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

Public Health Agence de la santé Statistics Statistique Agency of Canada publique du Canada Canada Canada Longitudinal wastewater sequencing data ending 2023-03-22

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, BA.4 or BA.5 in red and where applicable, Alpha in blue. 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. **Edmonton**

BA.1 BA.2 BA.4/BA.5

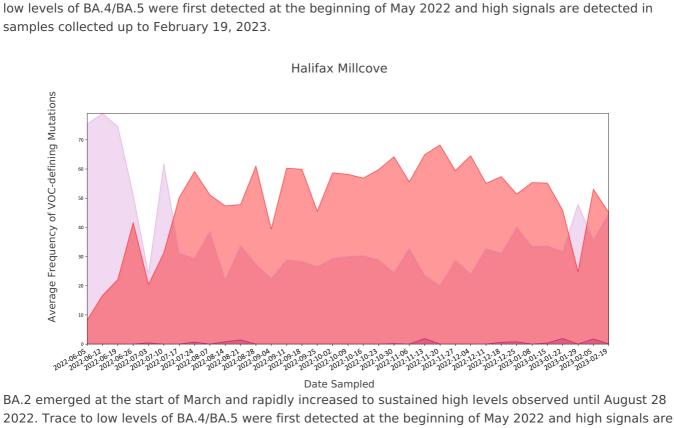
Edmonton Goldbar

Average Frequency of VOC-defining Mutations Date Sampled 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 high signals are detected in samples collected up to February 3, 2023. **Halifax**

BA.1 BA.2 BA.4/BA.5 Halifax Dartmouth

Average Frequency of VOC-defining Mutations Date Sampled 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 high signals are detected in samples collected up to February 19, 2023. Halifax Halifax Average Frequency of VOC-defining Mutations

Date Sampled BA.2 levels increased rapidly and have remained high in samples collected up to August 28, 2022. Trace to



detected in samples collected up to February 19, 2023.

Average Frequency of VOC-defining Mutations

Date Sampled

BA.1 BA.2 BA.4/BA.5

Montreal North

Montreal

High levels of BA.2 were detected in samples collected until June 2022. Trace to low levels of BA.4/BA.5 were first detected in April 2022 and high signals are detected in samples collected up to February 19, 2023. Montreal South Average Frequency of VOC-defining Mutations **Date Sampled**

High levels of BA.2 were detected in samples collected up to June 2022. Trace to low levels of BA.4/BA.5 were first detected in April 2022 and high signals are detected in samples collected up to February 19,

BA.1 BA.2 BA.4/BA.5

Toronto Ashbridges Bay

Average Frequency of VOC-defining Mutations

Date Sampled

Toronto Highland Creek

levels of BA.4/BA.5 were first detected at the beginning of May 2022 and high signals are detected in

BA.2 levels increased rapidly and remained high in samples collected up to August 28, 2022. Trace to low

samples collected up to March 5, 2023.

samples collected up to March 5, 2023.

samples collected up to March 5, 2023.

Average Frequency

Vancouver

5, 2023.

Average Frequency of VOC-defining Mutations

samples collected up to March 5, 2023.

2023.

Toronto



of VOC-defining Mutations

Date Sampled BA.2 levels rapidly increased and 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 high signals are detected in

BA.1 BA.2 BA.4/BA.5

Vancouver Annacis Island

Date Sampled BA.2 levels rapidly increased and 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 high signals are detected in

Toronto North Toronto



Date Sampled BA.2 emerged in mid January and was detected at high levels by mid February. BA.2 levels rapidly increased and remained elevated in samples collected up to September 4, 2022. Trace to low levels of BA.4/BA.5 were first detected at the beginning of May 2022 and high signals are detected in samples collected up to March

Vancouver Lions Gate

Date Sampled BA.2 levels rapidly increased and remained elevated in samples collected up to September 4, 2022. Trace to low levels of BA.4/BA.5 were first detected at the beginning of May 2022 and high signals are detected in samples collected up to March 5, 2023. Vancouver Lulu Island Average Frequency of VOC-defining Mutations

Date Sampled BA.2 levels rapidly increased and remained elevated in samples collected up to September 4, 2022. Trace to low levels of BA.4/BA.5 were first detected at the beginning of May 2022 and high signals are detected in

Vancouver Northwest Langley

