



Hôpitaux
Universitaires
Genève



REPUBLIQUE ET CANTON DE GENEVE
Département de la sécurité, de la population et de la santé
Direction générale de la santé
Service du médecin cantonal



**UNIVERSITÉ
DE GENÈVE**

FACULTÉ DE MÉDECINE

Federal Office of Public Health FOPH
Public Health Directorate Communicable
Diseases Division
Schwarzenburgstrasse 157
3003 Berne
Switzerland

Geneva, July 13, 2022

Geneva Centre for
Emerging Viral Diseases

Division of Infectious
Diseases

Department of Medicine

Laboratory of virology

Division of Laboratory
Medicine

Diagnostic Department

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

Highlights:

- Both the number of positive tests and the positivity rate seem to have stabilized over the last 2 weeks (Figure 1), at a **high circulation level of the virus in the community**.
- **WGS confirmed the predominance of BA.5** in the Geneva area (Figure 2), which replaced BA.2 and its sub-lineages. Among BA.5, almost half belong to the BA.5.1 sub-lineage. BA.4 only accounted for a small fraction of new infections (around 5%).
- **Of note, no BA.2.75 has yet been detected in the Geneva area.**

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.

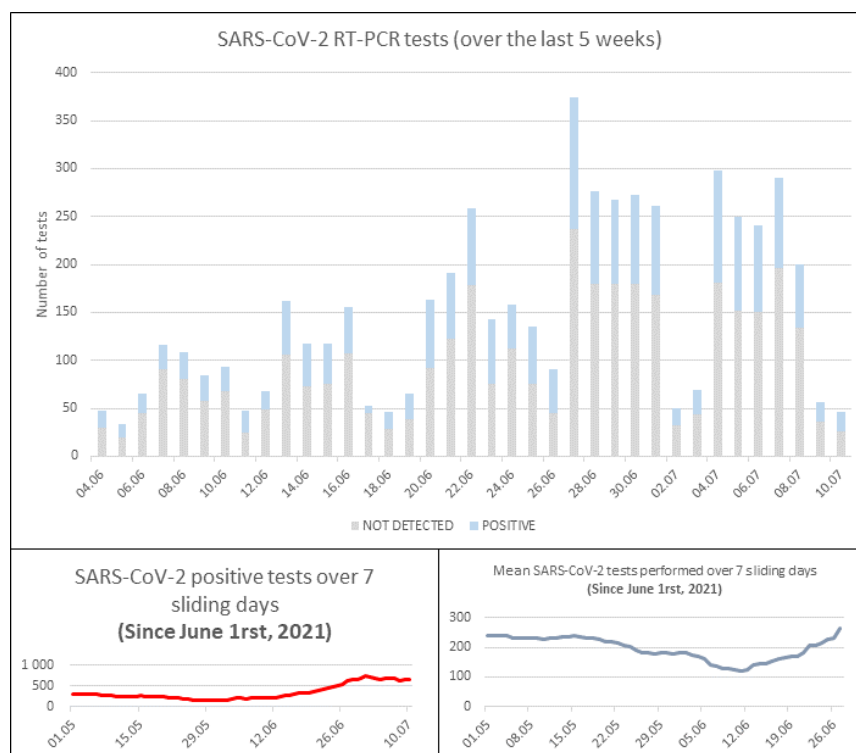
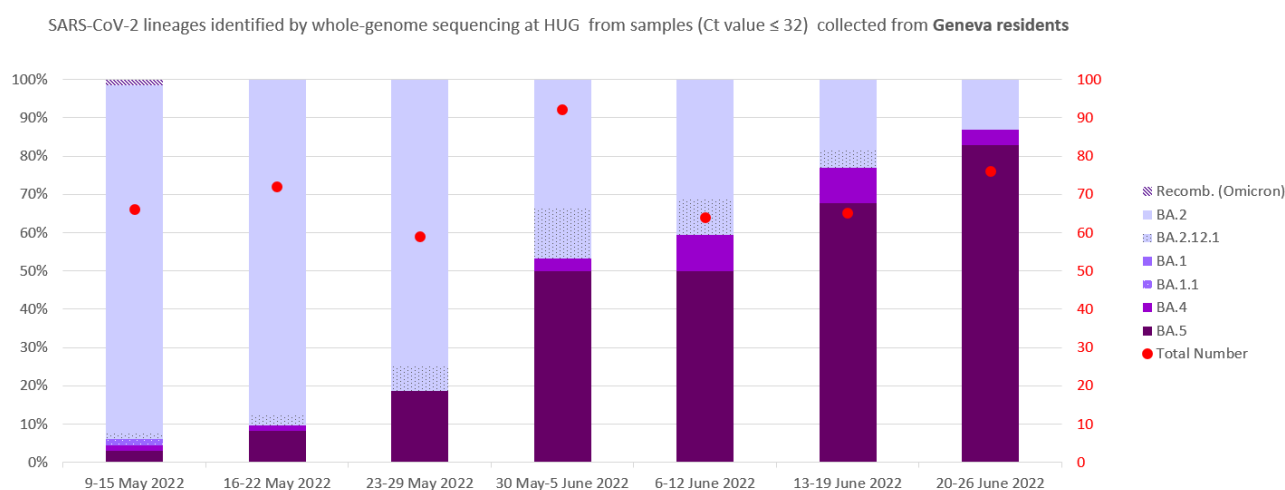


Figure 2: SARS-CoV-2 lineages identified by whole-genome sequencing at HUG from samples (Ct-value ≤ 32) collected from Geneva residents (Sentinella specimens excluded). *Sequencing is still ongoing for week 25 (June 20 to June 26, 2022). A total of 494 sequences are included in this analysis.



Laurent Kaiser, Samuel Cordey, Manuel Schibler, Ioannis Evgenidis and Pauline Vetter for HUG and the Geneva Center for Emerging Viral Diseases.
 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 21% (2150/10044) and 20% (2119/10329) of the total number of tests performed in the canton of Geneva during weeks 26 and 27 of 2022, respectively. Roughly 18% and 16% of the positive specimens collected in the Geneva area were processed at HUG during weeks 26 and 27 (685/3743 and 644/4064), 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/topics/santite/infec/covid19/dashboards)). During weeks 26 and 27 in the canton of Geneva, the number of RT-PCR tests increased by more than 80% compared to the two previous weeks. The number of confirmed cases continued to increase (plus 70% in comparison to the past 2 weeks) and the proportion of positive tests is still above 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 ≤ 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.