**Job Title:** Research Fellow (Maternity Cover)  
**Department:** IDE  
**Faculty:** EPH  
**Location:** Keppel Street, London  
**FTE:** 1  
**Grade:** G6  
**Accountable to:** Head of Department through Principal Investigator (PI)  
**Job Summary:** Applications are invited for a data science Research Fellow position in infectious diseases to join a team working on the intersection of mathematical modelling and laboratory studies to better understand antimicrobial resistance (AMR). The post will be based within the Centre for the Mathematical Modelling of Infectious Diseases and the AMR Centre at the London School of Hygiene and Tropical Medicine. The post holder’s primary role will be to use data science methods to explore the association between age and antibiotic resistance. The postholder will develop statistical models to explore the key drivers for the differences in patterns of resistance in infection by age.

This position is for a Research Fellow at LSHTM. The post is funded by the MRC within Dr Gwen Knight’s Career Development Award Fellowship. Research undertaken by the postholder will aim to fulfil the statistical data analysis research outlined in the fellowship proposal. The postholder will be based at LSHTM and responsible to Dr Knight, but will work closely with researchers at the UK Health Security Agency on the Unified Infection Database with an honorary contract.

The successful applicant will have a good quantitative background with qualifications and experience in data science, statistics, mathematical modelling, epidemiology, bioinformatics or another relevant discipline with a strong quantitative component. Candidates should also have experience of data analysis of large complex data, preferably electronic health records, ideally related to infectious diseases. This is a great opportunity for those seeking to explore large data to answer important health policy questions as well to gain skills in mathematical modelling. Ongoing career development and support within Dr Knight’s group and the AMR Centre will generate opportunities for future fellowship applications. Further particulars are included in the job description.

**General Information**

The London School of Hygiene & Tropical Medicine (LSHTM) is renowned for its research, postgraduate studies and continuing education in public and global health.
Our mission is to improve health and health equity in the UK and worldwide; working in partnership to achieve excellence in public and global health research, education and translation of knowledge into policy and practice.

We embrace and value the diversity of our staff and student population and seek to promote equity, diversity and inclusion as essential elements in contribution to improving health worldwide. We believe that when people feel respected and included, they can be more creative, successful, and happier at work. While we have more work to do, we are committed to building an inclusive workplace, a community that everyone feels a part of, which is safe, respectful, supportive and enables all to reach their full potential.

To discover more about LSHTM please click here.

**Our Values**

Our values establish how we aspire to achieve our mission both now and in the future - demonstrating what it means to work and study at LSHTM. To find out more please click [here](#).

![Icons](#)  
**Act with integrity**  
**Embrace difference**  
**Work together**  
**Create impact**
Faculty Information

The Faculty of Epidemiology & Population Health (EPH) houses a large group of epidemiologists, demographers, statisticians and nutritionists working on issues of major public health importance in the UK and globally. EPH has approximately 400 staff members organised into four research departments.

- Department of Infectious Disease Epidemiology
- Department of Medical Statistics
- Department of Non-communicable Disease Epidemiology
- Department of Population Health

The Faculty has a teaching programme consisting of ten MSc courses: Epidemiology, Demography and Health, Medical Statistics, Public Health for Development (run jointly with the Faculties of Infectious & Tropical Diseases and Public Health & Policy), Nutrition for Global Health, Reproductive & Sexual Health Research, Veterinary Epidemiology (run jointly with the Royal Veterinary College), Global Mental Health (run jointly with Kings College London - Institute of Psychiatry) and the Distance Learning courses in Epidemiology, Clinical Trials and Demography in Health. The Faculty also has approximately 120 research students studying for an MPhil, PhD or DrPH degree.

The Dean of Faculty is Professor Elizabeth Allen.

THE DEPARTMENT

Department of Infectious Disease Epidemiology conducts research on the epidemiology and control of infectious diseases of public health importance. It also conducts research on maternal and neonatal health. Work is carried out in low-, middle- and high-income countries, including the United Kingdom. Research ranges from ecological studies of variations in disease frequency in different populations, through observational case-control and cohort studies to define risk factors for disease, to randomized controlled trials to test the impact of specific preventive and curative interventions.

