

Proposed Terms of Reference for

Professional Fellowships (Cohort II) in **Nigeria**

The UK Fleming Fund addresses the global challenge of antimicrobial resistance (AMR) and antimicrobial use (AMU). The Fleming Fellowship Scheme aims is to advance the goals of the Fleming Fund by supporting the professional development of key practitioners and change-makers to enhance investments made through Country and Regional Grants. Fleming Fellowships provide customised professional development and do not result in the award of a formal degree or a diploma.

Following successful delivery of Cohort I Professional Fellowships, the Fleming Fund Management Agent is extending the Fellowship Scheme to a second cohort (Cohort II). Cohort II will seek to engage a wider range of One Health professionals and build on the work of Cohort I.

Terms of Reference (ToR) for the Fleming Fund’s Professional Fellowships (Cohort II) in Nigeria comprise two parts:

1. **General ToR including eligibility criteria and information that applies to all Cohort II Fellowships**
2. **Specific ToR for each individual Cohort II Fellowship.**

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# General ToR for All Professional Fellowships (Cohort II)

## Extending Knowledge Dissemination and One Health Collaboration

### Key areas for development of all Professional Fellowships (Cohort II)

The Fellowship will provide support and mentoring to all Cohort II Fellows to:

#### Enhance knowledge of antimicrobial resistance and its economic and social impact

#### Improve the ability of the Fellows to use country-level data on AMR to influence policy

#### Improve the use and interpretation of AMR & AMU data

#### Improve the dissemination of relevant knowledge and skills in their ‘Beneficiary Institution’

#### Strengthen One Health collaboration

### Eligibility criteria for Fleming Fellowships

To be eligible for a Fellowship, candidates must meet the following criteria:

* Be a citizen or resident of Nigeria
* Be available and commit to participating fully in the Fellowship programme on a part-time basis for the full duration (expected to be 9-12 months), based on agreement with the Beneficiary Institution
* Be proficient in communication and the use of computers, including basic word processing, spreadsheet software, and use of the internet.
* Meet the language proficiency requirements described below
* Submit a full application form including the section acknowledging support by the relevant Beneficiary Institution, and attaching all required documentation including two referee’s letters and forms

Fellowships are part-time (approx. 0.3 – 0.5 FTE) and are conducted whilst the candidate continues their normal duties. Successful candidates are therefore expected to remain in the employment of their Beneficiary Institution for the duration of the Fellowship. Fellows may also:

* Undertake travel within their home country and/or internationally – these trips could be up to three or four weeks depending on the circumstances.
* Enter into an agreement with the designated Host Institution regarding code of conduct

### Specific language proficiency requirements

The applicant must provide evidence of proficiency in written and spoken English by either:

* Having completed an internationally recognised language proficiency test in the last 24 months (e.g. IELTS - International English Language Testing System, TOEFL - Test of English as a Foreign Language, or other internationally recognised proficiency test)

**or**

* Completed a tertiary academic qualification in the last 24 months that was taught in English

**or**

* Providing alternative evidence of current proficiency in the specified language that is acceptable to the Fleming Fund Management Agent

Applicants who cannot provide sufficient recent evidence of the required language proficiency may be required to sit a language test. The Management Agent may consider supporting language proficiency training for selected Fellows who meet all other criteria.

### Intended Start Date and duration

The Fellowships are intended to start October 2020 and be 12 months in duration, ending in September 2021.

### Schedule

Application, candidate selection and confirmation of Fleming Fellows are proposed to proceed according to the following schedule:

|  |  |
| --- | --- |
| **Stage** | **Date:** |
| Beneficiary Institutions and stakeholders agree to Fellowships | June 2020 |
| Selection of Host Institution(s) | June 2020 |
| Selection of Fellows | July 2020 |
| Finalisation of Fellowship Work Plan & Agreement | September 2020 |
| Fellowship begins | October 2020 |
| Fellowship ends | September 2021 |

**Completed applications forms and all accompanying documentation must be sent to Elinam Segbefia at** [**flemingfundWA@mottmac.com**](mailto:flemingfundWA@mottmac.com) **by 24th August 2020.**

