



## PhD Position Opportunity

### **Housing intervention impacts on health gains and inequalities, health expenditure and productivity: *Disciplines: Epidemiology, Economics, Data Science, Computer Simulation and Policy***

*Advertised 13 Oct 2022; starting date by early 2023.*

The [Population Interventions Unit](#) and Scalable Health Intervention Evaluation program ([SHINE](#)), headed by Professor Tony Blakely, in the Centre for Epidemiology and Biostatistics has a PhD position available commencing early 2023. The PhD research project will assess the health gain and health inequality impacts of housing interventions (e.g., retrofitting homes, minimum standards, increased social housing, Indigenous housing etc.). The research will provide evidence for a novel-approach to curbing housing related diseases. You will – as a team member – be using sophisticated computer simulation modelling, built by the [SHINE](#) team. You will lead the conceptualization and specification of inputs to the modelling, and the interpretation and write up of outputs.

In addition the student will have opportunity to take part in research initiatives set up as part of a broader SHINE and [Healthy Housing Centre of Research Excellence](#) teams, and interact with a diverse research team with expertise in global public health, social epidemiology, data science, economics and clinical medicine at the Melbourne University School of Population and Global Health.

The PhD will allow the candidate to develop in-depth skills in:

- Housing and health – health researchers need to increasingly consider the impact of societal interventions on health, such as housing. An important characteristic of housing interventions is their potential to also reduce health inequalities. Housing interventions also impact other important aspects of society (e.g., energy efficiency, social connectivity, employment opportunities).
- Epidemiology – at the heart of any simulation modelling is a rich system and structure of epidemiological connections that requires conceptualization and parametrization. The simulation modelling forces a deep understanding of epidemiology (e.g. incidence, case fatality, remission, quantifying causal association of housing factors with disease rates, competing mortality and morbidity, burden of disease methods).
- Economics – working out an optimal policy setting for society requires getting the epidemiology ‘right’ or at least plausible scenarios with uncertainty given our collective lack of knowledge, and then weaving in costs to the health system and society for a fuller picture.

The successful candidate will also have exposure to computer simulation and data science methods. The candidate can either just be a user of this infrastructure, or develop a PhD including development of simulation methods.

### **ABOUT YOU**

The ideal candidate will have:

- Masters or Honours degree in Epidemiology, Economics, Public Health, Biostatistics, Statistics, Data Science or related field.
- Strong skills in quantitative analysis
- Excellent written and verbal communication skills

- A strong interest in one or both of housing and health, and/or the application of epidemiology, economics and data science to informing decision making.

Additionally:

- Publication(s) in peer-reviewed journals and/or evidence of research impact will be highly regarded.
- Experience in data analysis and knowledge in computing languages (e.g. Python, R, SAS) are highly regarded.

Applicants are required to meet the University of Melbourne's requirements for a Research Higher Degree candidature.

Please refer to:

<http://mdhs-study.unimelb.edu.au/degrees/doctor-of-philosophy/entry-requirements#entry-requirements>

Aboriginal or a Torres Strait Islander people are strongly encouraged to apply; we have an ambitious program of housing research for Aboriginal and Torres Strait Islander people under way.

#### **ABOUT THE SCHOLARSHIP**

The successful candidate will need to have a strong enough CV to secure a University of Melbourne PhD stipend: <https://scholarships.unimelb.edu.au/awards/graduate-research-scholarships>. The Healthy Housing CRE will then provide a \$5000 annual top-up to the PhD stipend.

#### **How to Apply**

Please complete the Expression of interest form (**EOI\_Form\_PhD\_Scholarship\_COVID-19\_Policy\_Modelling.docx**) and send a completed copy, along with your CV, academic transcripts from all prior study and academic references as a **single PDF document** to [population-interventions@unimelb.edu.au](mailto:population-interventions@unimelb.edu.au). We also welcome discussions with us prior to completing an Expression of Interest. For further enquiries please contact Prof Tony Blakely via email ([ablakely@unimelb.edu.au](mailto:ablakely@unimelb.edu.au)). Applications will be reviewed as received.