The Department Head is Professor Mark Jit.

THE CENTRES

The Centre for the Mathematical Modelling of Infectious Diseases (CMMID) is a multidisciplinary grouping of epidemiologists, mathematicians, economists, statisticians and clinicians from across all three faculties of the LSHTM. Research focuses on understanding and predicting the epidemiology of infectious diseases so that more effective control programmes can be devised. Researchers are developing and applying mathematical models to a range of infections including HIV and other sexually transmitted infections, HPV, tuberculosis, hepatitis C, influenza, rotavirus, measles, varicella, pneumococcal disease, Hib, malaria and sleeping sickness. More fundamental research includes developing methods to measure underlying contact patterns, sampling hard-to-reach populations (such as drug users), efficiently fitting complex mathematical models to data, and the integration of epidemiological models with economic analyses. CMMID is actively engaged in developing links with other modelling groups; members of the CMMID include mathematical modellers working at UK HSA (formerly PHE) and the Royal Veterinary College.
The postholder will also work closely with the Antimicrobial Resistance Centre of which Dr Knight is a co-Director. The AMR Centre works to address the threat of AMR to life and healthcare globally through high quality research and evidence to guide action. The Centre’s breadth of disciplines - ranging from microbiology and clinical medicine to social studies and economics - is being used to meet this complex challenge, fostering connections between scientific approaches and generating innovative approaches to science and policy.
The portfolio of duties outlined below will vary in accordance with the academic expectations of the role, which may be varied from time to time, and agreed at your annual Performance and Development Review (PDR).

**Job Description**

**Main Activities and Responsibilities**

**Knowledge Generation**

1. To undertake high quality research & scholarship, including contributing to drafting major grant proposals and/or leading on drafting small grant proposals, and evaluating teaching practice;
2. To contribute to peer-reviewed publications and other outputs, including as lead author;
3. To make a contribution to doctoral student supervision, as appropriate to qualifications and experience;
4. To manage small grants or elements of larger grants, ensuring compliance with good practice in relation to the conduct of research, the ethics policy and other relevant LSHTM policies.
5. To develop statistical models to explore the drivers of difference in antibiotic resistance prevalence in infection by age.
6. To critically assess UK infection data to explore the linkage between antibiotic usage (in primary and secondary care) and resistance prevalence in infection by age.
7. To apply data science methods to large datasets linked to the problems of antibiotic resistance variation by age and with the view to new research question development
8. To generate efficient and shareable model code in R

**Education**

1. To contribute to the delivery of high quality, inclusive, research-informed teaching and assessment in relation to your specific subject and within the broader area covered by your department and disciplinary field;
2. To contribute to the improvement of the quality of LSHTM’s education, by participating in the development of new and updated learning and teaching materials or approaches.

**Internal Contribution**

1. To undertake activities that support the Department, Faculty, MRC Unit or LSHTM;
2. To reflect LSHTM’s EDI goals in your work and behaviour;
3. To participate in LSHTM’s PDR process.
4. To contribute to the activities of the Centre for the mathematical modelling of Infectious diseases and the AMR Centre.
External Contribution

1. To demonstrate good external citizenship by contributing to learned society/conference events, journal and grant reviews etc;

Professional Development and Training

1. To keep up to date with the latest research/thinking in your academic field and with changes to pedagogic practice within LSHTM and more generally;
2. Where the length and nature of the position permits, to apply for and, if accepted, undertake a doctoral degree (if not already acquired);
3. To undertake and successfully complete the mandatory training required by LSHTM as appropriate to the role.

General

All academic staff are free within the law to question and test received wisdom, and put forward new ideas and controversial or unpopular opinions, to enable LSHTM to engage in research and promote learning to the highest possible standards.

All staff at LSHTM are also expected to:
1. Act at all times in LSHTM's best interests;
2. Treat staff, students and visitors with courtesy and respect at all times;
3. Comply fully with LSHTM policies, procedures and administrative processes relevant to the role, including when acting as Principal Investigator, accepting academic, managerial, financing and ethical responsibility for a project;
4. Uphold and support LSHTM’s values (as set out in the LSHTM Strategy);
5. Act as ambassadors for LSHTM when hosting visitors or attending external events.

