

Title of PhD project / theme	<b>Understanding the association between atopic eczema and severe adverse health outcomes</b>
Supervisory team	<p>LSHTM: Professor Sinéad Langan (lead) Nagasaki University: Professor Hiroyuki Murota (lead)</p> <p>LSHTM: Dr Kate Mansfield Nagasaki University: Dr. Rie Yotsu Tsukuba University: Dr. Masao Iwagami</p>
Brief description of project / theme	<p>At LSHTM, we have recently shown an association between atopic eczema and severe adverse health outcomes including major osteoporotic fractures and cardiovascular disease. Using UK primary care data, we demonstrated that in severe eczema the risk of major fractures is increased by between 50% and two-fold.<sup>2</sup> The majority of evidence to date is from largely Caucasian populations. Given the high prevalence of atopic eczema (up to 10% of adults), any association with severe health outcomes would be of major public health importance.</p> <p>In this project, the candidate will be based in Japan to undertake case-control or cohort studies using existing Japanese health record data to determine if similar increases in severe medical outcomes are observed in the Japanese population with atopic eczema. They will undertake modelling in Japanese and UK data to further understand the basis for any observed association.</p> <p><b>References:</b></p> <ol style="list-style-type: none"> <li>1. Silverwood RJ*, Forbes HJ*, Abuabara K, Ascott A, Schmidt M, Schmidt S, Smeeth L, Langan SM. Severe and predominantly active atopic eczema in adulthood and long-term cardiovascular disease risk: a UK population-based cohort study, 1998–2015. <i>BMJ</i></li> <li>2. Lowe* KE, Mansfield*KE, Delmestri A, Smeeth L, Roberts A, Abuabara KE, Prieto-Alhambra D, Langan SM. Atopic eczema and fracture risk in adults: A population-based cohort study. <i>J Allerg Clin Immunol</i> 2019 (in press).</li> </ol>
The role of LSHTM and NU in this collaborative project	This project will be the start of a collaborative relationship between Nagasaki University and LSHTM focused on understanding more about long-term outcomes in skin

	diseases in different populations. The candidate will be based in Nagasaki but will spend periods of time at LSHTM, where they will be integrated in a dynamic team with expertise in large data analysis. We will utilise Zoom for weekly meetings with the candidate and supplement these with face-to-face meeting for intense periods.
Particular <i>prior</i> educational requirements for a student undertaking this project	<ol style="list-style-type: none"> <li>1. A relevant post-graduate degree (Epidemiology or Statistics) at Masters level with very good results</li> <li>2. Experience of contributing to peer reviewed publications and/or excellent writing skills</li> <li>3. Quantitative skills; experience analysing datasets with a meticulous approach.</li> </ol>
Skills we expect a student to develop/acquire whilst pursuing this project	This project will provide excellent training for the student in utilizing complex large datasets. Analyses will be undertaken using STATA and/or R.