



COVID-19 UPDATES

24 March 2022



CAPRISA hosts a DST-NRF Centre of Excellence in HIV Prevention



National Research Foundation



CAPRISA hosts a MRC HIV-TB Pathogenesis and Treatment Research Unit
CAPRISA hosts a DoH-MRC Special Initiative for HIV Prevention Technology



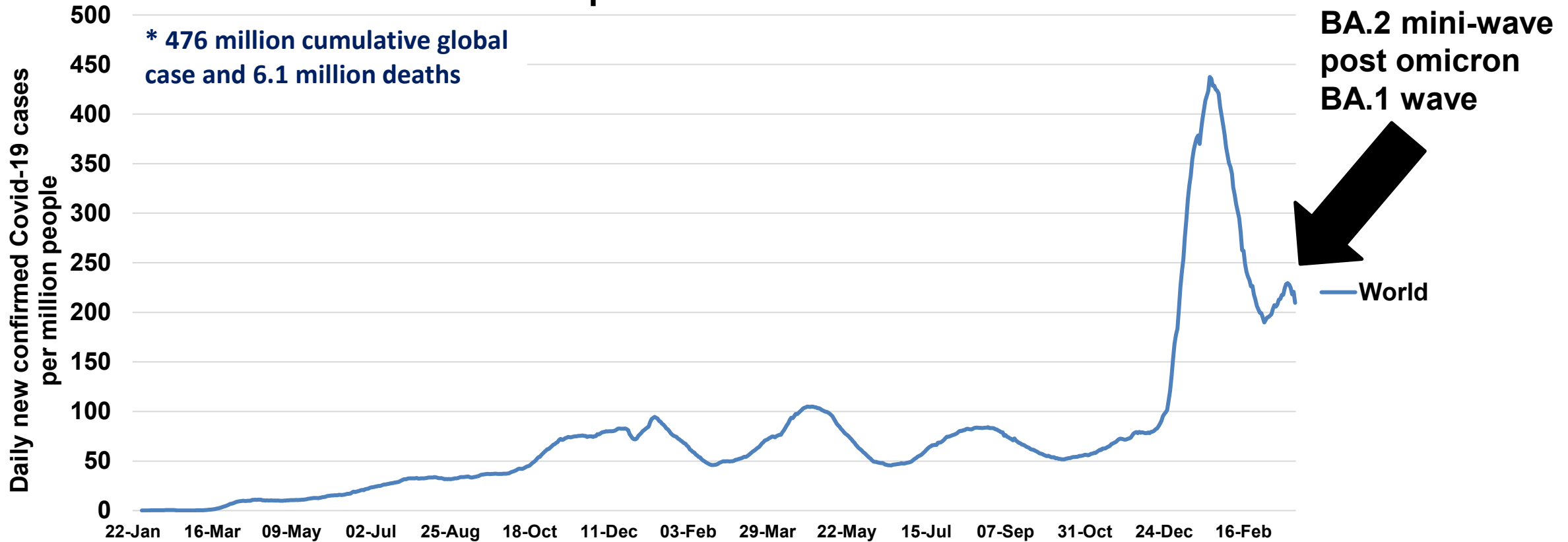
Department of Health
REPUBLIC OF SOUTH AFRICA



