jun 2024 - Dec 2025

Fellowships

No. of Fellows: 10

Host Institute: The Peter Doherty Institute for Infection and Immunity

Value: £3,727,442 (across multiple countries, including Bhutan)

Duration: Nov 2023 - Dec 2025

Regional Grants

(Across multiple countries, including Bhutan)

International Vaccine Institute

Regional Antimicrobial Resistance Data Analysis for Advocacy, Response and Policy (RADAAR)

Value: £1,999,956

Duration: Dec 2023 - Dec 2025

International Vaccine Institute

Technical Assistance for Clinical Engagement Asia (TACE Asia)

Value: £ 1,822,436

Duration: Feb 2024 - Dec 2025

International Vaccine Institute

Capturing Data on Antimicrobial Resistance Patterns and Trends in Use in Regions of Asia (CAPTURA)

Value: £3,186,597

Duration: Oct 2023 - Dec 2025

Technical University of Denmark

External Quality Assessment of Laboratory Data Asia (EQuAsia)

Value: £2,497,995

Duration: Nov 2023 - Dec 2025

Massey University

AMR and One Health South Asia (AMROH SA)

Value: £1,145,833

Duration: Jan 2024 - Dec 2025

International Vaccine Institute

Technical Assistance for Data & Evidence Use in Policymaking Asia (TADEU Asia)

Value: £1,687,091

Duration: Dec 2023 - Dec 2025

Strategic Alignment Grants

(Across multiple countries, including Bhutan)

Brigham and Women's Hospital

WHONET: Management and Analysis of Microbiology Laboratory Data

Value: £453,328

Duration: Mar 2024 - Dec 2025

Commonwealth Pharmacists Association

Surveillance and Prescribing Support for Antimicrobial Stewardship Resource Capacity Building (SPARC)

Value: £806,742

Duration: Mar 2024 - Dec 2025



Phase 1



Country Grants

Grantee: Country Grant 1 – Royal Government of Bhutan, Country Grant 2 – The Peter Doherty Institute for Infection and Immunity
Value: Country Grant 1 - £1,559,560, Country Grant 2 - £199,408
Duration: Country Grant 1 – Apr 2019 - May 2024, Country Grant 2 – Jul 2021 - Dec 2022

Fellowships

Number of Fellows: 14
Host Institution: The Peter Doherty Institute for Infection and Immunity
Value: £840,000
Duration: Feb 2019 - Oct 2023

Regional Grants

(Across multiple countries, including Bhutan)

International Vaccine Institute
Capturing Data on Antimicrobial Resistance Patterns and Trends in Use in Regions of Asia (CAPTURA)
Value: £2,240,878
Duration: Jan 2019 - Sep 2023

Technical University of Denmark
External Quality Assessment of Laboratory Data Asia (EQuAsia)
Value: £4,247,345
Duration: Jan 2020 - Oct 2023

International Vaccine Institute
Regional Antimicrobial Resistance Data Analysis for Advocacy, Response and Policy (RADAAR)
Value: £2,715,217
Duration: Sep 2019 - Nov 2023

Strategic Alignment Grants

(Across multiple countries, including Bhutan)

Brigham and Women's Hospital
WHONET: Management and Analysis of Microbiology Laboratory Data
Value: £889,044
Duration: Apr 2022 - Feb 2024

Commonwealth Pharmacists Association
Surveillance and Prescribing Support for Antimicrobial Stewardship Resource Capacity Building (SPARC)
Value: £1,152,946
Duration: Dec 2021 - Feb 2024





Phase 1 – Key Achievements

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Three AMR surveillance sites were renovated with advanced laboratory equipment including Antimicrobial Susceptibility Testing (AST) platforms. AMR surveillance reference laboratories in HH and AH equipped and staff trained on AST.



126,000 isolate records from AMR, AMU, and AMC data between 2016 and 2019 and 13 AMR/U/C data sources identified in consultation with the AMR Technical Working Group (TWG) at the Bhutan Ministry of Health.



Regional Grant, CAPTURA, produced four regional mapping and gap analysis AMR data reports for situational surveillance status in selected countries, including Bhutan, as valuable healthcare resources.

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Six laboratories at regional hospitals and government health departments enrolled in the EQAsia programme, including three NRLs participating in Proficiency Testing and capacity-building activities.



HH NRL conducted national-level quality assessments of surveillance sites by providing Proficiency Testing panels.



Establishment of robust governance and reporting systems in HH and AH laboratories. Strengthened One Health coordination mechanisms and governance, supporting the high-level Inter-Ministerial Committee for One Health, National AMR Technical Committee, and TWGs.



AMR data analysis focusing on quality and epidemiology, and AMU/C patterns summarised at national and facility levels and shared with relevant stakeholders.



Developed One Health Protocol for AMR Alert and Response for South Asia to generate data on links between human AMR development.



AMU surveys were conducted in hospitals and animal farms. Digital applications and software upgraded to incorporate AMU guidelines in HH and AH.



Active AMR surveillance in poultry farms and meat sales. Led Bhutan's healthy poultry surveillance programme and built capacity across veterinary laboratories.



Supported updating the Veterinary Information System to record antibiotic prescriptions with existing syndromic data, facilitating easier AMU monitoring across Bhutan.



Data utilisation agreement at the Royal Centre of Disease Control and Jigme Dorji Wangchuck National Referral Hospital to allow data sharing and wider future collaborations.



Designed and provided training in biosecurity, laboratory skills, data analysis and interpretation, and antimicrobial stewardship. Developed biorepository surveillance guidelines across sectors and created tools to review antibiotic and standard treatment guidelines.



Supported in-country capacity building for data digitalisation and analysis using software WHONET and Backlink – collecting data electronically for future use. Established a knowledge-sharing bioinformatics TWG for Bhutan.



Facilitated development and piloting of mobile data-gathering platform 'EpiCollect' as AMU data collection tool for regional hospital routine audits.



The Fleming Fund

