Baillie Gifford support University of Edinburgh hub developing treatments for Covid-19 with multimillion pound donation

A new multi-million pound research programme supported by Baillie Gifford will work to develop treatments for lung infections such as Covid-19 and future pandemics at the University of Edinburgh.

The Baillie Gifford Pandemic Science Hub will use translational genomics — following clues from the human genome to identify, and rapidly test, new treatments — with experimental medicine methods to quickly evaluate and develop drugs for lung inflammation and injury caused by infection.

It will combine Edinburgh's world-class ability to determine a person's genetic predisposition to lung injury with advanced interventional robotics for delivering drugs, cutting-edge sensing and sampling technologies, and innovative clinical trial design.

Baillie Gifford is supporting the hub with a philanthropic gift of £14.7 million. The University aims to secure a total of £100m investment to accelerate discoveries to drive clinical translation in Covid-19 and other human lung

diseases, as well as aiding preparedness for future pandemics.

This investment will help the university to forge partnerships with other organisations worldwide and recruit researchers to take the work forward.

GenOMICC

The hub builds on the success of GenOMICC led by Professor Kenneth Baillie and STOPCOVID led by Professor Kev Dhaliwal, both of which are experimental medicine projects at University of Edinburgh.

GenOMICC is a global research study that aims to understand the genetic factors that change outcomes in critical illness. Early in the pandemic, GenOMICC found the first human gene ever to lead to a new drug treatment for infectious disease or critical illness. Based on human genetic data from Covid-19 patients, they predicted the drug baricitinib would be an effective treatment. This discovery, combined with other evidence, led to the decision to add the drug to the RECOVERY trial, which recently reported that baricitinib is effective at reducing death from severe COVID-19.

GenOMICC recently discovered a further 16 genes underlying severe Covid-19, potentially leading to even more effective treatments.

STOPCOVID

STOPCOVID began in the early stages of the Covid-19 pandemic and built on the strengths of the Edinburgh BioQuarter in translational medicine and technological capabilities in lung disease. Edinburgh BioQuarter is a leading global destination for healthcare delivery, groundbreaking medical research and life sciences innovation.

The team rapidly established experimental medicine pathways for testing therapies in patients alongside accelerating technologies for delivering and measuring drugs in human lungs. STOPCOVID has also been generously funded by LifeArc and Baillie Gifford.

The hub will bring together expertise from both projects, with critical care patients at the heart of the pathway.

To quicken the discovery of new treatments the team will deliver microdoses of multiple medicines to key areas of patients' lungs to find out if the drugs work either on their own or in a combination.

The constant risk of respiratory viruses, combined with the emergence of antibiotic resistance in respiratory diseases, means a radical new approach to streamlining drug development and evaluation is needed.

The hub will harness the expertise of the University's leading data scientists, roboticists, engineers, chemists, biologists, regulatory experts, drug developers, toxicologists, translational managers and clinicians.

Professor Kenneth Baillie of University of Edinburgh PHOTO ©
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Professor Kenneth Baillie, GenOMICC's chief investigator and
Professor of Experimental Medicine at the University of
Edinburgh, said: "The generous donation from Baillie Gifford
enables us to build on recent advances in genomics, computing,
engineering and experimental medicine – all major strengths at
Edinburgh – to speed up the process of drug development, so
that we'll be able to find targeted therapies more quickly for
new, and old, diseases. The hub will use clues from human
genetics to develop new drugs, and then build technologies to
rapidly test those drugs in critically ill patients."

Professor Kev Dhaliwal, STOPCOVID lead and Professor of
Molecular Imaging and Healthcare Technology, said: "Innovation
and team science are at the heart of this new push which will
make a jump in experimental medicine capabilities. Fusing
disciplines in a translationally focused environment to
accelerate therapies and approaches for lung inflammation is a
major challenge and we are delighted that we are being

supported by Baillie Gifford to establish this hub and also recruit leaders from across the world."

The University of Edinburgh's new Baillie Gifford Pandemic Science Hub will develop treatments for lung infections like Covid-19.

Professor Kev Dhaliwal and Professor Kenneth Baillie

Mark Urquhart, partner at Baillie Gifford, said: "We have been genuinely excited to see the results of the GenOMICC and STOPCOVID projects and our investment aims to accelerate these programmes. The Covid-19 pandemic has shone a light on how vulnerable the world is to this type of virulent viral infection. Our aim is to contribute towards better preparedness for new Covid-19 variants and other pandemics in the future. We see great opportunity in the innovative approaches taken by the University of Edinburgh."

Professor Peter Mathieson Principal and Vice-Chancellor of University of Edinburgh, said: "Our partnership with Baillie Gifford in creating this innovative Pandemic Science Hub demonstrates the way in which enlightened philanthropic investment can accelerate academic research. This initiative has the capacity to positively impact many lives both locally and globally and we are very pleased to be working with Baillie Gifford in this transformative way."