Covid-19 in Africa

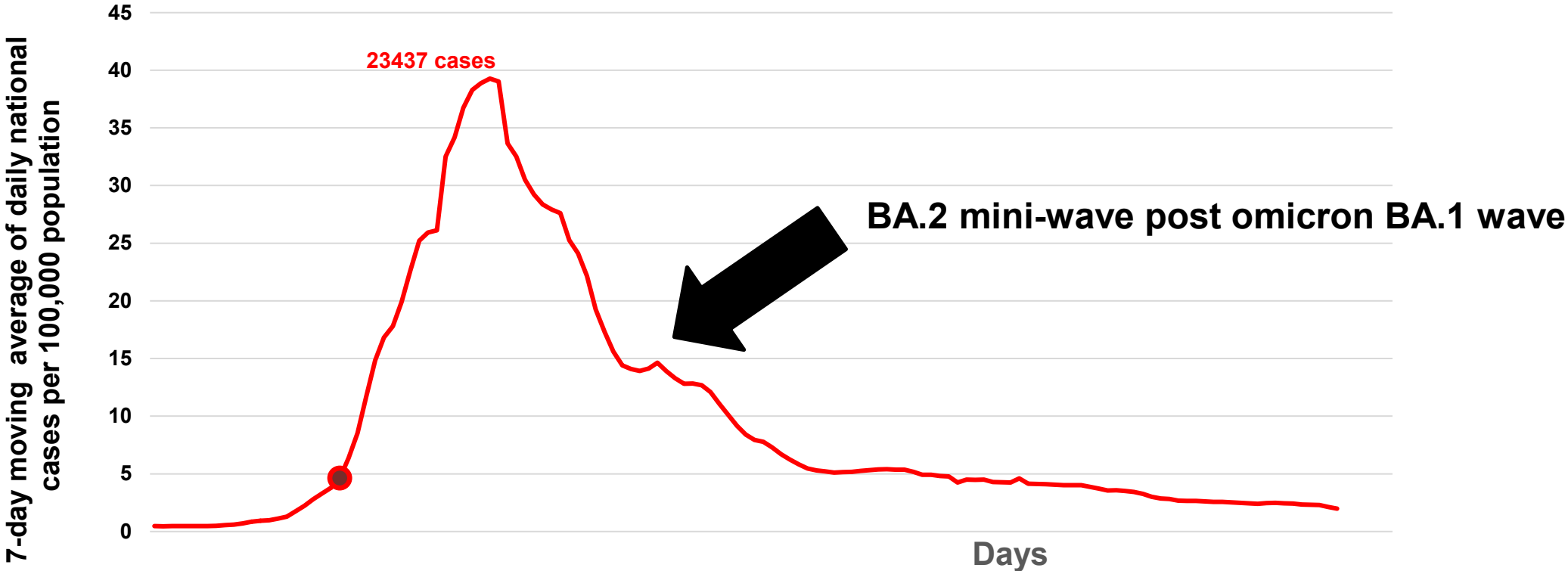
Omicron variant drives 4th wave

up to - 23 March 2022



SARS-Cov-2 cases in South Africa's 4th wave

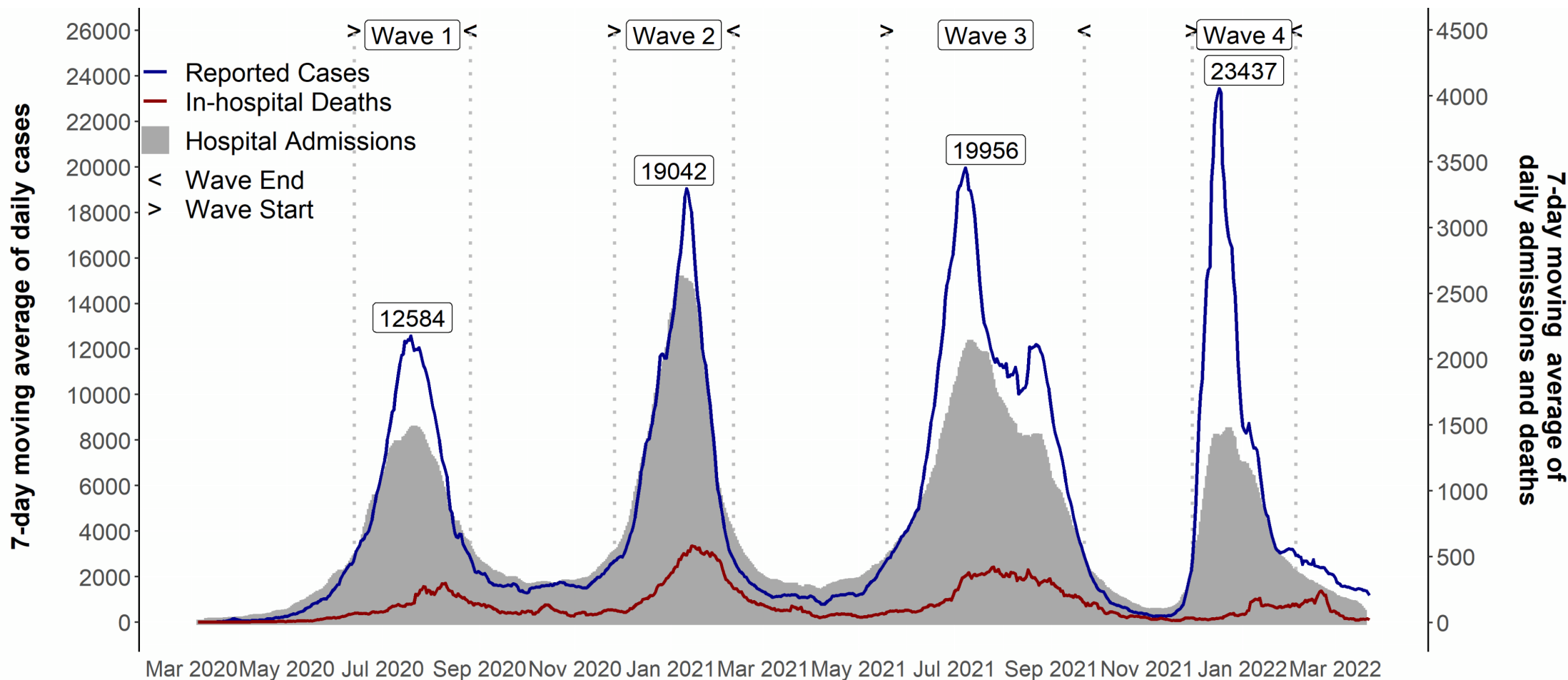
7-day moving average cases per 100,000 population
up to - 23 March 2022



Data source: Department of Health; Analysis: Marothi LETSOALO; Ande MCHUNU

Covid-19 in South Africa

up to – 23 March 2022



Source of hospital admissions data: Lucille Blumberg, Richard Welch and Waasila Jassat – DATCOV, NICD

