

RESEARCH FELLOW



Job Title:	Research Fellow in Statistical Methodology
Department:	Medical Statistics
Faculty:	Epidemiology & Population Health
Location:	Keppel Street
FTE:	100%
Grade:	G6
Accountable to:	Head of Department through Principal Investigator (PI) Elizabeth Williamson
Job Summary:	<p>We have an exciting opportunity for a statistician, or a researcher in a related discipline, to undertake biostatistical methodological research relating to high-dimensional confounder adjustment in data taken from electronic health records.</p> <p>This work is motivated by studies using primary care health data to investigate harms and benefits of commonly prescribed drugs such as proton pump inhibitors, where confounding by indication has provided strongly biased results. Data-driven methods incorporating information from patients' entire medical history show promise. Optimal approaches to transforming medical histories to variables (features), modelling very large numbers of confounders appropriately and the role of machine learning methods within these steps, are still to be determined.</p> <p>Applicants will need a postgraduate degree in medical statistics or a related discipline (for example statistics, machine learning, mathematics, data science). A PhD in medical statistics, or a related area, is desirable. Previous research experience in a health-related area would be an advantage but not essential.</p> <p>This post is available for an immediate start and is funded until 31st July 2022 in the first instance, and will include diverse opportunities in research and teaching. As well as undertaking methodological research, the successful candidate will have opportunities to collaborate on a range of high-profile applied epidemiological research projects. The post will involve opportunities to teach postgraduate students in the MSc in Medical Statistics and the MSc in Health Data Science.</p>

GENERAL INFORMATION

The London School of Hygiene & Tropical Medicine

The London School of Hygiene & Tropical Medicine is a world-leading centre for research and postgraduate 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.

Founded in 1899, the School has expanded in recent years at its two main sites on Keppel Street and Tavistock Place. Our staff, students and alumni work in more than 150 countries in government, academia, international agencies and health services.

Research income has grown to more than £180 million per year from national and international funding sources including UK government and research councils, the European Union, the Wellcome Trust, Gates Foundation and other philanthropic sources. Our diverse research talents, skills and experience, underpin our position as a leader in public

and global health. These range from the molecular to the global, the theoretical to the applied, the analytical to the political. Our staff are conducting research in more than 100 countries.

We have 3,000 staff based all around the world with core hubs in London and at the MRC Units in The Gambia and Uganda, which joined LSHTM in February 2018. Our outstanding, diverse and committed staff make an impact where it is most needed - deploying research in real time in response to crises, developing innovative programmes for major health threats, or training the next generations of public and global health leaders and researchers.

Working in partnership is central to achieving our mission. Our strategic collaborations in the UK and across high-, middle- and low-income countries deliver health and socioeconomic benefits across the world, especially in the most disadvantaged communities.

LSHTM is also a member of the M8 Alliance of Academic Health Centers, Universities and National Academies, the Association of Schools of Public Health in the European Region, and the Consortium of Universities for Global Health.

We deliver research-led educational programmes to future health leaders, managers and researchers across the world. We have more than 1,000 face-to-face Master's and Doctoral students, 3,000 studying by distance learning, and 1,000 each year on short courses and continuous professional development. Our free online courses are studied by more than 55,000 participants globally.

LSHTM performs strongly in various global university league tables. In the 2018 Shanghai World Ranking we placed 151-200 overall, and ranked 3rd in public health, 40th in clinical medicine, and 76th in human biology. In the US News Best Global Universities Ranking 2019, we ranked ninth in the UK overall and 13th in the world in the fields of social sciences and public health in the 2019 QS World University Rankings.

In 2017, the inaugural Center for World University Rankings by Subject placed LSHTM first in the world for tropical medicine research, second for parasitology and seventh for infectious diseases, public, environment and occupational health and social sciences and biomedical. LSHTM ranked first in Europe for research impact in sciences, based on its proportion of publications that belong to the top 1% most frequently cited publications, in the 2018 CWT Leiden Ranking.

