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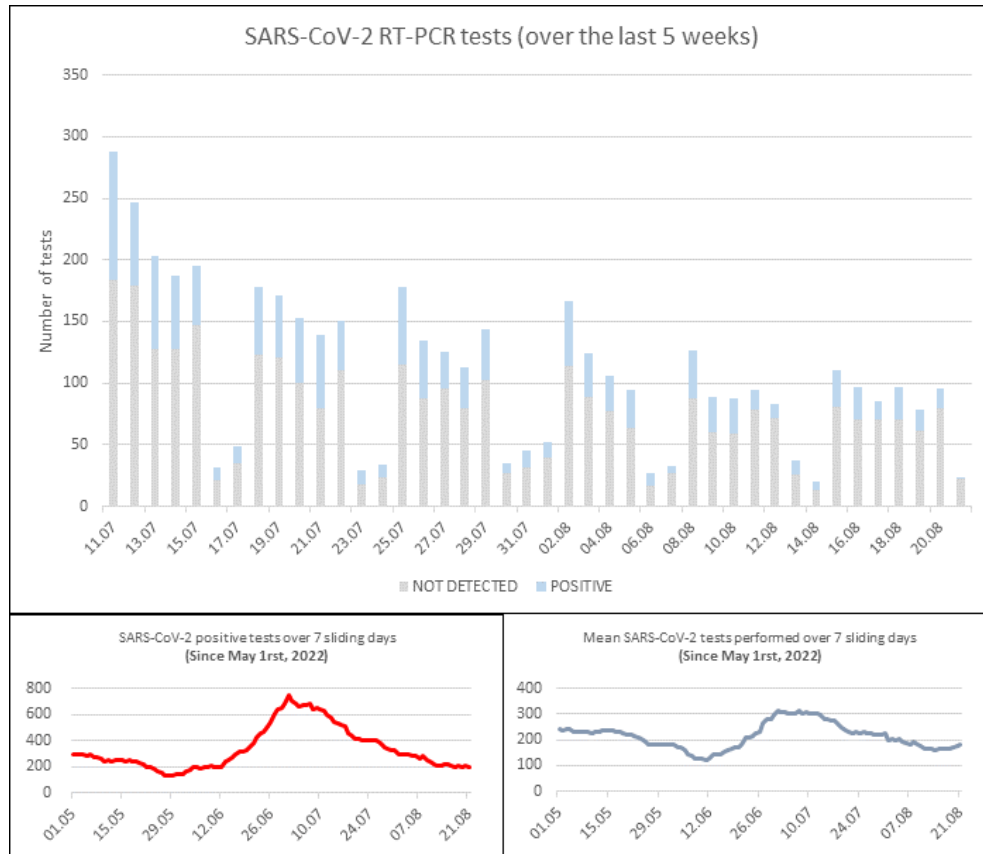
Diagnostic Department