Estimated effective reproduction rate (R) of Covid-19 in South Africa

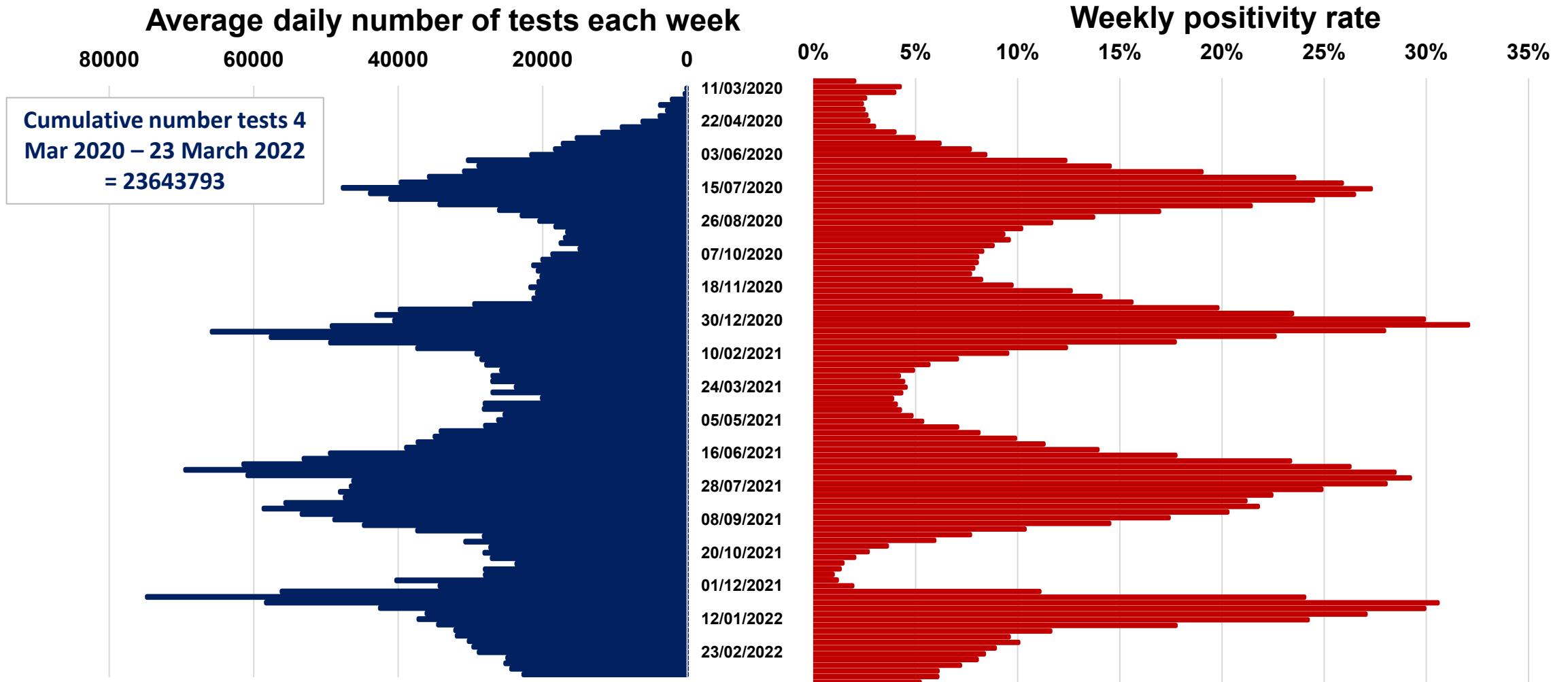
up to - 19 March 2022



Source: Our World in Data; data explorer; Johns Hopkins University [COVID-19 Dashboard](#)

