



Title of PhD project	Sleep disturbance and dementia: exploring the relationship between common causes of sleep disturbance and long-term cognitive changes using large linked datasets	
Supervisor	Dr Charlotte Warren-Gash	LSHTM
Co-Supervisor	Dr Helen Strongman	LSHTM
Co-Supervisor	Professor Liam Smeeth	LSHTM
Brief description of project	<p>Sleep supports the consolidation of memory. Studies in shift workers have shown adverse effects of sleep deprivation on short-term cognitive function and learning. Disruptions to sleep and circadian rhythm are also common features of neurodegenerative diseases including dementia. However, disentangling the bidirectional relationship between sleep disturbance and long-term cognitive decline is challenging. This limits the potential for use of sleep management techniques as a dementia prevention strategy.</p> <p>This project will use large, powerful datasets from UK Biobank, the Million Women Study and the Clinical Practice Research Datalink to assess whether two objective measures of sleep disturbance – night shift work and clinically diagnosed obstructive sleep apnoea – are associated with long-term risks of cognitive impairment and dementia. This will help to provide actionable information for policymakers working in dementia prevention.</p>	
Skills we expect a student to develop/acquire whilst pursuing this project	<ul style="list-style-type: none"> • Management and analysis of large complex health datasets • Advanced coding skills in Stata • Methods for causal inference • Understanding of public health policy on dementia prevention • Transferable skills including communicating research results to a range of audiences, academic writing, project management 	

Particular <u>prior</u> educational requirements for a student undertaking this project	MSc in Epidemiology or MSc in Medical Statistics (or equivalent) with good grades.
Project key words	Dementia; sleep disturbance; electronic health records; UK Biobank; Million Women Study