

Over the edge: SA's progression to Covid-19 'second wave' status in numbers

news24

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- **South Africa's second Covid-19 infection wave, or resurgence, is being driven by consistent increases in new cases in the Eastern Cape and Western Cape.**
 - **Recent sharp increases in KwaZulu-Natal and Gauteng have pushed the country into second wave territory.**
 - **The criteria - increases in proportions of tests returning positive, hospital admission trends and the number of daily deaths - all point to a national resurgence.**
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South Africa was pushed into an official second Covid-19 infection wave - or resurgence - earlier than expected this week, following a large number of cases reported in teens, aged 15 to 19 years.

Health Minister Zweli Mkhize said the criteria for an official resurgence to be declared, which were determined by scientists and members of the Covid-19 modelling team, had been met.

News24 understands that among the indicators that needed to be met was a period of sustained case increases, followed by daily cases reaching above a set threshold.

As of 9 December, South Africa reported, on average for the prior seven days, 4 500 new cases a day.

Between 1 and 9 December, the national health department reported 38 594 new cases, compared to 53 096 cases in the past 14 days (26 November to 9 December).

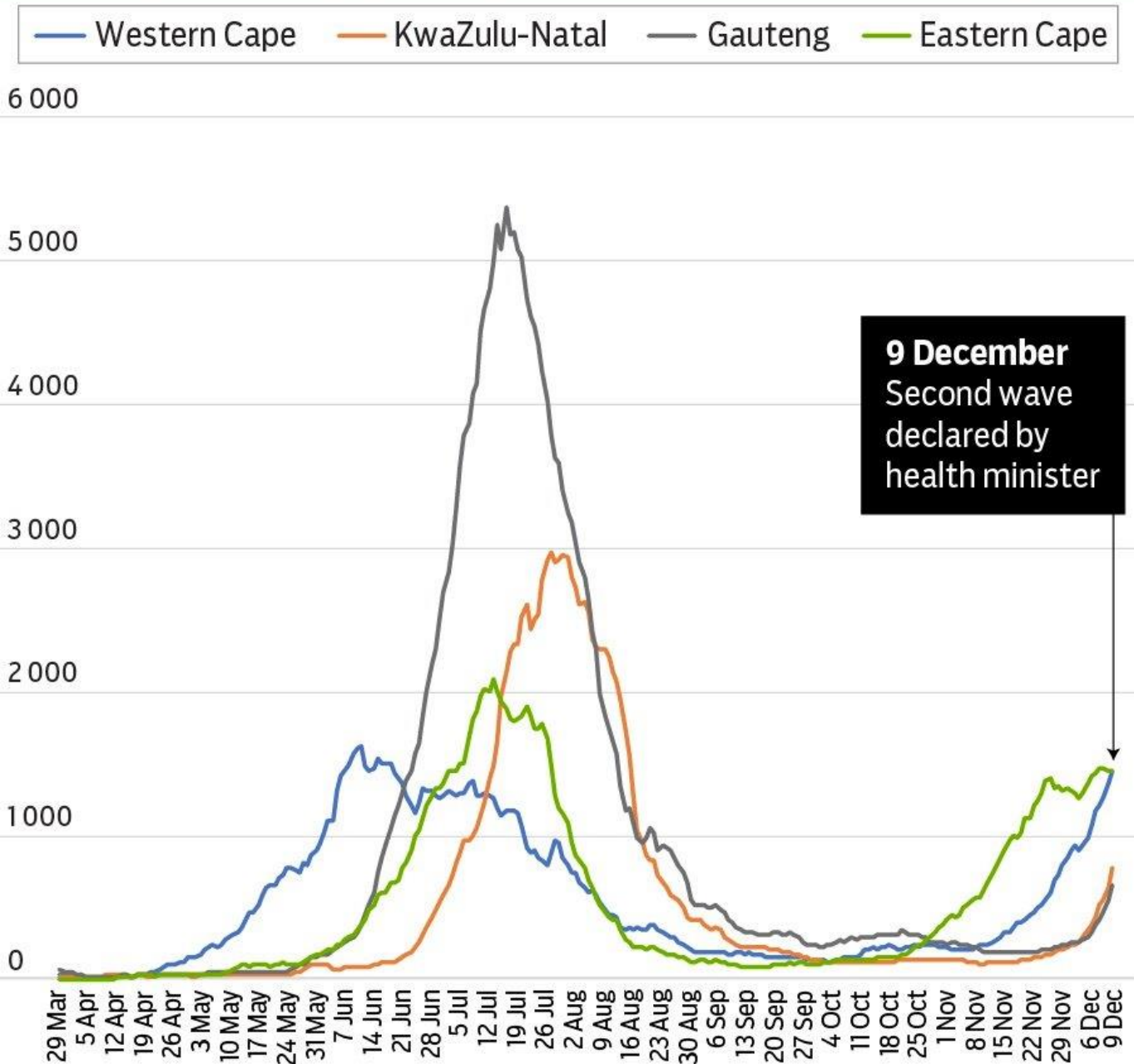
Comparatively, 33 108 cases were reported in the 14-day period from 12 to 25 November, and 22 680 cases were reported between 29 October and 11 November.

