Job Description

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Summary

Job title	Epidemiologist / Health Data Scientist
Division	Medical Sciences
Department	Nuffield Department of Primary Care Health Sciences
Location	Radcliffe Primary Care Building, Radcliffe Observatory Quarter, Woodstock Road, Oxford, OX2 6GG
Grade and salary	Grade 7: £36,024 - £44,263 per annum (with discretionary range to £48,350 per annum)
Hours	Full or Part time (minimum 28 hours per week – working pattern negotiable)
Contract type	Fixed Term (Until 31 October 2026 in the first instance)
Reporting to	Helen Curtis
Vacancy reference	BZ24006 - 171115

The role

We are recruiting a new epidemiologist, statistician or health data scientist. You will be working on OpenSAFELY, the national analytics platform that was created during COVID-19 by our team in wide collaboration. OpenSAFELY is a highly secure, modular, open source data analysis platform, combining best practice from both academia and the open source software community. It is currently running across the full electronic health records of 55 million patients.

You will also join our team delivering research outputs across a wide range of academic and operational research questions in medicine. However this is not just a conventional researcher post. Alongside delivering high impact research outputs, you will also be helping to lead a new way of delivering health data science. You will contribute to our open science community-building work, our codebase, our open teaching resources or our policy work. You will be a key member of the team delivering our OpenSAFELY co-piloting and output checking services providing ample opportunities to develop collaborations with other groups.

The Bennett Institute is a mixed team of clinicians, software developers, policy experts, and traditional academic researchers, all pooling skills and knowledge. We have a strong track record of delivering high impact research papers in Nature, Lancet and BMJ; but also real-world impact on policy and clinical practice; and high impact data science tools and services such as OpenSAFELY, OpenPrescribing and TrialsTracker.

Our mission is to create a modern, open, collaborative ecosystem for health research. We do this by shipping code, delivering papers, building capacity, and advocating for new ways of working. We aim to lead by example, and you will work with us on this: recurring tasks are turned into packages and libraries; all code is shared openly for review and re-use with adequate documentation; analyses are delivered in Jupyter notebooks for others to read, evaluate, re-purpose, and learn with. As we deliver high quality research ourselves, we leave a solid template of re-usable tools behind for others to use. This requires close collaboration between researchers and software developers, for each to develop a close understanding of each other's working practices.

We want to meet outstanding researchers who share this vision and have, or can rapidly develop, the skills needed to deliver it with us. You will, of course, need to be highly proficient in at least Stata or R. We have a good record of working with existing researchers to help them develop more robust software carpentry skills: but we are particularly keen to meet candidates who are ready to work in Python, write a clear Jupyter notebook, understand containers and Docker, and merge a pull request on GitHub. At the very least, you will need to understand why these methods are important for delivering good, open, efficient, reproducible and high quality science; and be able to work with us to advocate for them on a global stage.

Alongside your work on OpenSAFELY you will also have the opportunity to expand into working across our other projects, and deliver new tools and analyses as part of the team. Our OpenPrescribing.net service identifies opportunities to improve quality and safety of clinical care: this service had more than 200,000 unique users over the past year, and has generated a huge volume of published research on variation in care, innovative data science methods, and policy issues around better use of data and software in healthcare. Our TrialsTracker.net service delivers live audit data on clinical trial reporting and has achieved extensive global media coverage alongside substantial policy impact.

We work hard to break down barriers between skillsets: we have software developers who understand epidemiology, epidemiologists who understand software development, and policy experts who understand our technical work, working closely with our more hands on data scientists. Because of this

we are particularly interested in researchers who will contribute to our open science community-building work, our codebase, our open teaching resources, and our policy work, which we regard as being closely intertwined with our research paper outputs, and equally high status.

You will report to one of our Senior Researchers. You can read more about our work and our approach at www.bennett.ox.ac.uk. We are actively seeking to increase our team's diversity, and so we welcome applications from those in under-represented groups.

