Job Title: Research Fellow
Department: Non-Communicable Disease Epidemiology
Faculty: Epidemiology and Population Health
Location: Keppel Street, London
FTE: 1.0
Grade: G6
Accountable to: Principal Investigator (PI)

Job Summary: We are recruiting a research fellow with research experience in leading, designing, analysing and interpreting epidemiological studies using large electronic health record datasets. The postholder will work on a new project aiming to maximise benefits from granular hospital data which are not routinely accessible for research. This work will include identifying and analysing key medication information and disease diagnoses. This role will involve working with colleagues focused on the HDR-UK Disease Atlas which has established a computable expandable reference catalogue of more than 6,000 diseases, and is generating novel comparative estimates of occurrence, co-occurrence and outcome. We seek to better understand how to target research and care at unmet clinical need using data-driven, disease agnostic approaches. Within the framework of the Disease Atlas a particular focus of this role is regional variations in drug and procedure use across the UK.

The successful candidate will have a strong computational and data science background and experience in one or more relevant disciplines including: computer science, natural language processing, epidemiology, clinical informatics, data science, bioinformatics, statistics and relevant experience working with large health datasets. The postholder will contribute significantly to the analysis and subsequent presentation of study results. The postholder will be working with a range of data sources, each with a regional component, from large scale national and rich local health record data resources, including:

- National health data sources accessible in the BHF Data Science Centre / NHS England Secure Data Environment (SDE) for England which includes Hospital Episode Statistics (HES) and dispensed medication data on 56 million population. For further details of these data, see our Lancet Digital Health paper (2022).
- Clinical Practice Research Datalink (CPRD), which includes primary care data and HES and 20 million population. For further details of these data, see our Lancet Digital Health paper (2023).
- Local hospital data which has more clinical detail than national data, in both unstructured (e.g. text) and structured form. For example from University College London Hospitals and Great Ormond Street Hospital and collaborating hospitals nationally and internationally [Bean, Krajevic].
Consented resources with genomic and proteomic information including UK Biobank and Genomics England. For further details of these data, see our preprint (2023).

The post is based within the Department of Non-communicable Disease Epidemiology (NCDE) at the London School of Hygiene & Tropical Medicine. The postholder will work in close partnership with colleagues at the HDR London Regional site based at UCL, with colleagues in other HDR-UK regional sites and with colleagues across LSHTM including the Electronic Health Records Group. The postholder will be accountable to the Principal Investigator, Professor Sinéad Langan.

General Information

Health Data Research UK (HDR UK) is the UK’s national institute for health data science which was established in 2018. HDR UK’s 20-year vision is for large scale data and advanced analytics to benefit every patient interaction, clinical trial, biomedical discovery and enhance public health. In 2022/23 HDR UK will transition to its future five-year strategy.

HDR UK London constitutes one of the eight HDR UK regional networks, which represent the health research data community in their region and aim to enhance regional partnership and collaboration with HDR UK, work with regional partners including universities, Academic Health Science Networks (AHSNs) and NHS bodies to speed up adoption of health data science innovation into practice and act as a focus of investment leverage for future HDR UK scientific, training and infrastructure.

The post holder will be based at the Electronic Health Record (EHR) group at LSHTM. The EHR group is a large interdisciplinary group of researchers undertaking research focused on using routinely-collected health data. The EHR group is within the Faculty of Population Health. The aim of the EHR group is to conduct high quality research that leverages big data and health informatics to improve healthcare and health outcomes. Professor Sinéad Langan is a member of the Steering group for the EHR group and regional HDR-UK Director for the London region.

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 find out more please visit our Introducing LSHTM page.
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. Please visit our LSHTM Values page for further information.

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 major issues of importance to public health provision in the UK and globally. EPH employs approximately 560 people in five research departments.

Department of Infectious Disease Epidemiology & Dynamics
Department of Infectious Disease Epidemiology & International Health
Department of Medical Statistics, which includes the Clinical Trials Unit
Department of Non-Communicable Disease Epidemiology
Department of Population Health

The Faculty has a postgraduate teaching programme including eleven intensive MSc courses: Epidemiology, Demography and Health, Medical Statistics, Health Data Science, Public Health for Development (jointly with Faculties of Infectious & Tropical Diseases and Public Health & Policy), Nutrition for Global Health, Global Mental Health (jointly with Kings College London, Institute of Psychiatry), Reproductive & Sexual Health Research, Sexual & Reproductive Health Policy and Practice (online), Veterinary Epidemiology (run jointly with the Royal Veterinary College) and Climate Change and Planetary Health. There are also three distance Learning MSc courses: 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.

