



An Update on the Latest SARS-CoV-2 Subvariant under Monitoring - XEC, 27 January 2025

XEC is a recombinant SARS-CoV-2 Omicron variant derived from the JN.1 descendent lineages KS.1.1 and KP.3.3. It was first detected in Germany in June 2024, and was designated a variant under monitoring (VUM) by the World Health Organization (WHO) on 24 September 2024^{1,2}.

The XEC subvariant has increased in prevalence globally, and is currently the dominant lineage constituting 45% of SARS-CoV-2 sequences submitted to GISAID in January 2025³. In South Africa, XEC was first detected in a specimen collected in Gauteng in September 2024 (1/218, 0.5%), and increased in prevalence to 15.8% (9/57) of SARS-CoV-2 sequences in December 2024, while the KP.3.1.1 lineage remained the dominant lineage (27/57, 47.4%). As of 23 January 2025, in South Africa, 16 XEC cases have been detected (Western Cape (n=9), Gauteng (n=6) and Mpumalanga (n=1)). However, due to limited testing and sequencing, the prevalence and spread of the subvariant is difficult to define. The detection of the XEC subvariant in wastewater samples began in August 2024, with a prevalence of 1%. The proportion of XEC in wastewater samples increased to 3% in September 2024, and 7% in October, before declining to 1% in November 2024⁴. Current data from the wastewater surveillance programme is pending. Data from the NICD's respiratory illness surveillance programmes showed a slight increase in SARS-CoV-2 infections in December and January, likely reflecting increased SARS-CoV-2 transmission over the festive season⁵.

As of 9 December 2024, the WHO considered the public health risk of XEC to be low². There is currently no evidence that the subvariant is associated with increased disease severity or different symptoms compared to other circulating variants. Preliminary immunological data has suggested that XEC may exhibit increased transmissibility and immune escape compared to its parent lineage, KP.3^{6,7}. However, current COVID-19 vaccines are expected to provide protection against severe illness due to XEC infection⁸. It is expected that SARS-CoV-2 will continue to evolve. Based on the available data, XEC does not represent a significant health threat for South Africa.

Individuals who are unwell with respiratory symptoms should practice regular hand washing, cover coughs and sneezes, and avoid contact with people who may be at high risk of severe respiratory illness. The public is reminded to practice hand and respiratory hygiene (cover coughs and sneezes). Monitoring of SARS-CoV-2 variants continues as part of national syndromic surveillance for respiratory illness and the Network for Genomic Surveillance in South Africa (NGS-SA).

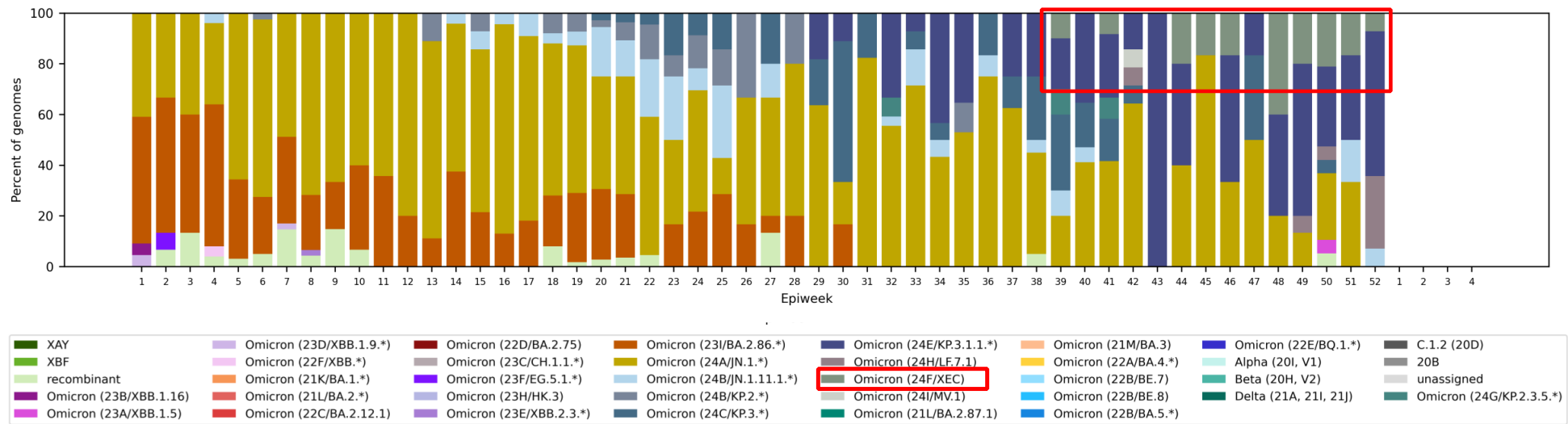


Figure 1: Distribution of SARS-CoV-2 lineages in clinical specimens by epidemiological week in South Africa, 1 January – 31 December 2024 (N=960)

