

'Gaining ground quite rapidly': What we know about XEC, the new COVID-19 variant

A new COVID-19 variant is starting to spread overseas – but experts in Australia say it's "not at all unexpected" we shouldn't be alarmed.



A new COVID-19 variant called XEC appears to be spreading overseas. Source: SBS News / Leon Wang

Experts are tracking a new COVID-19 variant called XEC which is starting to spread overseas – and could soon arrive in Australia.

Official sources, such as the World Health Organization (WHO) or the Centers for Disease Control and Prevention (CDC) in the US, have not published information about the variant at time of writing, with Australia's federal Department of Health confirming no sequences as of 29 August.

However, several sources – including US scientist and COVID-19 expert Eric Topol and Australian data analyst Mike Honey – have documented on social media the early spread of XEC across up to 27 countries to date.

"Recombinant variant XEC is continuing to spread, and looks a likely next challenge against the now-dominant DeFLuQE variants (KP.3.1.1)," Honey wrote on X on 15 September.

Mike Honey@Mike_Honey_ · [Follow](#)

Recombinant variant XEC is continuing to spread, and looks a likely next challenger against the now-dominant DeFLuQE variants (KP.3.1.1.*).

Here are the leading countries reporting XEC. Strong growth in Denmark and Germany (16-17%), also the UK and Netherlands (11-13%).



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Professor Adrian Esterman, chair of biostatistics and epidemiology at the University of South Australia, and Paul Griffin, an infectious disease physician and clinical microbiologist at the University of Queensland, said both sources are reputable.

Esterman said the lack of information from official sources was due to the number of infections to date.

"The number is not large enough for it to be put into the WHO or CDC's database. At the moment, everyone is keeping an eye on XEC but there aren't enough cases for it to become a variant under monitoring," he said.

"I can almost guarantee that will happen over the next few weeks."

As SARS-CoV-2, the virus that causes COVID-19, continues to evolve and mutate, both experts said the emergence of XEC is no cause for concern.

What do we know about XEC?

The XEC variant is what's called a recombinant of two earlier variants: KS.1.1 and KP.3.3.

Esterman explained the JN.1 variant was a large shift away from the previous XBB variants, and had over 30 different mutations.

Subsequent mutations of JN.1 were called FLiT and FLuQE subvariants, also known as KP.2 and KP.3. The variant that is currently dominating around the world, KP.3.1.1, is a mutation of the FluQE called a DeFluQe.

"What's happened now is there is a FLiT subvariant, KS.1.1, and a FluQE subvariant, KP.3.3 which have combined ... and the viruses have actually swapped genes," Esterman said.

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While data is very limited at this stage, the variant appears to have a better "binding ability".

"A subvariant can either bind more efficiently to the human host cell or it can invade our immune system better than previous ones. In this particular case, it appears as though it has mutations in its spike protein that help it bind more

efficiently, and therefore it becomes more transmissible."

Griffin stressed we don't yet know the actual properties of XEC, but said it is: "certainly one we should watch".

"It does look to potentially have the capability to be more infectious, or to spread quickly, but it's very early," he said.

Where has XEC been reported?

Throughout the COVID-19 pandemic, analysts have monitored a number of sources, with sequencing information being uploaded to databases, such as github, which uses data from the GISAID Initiative.

Over 15.4 million SARS-CoV-2 sequences have been uploaded to GISAID.

XEC was first detected in Berlin, Germany, in June, and has spread across Europe and the US, Esterman said.

"It's gaining ground quite rapidly," he said.

Referencing the github database, he said there have been over 500 samples of XEC out of 27 countries, at time of writing.

Griffin said this is "really useful information", but stressed it is not based on case numbers nor outcomes.



Updated COVID-19 vaccines are expected in Australia this year and experts say they will provide "very good protection". Source: AAP / Jane Dempster

"There's a number of ways these things are monitored," he said.

"My understanding is that there's not one [database] that's curated completely accurately, globally, but it is certainly a good indicator," he said.

A spokesperson for the Department of Health said no sequences of the XEC variant had been reported to Australia's genomic surveillance system, AusTrakka, as of 29 August.

As of 25 August, JN.1 was the most frequently detected variant in Australia.

"Continuing evolution of SARS-CoV-2 lineages is expected and the Interim Australian Centre for Disease Control continues to closely monitor the emergence of new COVID-19 variants, both within Australia and internationally," the spokesperson said.

Esterman said: "It will only be time before it comes here as well."

Will current and incoming COVID-19 vaccines provide protection?

Last month, the Australian government accepted for evaluation two applications from Pfizer and Moderna for new COVID-19 vaccines targeting the JN.1 variant.

Esterman told SBS News: "The government has decided not to purchase Moderna's mRNA-based vaccine. It will only purchase the new Pfizer vaccine based on JN.1"

The spokesperson said the Health Department: "intends to make updated Pfizer JN.1 COVID-19 vaccines available to eligible individuals as soon as possible following regulatory approval".

Esterman said he expected the new vaccine would provide "very good" protection against XEC, while XBB.1.5-specific vaccines, which are currently available in Australia, would still offer some protection.

"We're never going to be able to keep up with these variants, because from the time we are able to manufacture a vaccine, there's already two or three mutations gone already," he said.

"But the good news is that you still get very good protection."

The virus 'will keep changing'

Esterman predicts the XEC variant will eventually take over from the current world leader, KP.3.1.1, but said there is another variant on the horizon called MV.1.

"It looks like XEC might not be the sole dominant subvariant coming up over the next few months – it looks like it might be matched by MV.1, with a battle between the two," he said.

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New variant MV.1 is spreading quite rapidly, and looks a potential next challenger against the now-dominant DeFLuQE variants (KP.3.1.1 and descendants), perhaps rivalling XEC.

MV.1 first appeared in Maharashtra, India in late June.

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Regardless, he believes there is no cause for alarm.

"It's not at all unexpected, and nothing I think that we should be too concerned about – except for the fact that potentially it could lead to a new wave. And, that means more infections, more hospitalisations and more deaths."

Griffin agrees.

"This is what COVID has done countless times before, and we know it will keep happening with this virus. It will keep changing, keep evolving," he said.

"We do need to carefully monitor that, and respond accordingly when the time is right."

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