Average daily tests and proportion of positive tests

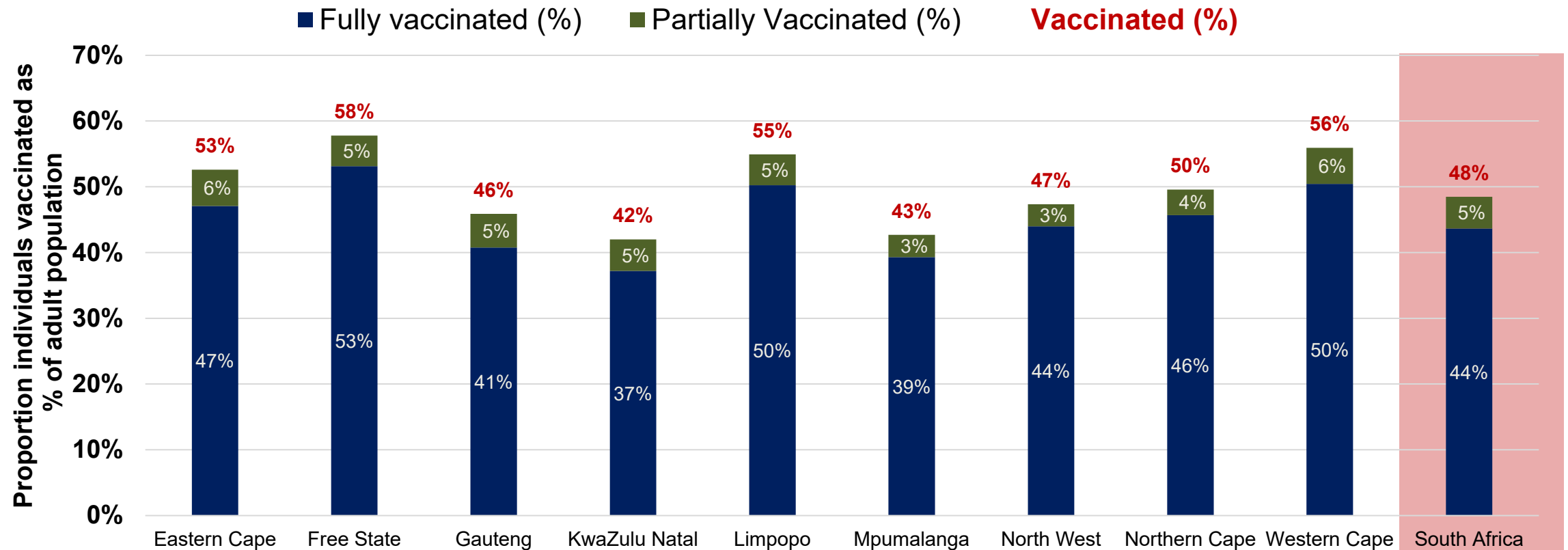
up to - 23 March 2022



Data source: Department of Health

Proportion of individuals vaccinated as % of adult population

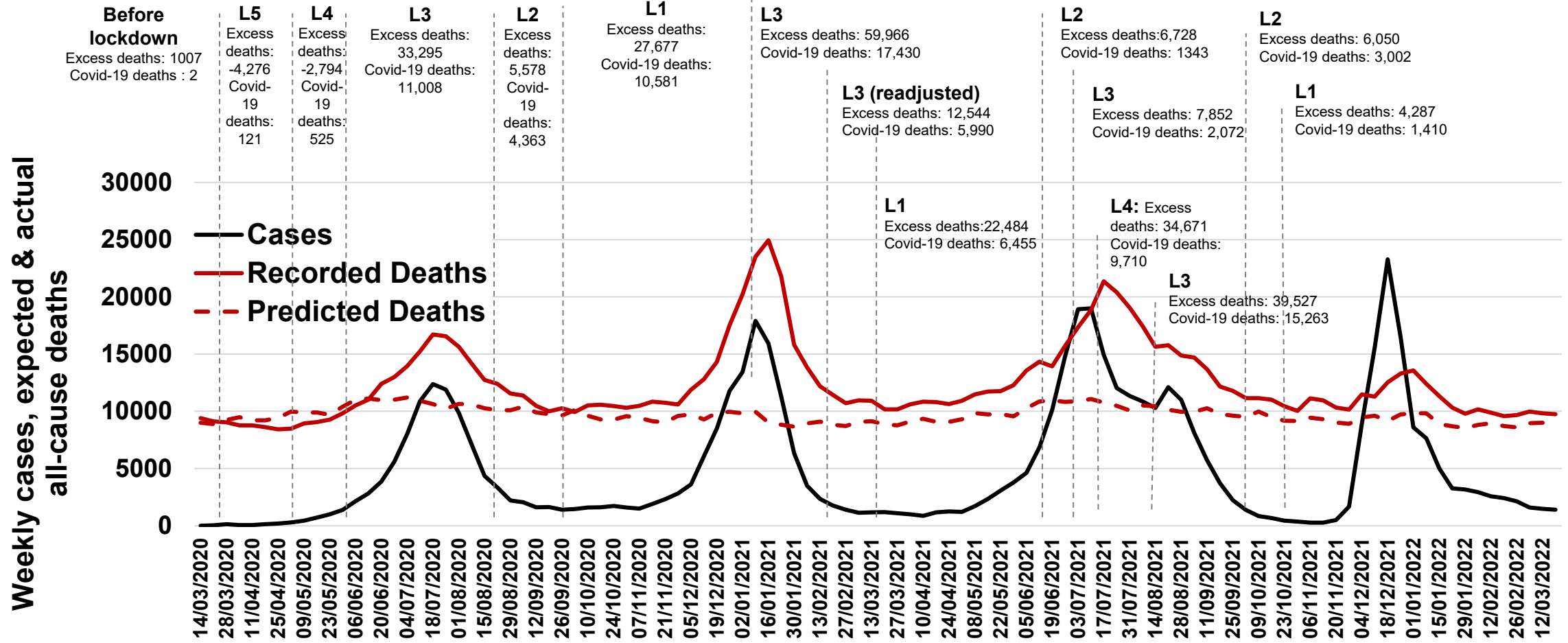
up to – 23 March 2022



Source: Department of Health. <https://sacoronavirus.co.za/latest-vaccine-statistics/>

