



Title of PhD project	<b>Understanding ethnic differences in the comparative effectiveness of antidiabetic medications using high-dimensional propensity scores in electronic health records</b>	
Supervisor	<a href="#">Dr Rohini Mathur</a>	LSHTM
Co-Supervisor	<a href="#">Dr Elizabeth Williamson</a>	LSHTM
Brief description of project	<p>The recent pandemic has highlighted substantial disparities in outcomes of COVID-19 between different ethnic groups. These disparities arise from, and are reflected in, many different aspects of the social and healthcare pathway. One important disparity arises because therapeutic guidelines are predominantly derived from white European populations, which may result in suboptimal care among different ethnic groups.</p> <p>As it is currently unknown whether antidiabetic treatment response differs by ethnicity, these guidelines may be inadequate for achieving optimal diabetic control across diverse populations. Due to clinical equipoise between classes of second-line antidiabetic drugs, establishing the comparative effectiveness of these therapies is of growing importance, with differences by ethnicity yet to be examined.</p> <p>Using large scale UK based electronic health records, this project will involve the application of state-of-the art statistical methodology, including high-dimensional propensity scores to examine ethnic differences in the causal relationship between diabetes treatment and cardiovascular outcomes.</p>	
Skills we expect a student to develop/acquire whilst pursuing this project	<ul style="list-style-type: none"> <li>- Skills in the use of large linked electronic health databases for observational studies.</li> <li>- Skills in advanced causal inference methodology to address time varying confounding, complex treatment effects, and missing data.</li> </ul>	
Particular <u>prior</u> educational requirements for a student undertaking this project	<p>MSc. in Epidemiology, Statistics, Bioinformatics or MSc. in a related field with training in Pharmacology, Statistics or Epidemiology.</p>	

<b>Project key words</b>	<b>Electronic health records, causal modelling, statistical Methodology, diabetes, ethnicity, inequalities</b>
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