



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



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FACULTÉ DE MÉDECINE

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Geneva Centre for
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Division of Infectious
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Department of Medicine

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

Highlights:

- Both the number of positive tests and the positivity rate continued to decrease (Figure 1). Of note, the positivity rate dropped below 15% for the first time since May, 2022.
- BA.5 remains dominant in the Geneva area (Figure 2).
- During the month of August, BA.2.75 has been retrieved in 2 instances in clinical samples: once during week 32, and once during week 34. Because sequencing is still ongoing for week 34 and because only few sequences are available for this week (n=7), percentages should be interpreted with caution.
- Starting week 37, our laboratory will resume "S Drop out" screening, in order to monitor the BA.2.75.

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.

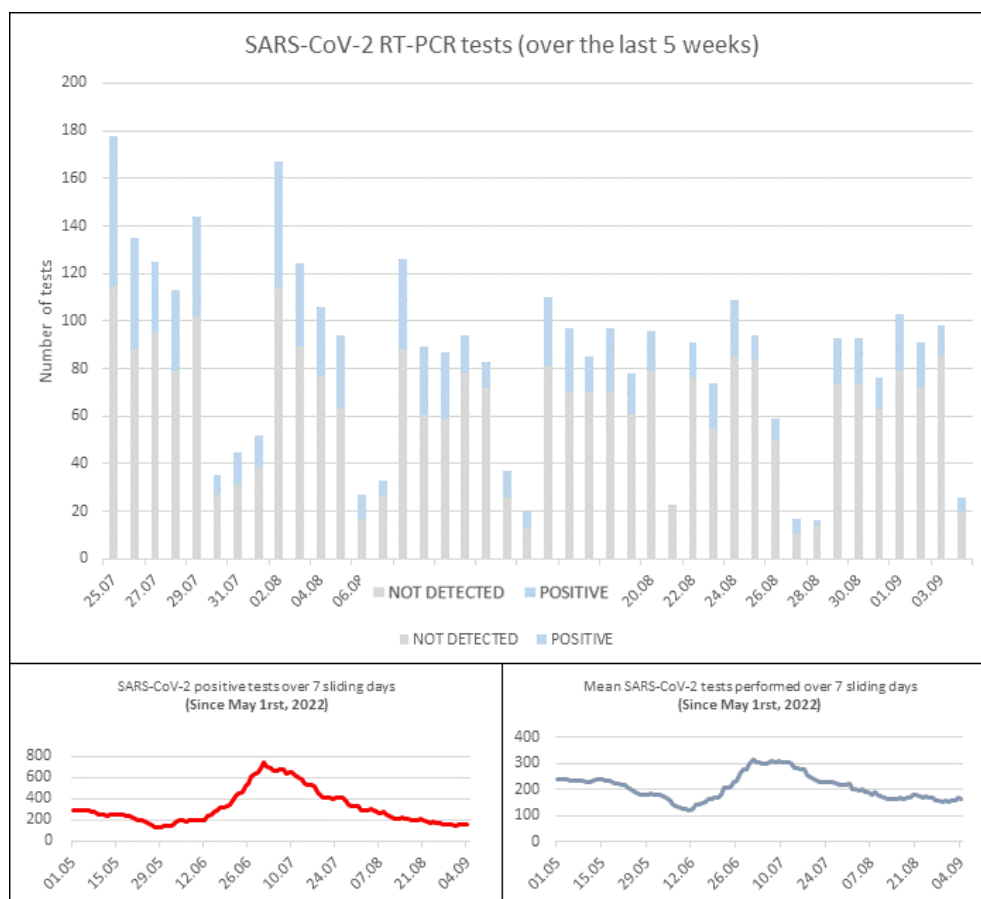
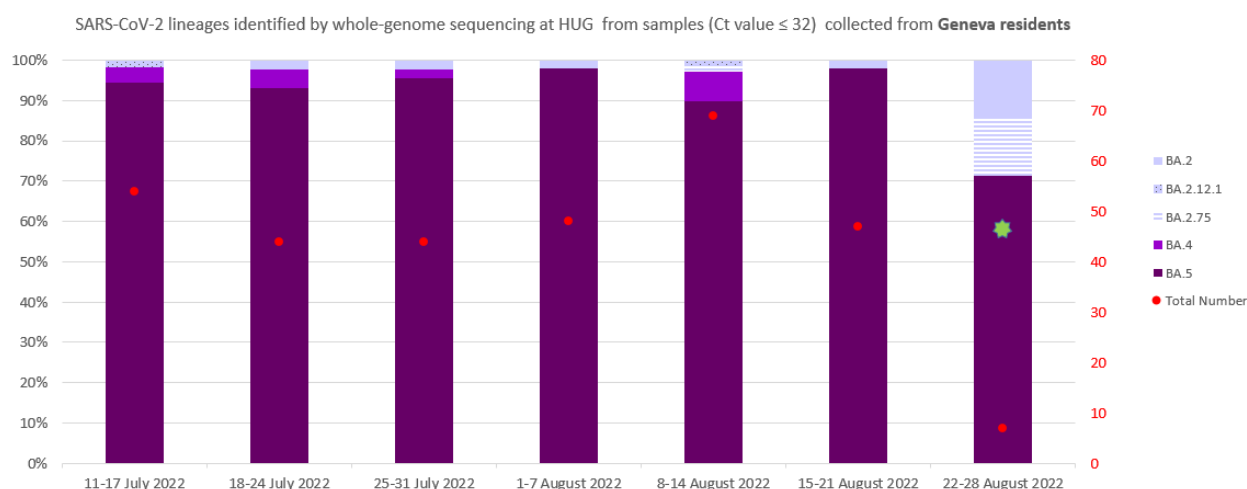


Figure 2: SARS-CoV-2 lineages identified by whole-genome sequencing at HUG from samples (Ct-value ≤ 32) collected from Geneva residents (*Sentinella* specimens excluded). *Sequencing is still ongoing for week 34 (from August 22 to August 28, 2022). A total of 313 sequences were included in this analysis.



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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 28% (1098/3872) and 37% (1158/3128) of the total number of tests performed in the canton of Geneva during weeks 34 and 35 of 2022, respectively. Roughly 23% and 29% of the positive specimens collected in the Geneva area were processed at HUG during weeks 34 and 35 (153/658 and 164/570), 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.admin.ch/gov/fr/section/1361/section/1363/section/13631)). During weeks 34 and 35 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 in comparison to the past 2 weeks and the proportion of positive tests was between 20 and 30%.

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. Of note, the laboratory plans to reintroduce the screening for the “S Drop out” from week 37 in order to monitor BA.2.75.

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.