## SARS-CoV-2 genomic surveillance in Geneva: bi-weekly update

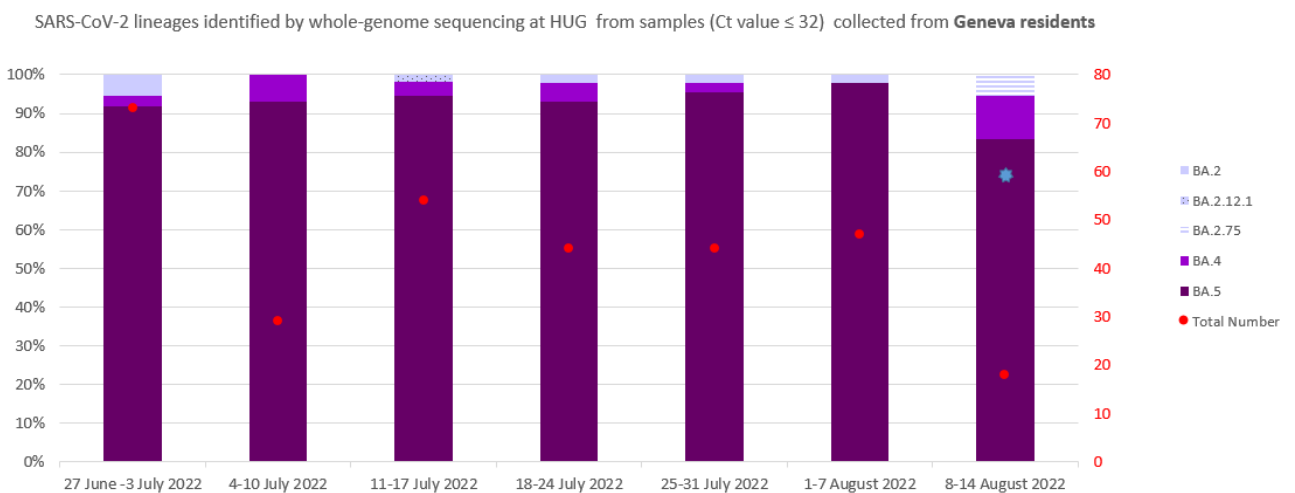
### **Highlights:**

- Both the number of positive tests and the positivity rate continue to progressively decline (Figure 1).
- BA.5 is still dominant in the Geneva area (>80% of cases) (Figure 2). Of note, over time, BA.5 displays a broader variability, and numerous sub-lineages are currently circulating (not depicted here).
- The first case of BA.2.75 has been detected in a clinical specimen collected in the canton of Geneva, in someone who did not report recent travel history.

**Figure 1:** Number of SARS-CoV-2 tests performed at the HUG laboratory of virology (per day). Positive tests are displayed in light blue (top). Bottom left: SARS-CoV-2 positive tests over 7 sliding days. Bottom right: mean SARS-CoV-2 tests performed over 7 sliding days.



**Figure 2:** SARS-CoV-2 lineages identified by whole-genome sequencing at HUG from samples (Ct-value ≤32) collected from Geneva residents (Sentinella specimens excluded). \*Sequencing is still ongoing for week 32 (from August 08 to August 14, 2022). A total of 309 sequences were included in this analysis.



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Emma Hodcroft for the Geneva Center for Emerging Viral Diseases.

Pauline Brindel for the Geneva Cantonal Physician team.

### **The laboratory of virology of the Geneva University Hospitals as a sentinel site for the Geneva area**

The number of tests (PCR and antigen tests) performed at the Geneva University Hospitals represented around 34% (1133/3365) and 40% (1269/3140) of the total number of tests performed in the canton of Geneva during weeks 32 and 33 of 2022, respectively. Roughly 27% and 30% of the positive specimens collected in the Geneva area were processed at HUG during weeks 32 and 33 (223/829 and 199/673), respectively. Samples collected from symptomatic individuals at our outpatient testing center are tested by RT-PCR. Specimens analyzed in our laboratory originate from ambulatory and hospitalized patients as well as symptomatic and/or asymptomatic health care workers.

The number of positive tests in the canton and the total number of tests done during the surveilled weeks are available on the website from Federal Office of Public Health ([COVID- 19 Suisse | Coronavirus | Dashboard \(admin.ch\)](https://www.bfs.admin.ch/bfs/fr/home/actualites/coronavirus/coronavirus-dashboards)). During weeks 32 and 33 in the canton of Geneva, the number of RT-PCR tests continued to decrease compared to the two previous weeks. The number of confirmed cases decreased by one half in comparison to the past 2 weeks and the proportion of positive tests continues to remain below 40 %.

### **Methods and collaborations**

The laboratory has stopped the systematic screening for the “S Drop out” (Taqpath RT-PCR assay) at the end of week 26 of 2022, after the replacement of BA.2 by BA.4/5.

WGS is carried out in close collaboration with the Health 2030 Genome Center in Geneva and Philippe Le Mercier from the Swiss Institute of Bioinformatics. The national genomic surveillance program is ongoing in Switzerland since March 1, 2021 and includes specimens collected at HUG with a Ct-value  $\leq 32$ . In some instances, sequencing can be done on specimens sent by other laboratories in Switzerland within the surveillance program or by request of the cantonal physician team. Phylogenetic analysis data are produced by Nextstrain, in collaboration with Richard Neher’s group at the University of Basel and analyzed by Emma Hodcroft, from the Geneva Center of Emerging Viral Diseases and University of Geneva. In addition, partial Sanger sequencing may be done by our laboratory.

Geographic distribution, transmission advantage estimates and detailed numbers of available sequences over time in the canton of Geneva are available on the CoVSpectrum platform, run by Tanja Stadler’s group at ETH Zurich.

These reports are produced in collaboration with the Geneva Cantonal Physician team, which provides information on epidemiological links. For epidemiological data, please refer to the report of the cantonal physician team.