

# Why the Fourth Wave is ebbing in SA

What goes up, must come down – even when it comes to Covid-19. But the Omicron-driven wave has surprised us all by falling almost as quickly as it shot up. We ask scientists what's behind the numbers. By **Tamsin Metelerkamp**

The Fourth Wave of Covid-19 has moved through South Africa at a faster rate than its predecessors.

An Omicron-driven explosion of cases in early December had scientists in South Africa and around the world mobilising to answer key questions about the new variant. Only a month later, the state announced that the country seemed to be past the peak of the latest surge.

South Africa is now at the tail-end of the Fourth Wave, according to Professor Salim Abdool Karim, the director of the Centre for the Aids Programme of Research in SA.

"What we have found is that, with each wave, the rate at which it goes up is similar to the rate at which it goes down," Karim said. "[With] Omicron, the spread of the virus is substantially faster. So, the peak was reached much faster than it took us in the previous waves, and that's why it's going to end faster as well."

Although the number of infections is coming down, Dr Angelique Coetzee, chairperson of the South African Medical Association, recommended that South Africans give it another two weeks before they "start to celebrate". "Let's see what the schools do with the opening," she said.

The vast majority of cases in recent weeks have been driven by the Omicron variant, with genomic sequencing results released by the Network for Genomic Surveillance in SA showing that 83.5% and 98.7% of sequenced Covid-19 samples in November and December 2021 respectively were Omicron.

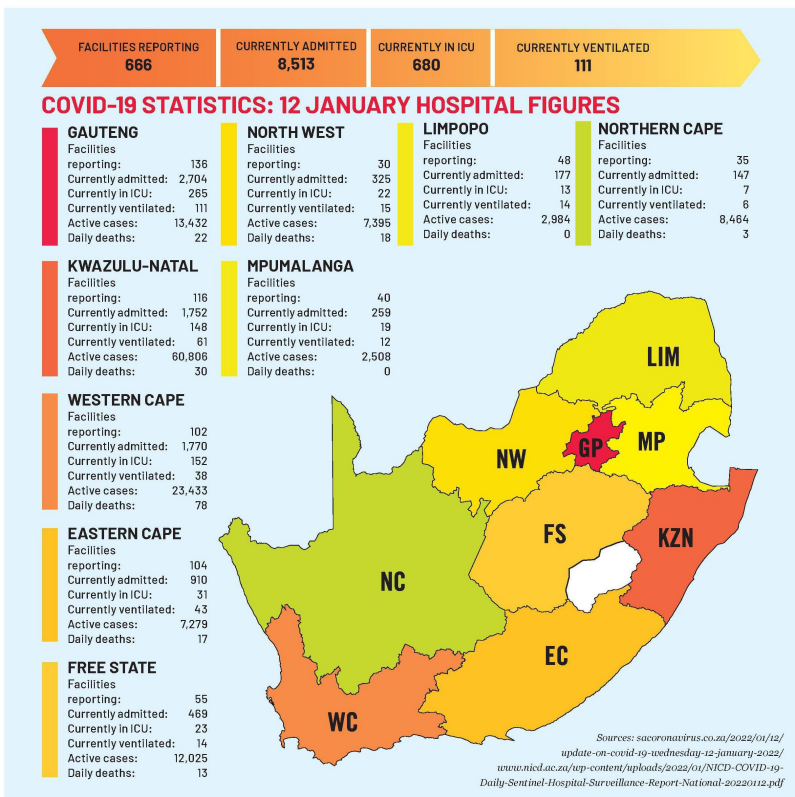
"In previous waves, cases, hospitalisations and deaths ... went up together, but, in Omicron, there were far more cases, and far [fewer] deaths and hospitalisations," said Professor Glenda Gray, president and CEO of the SA Medical Research Council.

