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



Longitudinal wastewater sequencing data ending 2022-08-07

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 present in the wastewater sample. The shaded areas in the plot show Delta in green, Omicron in purple and where applicable, Alpha in blue.



The plot shows a moderate to high presence of BA.1 until late 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 7, 2022. Trace to low levels of BA.4/BA.5 were first detected at the beginning to May 2022 and have been detected in samples collected up to August 7, 2022.

Winnipeg South End



The plot shows a high presence of BA.1 until late 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 7. Trace to low levels of BA.4/BA.5 were first detected at the beginning to May 2022 and samples collected in August 2022 are revealing a strong presence of BA.5.

Average Frequency of VOC-defining Mutations 2022-01-09 ພາຍ ທີ່ການ ແລະ ແລະ ແລະ ເພີ່ມ ເພີ່ ເພີ່ມ ເພີ

Date Sampled

The plot shows a high presence of BA.1 until late 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 7, 2022. Trace to low levels of BA.4/BA.5 were first detected at the beginning to May 2022 and have been detected in samples collected up to August 7, 2022.

Winnipeg West End