

Wastewater Sequencing Trend Report: Detection of SARS-CoV-2 Variants of Concern by Metagenomic Sequencing



Public Health
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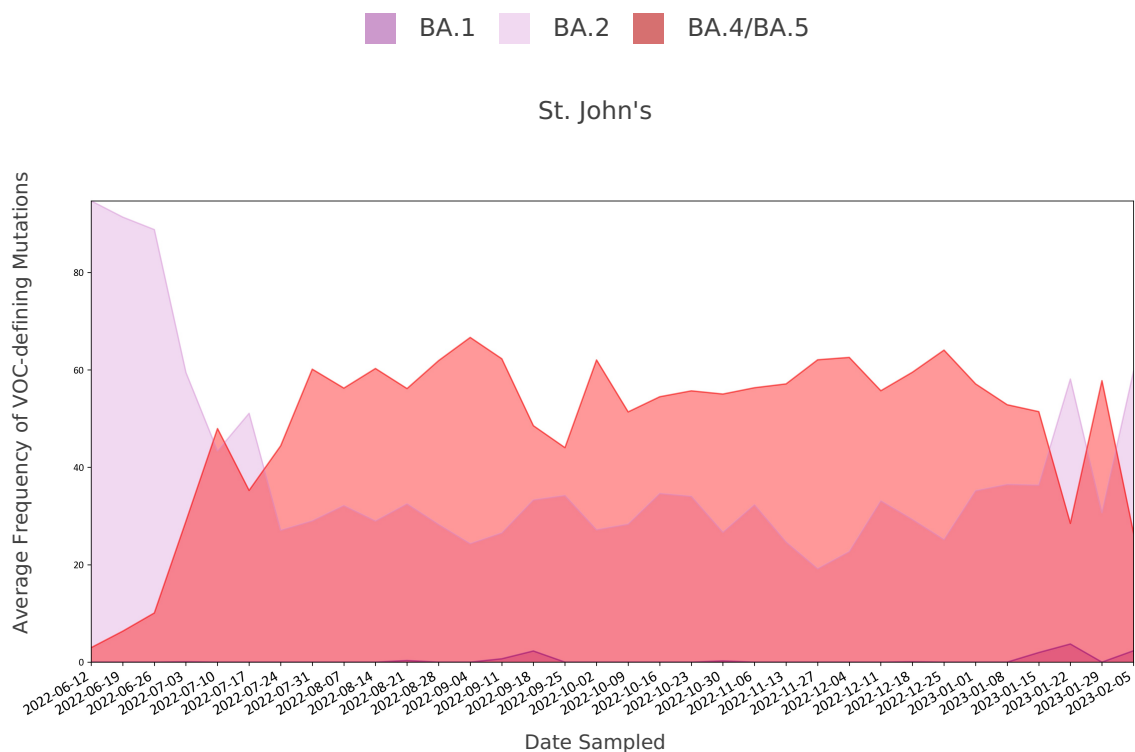
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Longitudinal wastewater sequencing data ending 2023-02-21

The plots show the percentage of Omicron and its sublineages (BA.1, BA.2 and BA.4/BA.5) SARS-CoV-2 variants of concern (Omicron sublineages) detected in wastewater samples collected from different sites using metagenomic sequencing. SARS-CoV-2 viral fragments present in the wastewater are isolated and sequenced to obtain a genomic "blueprint" of the virus. Each sublineage carries small differences in their genomic blueprint called mutations that can be queried using specialized software to identify their presence and abundance (BA.1, BA.2 and BA.4 or BA.5) present in the wastewater sample. The shaded areas in the plot show BA.1 in dark purple, BA.2 in light purple and BA.4 or BA.5 in red.

To correct for the shared ancestry of BA.2 and BA.4/BA.5 SARS-CoV-2 lineages, the average frequency of VOC-defining mutations for BA.4/BA.5 has been subtracted from BA.2.

St. John's



The presence of BA.1 rapidly decreased at the end of March as BA.2 levels increased. BA.2 reached a high level of presence by the second week of April and remained at high levels until August 2022. Trace to low levels of BA.4/BA.5 were first detected in May 2022 and high signals are detected in samples collected up to February 5, 2023.