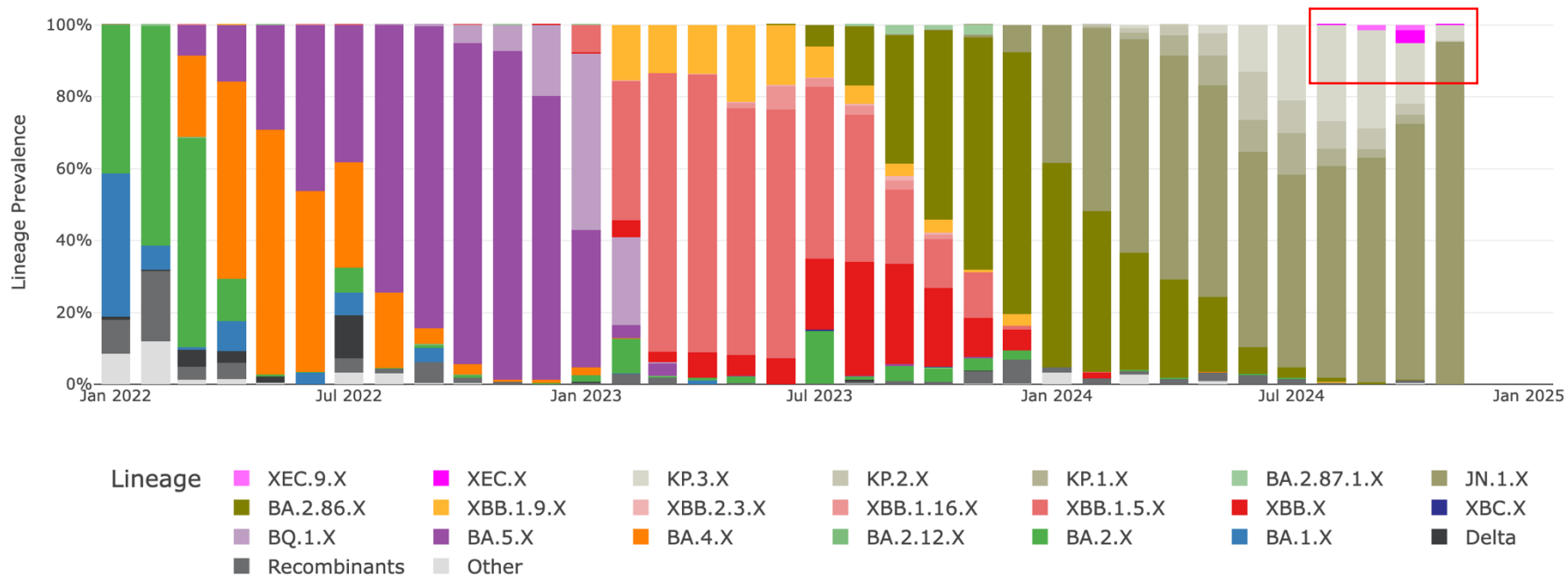


Figure 2: Distribution of SARS-CoV-2 lineages in wastewater as determined by the Freyja tool. The “X” at the end of the subvariant name indicates a combination of multiple subvariants, simplifying the classification.

References:

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4. National Institute for Communicable Diseases, SARS-CoV-2 Wastewater Surveillance dashboard <https://wastewater.nicd.ac.za/>
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8. Prerna Arora et al. (2024). Impact of JN.1 booster vaccination on neutralisation of SARS-CoV-2 variants KP.3.1.1 and XEC (2024). *The Lancet Infectious Diseases*, Volume 24 (12), e732-e733, [https://doi.org/10.1016/S1473-3099\(24\)00688-1](https://doi.org/10.1016/S1473-3099(24)00688-1).