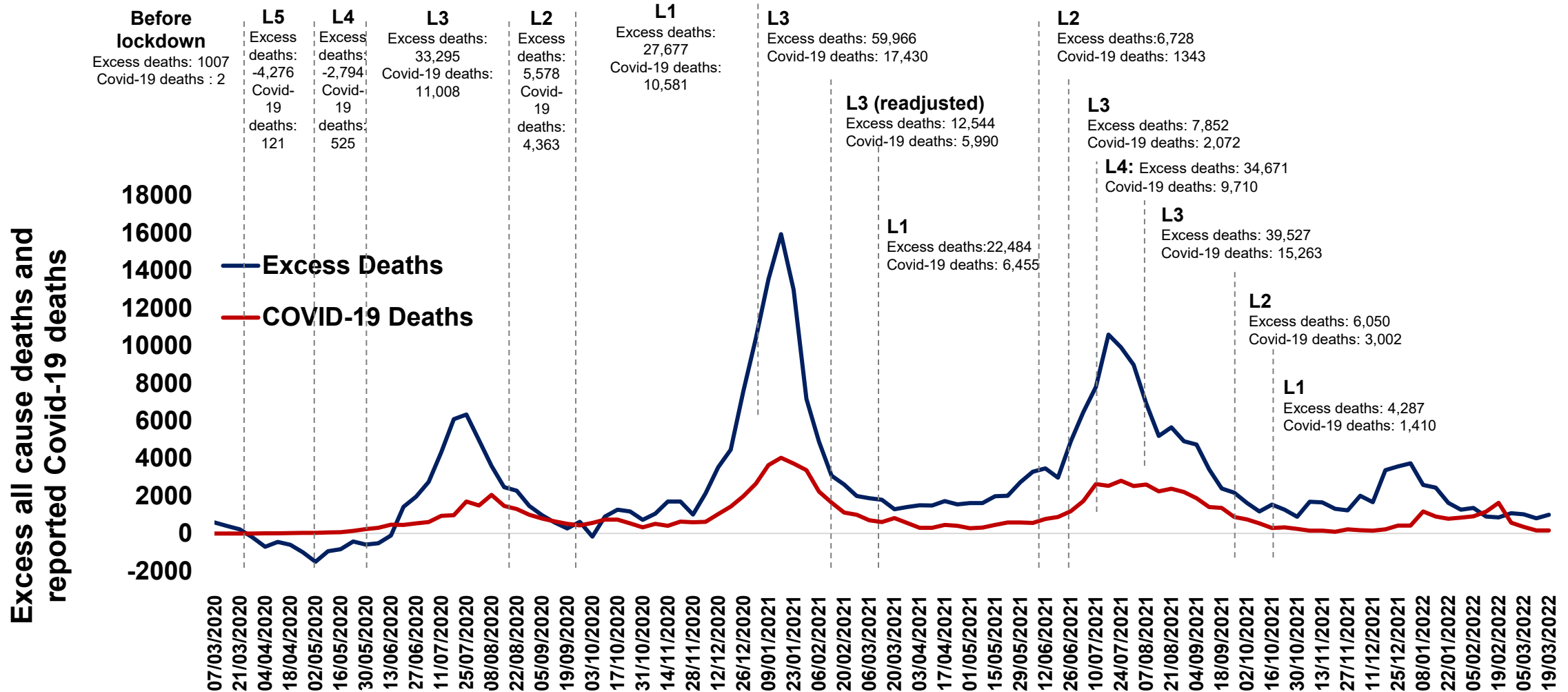
Expected & actual all-cause deaths during Covid-19

up to – 19 March 2022



Weekly excess all cause deaths & reported Covid-19 deaths

up to – 19 March 2022



Source: Bradshaw D, et al



90% of corpses tested positive for COVID-19 during Covid-19 surges in Zambia – an African paradox?

nature Morgue data hint at COVID's true toll
in Africa
[Freda Kreier](#)

Lusaka – bodies in the morgue tested with PCR over 2020 & 2021:

- **Reported Covid-19 deaths: 4,000 vs >80,000 excess deaths**
(Jan 2020 to Dec 2021 in Zambia's 19 million population)
- **Only 10% tested +ve before dying but 32% +ve at post-mortem**
- **Test positivity reached ~90% during Beta and Delta variant surges**

“There is simply no reason that Gambians or Ethiopians would be less vulnerable to Covid than South Africans...Many are not making it to the hospital at all, and their deaths are not registered.

Salim S. Abdool Karim

The New York Times

***Trying to Solve a Covid
Mystery: Africa's Low Death
Rates***

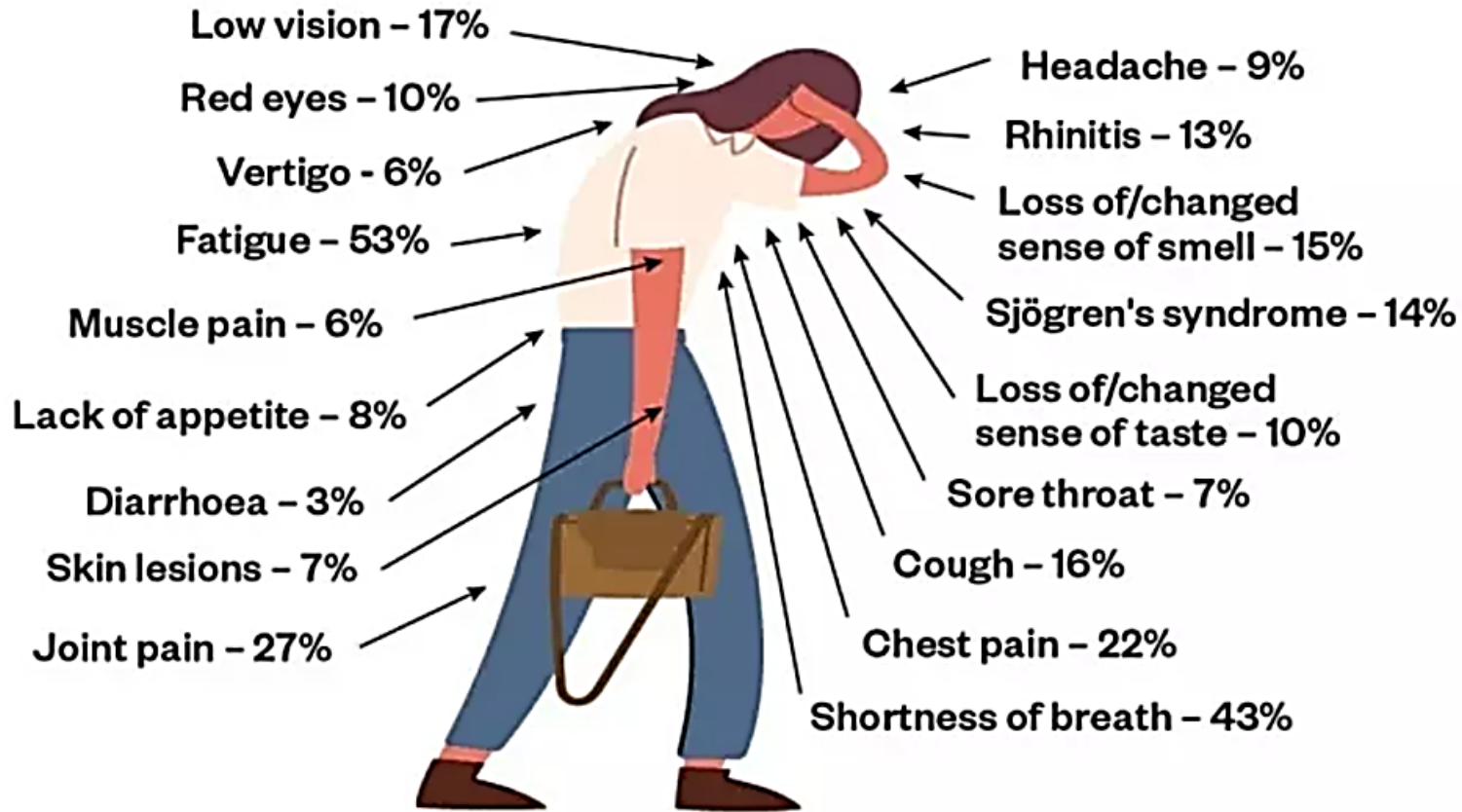
nature The false promise of herd immunity for COVID-19