Academic Expectations

All academic roles have a statement of academic expectations attached to each level. Please ensure that these have been read and understood. The academic expectations can be found here.

The above list of duties is not exclusive or exhaustive and the role holder will be required to undertake such tasks as may reasonably be expected within the scope and grading of the role.

Role descriptions should be regularly reviewed to ensure they are an accurate representation of the role.
**Person Specification**

This form lists the essential and desirable requirements needed by the post holder to be able to perform the job effectively.

Applicants will be shortlisted solely on the extent to which they meet these requirements.

**Essential criteria:**

1. A postgraduate degree, ideally a doctoral degree (or equivalent qualification) in data science, statistics, mathematical modelling, epidemiology, bioinformatics or another relevant discipline with a strong quantitative component.
2. Relevant experience in analysis of complex datasets, ideally large electronic health records, preferably in the context of infectious diseases.
3. Contributions to written output, preferably peer-reviewed, as expected by the subject area/discipline in terms of types and volume of outputs.
4. Proven ability to work independently, as well as collaboratively as part of a research team, and proven ability to meet research deadlines.
5. Evidence of excellent interpersonal skills, including the ability to communicate effectively both orally and in writing.
6. Evidence of good organizational skills, including effective time management.
7. Knowledge of statistical methods including regression methods, multi-level models and preferably, Bayesian data analysis.
8. Proficiency in computational skills for data processing and statistical analysis and fluency in the programming language R.
9. Demonstratable interest in antibiotic resistance.

**Desirable Criteria**

1. Some experience of contributing to research grant applications.
2. Some experience of teaching and assessment.
3. Some experience of supervising and supporting junior researchers and/or research degree students, and non-academic staff.
4. Some experience of working in antibiotic resistance research or with microbiology data.
5. Some experience of research with a demographic component.
6. Some experience of data linkage, ideally in health records.
7. A commitment to open science.
Salary and Conditions of Appointment

The post is fixed term until 30 September 2024 and full time 35 hours per week, 1.0 FTE. The post is funded by the MRC and is available from 1 October 2023. The salary will be on the Academic scale, Grade 6 scale in the range £42,875-£48,691 per annum pro rata (inclusive of London Weighting).

Please note, this post is Maternity cover so should the post holder return earlier, you will be given 8 weeks' notice of termination.

The post will be subject to the LSHTM terms and conditions of service. Annual leave entitlement is 30 working days per year, pro rata for part time staff. In addition to this there are discretionary “Wellbeing Days”. Membership of the Pension Scheme is available.

LSHTM has a Hybrid Working Framework, which alongside agreed service requirements, enables teams to work more flexibly (if the role allows), promoting a greater wellbeing and work/life balance.

Application Process

Applications should be made on-line via our website at http://jobs.lshtm.ac.uk. Applications should also include the names and email contacts of 2 referees who can be contacted immediately if appointed. Online applications will be accepted by the automated system until 10pm of the closing date. We regret that late applications cannot be accepted. Any queries regarding the application process may be addressed to jobs@lshtm.ac.uk.

The supporting statement section should set out how your qualifications, experience and training meet each of the selection criteria. Please provide one or more paragraphs addressing each criterion. The supporting statement is an essential part of the selection process and thus a failure to provide this information will mean that the application will not be considered. An answer to any of the criteria such as "Please see attached CV", “Yes” or "No" will not be considered acceptable and will not be scored.

Please note that if you are shortlisted and are unable to attend on the interview date it may not be possible to offer you an alternative date.

Asylum and Immigration Statement

LSHTM will comply with current UKVI legislation, which requires all employees to provide documentary evidence of their legal right to work in this country prior to commencing employment. Candidates will be required to email a copy of their passport (and visa if applicable) to HR prior to their interview and if appointed will be asked to bring the original documents in to be copied and verified before their start date.

Applications from candidates who require sponsorship to work in the UK will be considered alongside other applications. Applicants who do not currently have the right to work in the UK will have to satisfy UK Visas & Immigration regulations before they can be appointed.

Further information about Sponsorship and eligibility to work in the UK, can be found at: https://www.gov.uk/guidance/immigration-rules/immigration-rules-appendix-skilled-worker