Metro Wastewater COVID-19 Monitoring

Metropolitan Council

January 31, 2022

COVID-19 Load

Tracking COVID-19 Prevalence with Metro Plant Wastewater

The number of reported cases of COVID-19 infections in the seven-county metro area corresponds to the prevalence of the virus in wastewater samples at the Metro treatment plant in Saint Paul. The plant serves a large portion of the seven-county metro area.

How to read this graph:

The blue line and points show the total amount of SAR S-CoV-2 viral RNA in wastewater flowing into the Metro Plant, in millions copies of the SARS-CoV-2 genome per person served by the wastewater area, per day. Blue points are daily values; the blue line is a running average of the previous 7 days. The gray line shows the average of the previous 7 days of new reported COVID-19 infections in the seven-county Metro area per 100,000 residents. Case data are provided by the Minnesota Department of Health and downloaded from USA Facts (https://usafacts.org (https://usafacts.org)). New cases tend to lag wastewater detection trends by about 6-8 days.


Date

Data last updated 2022-01-31
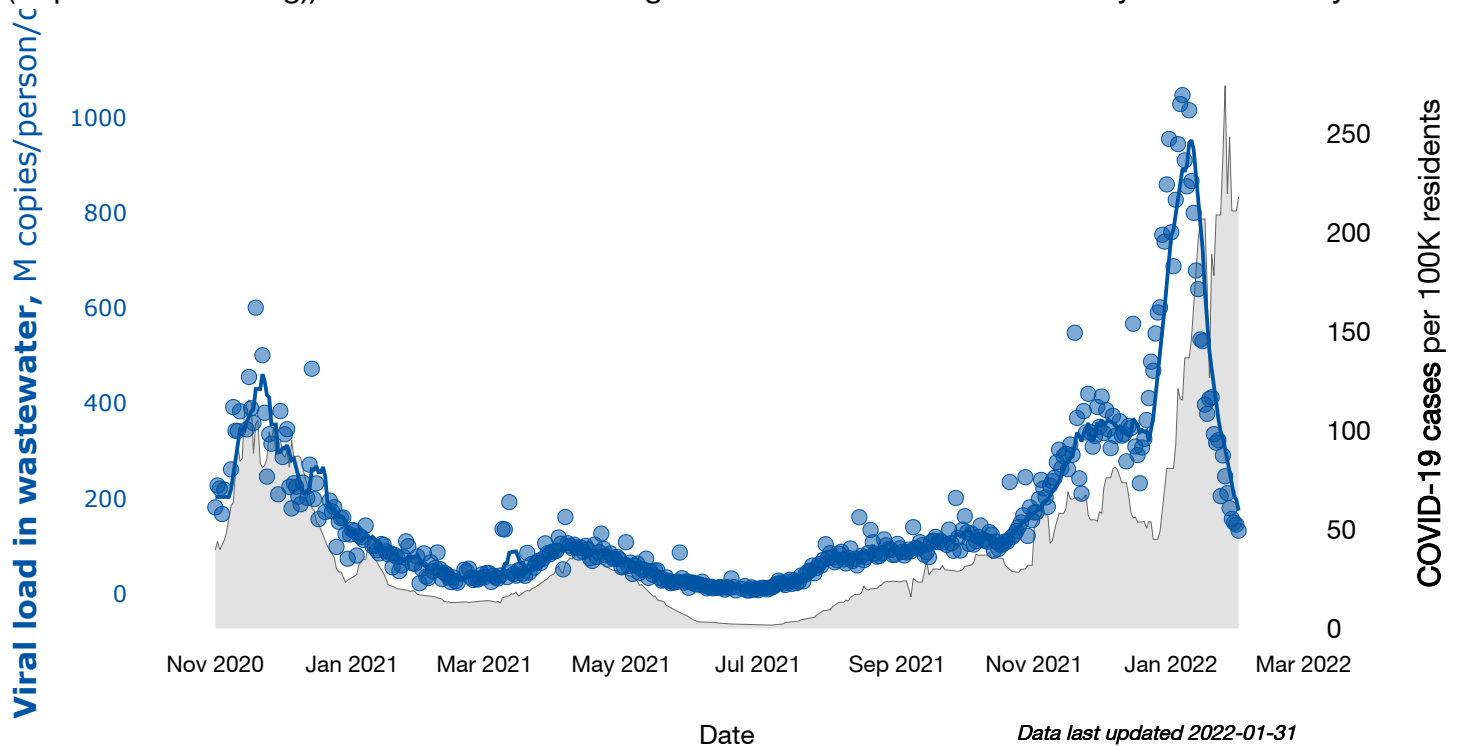
COVID-19 Variants