Mkhize confirmed that the largest number of cases was among teens. This week, the news broke that matric Rage parties in Durban were considered to be super-spreader events. Further Rage parties in other provinces have since been cancelled.

The sustained increase in cases is, mainly, being driven by resurgences in the Eastern Cape and the Western Cape, which have been developing since mid-November at least.

A graph comparing the provincial seven-day moving average of daily new cases reported in the four main provinces, in terms of Covid-19 cases, shows the resurgence clearly.

New cases (7-day moving average)



Source: National Department of health daily reports

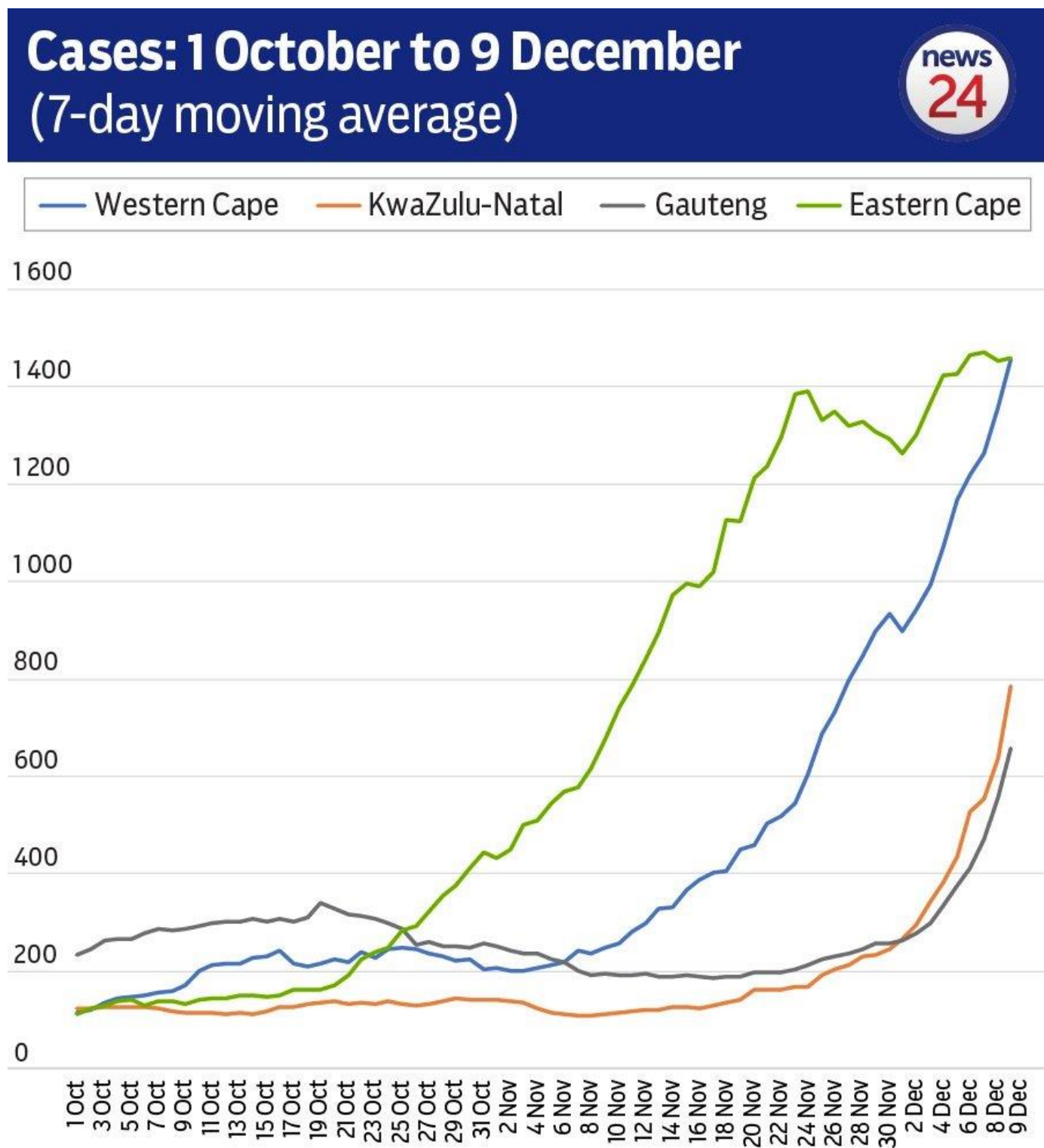
Graphic: RUDI LOUW

But Mkhize said on Wednesday, in a brief televised briefing, that KwaZulu-Natal and Gauteng were also reporting sharp increases in cases.

Four provinces reported 94% of the 38 594 new cases reported since 1 December. They were the Eastern Cape, which accounted for 33% (12 910) cases; the Western Cape

with 31% (11 969); KZN, which accounted for 16% (6 342) of cases; and Gauteng which had 14% (5 304), the lowest of the four.

A snapshot of the seven-day moving average of new cases since 1 October shows the marked and sudden increase in reported cases.



Source: National Department of health daily reports

Graphic: RUDI LOUW

Mkhize said the key criteria scientists set, in addition to case increases, was the number of deaths reported, the number of new hospital admissions and the proportion of tests returning positive, the most reliable early warning indicator of an increase in cases.

So far in December, 1 039 deaths have been reported. In the past 14 days, the number of deaths reported was 1 373.

The highest number of deaths were reported in the Eastern Cape - 478 since 1 December and 641 over the past 14 days.

So far in in December, Gauteng reported 60 deaths (73 in the past 14 days), KZN reported 70 deaths (92 in the past 14 days) and the Western Cape reported 274 deaths (342 in the past 14 days).

As of 9 December, the health department reported a total of 22 574 deaths due to Covid-19.

News24 previously reported that the official death toll was likely an understatement of the actual number of deaths as a result of excess deaths found by scientists.

Based on limited hospital admissions data, it is also clear that hospital admissions are rising consistently.

