

Candidate Information

Position:	Research Fellow (Cancer Data Analytics & Health Services Research)
School/Department:	School of Medicine, Dentistry and Biomedical Sciences
Reference:	25/112920
Closing Date:	Monday 3 November 2025
Salary:	£41,519 per annum.
Anticipated Interview Date:	Wednesday 26 November 2025
Duration:	Available until 31 August 2027

JOB PURPOSE:

We are seeking a postdoctoral researcher with expertise in health data analytics or epidemiology to join the All-Island E-Health Hub for Cancer, based at Queen's University Belfast (QUB) in partnership with the Northern Ireland Cancer Registry (NICR). The post-holder will undertake applied research using routinely collected cancer data to deliver key workstreams aligned with the e-Hub's strategic priorities.

The successful candidate will focus on high-impact research questions related to cancer care pathways, treatment access, and diagnostic delay, with potential to contribute to health economic analysis. The role offers a unique opportunity to shape regional policy-relevant insights while engaging in collaborative all-island infrastructure planning.

The role offers a unique opportunity to contribute to next-generation cancer data analytics across Ireland, with direct supervision from Prof Mark Lawler, Dr Ethna McFerran and Dr Damien Bennett.

MAJOR DUTIES:

1. Conduct high-quality quantitative research using NICR datasets, including chemotherapy, radiotherapy, and routes to diagnosis.
2. Lead on the design, implementation, and delivery of one or more cancer research projects in line with All-Island E-Health Hub goals.
3. Apply advanced analytics techniques (e.g. clustering, time-series, machine learning) where appropriate to large-scale health data.
4. Apply advanced survival analysis methods, including excess mortality and relative survival modelling, to investigate variation in cancer outcomes across patient subgroups and care pathways.
5. Generate impactful outputs including peer-reviewed publications, conference presentations, policy briefs and data dashboards.
6. Contribute to horizon-scanning and scoping activity related to future north-south data harmonisation, especially around OMOP mapping.
7. Define and pursue a personal research programme that advances the Hub's goals and your scientific profile.

Liaise with registry data managers and clinical stakeholders to ensure clarity of interpretation and appropriate framing of analyses.

8. Collaborate with colleagues across partner institutions to support interdisciplinary working and maximise synergies within the Hub.
9. Participate in regular project governance activities, internal reporting, and stakeholder engagement.
10. Contribute to mentoring of junior staff or students and delivery of training as appropriate.
11. Cultivate collaborations with all project partners, facilitating knowledge exchange and joint milestones.
12. Lead manuscript preparation and coordinate timely submission of high-impact publications.
13. Present progress regularly at internal meetings and external conferences to maximise project visibility and collaboration.
14. Identify funding calls and draft fellowship/project/travel proposals that extend Hub capacity.
15. Represent the Hub at national and international forums, showcasing outputs and forging new partnerships.

16. Support PIs with drafting progress reports and supplementary grant materials to satisfy funder requirements.
17. Co-develop and deliver training courses/workshops on Hub-relevant technologies and analytical best practice.
18. Carry out routine admin tasks (e.g. meetings, documentation, budget tracking) to keep workstreams on schedule and within budget.
19. Maintain subject knowledge through continual literature review and professional-development activities to keep abreast of developments in own specialism and related disciplines.
20. Perform any other reasonable duties within the scope of the role as project needs evolve.

ESSENTIAL CRITERIA:

1. Hold or be about to obtain* a PhD (awarded / submitted*) in health data science, epidemiology, medical statistics, or a closely related area such as computer Science, or mathematics.
2. Significant, relevant research experience.
3. Proven track-record conducting research using large-scale routine or registry data, preferably in cancer.
4. High-level proficiency and experience in R, Stata, or Python, with demonstrable experience applying open-source packages for large-scale health data processing.
5. Experience of UNIX/Linux, GitHub and reproducible workflow frameworks.
6. Experience of use of open-source packages for data processing.
7. Experience contributing to peer-reviewed publications or policy reports.
8. Collaborative mindset: Demonstrably effective at working in multi-disciplinary teams spanning bioinformatics, clinical science, statistics and data governance.
9. Depth and breadth of expertise: Up-to-date command of analytical methods and research techniques sufficient to contribute independently within established programmes.
10. Methodological fluency: Able to evaluate, select and adapt analytical packages or modular code based approaches to suit diverse datasets and research questions.
11. Problem-solving orientation: Capacity to troubleshoot analytical, computational and data-integration challenges quickly and rigorously.
12. Communicates complex scientific information clearly to specialist and non-specialist audiences, both orally and in writing.
13. Builds and nurtures professional networks across disciplines, institutions and sectors.
14. Ability to present research at national or international conferences (poster and/or oral) appropriate to career stage.
15. Demonstrated innovation in data analytics research with a clear commitment to improving care.
16. High intellectual ability and critical-thinking skills.
17. Proven team player, motivates and supports students and colleagues.
18. Self-starter who organises resources, meets deadlines and re-prioritises calmly under pressure.
19. Meticulous attention to detail; delivers accurate work even in complex, data-heavy settings.
20. Evident passion for research and continuous professional growth.
21. Ability to work independently and collaboratively across disciplinary boundaries.
22. The post-holder may be required to attend meetings or work on-site at NICR or other secure environments as required.
23. Must be willing to work irregular hours when necessary for the progress of the research project.
24. Must be willing and able to travel to national and international meetings.

DESIRABLE CRITERIA:

1. First-class (or equivalent) UG degree in a quantitative or life-science subject.
2. Formal training in statistics, AI/ML or health-informatics.
3. Familiarity with cancer registry data or treatment datasets.
4. Understanding of cancer care pathways and health services research.
5. Governance & security experience working under GDPR and ISO 27001 (or similar) controls within Trusted/Secure Data Research Environments, including Accredited researcher training and experience with data-sharing agreements.
6. Standards-based data architecture — hands-on use of OMOP-CDM / OHDSI tools and other open standards for harmonising clinical research data.
7. Cancer-site expertise: Prior work in colorectal, head-and-neck or prostate cancer.
8. Interest or experience in economic evaluation or cost-of-illness analysis.
9. Experience applying causal inference methods and multi-state Markov modelling in large observational datasets.
10. Competence in combining machine learning and causal inference for predictive modelling within decision-analytic frameworks.
11. Demonstrable ability to develop reusable analytical packages or modular codebases (e.g. R package development).

12. Experience developing or applying excess mortality models, particularly in the context of cancer survival analysis or health systems evaluation.
13. Ability to interpret excess hazard and relative survival estimates in population-level data.
14. Demonstrated experience in combining survival analysis, health economics, and machine learning to inform policy or practice.
15. Training & dissemination: Experience delivering lectures/tutorials or mentoring students and staff in data analytics methods.

ADDITIONAL INFORMATION:

* = If PhD pending, it must be conferred from date of interview.

Informal enquiries can be directed to: Damien Bennett - damien.bennett@qub.ac.uk.