



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 Centre for
Emerging Viral Diseases

Division of Infectious
Diseases

Department of Medicine

Laboratory of virology

Division of Laboratory
Medicine

Diagnostic Department

Geneva, April 21, 2022

N/réf : PV/MS

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

Highlights:

- The number of tests performed at our laboratory and at our outpatient testing center continues to progressively decline, along with the absolute number of positive SARS-CoV-2 tests. This decrease in the number of tests was particularly important during the prolonged Eastern week-end (Figure 1). The positivity rate among symptomatic patients however remains high and continues to sometimes reach 50%.
- **BA.1** (mostly sub-lineage BA.1.1) **was represented less than 2% of the tested specimens in the last sequencing batch** (see Figure 2), **being replaced by BA.2**.
- Of note, no BA.4 nor BA.5 have been yet 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.

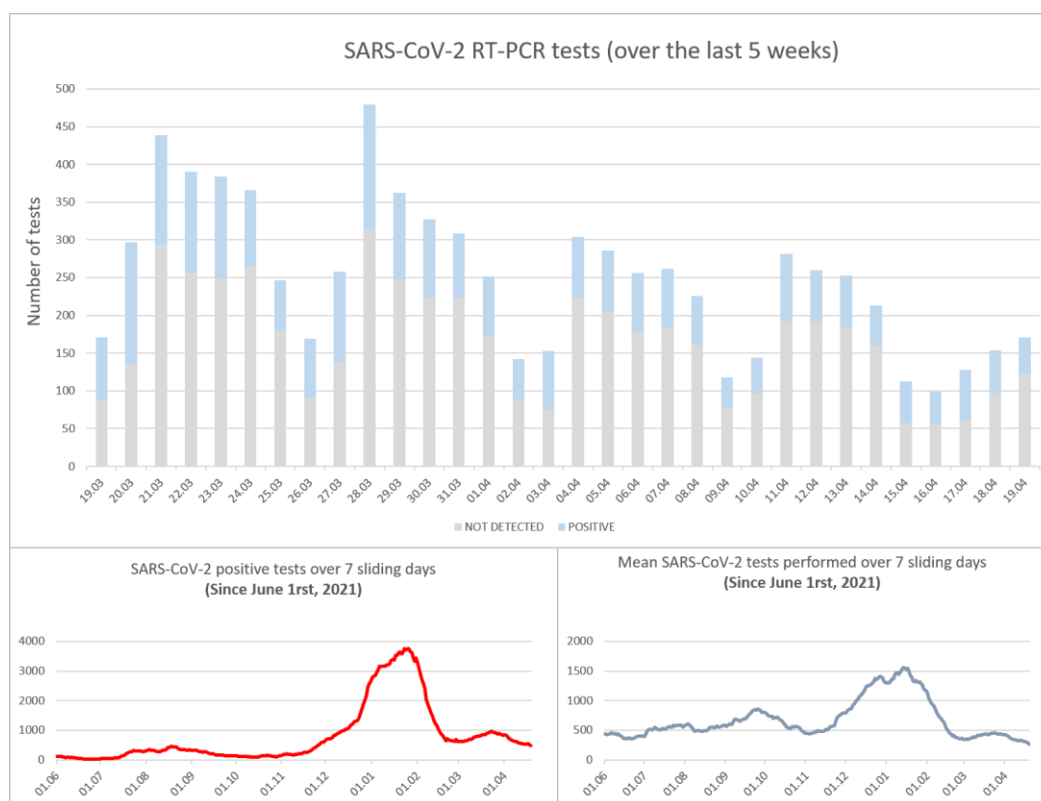
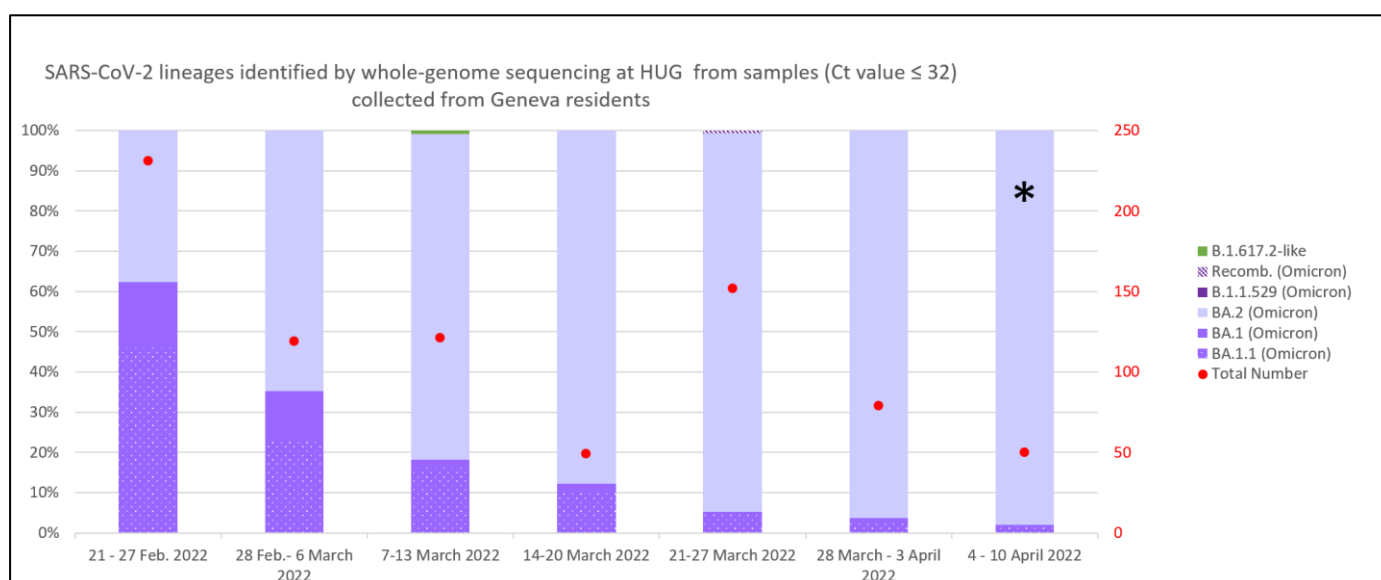


Figure 2: SARS-CoV-2 lineages identified by whole-genome sequencing at HUG from samples (Ct -value ≤ 32) collected from Geneva residents (*Sentinella* specimens excluded). *Sequencing is still ongoing for week 14 (April 4 to April 10, 2022). A total of 801 sequences are included in this analysis.



Laurent Kaiser, Samuel Cordey, Manuel Schibler and Pauline Vetter for HUG.
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 20% (2118/10631) of the total number of tests performed in the canton of Geneva during week 15 of 2022. Roughly 23% of the positive specimens collected in the Geneva area were processed at HUG during this period (549/2389). 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 week are available on the website from Federal Office of Public Health ([COVID-19 Suisse | Coronavirus | Dashboard \(admin.ch\)](https://www.admin.ch/gov/fr/section/1361/section/1363/section/13631)). During week 15 in the canton of Geneva, the number of RT-PCR tests and the number of positive cases continued to decrease compared to the previous week. The proportion of positive tests also continues to decline. However, the mean positivity rate remains high in the Canton of Geneva.

Methods and collaborations

The laboratory has stopped the screening for the “S drop out” (Taqpath RT-PCR assay) at the end of week 14 of 2022, after the replacement of BA.1 by BA.2. Whole genome sequencing performed on SARS-CoV-2 positive samples within the Swiss national SARS-CoV-2 genomic and variants surveillance program allows for definitive sublineage/variant identification.

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. 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.