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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 | Statistics Canada | Statistique Canada

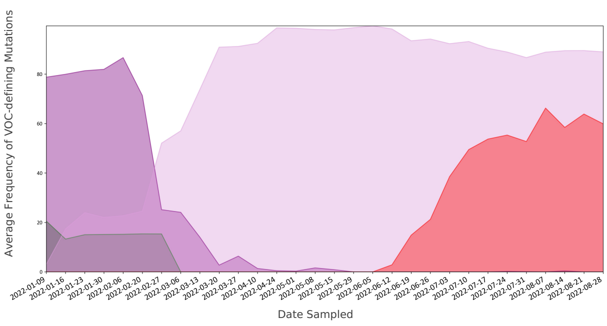
Longitudinal wastewater sequencing data ending 2022-09-04

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.

Edmonton

🟩 Delta 🟪 BA.1 ▨ BA.2 🟥 BA.4/BA.5

Edmonton Goldbar

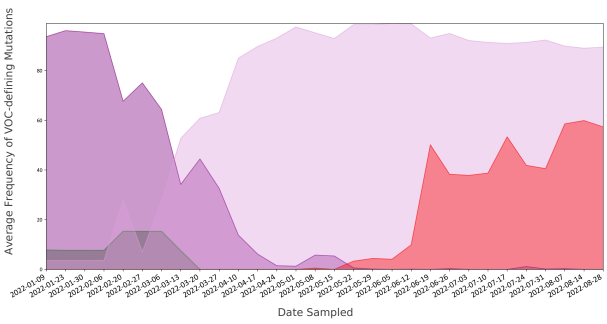


The plot shows a moderate to high presence of BA.1 until mid-February when BA.2 levels begin to increase and overtake BA.1. BA.2 levels increased rapidly and have remained high in samples collected up to August 28, 2022. Trace to low levels of BA.4/BA.5 were first detected at the beginning of May 2022 and have been detected in samples collected up to August 28, 2022.

Halifax

🟦 Alpha 🟩 Delta 🟪 BA.1 ▨ BA.2 🟥 BA.4/BA.5

Halifax Dartmouth



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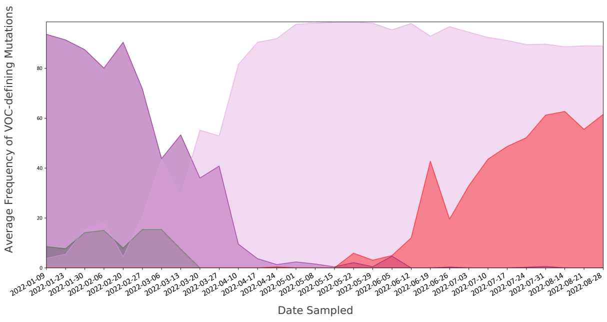
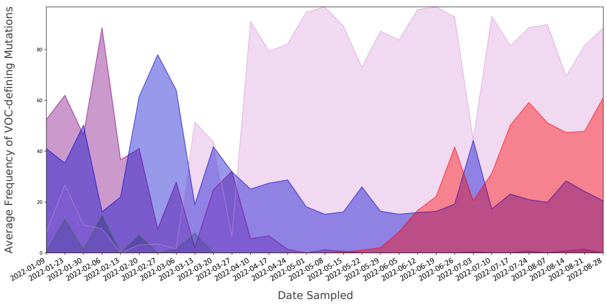
Halifax Halifax



The plot shows a moderate to high presence of BA.1 until mid February when BA.2 levels begin to increase and overtake BA.1. BA.2 levels increased rapidly and have remained high in samples collected up to August 28, 2022. Trace to low levels of BA.4/BA.5 were first detected at the beginning of May 2022 and have been detected in samples collected up to August 28, 2022.