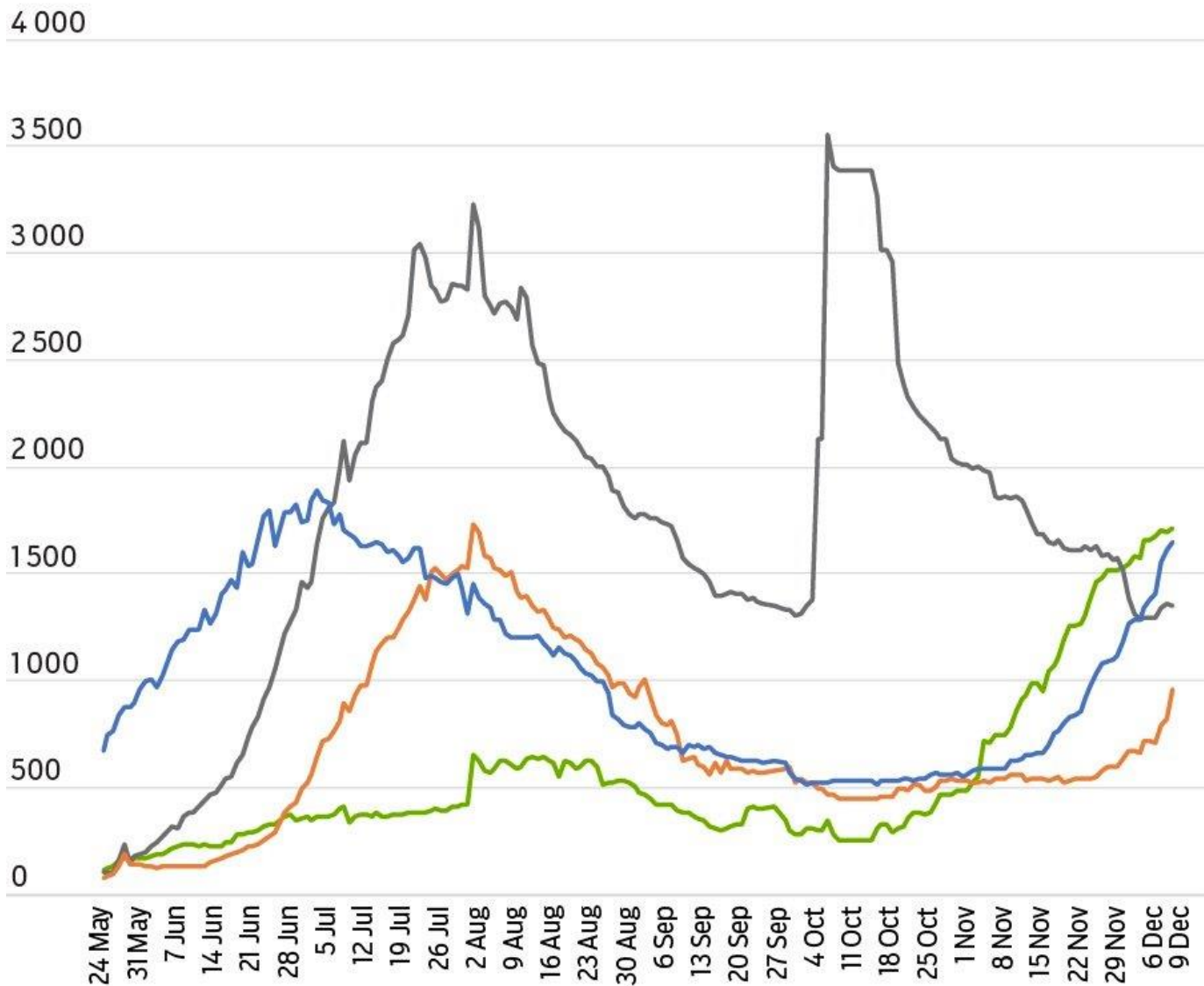
Between 1 and 9 December, nearly 1 000 people were admitted to hospitals in the Eastern Cape (189), Western Cape (466) and Kwa-Zulu Natal (326) alone.

Figures for Gauteng hospital admissions were not immediately verifiable and admissions for the province in the below graph should be considered a trend only. The sharp increase in hospital admissions for Gauteng in early October is due to the fact that more hospitals started to report admissions data.

