



Job title	Research Fellow	Job family and level	Research and Teaching Level 4
School/ Department	School of Medicine, Mental Health and Neurosciences	Location	University Park Campus

Purpose of role

The purpose of this role will be to have specific responsibility for research, for developing research objectives and proposals for a research project in exploring the application of advanced analytical techniques (e.g., artificial intelligence and machine learning) within the fields of dementia risk stratification and cholesterol management in high-risk patients. You will be expected to plan and conduct work using approaches or methodologies and techniques appropriate to the type of research and will be responsible for writing up your work for publication.

The work program will be undertaken using routine primary care, UK Biobank, and other international datasets. The work is being conducted by an established multidisciplinary team within the Primary Care Stratified Medicine research group/Institute of Mental Health (IMH) and is being co-led by a Clinical Professor of Primary Care and the Professor of Neuroepidemiology and Global Ageing. You will work closely with the Associate Professor in Epidemiology at the University of Nottingham and our collaborators in Cambridge, Manchester, and Newcastle Universities.

You will have the opportunity to use your initiative and creativity to identify areas for research, develop research methods and extend your research portfolio.

The School of Medicine recognises the importance of continuous professional development and therefore the importance of providing opportunities, structured support and encouragement to engage in professional development each year.

	Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role)	% time per year
1	<p>Research Responsibilities:</p> <ul style="list-style-type: none"> ▪ To work with a multidisciplinary team to manage, plan and conduct research to build knowledge in the fields of ageing and dementia risk prediction, using advanced statistical and machine learning techniques, in electronic health record and “big” datasets. ▪ To develop new algorithms to assist with cholesterol management in high-risk patients. ▪ To resolve problems, in meeting research objectives and deadlines in collaboration with others. ▪ To identify opportunities and assist in writing bids for research grant applications. Prepare proposals and applications to both external and/or internal bodies for funding, contractual or accreditation purposes. 	70%

2	<p>Engagement, Communication and Continuation Responsibilities:</p> <ul style="list-style-type: none"> ▪ To write up research work for publication and/or contribute to the dissemination at national/international conferences, resulting in successful research outputs. ▪ To collaborate with academic colleagues on areas of shared interest for example, collaborative on joint research projects. ▪ Project Management. 	20%
3	<p>Teach, supervise, examine and personal tutoring:</p> <ul style="list-style-type: none"> ▪ To supervise and examine undergraduate, postgraduate taught and research students within area of expertise. ▪ To participate in the assessment of student knowledge and co-supervise projects at Masters level, as appropriate. ▪ You are expected to make a contribution to teaching that is in balance with wider contributions to research and other activities. ▪ When required, act as a personal tutor. 	10%
4	<p>Other:</p> <ul style="list-style-type: none"> ▪ Any other duties appropriate to the grade and level of the role ▪ The School of Medicine recognise the importance of continuous professional development and therefore the importance of providing opportunities, structured support and encouragement to engage in professional development each year 	N/A

Person Specification

	Essential	Desirable
Skills	<ul style="list-style-type: none"> ▪ Excellent oral and written communication skills, including the ability to communicate with clarity on complex information. ▪ Quantitative skills, including experience with processing large datasets. ▪ Ability to interrogate routine data using machine learning methodology. ▪ High analytical ability to analyse and illuminate data, interpret reports, evaluate and criticise texts and bring new insights. ▪ Ability to build relationships and collaborate with others, both internally and externally. 	<ul style="list-style-type: none"> ▪ Strong database skills.

	<ul style="list-style-type: none"> ▪ Ability to creatively apply relevant research approaches, models, techniques and methods. ▪ Ability to assess and organise resource requirements and deploy effectively. 	
Knowledge and experience	<ul style="list-style-type: none"> ▪ Demonstrated experience in advanced statistical analysis and the building of machine learning/artificial intelligence models. ▪ Experience with using healthcare data to answer research questions. ▪ Risk prediction modeling and other advanced statistical analysis using primary care datasets. ▪ Some practical experience of applying the specialist skills and approaches and techniques required for the role. ▪ Experience in use of research methodologies and techniques to work within area. 	<ul style="list-style-type: none"> ▪ Previous success in gaining support for externally funded research projects. ▪ Experience in developing new approaches, models, techniques, or methods for interrogating routine data. ▪ Experience of working with prospective cohort studies. ▪ Experience in the use of Stata or other statistical software. ▪ Experience with Artificial Intelligence and Machine Learning techniques. ▪ Experience publishing research papers.
Qualifications, certification and training (relevant to role)	<ul style="list-style-type: none"> ▪ PhD or equivalent experience in the research areas of public health/epidemiology, biostatistics, or computer science 	
Statutory, legal or special requirements	<ul style="list-style-type: none"> ▪ Understand the General Data Protection Regulation (GDPR) and research governance issues as they relate to use of routine service data and primary care datasets. 	
Other	<ul style="list-style-type: none"> ▪ Willingness to adopt the vision and values of the School of Medicine. 	



Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University's strategy, vision and values. The following are essential to the role:

- Valuing people** Is always equitable and fair and works with integrity. Proactively looks for ways to develop the team and is comfortable providing clarity by explaining the rationale behind decisions.
- Taking ownership** Is highly self-aware, looking for ways to improve, both taking on board and offering constructive feedback. Inspires others to take accountability for their own areas.
- Forward thinking** Driven to question the status quo and explore new ideas, supporting the team to "lead the way" in terms of know-how and learning.
- Professional pride** Sets the bar high with quality systems and control measures in place. Demands high standards of others identifying and addressing any gaps to enhance the overall performance.
- Always inclusive** Ensures accessibility to the wider community, actively encouraging inclusion and seeking to involve others. Ensures others always consider the wider context when sharing information making full use of networks and connections.

Key relationships with others