This trend was captured in a *Lancet* preprint paper released on 29 December 2021 examining patients admitted to hospitals in Gauteng during the Fourth Wave. The study, which had yet to be peer-reviewed, indicates that, although the number of positive cases identified in the first four weeks of the Fourth Wave was far higher than the previous waves, the proportion of these cases that was admitted to hospital was lower, with 19% admitted in the Beta wave, 15% in the Delta wave and 5% in the Omicron wave.

"This [wave] is much easier or less severe cases that we are seeing. The majority of people [have had] mild disease," said Coetzee.

## Too early to tell?

A possible explanation for the lower incidence of severe disease and death in the Omicron wave in South Africa is the higher level of population immunity in the country relative to earlier waves, according to Professor Shabir Madhi, dean of the faculty of health sciences and professor of vaccinology at the University of the Witwatersrand.



"What has transpired during the course of the pandemic is that there's just been a tremendously high force of infection that's occurred in South Africa," said Madhi.

"Consequently, despite a really stuttering Covid vaccine roll-out, we still got high levels of immunity ... and that immunity is specifically better equipped in preventing or protecting against severe disease and death, rather than preventing infections and mild disease."

Another possible explanation is that the characteristics of Omicron itself made it rel-

atively less able to infect the lower airways than previous variants, said Madhi.

Omicron is "much less efficient in infecting lung cells than Delta variant ... but it is far, far more efficient in infecting the cells in the nasal epithelium – in other words, the cells that are in your nose, the back of your throat and in your bronchi", said Karim.

As such, Omicron might be less likely to manifest with pneumonia or a lung infection, and more likely to manifest with upper-airway symptoms, said Madhi.

Infectious diseases professor Francois Venter, however, said that it was still too early to tell whether Omicron was less virulent than its predecessors.

"The other thing people need to remember is that, because of its infectiousness, it's infected far, far more people than previous waves, so that even if it does turn out to be milder, the fact that it's affected so many people means it might actually end up killing more people simply by virtue of the fact that so many people got infected," he said.

For patients over the age of 50, who are overweight or have comorbidities, it remained important to visit a doctor on contracting Covid-19, even if their symptoms were mild, Coetzee said.

## Protection

Throughout the world, the people who tend to end up in hospital as a result of Covid-19 are unvaccinated, according to Venter.

Coetzee has observed that, although vaccination may not prevent you from contracting Omicron, the intensity of the symptoms differs between vaccinated and unvaccinated individuals. "Unvaccinated people will feel their myalgia and their fatigue, their sore throat, their headache; they will experience it much more intensely than vaccinated people," she said.

Discovery Health released preliminary analysis of data from the first three weeks of the Omicron-driven wave in South Africa on 14 December 2021, showing that the two-dose Pfizer-BioNTech vaccination provides 70% protection against severe complications of Covid-19 that result in hospitalisation, and 33% protection against Covid-19 infection.

The preliminary results from the South African Phase 3b Sisonke study – released by Johnson & Johnson on 30 December 2021 – show that the J&J booster shot has 85% effectiveness against Covid-19-related hospitalisation.

## Way forward

The restrictions that are currently in place to manage the pandemic need to be re-evaluated, said Venter. By having an "eternal code red", people were likely to stop taking protocols seriously.

"The only thing that makes sense to me is for people to take care when they are indoors, to try and limit indoor gatherings and to wear masks when they are indoors," he said. "And obviously, vaccination, vaccination, vaccination."

It was not enough, however, to rely on vaccines and booster shots, as members of the public were likely to become less cooperative with booster-shot programmes over time, Coetzee said. These approaches needed to be combined with common sense and non-pharmaceutical interventions.

"We need to get our economy going, we need to start to learn how to live with this virus, we need to start to learn to live with a mask ... and take responsibility for yourself and for the people around you," she said.

South Africa has had a relatively consistent three-month gap between waves. In the reasonable likelihood of a Fifth Wave, the country will probably experience it at the end of April or beginning of May, Karim said.

"What we need to implement in preparation for the next wave – which is, in all likelihood, going to be driven by ... a new variant – is to use our combination prevention. Vaccines plus public health measures." **DM168**