Why proposals to largely let the virus run its course – embraced by Donald Trump’s administration and others – could bring “untold death and suffering”.

Great Barrington Declaration proposed letting the virus spread to get herd immunity but with focused protection of the vulnerable – as a better alternative to public health restrictions (before vaccines)

- **Error 1:** When $> 70\%$ infected - \uparrow death toll
- **Error 2:** Most elderly live with others and/or have carers – get infected
- **Error 3:** New variants able to break through immunity from past infection
- **Error 4:** Natural antibodies wane quickly – high levels of reinfection
- **Error 5:** Many mildly infected get long Covid, dying not only issue

Long COVID-19: the burden of “brain fog”




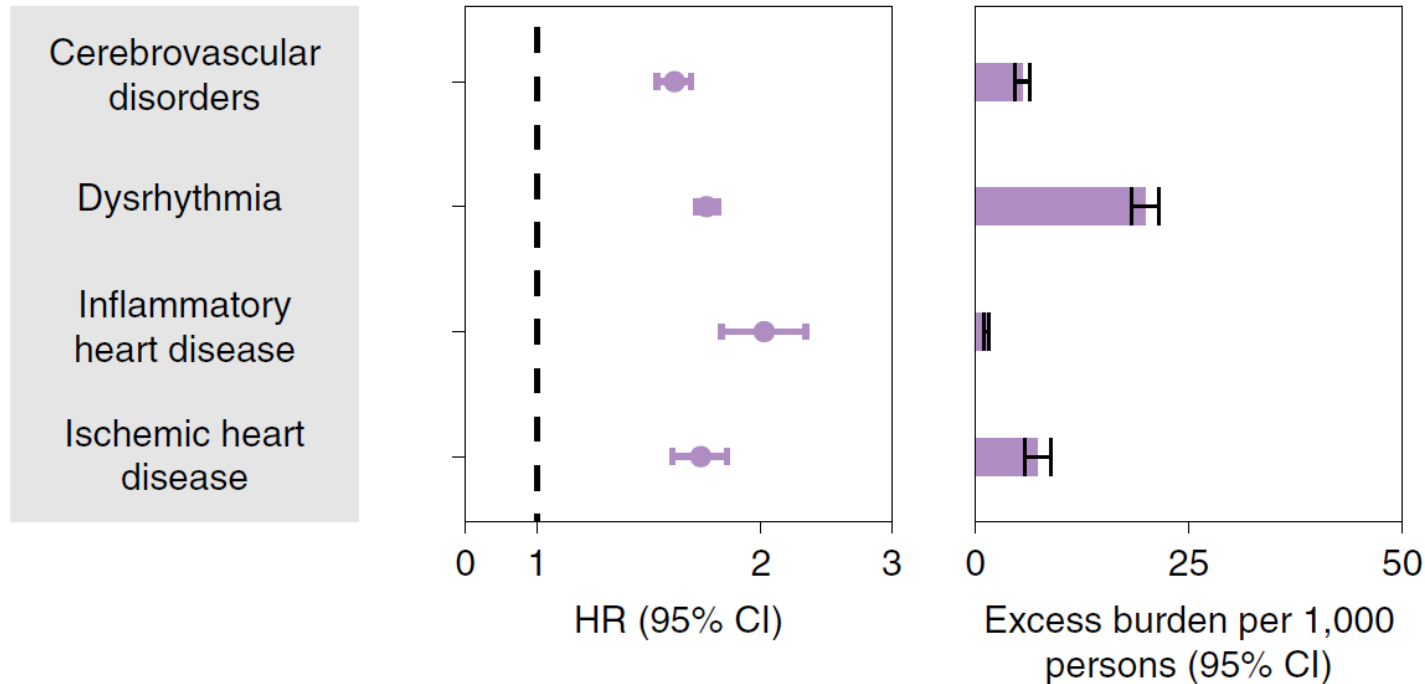
- Study of 3762 people in 56 countries
- Time to recovery >8 mths
- Most frequent symptoms after 6 months:
 - Fatigue
 - Shortness of breath
 - concentration & memory problems