Responsibilities

- Develop research questions within a specific context, conduct individual research, analysing detailed and complex qualitative and/or quantitative data from a variety of sources, and generate original ideas by building on existing concepts
- Develop and implement new research methodologies and materials
- Regularly write research articles at a national level for peer-reviewed journals, book chapters, and reviews. Present papers at national conferences, and lead seminars to disseminate research findings
- Agree clear task objectives, organise, and delegate work to other members of the team and coach other members of the group on specialist methodologies or procedures
- Raise research funds through grant applications and manage own area of a larger research budget
- Share responsibility for shaping the research group's plans and the writing of group-funding applications for new research projects
- Represent the research group at external meetings/seminars, either with other members of the group or alone
- Carry out collaborative projects with colleagues in partner institutions, and research groups
- Develop and deliver research papers evaluating the impact of COVID-19 on recovering patients and the health service. Work with the team to develop and deliver research outputs on other important clinical questions.
- Work with the team to creatively identify opportunities for new analytic approaches, or new tools and services that will meet the needs of clinicians, patients, policymakers and researchers; then work with us to implement them in code and deliver them to the community. Work closely with our developers and developer-researchers to contribute to the OpenSAFELY platform itself, for example by helping to develop the methods used in single papers into new features and code libraries for the platform, contributing to documentation for features that you and others have developed, and providing detailed user feedback on new features developed by the team.
- Work collaboratively with the growing community of OpenSAFELY users inside and outside of the Bennett Institute to help build an ecosystem of users delivering both individual research outputs and widely-used interoperable open tools. Contribute to capacity building and advocacy for modern, open, collaborative computational data science techniques by blogging, producing online content, giving talks and running workshops (as can be seen at www.bennett.ox.ac.uk and elsewhere).
- Contribute to the running of our OpenSAFELY co-pilot and output checking service
- Work with clinicians and software engineers to identify, ingest, manage, evaluate and analyse new datasets; deliver and share Jupyter notebooks and other open resources that describe, document, and curate the underlying electronic health records and research datasets made available through OpenSAFELY.

- Contribute to creative problem-solving around barriers to developing live interactive tools from health data; document these barriers and solutions constructively for others.
- Act as a source of information and advice to other members of the group on methods or procedures in which you have expertise.

Selection criteria

Essential selection criteria

- Outstanding skills in one or more of: epidemiology, data science, statistics, clinical informatics.
- Ability to write analytic code in at least one commonly used language (ideally Python/Pandas/SQL but also R/Stata or other), or very strong evidence that this can be rapidly developed.
- Strong existing knowledge of routinely collected NHS patient data, or clinical informatics.
- Strong commitment to our vision of delivering research by delivering modern, open, collaborative computational data science tools for the whole community to use and re-use.
- Strong commitment to open science and contemporary working methods, ideally demonstrated by provision of an existing GitHub repository for review (however sparse).
- Ability to communicate complex technical problems efficiently to other members of a busy team; and iteratively generate creative solutions to barriers.
- Ability to work collaboratively within a team using shared workspaces and tools.
- Ability to engage proactively with external partners on complex technical issues.
- Ability to communicate rapidly and effectively within a mixed team.
- Proven track record of delivering data science tools within a mixed team, or the ability to develop these skills rapidly.
- Proven excellent communication skills, including the ability to write for publication, present information clearly, and represent the research group at meetings.
- Relevant experience and degree.
- Previous experience of contributing to publications/presentations.

Desirable selection criteria

- A proven track record of commitment to open ways of working, sharing code, contributing to open source tools, as evidenced by contribution to existing code through GitHub.
- Outstanding skills in SQL, Python/Pandas and/or Stata/R.
- Previous experience analysing routinely-collected patient-level electronic health records data.
- Good domain knowledge on prescribing, pathology testing, clinical practice, and how healthcare services are organised and monitored in the UK.

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Pre-employment screening

Standard checks

If you are offered the post, the offer will be subject to standard pre-employment checks. You will be asked to provide: proof of your right-to-work in the UK; proof of your identity; and (if we haven't done so already) we will contact the referees you have nominated. You will also be asked to complete a health declaration so that you can tell us about any health conditions or disabilities for which you may need us to make appropriate adjustments.

