ABC NEWS

FLiRT was dominating COVID-19 cases, now we're onto the FLuQE subvariants

By Annika Burgess

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A new subvariant of COVID-19 is dominating in Australia, increasing risks of re-infection.
(ABC News: Jake Sturmer)

A dominant COVID-19 strain is driving new infections across parts of the world, and is on the rise in Australia.

Not long ago, we were introduced to FLiRT, a group of subvariants that were contributing to a recent increase in cases and hospitalisations.

Now FLiRT has further mutated, and FLuQE has become the fastest growing member of the family.

While many ingredients in the variant soup are similar, there is an additional mutation experts say makes it more contagious.

And it is increasing risks of re-infection as vaccine updates lag behind how fast the virus is changing.

What is FLuQE?

The family of highly transmissible COVID subvariants known as FLiRT have risen to dominance over the past few months.

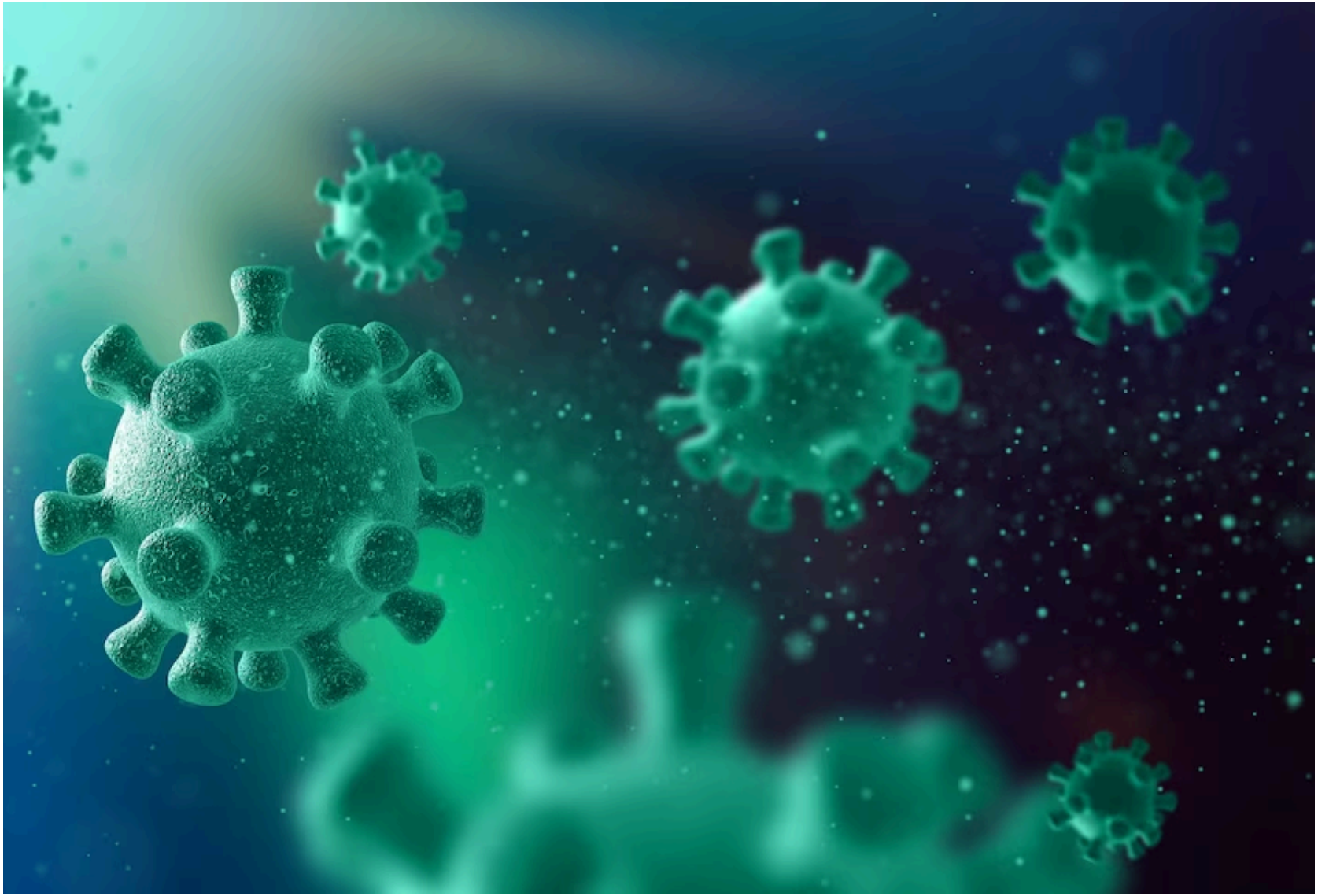
The group includes several similar variants that usually start with KP, with KP.2 emerging as the most prominent.