COVID-19 variant tracker

As the Delta variant of the SARS-CoV-2 virus declined, the Omicron variant quickly took its place as the dominant variant in wastewater samples at the Metro treatment plant in Saint Paul. The plant serves a large portion of the seven-county metro area.

How to read this graph:

This graph shows the frequency of SARS-CoV-2 variants. Points are daily data; lines and shaded areas are averages of the previous 7 days.
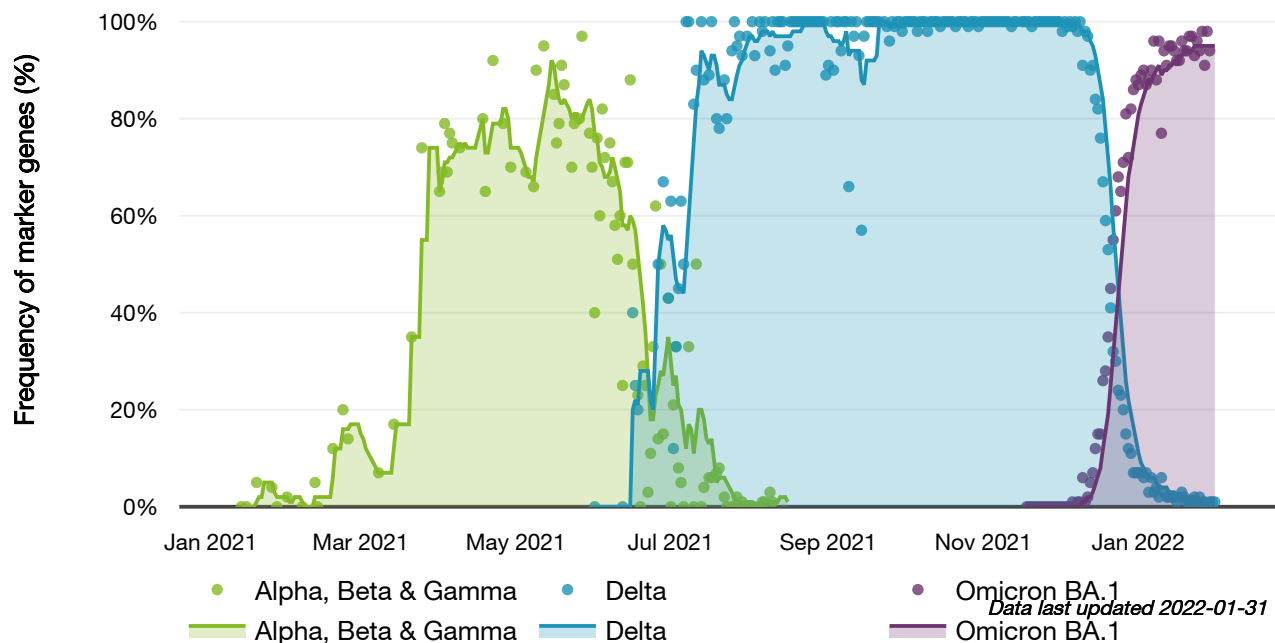
COVID-19 Load by Variant

Another way of looking at the variant data

How to read this graph:

In this graph, variant frequencies (in %) are multiplied by the total load to create an estimate of the number of copies of each variant in wastewater. Points are daily data; lines and shaded areas are averages of the previous 7 days. The gray area in the background is the 7-day average total viral load. Variant proportions do not always add to 100%, so slight discrepancies between the total viral load and that of the individual variants are expected.