Halifax Millcove

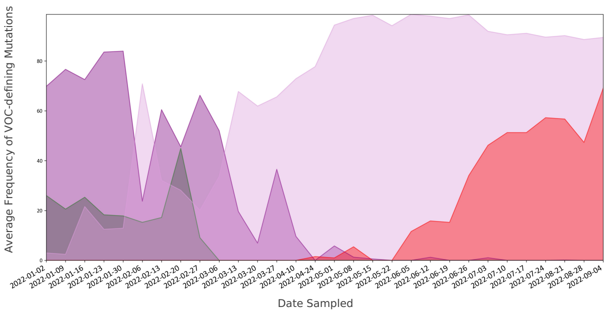


The plot shows a moderate to high presence of BA.1 until mid-February and decreasing presence of BA.1 until the second week of April. BA.2 emerged at the start of March and rapidly increased to sustained high levels observed since the beginning of April. Variable levels of Alpha were observed between January and March at which point levels began to drop off to a low level of presence. Trace to low levels of BA.4/BA.5 were first detected at the beginning of May 2022 and have been detected in samples collected up to August 28, 2022.

Montreal

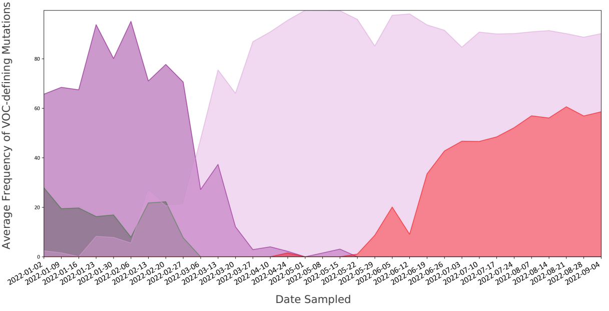
🟩 Delta 🟪 BA.1 ▨ BA.2 🟥 BA.4/BA.5

Montreal North



The plot shows a low to moderate presence of Delta until the end of February when the Delta signal ceased to be detected in the wastewater samples. High levels of BA.1 were observed until mid-March when BA.2 levels started to increase and overtake BA.1. High levels of BA.2 have been detected in samples collected since mid-March 2022. Trace to low levels of BA.4/BA.5 were first detected in mid-April 2022 and have been observed in samples collected up to September 4, 2022.

Montreal South

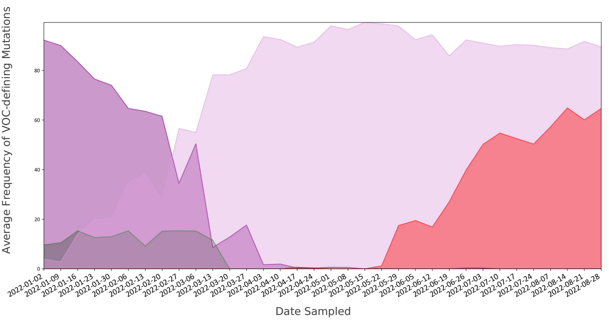


The plot shows a low presence of Delta until the end of February when the Delta signal ceased to be detected in the wastewater samples. High levels of BA.1 were observed until early March when BA.2 levels started to increase and overtake BA.1. High levels of BA.2 have been detected in samples collected since mid-March 2022. Trace to low levels of BA.4/BA.5 were first detected in mid-April 2022 and have been observed in samples collected up to September 4, 2022.