Please read the candidate notes on the University's pre-employment screening procedures at: https://www.jobs.ox.ac.uk/pre-employment-checks

About the University of Oxford

Welcome to the University of Oxford. We aim to lead the world in research and education for the benefit of society both in the UK and globally. Oxford's researchers engage with academic, commercial and cultural partners across the world to stimulate high-quality research and enable innovation through a broad range of social, policy and economic impacts.

We believe our strengths lie both in empowering individuals and teams to address fundamental questions of global significance, while providing all our staff with a welcoming and inclusive workplace that enables everyone to develop and do their best work. Recognising that diversity is our strength, vital for innovation and creativity, we aspire to build a truly diverse community which values and respects every individual's unique contribution.

While we have long traditions of scholarship, we are also forward-looking, creative and cutting-edge. Oxford is one of Europe's most entrepreneurial universities and we rank first in the UK for university spin-outs, and in recent years we have spun out 15-20 new companies every year. We are also recognised as leaders in support for social enterprise.

Join us and you will find a unique, democratic and international community, a great range of staff benefits and access to a vibrant array of cultural activities in the beautiful city of Oxford.

For more information, please visit www.ox.ac.uk/about/organisation.

Nuffield Department of Primary Care Health Sciences

A top ranked centre for academic primary care in the UK, we lead world-class research and training to rethink the way healthcare is delivered in general practice and other primary care settings, both across the UK and globally. Integrating evidence and innovation, our main research focus is on enhancing prevention, early diagnosis and management of common illness.

Our research is led by internationally renowned scientists, many of whom are practising GPs and primary care clinicians, but many others are psychologists, epidemiologists, sociologists, and public health academics. We cover the broad range of issues that you might expect to address in the community, including cardiovascular and metabolic disease, infectious diseases and childhood illness, diet, smoking and cancer. We also focus on understanding and improving the experiences of patients, rigorously evaluating the effectiveness of treatments and diagnostics, utilising big data, developing digital health interventions and working internationally. We have methodological expertise in novel clinical trial design and implementation, clinical decision making and diagnostics, clinical epidemiology, medical statistics,

behavioural science, modelling, qualitative research and the wider application of social science theory and methods to address practical and theoretical challenges in health and care settings.

The department was established in October 1998 (as the Department of Primary Health Care) with the appointment of a foundation chair in general practice, and was made a free-standing department in 2011 with the first Oxford statutory chair in primary care. We provide a strong multi-disciplinary training environment, a full programme of academic support and good IT facilities. Our ability to collaborate with other epidemiological and community based research groups across the University and with GP surgeries locally and nationally enables us to utilise a broad range of relevant expertise into our teaching and research.

Our main research themes coalesce around cardiovascular disease and diabetes, infection, cancer, health behaviours, and digital health, with several cross-cutting themes, including disease prevention, early diagnosis, and patient self-management, big data and new clinical themes. We place inclusivity and diversity at the forefront of our approach to research from design and conduct through to the dissemination of our findings.

The department has exceptional infrastructure, including the long-established Primary Care Clinical Trials Unit, one of the most expert CTU's for trials conducted in community settings. We also host the Oxford Institute for Digital Health, the Bennett Institute for Applied Data Science, the Oxford Centre for Evidence-Based Medicine; the Interdisciplinary Research in Health Sciences research group (which uses both quantitative and qualitative methods to examine the human, organisational and societal issues relating to the delivery of healthcare and the improvement of health services) and the Medical Sociology and Health Experiences Research Group (MS HERG), which undertakes qualitative research into the patient experience including the Healthtalk research programme published on www.healthtalkonline.org. The department is a founding member of the National Institute for Health Care Research (NIHR) School of Primary Care Research, houses both the NIHR Applied Research Collaboration (ARC), Oxford Thames Valley and the NIHR MedTech and In Vitro Diagnostics Co-operative (MIC), and leads several themes of the Oxford University Hospital and Oxford Health BRCs. In terms of methodologies, as well as our critical mass of social scientists and computer/information scientists, the department supports one of the largest groups of medical statisticians in medical sciences and a growing team of health economists.

Clinicians in our department teach a number of threads in the undergraduate course in Medicine and we place students in GP practices as part of their training. We run a very successful, well established MSc programme in Evidence Based Health Care, and a new MSc in Translational Health Science with the Department of Continuing Education. In 2023 we will accept students to a new MSc in Applied Digital Health and to an MSc in Global Health Care Leadership run in partnership with the Said Business School.