KP.2 has been a key contributor to recent COVID waves.

Now, after just a few weeks, KP.3 — also known as FLuQE — has surpassed KP.2 in Australia, and sparked warnings of a summer COVID surge in the US.

It has an extra mutation researchers say makes it more infectious.

And it's that extra mutation that has led to its own catchy subvariant nickname.



searchers say KP.3 has an additional mutation located in the spike protein that makes it more infectious. *(Freepik: kjpargeter)*

KP.2

- One of several variants (KP.1, KP.2, JN.1.7) being referred to as "**FLiRT variants**"
- FLiRT comes from the technical names for its mutations: **F456L, V1104L, R346T**
- Was the prominent member of the FLiRT family, rising to dominance around April/May

KP.3

- Has been referred to as "the successor to KP.2"
- Shares the same key **FLiRT** mutations, but with one additional spike protein
- That **protein Q493E** has led to its new subvariant nickname **FLuQE**
- Is **now the dominant strain** in several countries, including Australia

What impact is it having?

The FLiRT family are all descendants of the JN.1 variant, which had been dominant for several months.

JN.1 caused a wave of infections across Australia and other parts of the world at the start of the year.

Researchers have described them all as grandchildren of Omicron.

Paul Griffin, an infectious diseases physician and clinical microbiologist at the University of Queensland, says the evolution of the variants is another indicator of how quickly the virus can change.

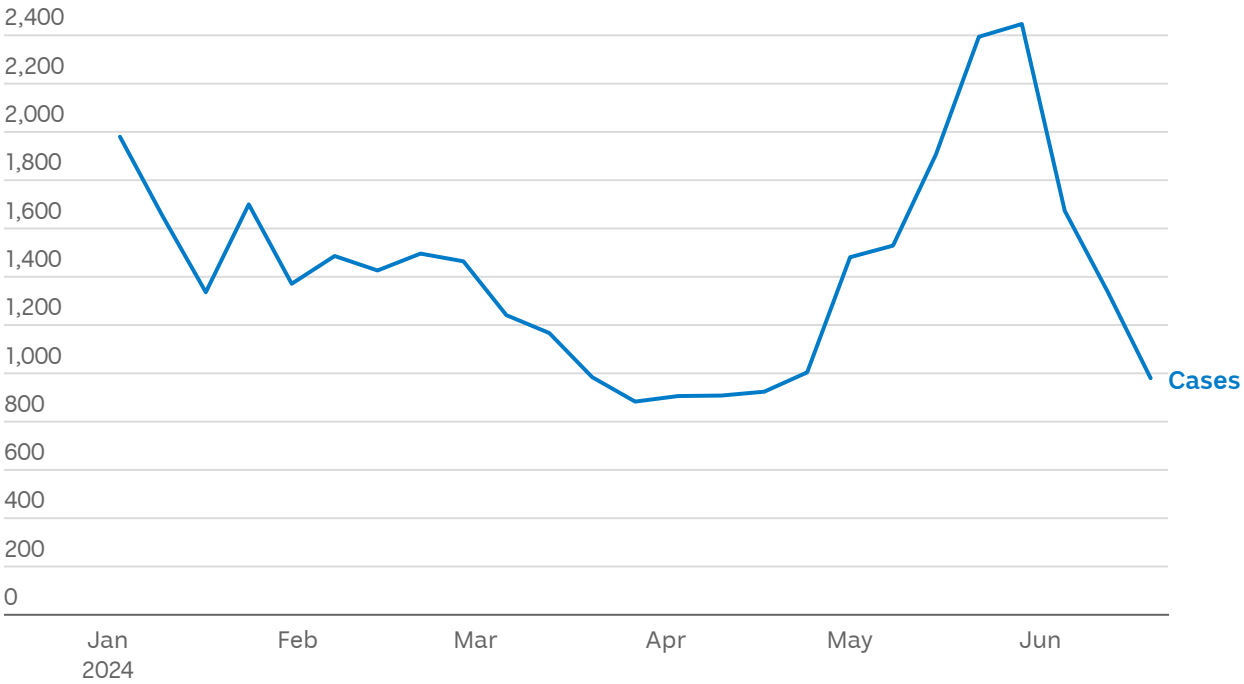
"What this virus has done many times, and continues to do, is that it's changed significantly," he said.

