New megalab opens to bolster fight against COVID-19

- Lab will process and sequence thousands of COVID-19 tests a week and play indispensable role in responding to new variants of concern and future disease threats, while creating 1,500 skilled jobs for the area
- New UK Health Security Agency – led by Jenny Harries – today sets out priorities for coming months to manage virus and boost UK pandemic preparedness

The UK's first testing megalab – the Rosalind Franklin laboratory in Royal Leamington Spa has opened and will be processing hundreds of thousands of COVID-19 samples every day to rapidly detect new variants and help stop the spread of the virus.

As part of the UK's NHS Test and Trace network, the laboratory is the biggest of its kind in the UK and will use cutting-edge technology to process even more tests and adopt the pioneering new genotype assay testing to quickly identify variants of concern and new mutations. This will help the UK's disease detectives take action to supress outbreaks as society reopens, using tools such as surge testing.

The new state-of-the-art laboratory is at the heart of the UK Health Security Agency's (UKHSA) plans for the next part of our battle against the pandemic. In recognition of her outstanding contribution to our current understanding of genomic sequencing – one of our weapons in the fight against COVID-19 – the laboratory is named after Rosalind Franklin.

The Rosalind Franklin Laboratory aims to create and upskill scientists with a programme of training and, with close links to universities, inspiring a new generation to choose a career in STEM. The new laboratory will create up to 1,500 jobs when fully staffed, with over 300 people on-boarded already and over 700 more joining in the near future. Around 60% of the staff hired so far coming from within 30 miles of the site.

Under the leadership of former deputy Chief Medical Officer, Jenny Harries, the UKHSA's top priority is managing the spread of COVID-19 as restrictions ease, and building the UK's capabilities to ensure we are prepared against other potential future threats.

Health and Social Care Secretary Sajid Javid said:

> The UK Health Security Agency is going to put us at the forefront of the global battle against COVID-19 and help us stay a step ahead of new and emerging future threats.
>
> Trailblazing technologies are going to be pivotal to delivering on

> this bold ambition and I’m delighted that today we are bolstering our capabilities in testing and genomic sequencing with the opening of the Rosalind Franklin Laboratory.
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> This Laboratory will be one of the centrepieces of our efforts to manage this virus in the future, processing hundreds of thousands of positive COVID-19 tests a day to help us stop cases becoming outbreaks.
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> Testing has already been instrumental in helping us control the virus and it is going to be essential to continue to protect ourselves and our communities in the months ahead. I’d urge everyone to take up our offer of free, twice weekly rapid testing.

Over the past year the government has built the largest network of diagnostic testing facilities in British history, including public and private sector partnerships, at incredible speed.

More than 200 million COVID-19 tests have been conducted, including over 100 million PCR tests which has enabled over 4.8 million positive cases to be contacted and told to self-isolate by NHS Test and trace. This testing network will continue to provide essential public health data for the UKHSA to tackle current and future infectious disease threats.

The publicly-owned, very high throughput laboratory is going to use cutting-edge technology, such as automation and top of the range robotics. This includes LGC EndPoint PCR (EPCR) testing workflow for COVID-19, which has ultra-high capacity and can process up to 150,000 tests each day on a single instrument. This will allow more tests to be processed more quickly and at a lower cost, and establishing a flexible pandemic response infrastructure that can respond to surges in demand.

In the coming months, the laboratory will carry out genotype assay testing, using ePCR machines to rapidly detect COVID-19 mutations indicating whether positive test samples contain known variants, and genome sequencing to confirm known variants and identify any new mutations.

The strength of the UK’s genomics science base and diagnostics sequencing industry has allowed the UK to genomically sequence over 600,000 positive COVID-19 tests, rapidly identifying COVID-19 variants and capturing critical data, enabling scientists to track and stay ahead of mutations in the genome of the virus.

Chief Executive of the UKHSA Jenny Harries said:

> Our mission at the UK Health Security Agency is to learn the lessons of this global pandemic and positively harness them in how

we prepare and steel ourselves against future health threats.

The pandemic has provided us with clear evidence, on a daily basis, that you can only challenge viruses of this kind with the right testing and genomics infrastructure in place.

The Rosalind Franklin Laboratory is going to be a critical scientific addition to how we manage this virus in the months ahead, arming us with data and intelligence on the spread of variants that will inform decision-making and ultimately, save lives.

UKHSA will bring together world-leading public health science, cutting-edge capabilities in data analytics and genomic surveillance and, at-scale testing and contact tracing to look at all possible health hazards. Today the Agency's remit letter has been published – outlining the government's priorities for the newly established public health body for the months ahead.

It will play a crucial role in global health security, providing public health leadership at international, national and local levels and working to reduce health inequalities.

As well the UKHSA will lead to collaboration at a global level, as a leading voice to protect the public's health from all external threats, with the Rosalind Franklin Laboratory a shining example of what can be achieved when there is collaboration across the public sector, academia and industry.

- The UKHSA will become operational in October and its priorities will continue to evolve adjusting the balance of its effort and capabilities between COVID-19 and other health security priorities.
- Key strands of work for the UKHSA will include:
- Developing surveillance and modelling capabilities to inform action at national and local levels to protect the county's health;
- Increasing the country's world-leading genomic capabilities to respond rapidly to emerging threats through establishment of a New Variant Assessment Platform;
- Supporting and delivering clinical guidance & communications tailored to the needs of different populations and areas;
- Providing agile testing services at scale with rapid and effective contact tracing services, working in partnership with local authorities.
- Domestic work for the UKHSA will include:
- Immunisations: supporting delivery of measures outlined in the DHSC Vaccines strategy;

- Antimicrobial Resistance: supporting the Government’s goal to slow the growth of antimicrobial resistance (AMR) through delivery of the UK action plan for AMR 2019-2024;
- Sexual Health: Providing scientific expertise to inform the development of the government’s Sexual and Reproductive Health Strategy and support the commitment to eliminate HIV transmission by 2030;
- Environmental Harms: Supporting the cross-government Clean Air Strategy by leading a national programme of communications work.