1. **Specific ToR for Individual Fellowships (Cohort II)**

**Bioinformatics and Sequencing Fellowship– Animal Health (FDVPCS) NG21**

**Beneficiary Institution**

**Federal Department of Veterinary and Pest Control Services (FDVPCS)**  
*Federal Ministry of Agriculture and Rural Development (FMARD)*

**Objective**

* To strengthen capability on bioinformatics and whole genome sequencing
* To enhance Fellows epidemiological/analytical skills in the interpretation of AMR/AMU surveillance data
* To support the Fellow to make better use of AMR surveillance evidence obtained from whole genome sequencing to inform policies or actions to reduce AMR in Nigeria

**Key areas for development of this Fellowship**

The Fellowship will provide training and mentoring specific to the needs of the Beneficiary Institution and the Fellow in:

1. Understanding of sequencing technologies and capabilities
2. Understanding the use of WGS in AMR surveillance
3. Understanding of pipelines and processes for assembly of contigs from raw reads
4. Use of bioinformatics tools for genomic data analysis including resistance gene identification and construction of phylogenetic trees
5. Use of phylogenetic analysis to determine relatedness of bacterial strains and resistance elements
6. Manuscript preparation

**Fellowship success**

By the end of the Fellowship, the Fellow will have:

* Received mentoring/training inputs provided by the Host Institution in line with the focus areas
* Contributed to collaborative One Health activities with Fellows from all sectors
* Assist capacity building activities for their Beneficiary Institution, using knowledge and techniques gained through the Fellowship
* Contributed to supporting AMR/AMU surveillance by helping answer specific questions on data obtained from whole genome sequencing in Nigeria
* Contributed to One Health workshops, meetings or other activities focusing on advancing antimicrobial resistance surveillance and prudent antimicrobial use
* Supported Professional Fellows (Cohort I), Policy Fellows and where appropriate AMR surveillance leaders by improving uptake and use of AMR data and evidence in their institution.

**Eligibility criteria for the Bioinformatics and Sequencing Fellowship FDVPCS**

In addition to those in Section A, candidates for the Bioinformatics and Sequencing Fellowship in FDVPCS must meet the following criteria:

* Be endorsed by and accountable to FDVPCS through permanent employment
* Hold a bachelor’s degree and be ready to receive training in Bioinformatics, Computer Science, Biostatistics, Genetics or related fields.
* Should have basic knowledge of genomics and statistics
* Be ready to receive short-term training in programming R and other Linux scripting languages
* Be working in a position that enables access to and analysis of the AMR data generated by NVRI and associated surveillance sites
* Show evidence of experience in the field of surveillance, data management, data analysis and interpretation, as applied to AMR

**B: Specific ToR for Individual Fellowships (Cohort II)**

## AMR Laboratory Fellowship – Aquaculture – (FDVPCS) NG22

### Beneficiary Institution

**Federal Department of Veterinary and Pest Control Services (FDVPCS)**

*Federal Ministry of Agriculture and Rural Development (FMARD)*

### Objectives

* To train the Fellow in laboratory diagnosis, data recording and interpretation, and laboratory systems which are appropriate to the AMR surveillance system in Nigeria
* To train and support the Fellow in the maintenance and use of biorepositories in reference and surveillance laboratories
* To train the Fellow in improved quality control in the laboratory, including supporting training and mentoring activities for others in the surveillance system

### Key areas for development of this Fellowship

The Fellowship will provide training and mentoring specific to the needs of the Beneficiary Institution and the Fellow in:

#### Strengthening the quality of AMR diagnostic results and use of advanced diagnostic methods

#### Development and maintenance of a secure inventoried biorepository of microbial isolates

#### Laboratory quality management systems (LQMS)

### Fellowship success

By the end of the Fellowship, the Fellow will have:

* Received mentoring/training inputs provided by the Host Institution in line with the focus areas
* Contributed to collaborative One Health activities with Fellows from all sectors
* Used the skills acquired to improve the quality of AMR testing including use of advanced diagnostic methods and contributed to strengthened laboratory quality management systems (LQMS)
* Provided training to laboratory staff on LQMS using knowledge and training techniques gained through the Fellowship
* Contributed to communities of practice in animal and human health sectors
* Contributed to One Health workshops, meetings or other activities focusing on advancing antimicrobial surveillance and prudent antimicrobial use
* Supported Professional Fellows (Cohort I), Policy Fellows and where appropriate AMR surveillance leaders by improving uptake and use of AMR data and evidence in their institution.