The University of Oxford is a member of the Athena SWAN Charter to promote women in Science, Engineering, Technology and Medicine and holds an Athena SWAN Silver award at institutional level. The Nuffield Department of Primary Care Health Sciences holds a departmental Gold Athena SWAN award (awarded in March 2023 and the first Gold in the University of Oxford) to recognise advancement of gender equality: representation, progression and success for all.

The Nuffield Department of Primary Care Health Sciences currently holds a Gold National Union of Students (NUS) Green Impact award. Green Impact is an environmental accreditation scheme championed by the National Union of Students and is designed to support environmentally and socially

sustainable practice. The department supports sustainability initiatives in the following areas: supporting and leading change; energy; water; materials and waste; sustainable travel; biodiversity and nature; and food.

Our staff are mostly located in the superbly renovated Grade II listed Radcliffe Primary Care Building on the Radcliffe Observatory Quarter (ROQ), the University's most prestigious development site for a generation, and close to the city centre (see http://www.ox.ac.uk/roq/ for more information). Some staff are located nearby in the Gibson Building at the ROQ and some, including clinical teachers are based in Eagle House nearby off Walton Street.

Car parking is very restricted at both sites with only a small percentage of staff being granted an annual parking permit and priority being given to those with access needs. Bus Pass, Train Pass, bicycle loans and Season Ticket Loan Schemes are all in operation for staff.

For more information please visit: http://www.phc.ox.ac.uk

Medical Sciences Division

The Medical Sciences Division is an internationally recognised centre of excellence for biomedical and clinical research and teaching. We are the largest academic division in the University of Oxford.

World-leading programmes, housed in state-of-the-art facilities cover the full range of scientific endeavour from the molecule to the population. With our NHS partners we also foster the highest possible standards in patient care.

For more information please visit: http://www.medsci.ox.ac.uk/

How to apply

Applications are made through our online recruitment portal. Information about how to apply is available on our Jobs website https://www.jobs.ox.ac.uk/how-to-apply.

Your application will be judged solely on the basis of how you demonstrate that you meet the selection criteria stated in the job description.

As part of your application you will be asked to provide details of two referees and indicate whether we can contact them now.

You will be asked to upload a CV and a supporting statement. The supporting statement must explain how you meet each of the selection criteria for the post using examples of your skills and experience. This may include experience gained in employment, education, or during career breaks (such as time out to care for dependants)

If you are applying for a research post and you have had periods of working part-time, please indicate this on your CV or in your supporting statement. This will ensure that any outputs such as publications are fairly judged when considered alongside the expected outputs of full-time workers.

Where posts are advertised full-time, we **may** be able to consider part-time working or job share arrangements depending on the requirements of the role. If you want to work part-time and this option is not expressly stated in the advert or job information, please email hr@phc.ox.ac.uk to enquire whether the role you are applying for might be available on a part-time basis.

Please upload all documents **as PDF files** with your name and the document type in the filename.

Please do not upload full published papers or certificates as part of your supporting documents.

All applications must be received by **midday** UK time on the closing date stated in the online advertisement.

Information for priority candidates

A priority candidate is a University employee who is seeking redeployment because they have been advised that they are at risk of redundancy, or on grounds of ill-health/disability. Priority candidates are issued with a redeployment letter by their employing department(s).

If you are a priority candidate, please ensure that you attach your redeployment letter to your application (or email it to the contact address on the advert if the application form used for the vacancy does not allow attachments).

If you need help

Application FAQs, including technical troubleshooting advice is available at: https://staff.web.ox.ac.uk/recruitment-support-faqs

Non-technical questions about this job should be addressed to the recruiting department directly recruitment@phc.ox.ac.uk

To return to the online application at any stage, please go to: www.recruit.ox.ac.uk.

Please note that you will receive an automated email from our online recruitment portal to confirm receipt of your application. **Please check your spam/junk mail** if you do not receive this email.