Daily hospital admissions by province



Western Cape KwaZulu-Natal Gauteng Eastern Cape

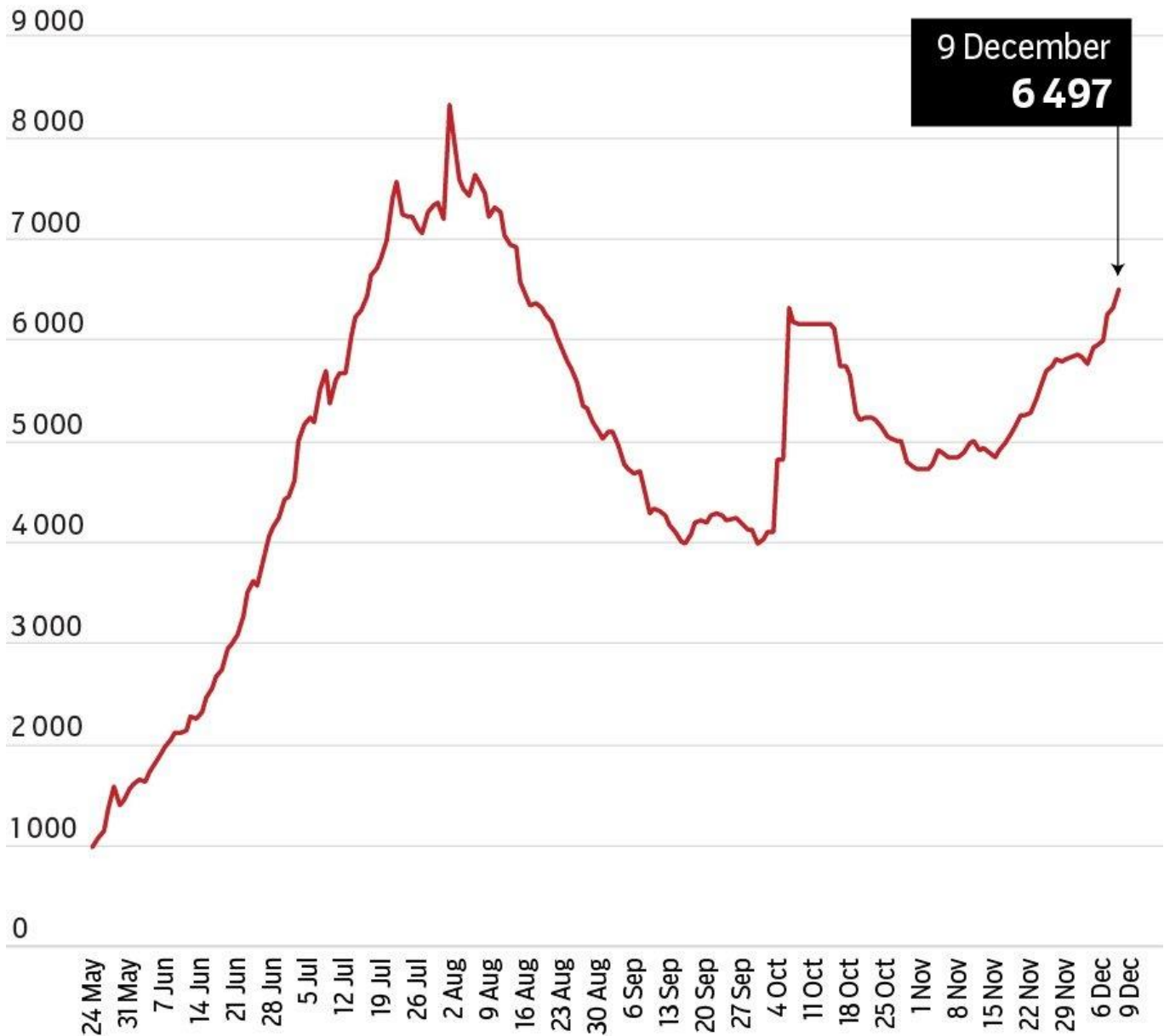


Source: NICD Daily Hospital Surveillance Reports on Selected Hospitals

Graphic: RUDI LOUW

Nationally, more than 6 000 people were hospitalised for Covid-19 as of 9 December. A clear upward trend that is visible when this is mapped over time.