"Certainly in our country, FLuQE, or KP.3, has passed FLiRT, or KP.2.

"South Australia has led the charge, but in most parts of the country we've already transitioned to the next one after FLiRT."

SA cases have spiked in recent weeks

An uptick in cases has been attributed to new COVID-19 variants.



Graph shows reported cases for 2024 up to June 19.

ABC News / Source: SA Health / Get the data

In the US, KP.3 is now the dominant strain, responsible for more than 33 per cent of cases, up from less than 10 per cent in May, according to data from the Centers for Disease Control and Prevention (CDC).

While cases are still relatively low compared to the US winter, CDC data shows an increase in COVID-19-related deaths and hospitalisations in recent weeks.

The UK is also reportedly experiencing an increase in hospitalisations with the KP.3 variant identified.

Adrian Esterman, an epidemiologist and professor of biostatistics at the University of South Australia, said when JN.1 mutated into the FLiRT subvariants, they were able to better evade our immune system.

However, they lost some ability to bind to a specific protein that allows the virus to infect human cells.

This is where FLuQE differs, and the reason why it is more infectious.

"Recently, the FLiRT subvariants have mutated further to improve binding efficiency, and these are the FLuQE subvariants, of which KP.3 is the one currently dominating," Professor Esterman told the ABC.

"KP.3 and its descendants (KP.3.1, KP3.2, etc) account for about 33 per cent of cases in Australia."

Mike Honey
@Mike_Honey_ · **Follow**

Here's the latest variant picture for Australia.

"FLuQE" variants (KP.3.*) continue to dominate "FLiRT" and show strong growth in most states.

The significant mix of FLiRT and other variants poses a raised reinfection risk.

Report link:
mike-honey.github.io/covid-19-genom...

11:37 PM · Jun 27, 2024

What does it mean for current vaccines?

While the new variants may be proving to be more infectious than previous iterations of the coronavirus, they have not yet shown to be more severe.

"There's nothing to suggest that it's going to be significantly different," Professor Griffin said.

But, there are implications for vaccinations.

"The main thing is that every time the virus changes, the immunity from past infection or vaccination declines again," he said.

"That doesn't mean these changes render our vaccines ineffective, or that past infection doesn't provide an element of protection, it just declines in a relatively progressive way."

So, even if you recently had a FLiRT infection, people are still at risk of re-infection with FLuQE in high circulation.

We are also at a point since COVID-19 was discovered, where we are doing the least to curb its transmission, Professor Griffin added.

The World Health Organization (WHO) has recommended developing new vaccines that target JN.1. to better protect against the new variants.

Professor Esterman said Australia's current vaccines based on XBB.1.5 Omicron variant still gives some cross-immunity.

Symptoms appear to be similar to most COVID strains:

- Fever or chills
- Cough
- Shortness of breath or difficulty breathing
- Fatigue
- Muscle or body aches
- Headache
- New loss of taste or smell
- Sore throat
- Congestion or runny nose
- Nausea or vomiting
- Diarrhea

But versions that provide better protections against the new strains are expected towards the end of the year.

The advice in the meantime is to continue to get the available booster shots.

Professor Griffin said although Australia isn't necessarily keeping up with new variants such as FLiRT and FLuQE, the current booster "still does a great job of reducing risk, particularly of severe disease".

"I guess the simple message there is it's going to be really important that we do continue to use vaccination and that we do update our vaccines," he said.

"But the biggest challenge is we're simply too slow at doing that."