CASE STUDY 1

COVID Symptom Study

On 24 March 2020, the COVID Symptom Study was launched by King's College London working with health technology company ZOE: a pioneering, app-based, scientific study into the spread and effects of COVID-19.

The study, which is unique in its (peer-reviewed) methodology, uses community symptom monitoring to provide near-real-time estimates of COVID-19 incidence down to the local level. Due to its widespread adoption and success, the study is used alongside the ONS and REACT-1 studies to inform the UK Government and public health decisions.

ZOE COVID Symptom Study

Since then, more than 4.1m people have uploaded their symptoms and experiences.

BREAKING NEWS | GENETIC EPIDEMIOLOGY, KING'S COLLEGE LONDON
PROFESSOR TIM SPECTOR

skynews.com INGS TAKING THE TOTAL NUMBER OF DEATHS TO 34,796   BREAKING NEWS   VIRUS PANDEMIC: HEALTH SECRETARY M

In the year up to March 2021

40 more than 40 **scientific discoveries** were generated by the study.

35 the study **linked 35 symptoms with COVID-19**, including anosmia which was subsequently added to the UK Government's testable symptom list.

An Academic Health Sciences Centre for London

Pioneering better health for all

CASE STUDY 1

Up to July 2021, the study has recorded:

Data from

4,120,147

UK contributors with more than one million average weekly users.

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338,896,429

health reports (symptoms and case logging) in the UK.

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1,213,267

vaccines in the UK.

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7,567,210

test results including PCR, lateral flow and antibody tests in the UK (these are all tests not just from invited people).

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Supported by King's Health Partners access and networks, the study and app were promoted by the Integrated Care System's dedicated vaccination website. The website is directed towards south east London's diverse residents and some ethnic minorities which have expressed marked vaccine hesitancy. King's Health Partners promoted the study through several south east London trusts and boroughs and across numerous vaccination sites. The app has now had more than a million vaccines logged by users nationwide. This added to the understanding of vaccine efficacy, transmission and variant effects.

Other contributions to the nation's understanding of the COVID-19 virus that have been made possible through the app included a study showing reassuring data on COVID-19 infections after the Pfizer and Oxford AstraZeneca vaccines, findings on vaccine hesitancy and uptake among racial and ethnic minorities in the UK and US, a study uncovering possible reasons for the c25% testing gap in the UK, and an analysis of the properties of the Alpha variant.

Long-COVID

Critically as the country and the world has – and continues to – face challenges, not only from new variant waves but also Long-COVID, this nationally representative dataset has provided vital insight. For example, it has provided the first clear evidence for Long-COVID: at least one in 20 of community-based individuals infected by SARS-CoV-2 experience an extended period with a diverse spectrum of symptoms. Covered in *Nature Medicine*, the app led to identification of key characteristics, associations and risk analysis models of Long-COVID – attributes and predictors of Long-COVID. Over time, this will aid the development of personalised digital dietary and behavioural interventions and other likely interventions and possible treatments for patients with Long-COVID.

"When the pandemic hit, I was blown away by the speed at which the teams at King's College London and ZOE were able to set up the app. Everyone downed their tools, put aside their own work and pitched in. It's thanks to this team effort, that we were able to launch the app so quickly and start making an impact almost immediately.

On top of this, the other thing that I will look back on in years to come is the amazing support received from our twins at Twins UK. They were some of the first to give blood and stool samples to help us fight COVID-19. With this unique cohort, we were able to uncover a number of key findings before anyone else, such as heritability, symptoms, and antibodies.

However, what I'm most proud of is the support we've had from the UK public. We never imagined in those early days that we would still be going 18 months later, with around a million people logging on to tell us how they feel every day. Without the public, none of this would have been possible."

Prof Tim Spector, Professor of Genetic Epidemiology, King's College London