Toronto

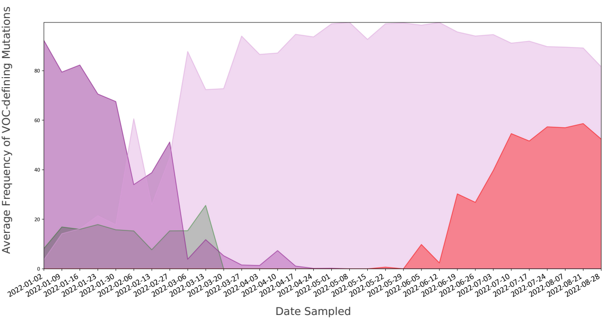
🟩 Delta 🟪 BA.1 ⬜ BA.2 🟥 BA.4/BA.5

Toronto Ashbridges Bay



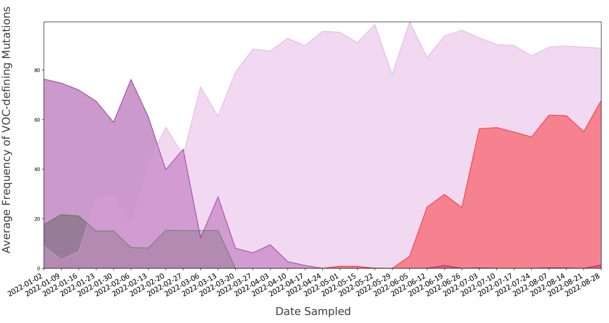
The plot shows a moderate to high presence of BA.1 until mid February when BA.2 levels begin to increase and overtake BA.1. BA.2 levels increased rapidly and have remained high in samples collected up to August 28, 2022. Trace to low levels of BA.4/BA.5 were first detected at the beginning of May 2022 and have been detected in samples collected up to August 28, 2022.

Toronto Highland Creek



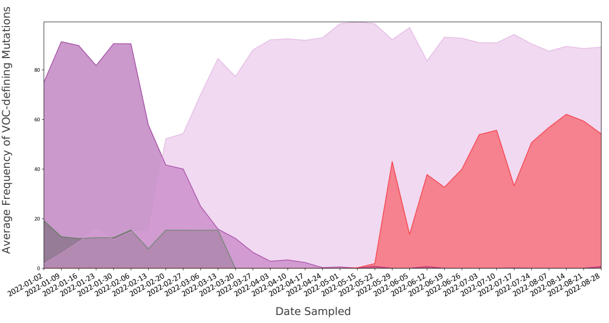
The plot shows a moderate to high presence of BA.1 until the February when BA.2 levels begin to increase and overtake BA.1. BA.2 levels increased rapidly and have remained high in samples collected up to August 28, 2022. Trace to low levels of BA.4/BA.5 were first detected at the beginning of May 2022 and have been detected in samples collected up to August 28, 2022.

Toronto Humber



The plot shows a moderate to high presence of BA.1 until the beginning of March when BA.2 levels begin to increase and overtake BA.1. BA.2 levels rapidly increased and have remained high in samples collected up to August 28, 2022. A trace presence of BA.4/BA.5 was first detected at the beginning of May 2022 and has been observed in samples collected up to August 28, 2022.

Toronto North Toronto

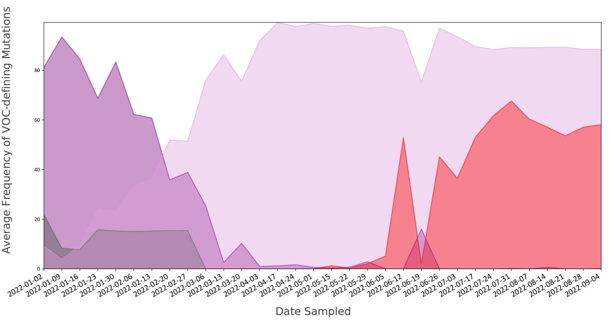


The plot shows a high presence of BA.1 until mid February when BA.2 levels begin to increase and overtake BA.1. BA.2 levels rapidly increased and have remained high in samples collected up to August 28, 2022. Trace levels of BA.4/BA.5 were first detected at the beginning of May 2022 and have increased to a moderate presence in samples collected up to August 28, 2022.

