



## Candidate Information

<b>Position:</b>	Research Fellow
<b>School/Department:</b>	School of Medicine, Dentistry and Biomedical Sciences
<b>Reference:</b>	24/112220
<b>Closing Date:</b>	Monday 28 October 2024
<b>Salary:</b>	£39,922 - £44,908 per annum
<b>Anticipated Interview Date:</b>	Friday 11 November 2024
<b>Duration:</b>	Available until 30 April 2025

### JOB PURPOSE:

The principal aim of this post is to continue development of the NIA funded Harmonizing Cognitive Assessments in Irish, English, and American Longitudinal Studies: Supporting Cross-National Research on the Epidemiology of Dementia. The primary aim of the project is to analyse results from the Harmonised Cognitive Aging Protocol (HCAP) Study within the Centre for Public Health.

### MAJOR DUTIES:

1. Work within the programme of work as determined by the Principal Investigator and co-investigators.
2. Liaise closely with TILDA/HRS partners to ensure project is carried out according to agreed timelines.
3. Work within multidisciplinary team to ensure smooth running of project. Provide appropriate leadership for research nurses, PhD students and others as appropriate within the team.
4. Gain training in statistical tests including pre-statistical harmonisation and imputation.
5. Carry out analyses, critical evaluations, and interpretations using methodologies and other techniques appropriate to area of research.
6. Liaise with data custodians to understand finer details of research datasets.
7. Oversee the creation of appropriate research databases which incorporate adequate safeguards of confidentiality.
8. Prepare, as necessary, submissions to Ethics Committees and other regulatory bodies and data transfer agreements with data custodians such as the NICOLA Data Access Committee.
9. Prepare papers for publication in national and international journals and presentations at national and international conferences.
10. Develop a public engagement strategy related to this project and initiate dialogue with relevant stakeholders and policy makers.
11. Ensure adherence to project milestones and be responsible for regular production of progress reports.
12. Assist the Principal Investigator in the preparation of funding proposals for HCAP-2 and applications to external bodies.
13. Draft and present regular progress reports on research for the funders and for external 'audiences' in order to disseminate and publicise research findings.
14. Carry out routine administrative tasks associated with the research project to ensure that the work is completed on time. These might include organisation of project meetings and documentation, financial control, risk assessment of activities.
15. Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines.
16. Any other duties related to the successful achievement of the above study.

### ESSENTIAL CRITERIA:

1. Honours Degree minimum of a 2:1 (or equivalent) in a health, social sciences, public health, or statistics related subject.
2. Have or be about to obtain\* a relevant PhD in epidemiology, social sciences, applied statistics, informatics, or public health related area including pharmacy and economics (\*must be obtained within 3 months of the closing date of the post).
3. Significant, recent relevant research experience and skills relevant to this project.
4. Experience of using statistical packages such as SPSS or STATA.
5. Demonstrable proficiency in academic paper writing.
6. Demonstrable knowledge and experience of research in the area of dementia and cognitive decline. Experience of neuropsychological testing in a normal and/or cognitively impaired population.
7. Sufficient breadth and depth of specialist knowledge of research methods pertinent to the present research programme.

8. Ability to deal competently with administrative tasks.
9. Knowledge and experience of using relevant statistical techniques, e.g. pre-statistical harmonisation.
10. Excellent IT skills e.g. Microsoft Office suite.
11. Excellent organisational skills.
12. Excellent inter-personal skills.
13. Excellent oral and written communication skills.
14. Ability to write reports and meet deadlines.
15. Clear and confident communicator.
16. Ability to build contacts and participate in internal and external networks.
17. Ability to give formal presentations.
18. Ability to work in a multi-disciplinary environment as part of a research team.
19. Ability to work independently and on own initiative.
20. Ability to act decisively and confidently.
21. Access to transport/ ability to meet the mobility requirements and a willingness to travel to meet the needs of the post.

**DESIRABLE CRITERIA:**

1. Experience of advanced statistical techniques.
2. Good publication track record commensurate with the stage of career.
3. Experience in use of database software.
4. Experience of data governance and issues related to data linkage.
5. Evidence of having co-ordinated a research project to successful completion.
6. Strong commitment to a career in research.

**ADDITIONAL INFORMATION:**

1. The HCAP was conducted between 2020-23 , including approximately one hour of cognitive testing and an additional twenty minutes of structured interview with a knowledgeable informant, as a separate in-home interview to randomly selected participants aged more than 65 years in NICOLA (approx. n=1,000 after Wave 2). 1,400 TILDA participants were also be assessed by the TILDA HCAP team.
2. The aim is to harmonise scoring of the Irish and Northern Irish HCAP data to the HCAP studies conducted in the US (HRS) and England (ELSA), and establish research diagnoses of probable presence or absence of dementia and cognitive impairment in these subsamples of TILDA and NICOLA using algorithms developed in collaboration with HRS and ELSA based on harmonised measures.
3. Construct estimates of dementia prevalence for the national populations of Ireland and Northern Ireland harmonised to estimates for US and England, having first established the representativeness of the national cohorts, and developing population weights to account for non-random participation and institutionalization (care homes).
4. Analyse the relationships between the harmonised HCAP data and the more limited cognitive and functioning measures in the core Irish studies to establish comparable research diagnoses in the full samples to further expand the data available for epidemiologic study, and identify measures that might be added to core studies to improve cognitive assessment going forward.
5. Conduct preliminary analyses to:
  - a. Investigate potential causal pathways from cardiovascular instability, cerebral microvascular disease and sensory impairment to dementia using objective measures in TILDA and NICOLA health assessments, including neuroimaging, near-infrared spectroscopy, hearing, vision, retinal photography, and multi-sensory integration technologies and using polygenic scores to capture genetic differences;
  - b. Use cross-country analyses to investigate how stress and long-term exposure to conflict in a unique cohort of older adults affects cognitive aging and physiological ageing and methylation/epigenetic patterns in known risk loci related to traumatic stress;
  - c. Establish potentially modifiable risk factors for primary and secondary prevention of dementia.
6. Provide data from the Irish and Northern Irish HCAP to the research community to complement existing public data resources from these studies and support epidemiologic research by others.