Data last updated 2022-01-31
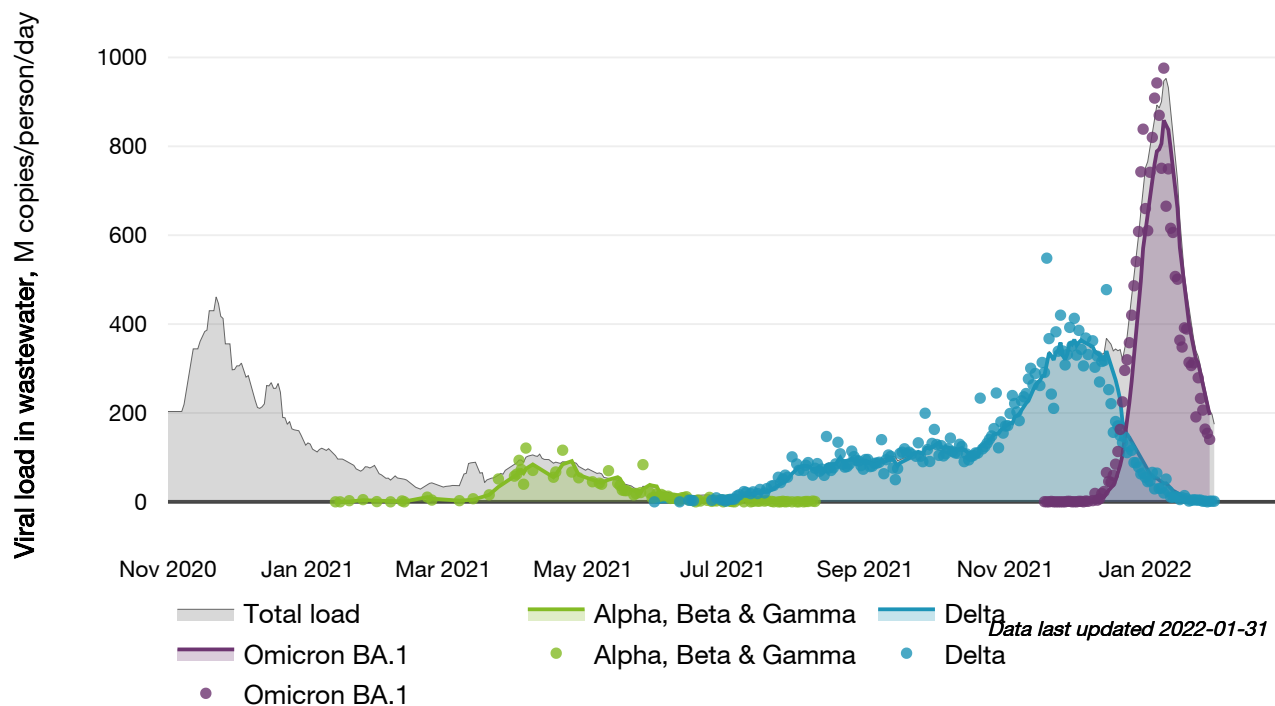
More information about variant detection

Variant frequencies are inferred from the presence of key mutations in the SARS-CoV-2 genome. Alpha, Beta and Gamma frequencies are inferred from the presence of the N501Y mutation; Delta from the L452R mutation; and Omicron from the K417N mutation. Some variants share mutations: presence of K417N mutation before November 18 were inferred to be the Beta variant.

Monitoring Omicron BA.1 and BA.2 sub-lineages

Metropolitan Council and the University of Minnesota continue to monitor for the BA.1 and BA.2 sub-lineages of Omicron. These two sub-lineages (or "sub-variants") can be distinguished by tracking the HV69-70 deletion: Omicron BA.2 has the K417N mutation but not the HV69-70 deletion, while Omicron BA.1 has both. Because other variants may be missing the HV69-70 deletion, Omicron BA.2 will be inferred to be absent until the ratio of HV69-70 to K417N decreases below 95%. This simple rule of thumb is subject to change.

Data last updated 2022-01-31