



Department of Health details ongoing work on identification of new variants

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In the light of some misleading commentary in recent days, the Department of Health wishes to detail the ongoing work in Northern Ireland to identify new variants of the SARS-CoV-2 virus.

This work includes the complex and specialized field of whole genome sequencing (WGS) which allows us to examine the DNA of viruses.

This is an established method of identifying and tracking new variants of SARS-CoV-2 including the B.1.1.7 variant, otherwise known as the “UK variant”.

COVID-19 UPDATE

Whole genome sequencing has been in place in NI from an early stage of this pandemic. In April 2020, the clinical laboratory team in NI's Regional Virus Laboratory (RVL) initiated a workstream on whole genome sequencing of the SARS-CoV-2 virus as part of the national COG-UK sequencing program.

Within three weeks, the RVL Team had prototype WGS for the virus in place, working in collaboration with Queens University Belfast. By the end of April, the Team were submitting viral genome data to the COG-UK program, and by December 2020 over 2000 SARS-CoV-2 genomes from NI had been submitted.

In the last week, over 200 genome sequences were reported and the RVL Team is now on track to further increase its WGS throughput – likely to over 300 sequences next week and over 400 the following week.

NI is a core member of COG-UK - which is a partnership of NHS organisations including the four Public Health Agencies of the UK, the Wellcome Sanger Institute and over twelve academic partners – all providing sequencing and analysis capacity.

At present the UK, including NI as part of the COG-UK Consortium, is carrying out 40% of all global whole genome sequencing and is submitting its data to GISAID to share with other countries.

Internationally, GISAID is the repository for Influenza and SARS-CoV-2 genome sequences. <https://www.gisaid.org/> (<https://www.gisaid.org/>) While GISAID submissions may not reflect the full level of sequencing ongoing in a given country, it is the only available metric to compare internationally. As of 24 January 2021, Northern Ireland had submitted 2209 genomes.

This compares favourably with other countries: France = 3529; Belgium = 3241; Netherlands = 5884; Spain = 6942; Germany = 4018 and Republic of Ireland = 1757; Italy 2527; Sweden = 1389 genomes. Northern Ireland's per capita levels of SARS-CoV-2 genome sequencing reported through GISAID submission are significantly higher than almost all other countries, both in Europe and beyond.

To suggest that NI is inactive in this field would be wholly incorrect – and is unfair to the dedicated, expert local staff working intensively in this area. Work is ongoing in relation to increasing the level of publicly available data on the 'B.1.1.7 variant' in NI. In addition to whole genome sequencing, the prevalence of the 'B.1.1.7 variant' in the UK regions, including Northern Ireland, is being monitored via PCR testing data – and reported on publicly by the Office for National Statistics.

The majority of Covid-19 PCR testing in NI is undertaken through the UK-wide Pillar 2 testing system. We are actively seeking a NI breakdown of data from a cross section of these national tests. Expanded targeted whole genome sequencing in NI will add further to our bank of knowledge on existing and future variants of the SARS-CoV-2 virus.

The expansion of whole genome sequencing in NI represents a targeted response to the concerns that have arisen in recent weeks in relation to specific variants.

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