### Eligibility criteria for the AMR Laboratory Fellowship FDVPCS

In addition to those in Section A, candidates for the AMR Laboratory Fellowship FDVPCS must meet the following criteria which are specific to this Fellowship:

* Be endorsed by and accountable to FDVPCS through permanent employment
* Hold a microbiology or laboratory-related qualification, and/or relevant professional experience
* Be working in a position that enables the candidate to strengthen laboratory quality management systems in FDVPCS and associated surveillance site laboratories where appropriate.
* Show evidence of experience and leadership potential in the field of quality management systems especially pertaining to bacterial culture and antibiotic susceptibility testing.

**B: Specific ToR for Individual Fellowships (Cohort II)**

## Bioinformatics and Sequencing Fellowship – Human Health (NCDC) NG23

**Beneficiary Institution**

**National Reference Laboratory**   
*Nigeria Centre for Disease Control (NCDC)*

**Objective**

* To strengthen capability on bioinformatics and whole genome sequencing
* To enhance Fellows epidemiological/analytical skills in the interpretation of AMR/AMU surveillance data
* To support the Fellow to make better use of AMR surveillance evidence obtained from whole genome sequencing to inform policies or actions to reduce AMR in Nigeria

**Key areas for development of this Fellowship**

The Fellowship will provide training and mentoring specific to the needs of the Beneficiary Institution and the Fellow in:

1. Understanding of sequencing technologies and capabilities
2. Understanding the use of WGS in AMR surveillance
3. Understanding of pipelines and processes for assembly of contigs from raw reads
4. Use of bioinformatics tools for genomic data analysis including resistance gene identification and construction of phylogenetic trees
5. Use of phylogenetic analysis to determine relatedness of bacterial strains and resistance elements
6. Manuscript preparation

**Fellowship success**

By the end of the Fellowship, the Fellow will have:

* Received mentoring/training inputs provided by the Host Institution in line with the focus areas
* Contributed to collaborative One Health activities with Fellows from all sectors
* Assist capacity building activities for their Beneficiary Institution, using knowledge and techniques gained through the Fellowship
* Contributed to supporting AMR/AMU surveillance by helping answer specific questions on data obtained from whole genome sequencing in Nigeria
* Contributed to One Health workshops, meetings or other activities focusing on advancing antimicrobial resistance surveillance and prudent antimicrobial use
* Supported Professional Fellows (Cohort I), Policy Fellows and where appropriate AMR surveillance leaders by improving uptake and use of AMR data and evidence in their institution.

**Eligibility criteria for the Bioinformatics and Sequencing Fellowship NCDC**

In addition to those in Section A, candidates for the Bioinformatics and Sequencing Fellowship in NCDC must meet the following criteria:

* Be endorsed by and accountable to NCDC through permanent employment
* Hold a bachelor’s degree in biological sciences and be ready to receive training in Bioinformatics, Computer Science, Biostatistics, Genetics or related fields.
* Should have basic knowledge of genomics and statistics
* Be ready to receive short-term training in programming R and other Linux scripting languages
* Be working in a position that enables access to information on AMR surveillance activities in NCDC and analysis of the AMR data generated by surveillance sites and reference laboratories
* Show evidence of experience in the field of surveillance, data management, data analysis and interpretation, as applied to AMR

**B: Specific ToR for Individual Fellowships (Cohort II)**

## AMR Clinician Fellowship – Human Health (OAUTHC) NG24

### Beneficiary Institution

**Department of Microbiology and Parasitology**  
*Obafemi Awolowo Teaching Hospital and Complexes*

### Objectives

* To provide training that will strengthen the Fellow’s ability to support AMR/U surveillance in OAUTHC
* To provide the skills required to interpret laboratory and other data to design AMR control strategies which can be used OAUTHC and other sites
* To contribute to the sustainability of AMR and AMU surveillance by acquiring skills in training and implementing training programmes

### Key areas for development of this Fellowship

The Fellowship will provide training and mentoring specific to the needs of the Beneficiary Institution and the Fellow in:

1. Understanding the drivers of antimicrobial resistance in the healthcare setting, and the relative contributions of other sectors
2. Analysis and interpretation of AMR and AMU data to improve use of antimicrobials
3. Understanding the role of the microbiology laboratory and promoting diagnostic stewardship
4. Understanding behaviour change theory in relation to AMR, and developing an evidence-based approach to improve use of antimicrobials
5. Understand what other sectors are doing to control use of antimicrobials / contain spread of resistant organisms

### Fellowship success

By the end of the Fellowship, the Fellow will have:

* Received mentoring/training inputs provided by the Host Institution in line with the focus areas
* Contributed to collaborative One Health activities with Fellows from all sectors
* Learnt how to collect scientifically robust evidence on AMU and AMR
* Acquired skills which allow analysis and interpretation of AMU and AMR surveillance data to inform prescribing practices and future surveillance priorities
* Contributed to One Health communities of practice and supported Professional Fellows (Cohort I), Policy Fellows and where appropriate
* Developed leadership and communication skills to allow them to become an advocate for improving antimicrobial surveillance and use of antimicrobials
* Contributed to One Health workshops, meetings or other activities focusing on advancing antimicrobial surveillance and prudent antimicrobial use

### Eligibility criteria for the AMR Clinician Fellowship in OAUTHC

In addition to those in Section A, candidates for the AMR Clinician Fellowship in OAUTHC must meet the following criteria:

* Be endorsed by and accountable to OAUTHC through employment
* Hold a medical degree and have relevant professional experience
* Be working in a position that enables the candidate to work with laboratory and pharmacy staff to understand their roles, and to work with other clinicians regarding their prescribing practices
* Show evidence of experience and leadership potential

**B: Specific ToR for Individual Fellowships (Cohort II)**

## Antimicrobial Stewardship Fellowship– Human Health (NCDC) NG25

### Beneficiary Institution

**Nigeria Centre for Disease Control**  
*Federal Ministry of Health*

### Objectives

* To provide training that will strengthen the Fellow’s ability to support AMU and AMR surveillance in NCDC
* To provide the skills required to develop and maintain an AMS programme in NCDC to advise on the use of antimicrobials in the facility to improve patient outcomes
* To provide the skills required to interpret laboratory and other data to design AMR control strategies which can be used in NCDC and potentially other sites
* To contribute to the sustainability of AMR and AMU surveillance by acquiring skills in training and implementing training programmes in AMS

### Key areas for development of this Fellowship

The Fellowship will provide training and mentoring specific to the needs of the Beneficiary Institution and the Fellow in:

1. Understanding the drivers of antimicrobial resistance in the healthcare setting, and the relative contributions of other sectors
2. Analysis and interpretation of clinical and laboratory data to review the relevance of antimicrobial treatment throughout the course of the patient’s illness.

Understanding the role of the microbiology laboratory and promoting diagnostic stewardship

1. Understanding behaviour change theory in relation to AMR, and developing an evidence-based approach to improve use of antimicrobials
2. Understand what other sectors are doing to control use of antimicrobials

### Fellowship success

By the end of the Fellowship, the Fellow will have:

* Received mentoring/training inputs provided by the Host Institution in line with the focus areas
* Contributed to collaborative One Health activities with Fellows from all sectors
* Learnt how to collect scientifically robust evidence to be used for AMS
* Acquired skills which allow analysis and interpretation of AMU and AMR surveillance data to inform prescribing practices and future surveillance priorities
* Contributed to One Health communities of practice and supported Professional Fellows (Cohort I), Policy Fellows where appropriate
* Developed leadership and communication skills to allow them to become an advocate for improving antimicrobial stewardship
* Contributed to One Health workshops, meetings or other activities focusing on advancing antimicrobial surveillance and prudent antimicrobial use

### Eligibility criteria for the AMR Clinician Fellowship in NCDC

In addition to those in Section A, candidates for the Antimicrobial Stewardship Fellowship in NCDC must meet the following criteria:

* Be endorsed by and accountable to NCDC through employment
* Hold a medical degree and have relevant professional experience
* Be working in a position that enables the candidate to work with laboratory and pharmacy staff to understand their roles, and to work with clinicians regarding their prescribing practices
* Be able to lead / chair a site AMR group (e.g. Antimicrobial Stewardship Committee or similar)
* Show evidence of experience and leadership potential