Data Report: Monitoring SARS-CoV-2 Variants in Chicago

Report published February 11, 2025

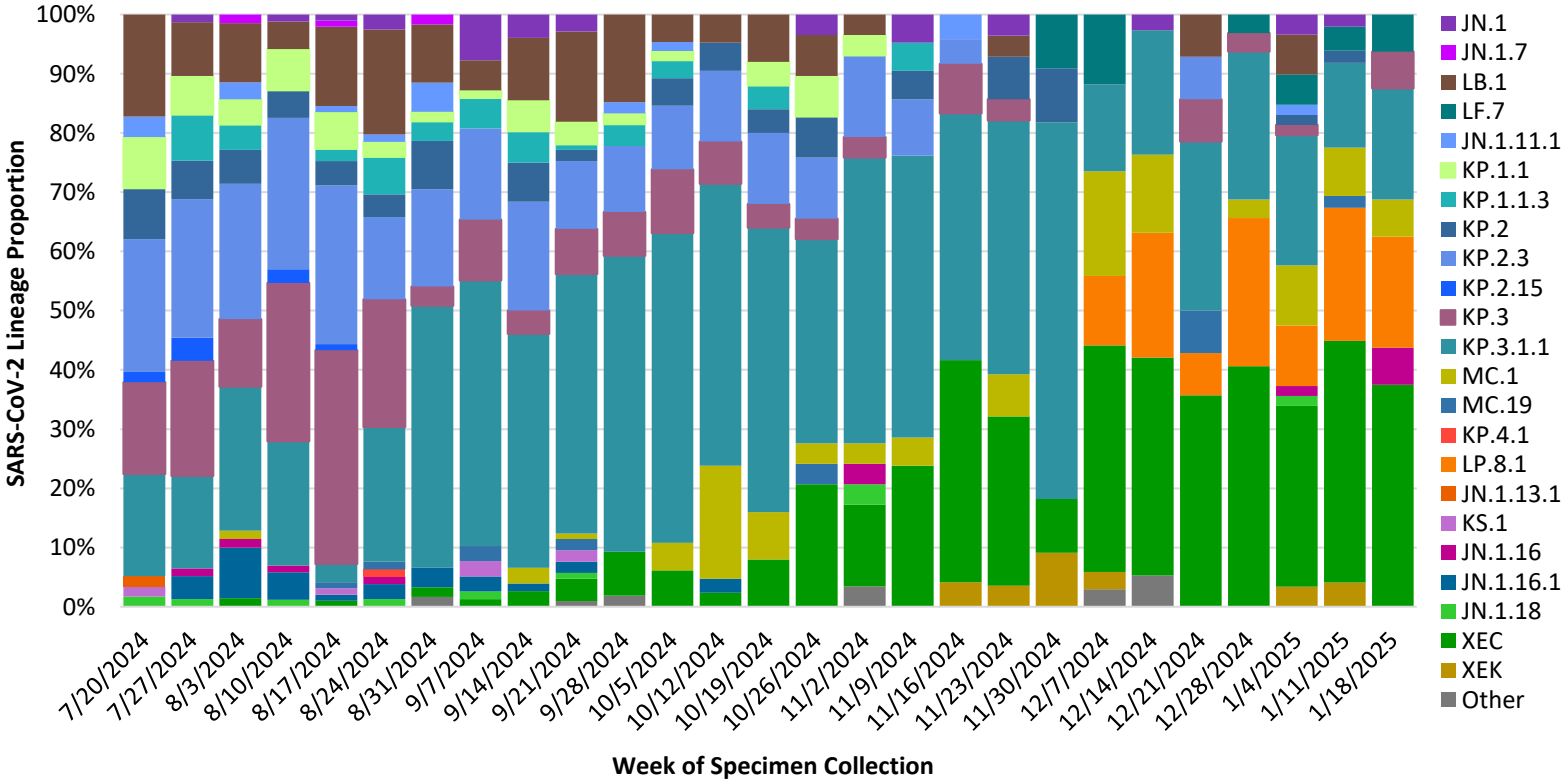
Background

The Chicago Department of Public Health (CDPH) monitors SARS-CoV-2 variants of concern like Omicron and its sublineages through the Regional Innovative Public Health Laboratory (RIPHL), a partnership with Rush University Medical Center. Like all viruses, SARS-CoV-2 – the virus that causes COVID-19 – constantly changes through genetic mutation. These genetic mutations can lead to the emergence of SARS-CoV-2 variants. In late 2021, the Omicron variant of concern emerged, and various sub-lineages of the Omicron variant have continued to emerge since. Monitoring SARS-CoV-2 variants helps public health officials gather important information and prepare to respond to any future change in COVID-19 transmission in Chicago.

Variant Prevalence in Chicago

Currently, there is no dominant SARS-CoV-2 variant. JN.1 sublineages XEC, KP.3.1.1, and LP.8.1 are the most prevalent lineages circulating in Chicago. JN.1 is a descendant of Omicron, a variant of concern being monitored by the Centers for Disease Control and Prevention (CDC) and first identified in Chicago in early December of 2021. Although SARS-CoV-2 continutes to evolve, the number of cases in the Chicago area remain low. Figure 1 displays RIPHL's lineage breakdown in Chicago over a six-month period.

Figure 1. SARS-CoV-2 lineage proportions for surveillance specimens received by RIPHL, by week of specimen collection (July 14, 2024 to January 18, 2025).



Chicago Early Variant Alert Signal
CDPH also monitors the growth rate of new variants of concern (VOC) or variants of high concern (VOHC) as designated by the CDC. Logistic growth rate is used to measure how quickly a variant is growing in the population; quickly expanding variants likely have a large fitness advantage over existing variants.

This early alert signal also recognizes variants increasing in prevalence, displayed below in Table 1. RIPHL will continue to monitor these variants and provide updates as needed.

Table 1. SARS-CoV-2 variants currently increasing in prevalence in the Chicago area (as of January 18, 2025).

Sublineage	Parent Lineage	Date first detected in RIPHL
KP.3.1.1	JN.1 (Omicron) / JN.1.11.1	6/3/2024
XEC	JN.1 (Omicron) / recombinant lineage of KS.1.1 (JN.1.13.1.1.1) and KP.3.3 (JN.1.11.1.3.3)	8/2/2024
LF.7	JN.1 (Omicron) / JN.1.16	11/26/2024
LP.8.1	JN.1 (Omicron) / JN.1.11.1	12/2/2024

Conclusions
SARS-CoV-2 continues to evolve. Getting vaccinated remains the best way to protect yourself and others from all variants of COVID-19, including Omicron and its sub-lineages. You can learn more about current vaccine recommendations and where to get vaccinated by visiting COVID-19 Vaccine Recommendations (chicago.gov) and COVID-19 Vaccine Finder (chicago.gov). As always, visit SARS-CoV-2 Variants | COVID 19 (chicago.gov) for updates about SARS-CoV-2 variants circulating in Chicago.