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New study to identify highest risk factors for COVID-19

Scientists are calling on the public in Scotland to sign up to a new UK-wide study which will help identify who is most at risk of contracting COVID-19 and why some people become more ill than others with the disease.

The University of Edinburgh is the lead institution for Scotland in the COVIDENCE UK study. The study, led by Queen Mary University of London, opens today [Friday 1 May] and aims to recruit at least 12,000 people, aged 16 or over, from across the UK.

King's College London, the London School of Hygiene & Tropical Medicine, Queen's University Belfast and Swansea University are the other partners in the research, which is funded by the Barts Charity.

The study aims to recruit as diverse a group of volunteers as possible, including those who have already had proven or suspected COVID-19 and those who have not. The team also want to include a mixture of people both with and without underlying conditions such as diabetes, lung disease, heart disease and high blood pressure. The information gathered will help scientists to understand why certain people appear to be at greater risk.

Study lead, Adrian Martineau, Professor of Respiratory Infection and Immunity at Queen Mary University of London, explains: "We know that people with certain medical conditions seem to be at increased risk of coronavirus disease. However, we don't know why this is. Is it because people with these conditions tend to be older? Is it something to do with the underlying condition itself? Could particular medications affect the risk? Or are lifestyle factors such as smoking or different dietary patterns which tend to go along with some of these conditions important? The answers to these questions could help us to devise new strategies to reduce infection risk, while we are waiting for an effective vaccine to come along."

The team also hope the data they gather will help to explain why the number of cases and deaths from COVID-19 include a high proportion of people from black, Asian and minority ethnic backgrounds.

Professor Aziz Sheikh from the University of Edinburgh, Director of the Asthma UK Centre for Applied Research and COVIDENCE Lead for Scotland, said: "A study of this size, across all four nations of the UK, will enable us to gain significant insights into multiple risk factors associated with COVID-19, helping us understand why particular groups are more susceptible. We hope a wide variety of people will volunteer to take part in the study from across Scotland and the UK, to enable the role of different backgrounds and varying medical histories in the effects of COVID-19 to be fully explored. The study will be set up to enable future fast-tracked trials to test treatments that will, we hope, reduce the risk of serious outcomes and death."

Recruits are asked to sign up at www.qmul.ac.uk/covidence and fill in a detailed initial questionnaire, covering their medical history, lifestyle and behaviour in terms of social distancing, hand-washing etc. Simple monthly updates will then track any new symptoms. The study will also automatically draw on patients' NHS records to include information on test results and hospitalisations.

How fast the team can analyse this information to help protect those most at risk will depend on how quickly they can recruit the numbers required.

“If we can reach our 12,000 target, particularly if a significant proportion of participants have already had a positive test for COVID-19, then we should be able to get some early results in the next few weeks,” says Professor Martineau. “We also hope to understand why the severity of the disease differs so much across individuals, with some having no symptoms to otherwise healthy young people – albeit in small numbers – dying from the disease.”

The team also aim to see how the COVID-19 outbreak is affecting people’s mental well-being – and vice versa.

Professor Gerome Breen from King’s College London explains: “Our mental health, particularly depression and anxiety, is closely entwined with our physical health and can play a role in how well we fight an illness or respond to treatment. That’s why we want to measure mental as well as physical well-being, to see if that can help predict the likelihood of an adverse outcome.”

The study, which will run for up to five years, will also create a platform to fast-track future trials of preventative treatments, such as dietary supplements, to see if they help to protect against COVID-19. Recruits will be asked if they are willing to be approached to take part in future trials when they sign up to be involved.

More information on the COVIDENCE UK study can be found at www.qmul.ac.uk/covidence

Ends

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Notes to editors:

The lead researchers for the COVIDENCE study in the four nations of the UK are:

- England: Adrian Martineau, Clinical Professor of Respiratory Infection and Immunity, Queen Mary University of London
- Scotland: Aziz Sheikh, Professor of Primary Care Research and Development, University of Edinburgh
- Wales: Ronan Lyons, Clinical Professor of Public Health, Swansea University
- Northern Ireland: Frank Kee, Clinical Professor of Public Health, Queen’s University Belfast

About Queen Mary University of London

At Queen Mary University of London, we believe that a diversity of ideas helps us achieve the previously unthinkable. In 1785, Sir William Blizard established England’s first medical school, The London Hospital Medical College, to improve the health of east London’s inhabitants. Together with St Bartholomew’s Medical College, founded by John Abernethy in 1843 to help those living in the City of London, these two historic institutions are the bedrock of Barts and The London School of Medicine and Dentistry. Today, Barts and The London continues to uphold this commitment to pioneering medical education and research. Being firmly embedded within our east London community, and with an approach that is driven by the specific health needs of our diverse population, is what makes Barts and The London truly distinctive. Our local community offer to us a window to the world, ensuring that our ground-breaking research in cancer, cardiovascular and inflammatory diseases, and population health not only dramatically improves the outcomes for patients in London, but also has a far-reaching global impact. This is just one of the many ways in which Queen Mary is continuing to push the

boundaries of teaching, research and clinical practice, and helping us to achieve the previously unthinkable.