LSHTM was named University of the Year 2016 by Times Higher Education and awarded a Queen's Anniversary Prize for Higher and Further Education in 2017 in recognition of our response to the 2014 Ebola epidemic in West Africa. (LSHTM does not appear in the Times Higher Education World University Rankings as universities are excluded if they do not teach undergraduates).

We seek to foster and sustain a creative and supportive working environment based upon an ethos of respect and rigorous scientific enquiry. We embrace and value the diversity of our staff and student population and seek to promote equality as an essential element in contribution to improving health worldwide.

LSHTM is one of around 20 specialist institutions that receive institution specific funding from the Office for Students (OfS). This funding recognises the additional costs that LSHTM incurs because of its unique range of teaching, specialist facilities, and the scale of its contributions to national and international agencies.

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 and Health. The Faculty also has approximately 120 research students studying for an MPhil, PhD or DrPH degree.

The Dean of Faculty is Professor Liam Smeeth.

DEPARTMENT INFORMATION

The **Department of Medical Statistics (MSD)** specializes in methodological research in medical statistics, especially in relation to clinical trials, observational epidemiology and disease prevention. The Department incorporates a Clinical Trials Research Group (concerned with planning, co-ordination, statistical analysis and reporting of clinical trials), and has a special interest in cardiovascular disease, asthma, HIV and perinatal studies. The Department has recently developed a strong interest in methodological and applied research in pharmaco-epidemiology.

MSD has established a reputation for being one of the leading innovative centres in Europe for biostatistical methodology relevant to the planning and reporting of medical research. The Head of Department is Professor Elizabeth Allen. Professors are James Carpenter, Stephen Evans, Diana Elbourne, Chris Frost, Linda Sharples, Stijn Vansteelandt, Stuart Pocock, Neil Pearce, and Nick Jewell.

The MSD has an excellent track record in encouraging and supporting statisticians in developing their careers, and provides a friendly and collaborative working environment.

The portfolio of duties outlined below will vary in accordance with the detailed expectations of the role (attached), 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;
2. To contribute to peer-reviewed publications, including as lead author;
3. To make a contribution to research degree 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 School policies.
5. To undertake biostatistical methodological research in the area of confounder adjustment in routinely collected health data.
6. To collaborate with researchers in the faculty who are undertaking epidemiological research using routinely collected health data.

EDUCATION

1. To contribute to the delivery of high quality, 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 the School's education, by participating in the development of new and updated learning and teaching materials or approaches.
3. To contribute to teaching for the MSc in Medical Statistics and/or the MSc in Health Data Science.

INTERNAL CONTRIBUTION

1. To undertake activities that support the Department, Faculty or the School;
2. To participate in the School's PDR process.

EXTERNAL CONTRIBUTION

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

PROFESSIONAL DEVELOPMENT & TRAINING

1. To keep up to date with the latest research/thinking in your academic field and with changes to pedagogic practice within the School 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 the School appropriate to the role.

RESEARCH FELLOW

LONDON
SCHOOL of
HYGIENE
& TROPICAL
MEDICINE



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 the School 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 the School's best interests;
2. Treat School staff, students and visitors with courtesy and respect at all times;
3. Comply fully with School 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 the School's values (as set out in the School Strategy document);
5. Act as ambassadors for the School when hosting visitors or attending external events.

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.

[JAN 2019]

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 medical statistics or a related discipline (for example statistics, machine learning, mathematics, data science).
2. Experience in medical statistics, or a related field.
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. Evidence of aptitude for methodological research.
8. Evidence of statistical programming experience, e.g. using R.

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. PhD in Medical Statistics or a related discipline, or equivalent experience.
5. Publications presenting novel statistical methodology.
6. Experience of using Machine Learning techniques.
7. Experience of medical statistics in applied research.
8. Experience of epidemiological research.