Department Information

The Department of Non-Communicable Disease Epidemiology is the main focus of research on the epidemiology of non-communicable diseases at the London School of Hygiene & Tropical Medicine.

While most of our studies have been in the UK or other high income countries, we have a growing programme of research on non-communicable diseases in low and middle income countries, including India and parts of the former Soviet Union. Research interests range from genetic susceptibility to disease, through metabolic and endocrine disease mechanisms to personal behaviours and the population health effects of changes in national diets and drinking behaviours.

Themes include determinants of ethnic variation in disease risk; adverse drug reactions; epidemiology of ageing; foetal and childhood origins of adult disease; determinants of reproductive outcomes; cardiovascular disease; growth factors and cancer risk; natural history of genital human papillomavirus (HPV); time trends in cancer survival; noncommunicable diseases in low and middle income countries.

The department has considerable methodological strength and experience, particularly in the analysis of genetic association studies and the conduct and analysis of large scale longitudinal cohort and record linkage studies. We work closely with colleagues in other departments and faculties and have excellent collaborative links with researchers in other institutions around the world. Funding comes from a wide variety of sources including the Medical Research Council, the Wellcome Trust and Cancer Research UK.

The Department head is Professor Sanjay Kinra.
Electronic Health Records Research Group

The Electronic Health Records (EHR) Research Group (https://www.lshtm.ac.uk/research/centres-projects-groups/electronic-health-records) is a diverse team capitalising on research opportunities offered by routinely collected data, bringing methodological rigour to provide real-world evidence for important questions regarding human health. Our work covers a broad-spectrum including disease aetiology, safety and effectiveness of medications, vaccines and surgery, environmental influences, and health services research. We have particular interest in developing and applying optimal research methods, including both observational and interventional approaches. Researchers in the group conduct a wide portfolio of research investigating disease aetiology and drug effects, across a range of clinical areas including brain health, cancer, and skin, cardiovascular, kidney and respiratory diseases. The overall aim of our work is to capitalise on new opportunities for research using electronic health data. We have close collaborative links with the Medical Statistics Department at LSHTM, the Clinical Practice Research Datalink, and Health Data Research UK.
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 analyse disease-treatment indications and their regional variations; to produce interactive data visualisations based on the results generated; and to build reproducible analytic pipelines and tools for use by other research team members and across regions.
6. To work in partnership with other regional partners to develop joint research project plans and provide collaborative input.

**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.
3. To provide statistical advice to the collaborators working on the main research projects.

**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 assist in technical reporting activities to the relevant stakeholders.
5. To contribute to grant writing activities.
6. To coordinate with colleagues to deliver actions that meet the HDR London regional group’s strategic objectives.
7. To be an active member of the Electronic Health Records Research Group.

External Contribution
1. To demonstrate good external citizenship by contributing to learned society/conference events, journal and grant reviews etc;
2. To contribute to the development of a national network of academic and NHS researchers.
3. To participate in the design and delivery of workshops and national networking events in HDR UK and the NHS.
4. To communicate research results in both reports and oral presentations to inform evidence-based policy decisions.

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.
4. To develop and maintain technical skills required to implement modern statistical and related analysis.

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. For further information please refer to the Academic Expectations page.
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, in a relevant topic.
2. Relevant experience in using high dimensional routinely collected health data using meticulous approaches facilitating reproducible research.
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. Strong data management and quantitative skills with experience in statistical packages (e.g. Stata, R, Python or SQL).

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. Experience of developing collaborative and reproducible code for data analysis and statistical analysis.
Salary and Conditions of Appointment

The post is full-time and fixed term for 2 years, with the possibility of extension dependent on funding. The post is funded by the Health Data Research UK regional network and is available immediately. The salary will be on the Academic scale, Grade 6 scale in the range £43,947 - £49,908 per annum pro rata (inclusive of London Weighting).

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 jobs website. 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 on the government immigration rules page.

Date amended: Sept 2023