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

Public Health Agency of Canada   Agence de la santé publique du Canada

Longitudinal wastewater sequencing data ending 2022-11-27

The plots show the percentage of three SARS-CoV-2 variants of concern (Alpha, Delta and Omicron) 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 variant of concern carries small differences in their genomic blueprint called mutations that can be queried using specialized software to identify the presence and abundance of Alpha, Delta and Omicron (BA.1, BA.2 and BA.4 or BA.5) present in the wastewater sample. The shaded areas in the plot show Delta in green, BA.1 in dark purple, BA.2 in light purple, BA.4 or BA.5 in red and where applicable, Alpha in blue.

St. John's

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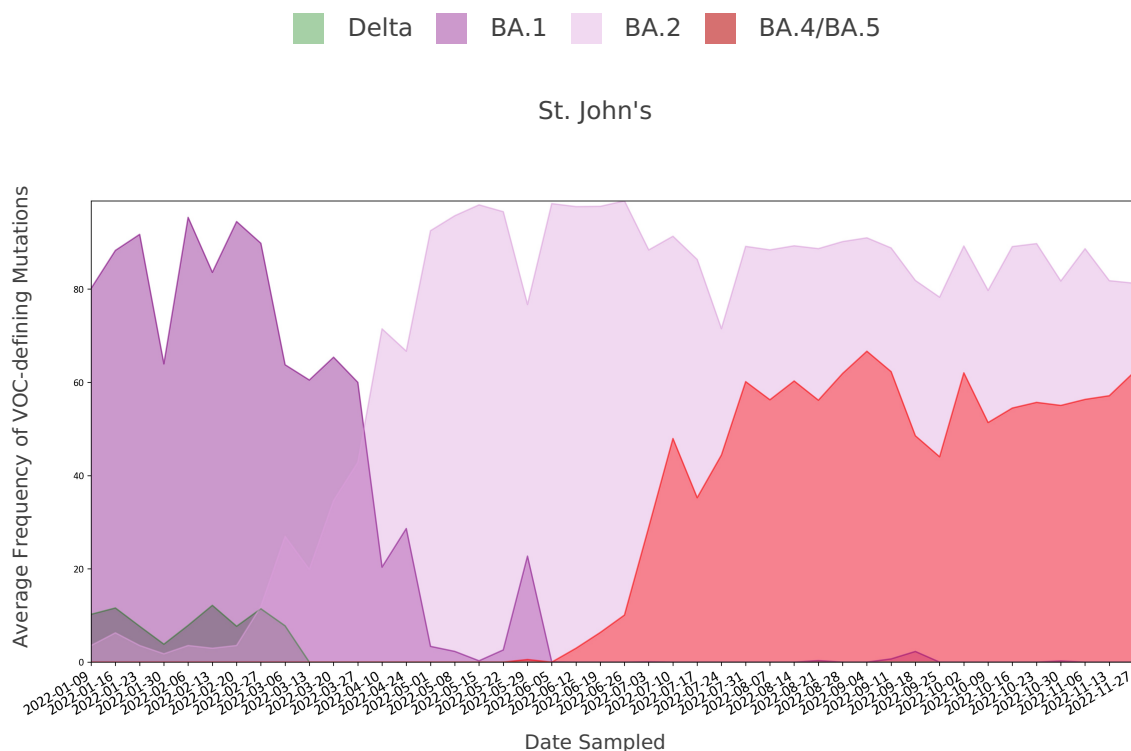
The plot shows a high presence of BA.1 until late February when levels decreased slightly to moderate levels. The presence of BA.1 rapidly decreased at the end of March as BA.2 levels increased. BA.2 reached a high level of presence by the second week of April and remained at high levels until August 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 November 27, 2022.