SALARY AND CONDITIONS OF APPOINTMENT

The post is funded for three years and is available immediately, until 31 July 2022. The salary will be on the Academic scale, Grade 6 scale in the range £39,304 - £43,760 per annum (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 "Director's Days". Membership of the Pension Scheme is available.

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 shortlisted. Online applications will be accepted by the automated system until 10pm of the closing date. Interested applicants are encouraged to contact Dr Elizabeth Williamson (Elizabeth.williamson@lshtm.ac.uk) for an informal discussion. Any queries regarding the application process may be addressed to jobs@lshtm.ac.uk. Please quote reference **EPH-MS-2019-06**.

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" will not be considered acceptable. 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

The School will comply with the Immigration, Asylum and Nationality Act 2006, 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 Certificate of Sponsorship and eligibility to work in the UK, can be found at: www.ukba.homeoffice.gov.uk/employers/points

Date compiled: Jan 2019

Academic Expectations: Research Fellow

Examples of expected types of activities are listed; the selection of activities will vary from year to year and not all activities in each category would necessarily be done in any one year. The statement in each shaded heading summarises the general expectations for contributions in each category. Given the nature of employment as a Research Fellow, it is expected that most activity will focus on knowledge generation, but some activity in other areas is required and will support career progression.

<i>Knowledge generation: Independent contributions and a clear trajectory towards excellence as an academic researcher</i>
<i>Research and scholarship</i> <ul style="list-style-type: none">• Undertaking research• Working with PIs to draft grant proposals and/or leading writing of small grants, work packages or sections of larger proposals or personal fellowship applications• Contributing to peer-reviewed outputs, including as first author, as expected by the subject area/discipline in terms of types of output• Poster/oral presentations at relevant conferences, translation of research findings into educational materials• Social media contributions such as twitter, blogs, web-based media or webinars <i>Doctoral degree supervision</i> <ul style="list-style-type: none">• For RFs with Doctorate, some contribution to doctoral degree supervision is encouraged (e.g. specialist skills training; ad hoc advice; advisory committees). RFs without a Doctorate may also advise in areas of specialist knowledge¹ <i>Research management, leadership and support</i> <ul style="list-style-type: none">• Effective management of own time and activities• Management of small research grants or elements of larger grants, including management of data collection and relationships with research collaborators, support to grants management <i>Professional development</i> <ul style="list-style-type: none">• Courses and other professional development activities, referenced to RDF• Where the length, nature and funding source of the position permit, to apply for and, if accepted, undertake a doctoral degree (if not already acquired)
<i>Education: Basic competence in teaching and assessment</i>
<i>Teaching and assessment</i> <ul style="list-style-type: none">• Research-informed teaching and assessment contributions (e.g. contributions to modules, MSc project supervision) <i>Educational development and innovation</i> <ul style="list-style-type: none">• Contributing to the development of new educational materials, learning opportunities or assessments approaches <i>Education leadership and management</i> <ul style="list-style-type: none">• None expected <i>Professional development</i> <ul style="list-style-type: none">• Participation in professional development activities referenced to UKPSF (e.g. HEA, PGCILT, preparation for doctoral degree supervision, shadowing more experienced colleagues)
<i>Internal contribution: Contributions to School functioning and development</i>
<i>Internal citizenship</i> <ul style="list-style-type: none">• Contributing to at least one Department, Faculty, School, or Centre event or special interest group in any one year;• Supporting external School collaborations/partnerships (beyond own research or education role) where relevant <i>School leadership and management roles</i> <ul style="list-style-type: none">• None expected but credit can be given if undertaken

¹ Such RFs are expected to be registered for a doctorate

External contribution: Contribution beyond the School
<i>External citizenship</i> <ul style="list-style-type: none">• Contributing to learned society/conference events, journal and grant reviews etc <i>Knowledge translation and enterprise: not expected but options include:</i>• Collecting evidence of research impact for impact case studies (e.g. policy records, correspondence with policy makers, media highlights)• Engaging with policy/practice/industry/NGO communities and the general public• Supporting MOOCs/OERs or other (e.g. educational) outreach