The Covid-19 illness burden long after infection

nature
medicine

Long-term cardiovascular outcomes of COVID-19

Yan Xie ^{1,2,3}, Evan Xu ^{1,4}, Benjamin Bowe^{1,2} and Ziyad Al-Aly ^{1,2,5,6,7} 



- **>50% ↑ risk of heart disease - from stroke to heart attacks & myocarditis 1 year later**
- **↑ risk in asymptomatic, mild & severe Covid-19**
- **↑ risk regardless of cardiac risk factors... (age, weight, etc)**

153,760 Covid-19+ vs 5m current & historical controls

Even Mild COVID-19 May Change the Brain

Jennifer Abbasi

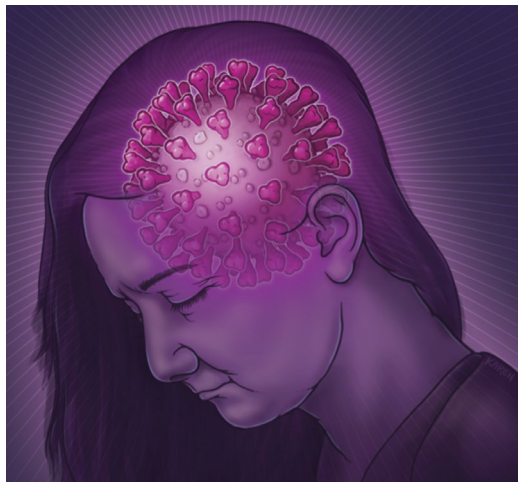
nature

SARS-CoV-2 is associated with changes in brain structure in UK Biobank

[Gwenaëlle Douaud](#) , [Soojin Lee](#), [Fidel Alfaro-Almagro](#), [Christoph Arthofer](#), [Chaoyue Wang](#), [Paul](#)

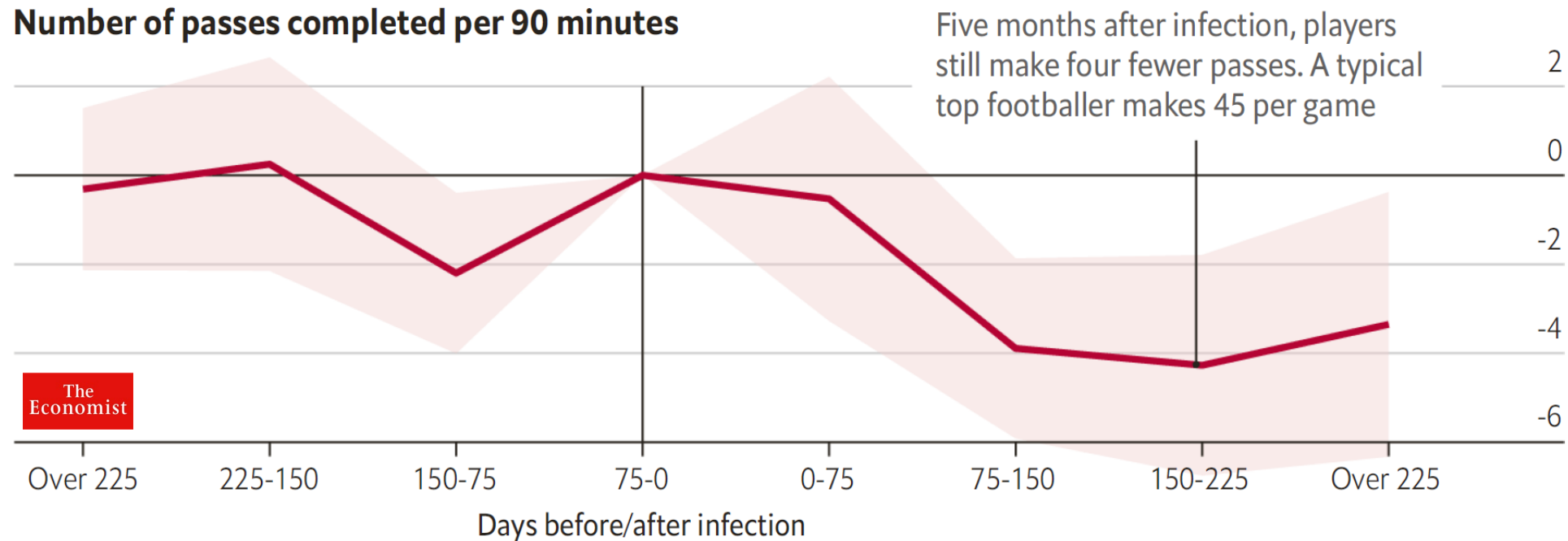
[McCarthy](#), [Frederik Lange](#), [Jesper L. R. Andersson](#), [Ludovica Griffanti](#), [Eugene Duff](#), [Saad Ibabdi](#), [Bernd](#)

- 401+ and 384- UK brain scans from Biobank – 2 images in 5 mths
- Effects of SARS-CoV-2 infection:



- Smaller brain size
- ↓ in grey matter thickness – up to 2% loss
- Less able to complete complex tasks