Important information for candidates

Data Privacy

Please note that any personal data submitted to the University as part of the job application process will be processed in accordance with the GDPR and related UK data protection legislation. For further information, please see the University's Privacy Notice for Job Applicants at: https://compliance.admin.ox.ac.uk/job-applicant-privacy-policy. The University's Policy on Data Protection is available at: https://compliance.admin.ox.ac.uk/data-protection-policy.

The University's policy on retirement

The University operates an Employer Justified Retirement Age (EJRA) for very senior research posts at **grade RSIV/D35 and clinical equivalents E62 and E82** of 30 September before the 70th birthday. The justification for this is explained at: https://hr.admin.ox.ac.uk/the-ejra.

For **existing** employees on these grades, any employment beyond the retirement age is subject to approval through the procedures: https://hr.admin.ox.ac.uk/the-ejra.

There is no normal or fixed age at which staff in posts at other grades have to retire. Staff at these grades may elect to retire in accordance with the rules of the applicable pension scheme, as may be amended from time to time.

Equality of opportunity

Entry into employment with the University and progression within employment will be determined only by personal merit and the application of criteria which are related to the duties of each particular post and the relevant salary structure. In all cases, ability to perform the job will be the primary consideration. No applicant or member of staff shall be discriminated against because of age, disability, gender reassignment, marriage or civil partnership, pregnancy or maternity, race, religion or belief, sex, or sexual orientation.

Benefits of working at the University

Employee benefits

University employees enjoy 38 days' paid holiday, generous pension schemes, travel discounts, and a variety of professional development opportunities. Our range of other employee benefits and discounts also includes free entry to the Botanic Gardens and University colleges, and discounts at University museums. See https://hr.admin.ox.ac.uk/staff-benefits

University Club and sports facilities

Membership of the University Club is free for all University staff. The University Club offers social, sporting, and hospitality facilities. Staff can also use the University Sports Centre on Iffley Road at discounted rates, including a fitness centre, powerlifting room, and swimming pool. See www.club.ox.ac.uk and https://www.sport.ox.ac.uk/.

Information for staff new to Oxford

If you are relocating to Oxfordshire from overseas or elsewhere in the UK, the University's Welcome Service website includes practical information about settling in the area, including advice on relocation, accommodation, and local schools. See https://welcome.ox.ac.uk/

There is also a visa loan scheme to cover the costs of UK visa applications for staff and their dependants. See https://staffimmigration.admin.ox.ac.uk/visa-loan-scheme

Family-friendly benefits

With one of the most generous family leave schemes in the Higher Education sector, and a range of flexible working options, Oxford aims to be a family-friendly employer. We also subscribe to the Work+Family Space, a service that provides practical advice and support for employees who have caring responsibilities. The service offers a free telephone advice line, and the ability to book emergency back-up care for children, adult dependents and elderly relatives. See https://hr.admin.ox.ac.uk/my-family-care

The University has excellent childcare services, including five University nurseries as well as University-supported places at many other private nurseries.

For full details, including how to apply and the costs, see https://childcare.admin.ox.ac.uk/

Disabled staff

We are committed to supporting members of staff with disabilities or long-term health conditions. For further details, including information about how to make contact, in confidence, with the University's Staff Disability Advisor, see https://edu.admin.ox.ac.uk/disability-support

Staff networks

The University has a number of staff networks including the Oxford Research Staff Society, BME staff network, LGBT+ staff network and a disabled staff network. You can find more information at https://edu.admin.ox.ac.uk/networks

The University of Oxford Newcomers' Club

The University of Oxford Newcomers' Club is an organisation run by volunteers that aims to assist the partners of new staff settle into Oxford, and provides them with an opportunity to meet people and make connections in the local area. See www.newcomers.ox.ac.uk.

Oxford Research Staff Society (OxRSS)

A society run by and for Oxford University research staff. It offers researchers a range of social and professional networking opportunities. Membership is free, and all researchers employed by Oxford University are welcome to join. Subscribe at researchstaff-subscribe@maillist.ox.ac.uk to join the mailing list to find out about upcoming events and other information for researchers, or contact the committee on committee@oxrss.ox.ac.uk. For more information, see www.ox.ac.uk/oxrss, Twitter @ResStaffOxford, and Facebook www.facebook.com/oxrss.