

UK Government to fund COVID-19 research in Scotland

The UK Government is investing £8.4 million in COVID-19 immunology research projects across the UK, including the Universities of Edinburgh, Glasgow and Dundee.

It is the biggest ever contribution to COVID-19 immunology research in the UK.

Three new UK-wide studies will receive funding from UK Research and Innovation (UKRI) and the National Institute for Health Research (NIHR) to understand immune responses to COVID-19.

Together, it is hoped these studies will improve the treatment of patients and inform the development of vaccines and therapies.

The Scottish universities are taking part in the largest study, the UK Coronavirus Immunology Consortium, which will receive £6.5 million and bring together leading immunologists from 17 UK universities. The University of Edinburgh is also involved in another study.

Dr Christopher Lucas, University of Edinburgh, will lead a study titled 'Inflammation in COVID-19: Exploration of Critical Aspects of Pathogenesis', which will receive £394,000.

It will focus on the key features of fatal COVID-19 and the impact the virus has upon the lungs and other vital organs.

Using authorised hospital post-mortem examinations of patients who have died from COVID-19, this study will provide a unique opportunity for expert clinicians and scientists to study the whole body in a level of detail that is not possible during life.

Dr Christopher Lucas said:

We have learned so much from COVID-19 patients during the past six months. However, there is only so much that we can learn from clinical examinations and blood tests.

By having a deeper look at those who have died from COVID-19 through post-mortem examination, we will increase our understanding of what is happening to the body in the most severe cases of this disease.

Critically, this will allow us to rapidly answer key clinical questions and help inform the care of patients and the development of new treatments.

The UK Coronavirus Immunology Consortium will investigate key questions including:

- how long does immunity from COVID-19 last?
- why are some people's immune systems better able to fight off the virus?
- why do some people's immune responses cause damage, especially to the lungs?
- how does the virus 'hide from' the immune system and how can this be tackled?
- does immunity to previous infection with seasonal coronaviruses (which cause the common cold) alter a person's outcome with SARS-CoV-2?

Better understanding of these immune responses, particularly the T cell response, could provide targets for new therapies to treat COVID-19 and inform the efforts to develop a vaccine.

The project will use samples and data from major UK COVID-19 projects already underway, funded by UKRI and NIHR, including ISARIC-4C (characterizing and following more than 75,000 hospitalized patients with COVID-19) and the genomic studies COG-UK (sequencing the SARS-CoV-2 virus genomes) and GenOMICC (sequencing the genomes of people with COVID-19).

UK Government Minister for Scotland, Iain Stewart said:

Scotland has a world-leading life science and research sector. This UK Government investment underpins the significance of our universities and academics nationally and internationally.

We have much to learn about understanding immune responses to COVID-19.

These studies, we hope, will improve the treatment of patients and inform scientists as they develop future treatment. It is a commendable contribution in the fight against the coronavirus pandemic.

Professor Massimo Palmarini, Director of the MRC-University of Glasgow Centre for Virus Research (CVR) said:

My colleagues and I at the CVR are extremely proud to be involved in the UK-CIC consortium, and are grateful to UKRI and NIHR for the

generous funding support.

It's now more important than ever that the immunology community work together, as we aim to address important, unanswered questions about SARS-CoV-2 as we move through this pandemic.