Vancouver

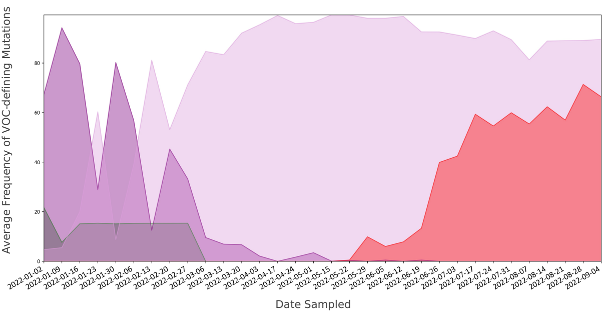
🟩 Delta 🟪 BA.1 ⬜ BA.2 🟥 BA.4/BA.5

Vancouver Annacis Island



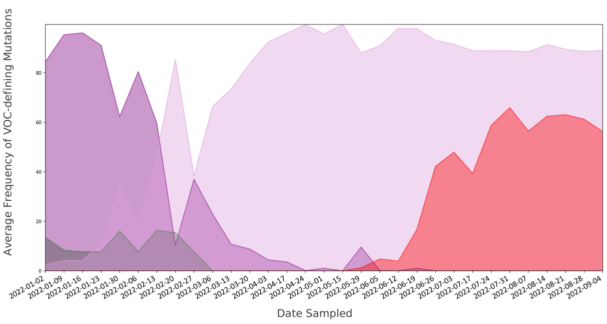
The plot shows a high presence of BA.1 until mid February when BA.2 levels begin to increase and overtake BA.1. BA.2 levels rapidly increased and have remained high in samples collected up to September 4, 2022. Trace levels of BA.4/BA.5 were first detected at the beginning of May 2022 and has been observed in samples collected up to September 4, 2022

Vancouver Iona Island



The plot shows a variable moderate to high presence of BA.1 until the first week of March when levels began to decrease to trace levels by mid May. BA.2 emerged in mid January and was detected at high levels by mid February. BA.2 levels rapidly increased and have remained high in samples collected up to September 4, 2022. Trace levels of BA.4/BA.5 has been detected in samples collected since the end of May 2022 and has been observed in samples collected up to September 4, 2022.

Vancouver Lions Gate



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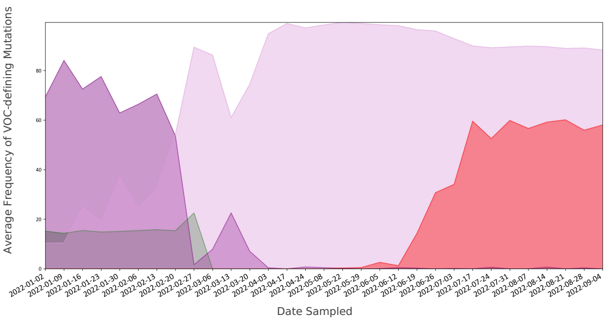
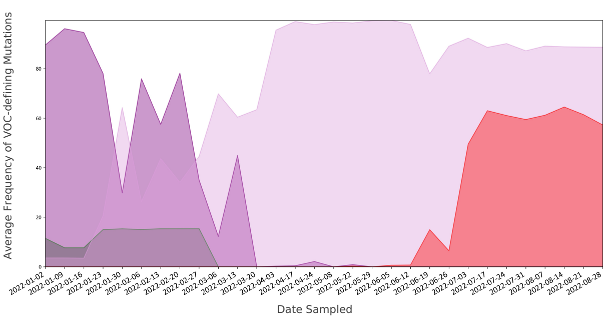
Vancouver Lulu Island



The plot shows a high presence of BA.1 until the end of February when BA.2 levels begin to increase and overtake BA.1. BA.2 levels rapidly increased and have remained very high in samples collected up to September 4, 2022. Trace levels of BA.4/BA.5 were first detected at the end of May 2022 and have been observed in samples collected up to September 4, 2022.

Vancouver Northwest Langley



The plot shows an alternating moderate to high presence of Delta until mid-December, followed by a rapid decrease in presence. This decrease in Delta coincided with an emerging presence of Omicron. Omicron was first detected in wastewater samples collected from this site on December 5 and has since remained at a high level. Trace levels of BA.4/BA.5 were first detected at the end of May 2022 and have been observed in samples collected up to August 28, 2022.