National hospital admissions daily



Source: NICD Daily Hospital Surveillance Reports on Selected Hospitals

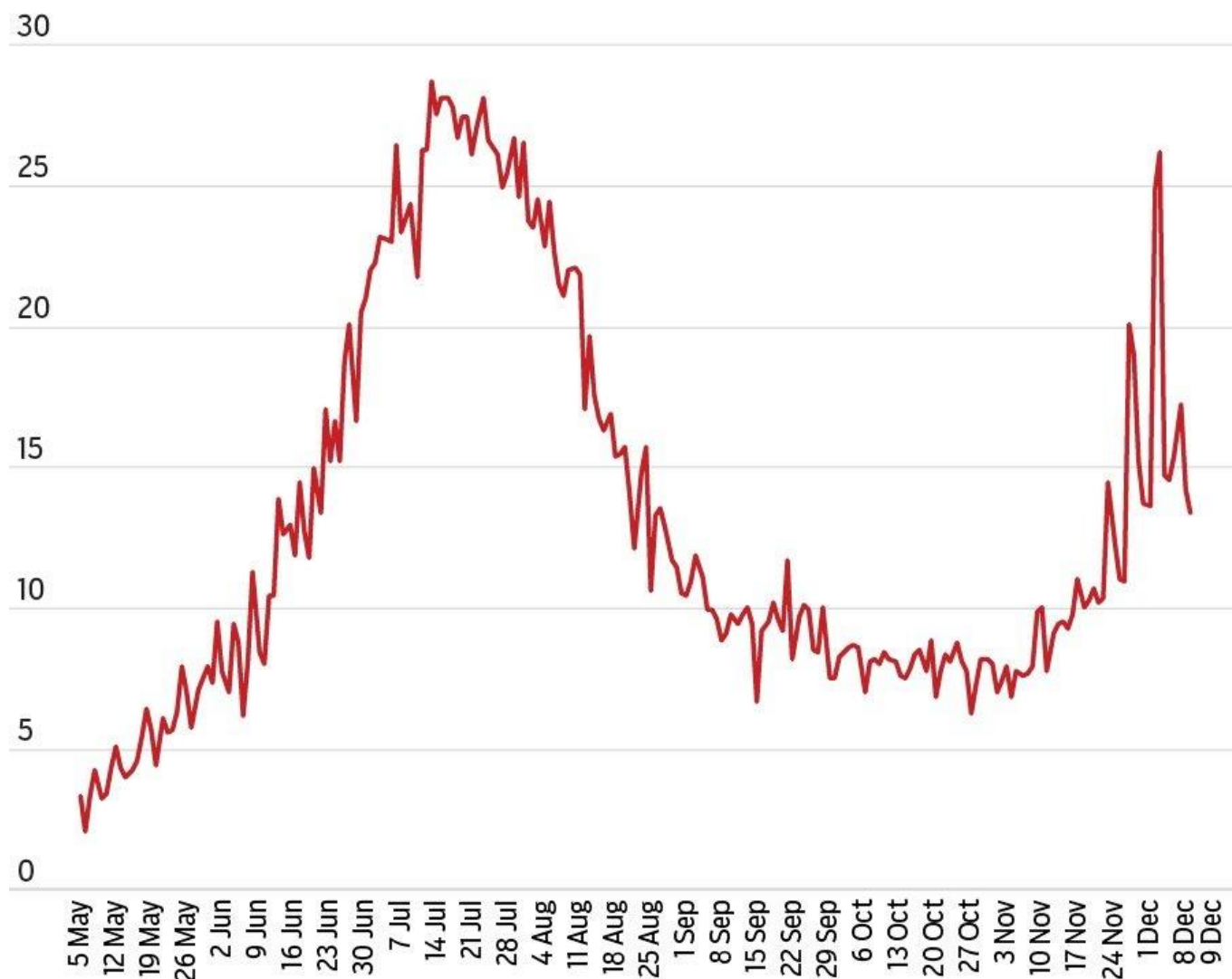
Graphic: RUDI LOUW

The final criteria for a resurgence to be officially declared is the proportion of tests returning positive.

The public and News24 do not have access to date-specific testing data that would allow an accurate calculation of the proportion of positive tests.

A crude positive rate can be obtained by using data on reported cases and testing to calculate a rough PTP (proportion testing positive), such as in this graph below.

Crude percentage of tests positive (reported data)



Source: National Department of health daily reports

Graphic: RUDI LOUW

Compounding issues with testing data is that, as of 9 December, the health department has started reporting the number of antigen tests conducted together with PCR tests, which has been the sole testing type the department has reported on since March.

On Wednesday, the department included in its daily report 12 000 "retrospective" antigen or antibody tests that were conducted, but provided no clarity on how many of the 6 709 positive cases were determined by use of the antigen tests.

It is therefore likely that the above graph is understating the percentage positive significantly.

The National Institute for Communicable Diseases publishes a weekly report that provides accurate PTP figures nationally, and the latest report is expected to be available on Friday.