Public Health England

Protecting and improving the nation's health

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By email
request-770036-53828024@whatdotheyknow.com

Our ref: 01/07/21/ld/654

2 August 2021

Dear P Newton,

Re: Freedom of Information request - SARS-CoV-2 variants

Thank you for your request received on 1 July 2021 addressed to Public Health England (PHE). In accordance with Section 1(1)(a) of the Freedom of Information Act 2000 (the Act), I can confirm that PHE partly holds the information you have specified. I have answered your questions in the order raised.

1) Please provide the information as recorded and held by Public Health England demonstrating the method of how the so-called SARS-CoV-2 "variants" (which is not a term synonymous with biology, pathology or chemistry) are initially detected?

PHE can confirm it holds this information, in accordance with Section 1(1)(a) of the FOI Act. However, this information is exempt under Section 21 of the FOI Act because it is reasonably accessible by other means, and the terms of the exemption mean that we do not have to consider whether or not it would be in the public interest for you to have the information. However, for your convenience we have included the following links:

- Investigation of SARS-CoV-2 variants of concern: technical briefings: https://www.gov.uk/government/publications/investigation-of-novel-sars-cov-2-variant-variant-of-concern-20201201

- Genomically confirmed case numbers for SARS-CoV-2 variants of concern and variants under investigation: https://www.gov.uk/government/publications/covid-19-variants-genomically-confirmed-case-numbers

2) Please provide the information as recorded and held by Public Health England identifying the laboratory in which the variant isolates from patient samples are to be inspected and analysed for verification by independent scientists (chemists and biologists).

A wealth of laboratories in the UK offer testing for SARS-CoV-2 which broadly encompass the NHS, PHE and academic and private providers and public-private partnerships. A variety of molecular techniques are employed for the detection of

genotypes and variants of interest and concern most notably genotyping and whole genome sequencing.

3) Please provide the information as recorded and held by Public Health England demonstrating that the SARS-CoV-2 "variant" isolates have been purified so as to remove genetic material which may be identical to the variant.

PHE's culture work on other SARS-CoV-2 variants is in progress and has not been published in any peer-reviewed papers at present.

Please see question 2.

4) Please provide the information as recorded and held by Public Health England demonstrating how COVID-19 disease is biologically and pathologically different from pneumonia (lung inflammation) and long identified diseases arising from inflammation of the tracheobronchial tree.

Pneumonia is an infection of one or both of the lungs caused by bacteria, viruses, or fungi. It is a serious infection in which the air sacs fill with pus and other liquid. Pneumonia can be caused by the SARS-CoV-2 virus; COVID-19 illness includes pneumonia for some individuals. SARS-CoV-2 and COVID-19 are therefore not distinct from pneumonia or inflammation of the respiratory tract.

5) Please provide the information as recorded and held by Public Health England proving or demonstrating that these PCR and Lateral Flow tests are absolutely confirmative of a SARS-CoV-2 case or infection and upon such confirmation does thereby diagnose a healthy male or female sick with COVID-19 despite presenting no symptoms of a disease?

In accordance with Section 1(1)(a) of the Act, PHE can confirm that it does not hold this information in the way specified by your request.

Under Section 16, a public authority has a duty to provide advice and assistance. The following may be of interest to you:

PCR is the gold-standard diagnostic test for COVID-19, with a sensitivity of 95% and a specificity of almost 100%. It is known that there is no difference in Ct values for SARS-CoV-2 positive results from people who were post-symptomatic, symptomatic or presymptomatic compared to asymptomatic people. Further information can be found here:
https://www.bmj.com/content/371/bmj.m3862

Findings from the joint Public Health England and University of Oxford SARS-CoV-2 test development and validation cell evaluation in 2020 showed similar proportions of viral antigen detected by the INNOVA lateral flow device (LFD) in asymptomatic versus symptomatic individuals. Further information can be found here:
UK evaluation_PHE Porton Down University of Oxford_final.pdf

Real world data recently published for more than 12,000 community tests demonstrated that INNOVA LFD tests remain sensitive in asymptomatic patients who have higher viral loads. Further information can be found here: Asymptomatic testing backed by new research studies - GOV.UK (www.gov.uk)).

In the Liverpool asymptomatic testing pilot, the INNOVA LFD detected over 90% of cases for those with a viral load of over one million copies per millilitre with an overall sensitivity of 76.8%. Further information can be found here: https://www.bmj.com/content/374/bmj.n1637

If you have any queries regarding the information that has been supplied to you, please refer your query to me in writing in the first instance. If you remain dissatisfied and would like to request an internal review, then please contact us at the address above or by emailing foi@phe.gov.uk.

Please note that you have the right to an independent review by the Information Commissioner's Office if a complaint cannot be resolved through the PHE complaints procedure. The Information Commissioner's Office can be contacted by calling the ICO's helpline on 0303 123 1113, visiting the ICO's website at www.ico.org.uk or writing to the ICO at Wycliffe House, Water Lane, Wilmslow, Cheshire, SK9 5AF.

Yours sincerely
FOI Team