Covid-19 brain effects – compromises performance



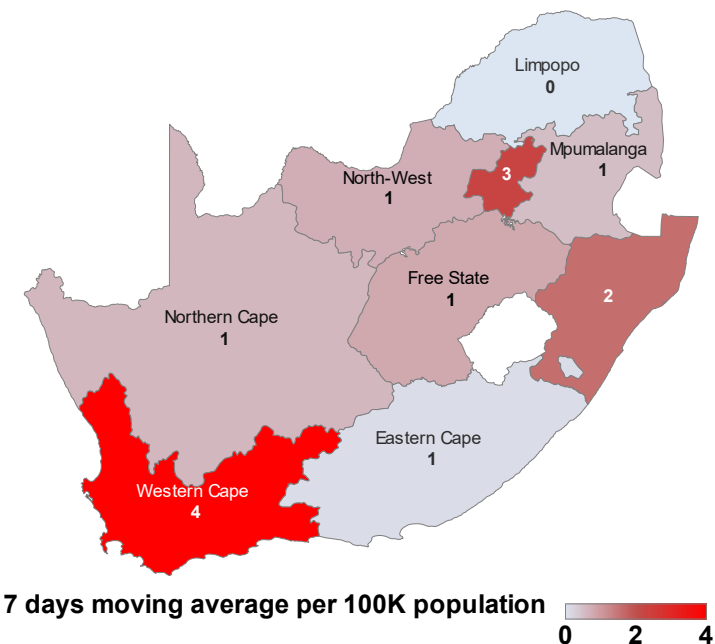
Study in top US football players - effects of Covid-19 linger for long 5 months later, players who had Covid-19 complete 10% less passes

South Africa Provincial SARS-CoV-2 cases in the 4 waves

Daily new cases over last 7 days/100,000

up to - 23 March 2022

Province	Population per 100,000	7 Days Moving Average				Increase / Decrease
		at 7 days back	Per 100K at 7 days back	at a day back	100K at a day back	
Eastern Cape	67	51	1	39	1	-25%
Free State	29	55	2	37	1	-33%
Gauteng	155	526	3	423	3	-20%
KwaZulu Natal	115	258	2	236	2	-9%
Limpopo	59	43	1	26	0	-39%
Mpumalanga	47	72	2	46	1	-37%
North West	41	65	2	49	1	-25%
Northern Cape	13	22	2	14	1	-36%
Western Cape	71	363	5	314	4	-13%
South Africa	597	1456	2	1184	2	-19%
Africa	13410	4338	0	4782	0	10%
World	77952	1800747	23	1650639	21	-8%

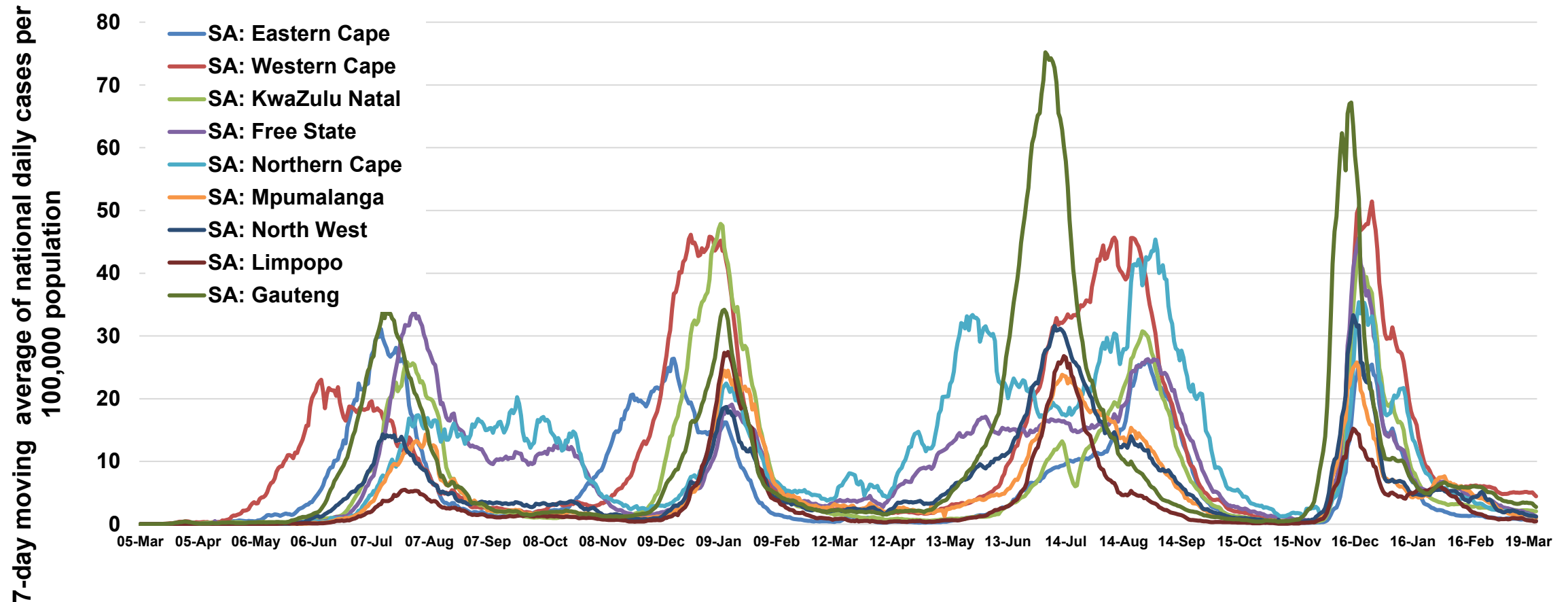


Data source: Department of Health

Confirmed SARS-Cov-2 cases by province

7-day moving average cases per 100,000 population

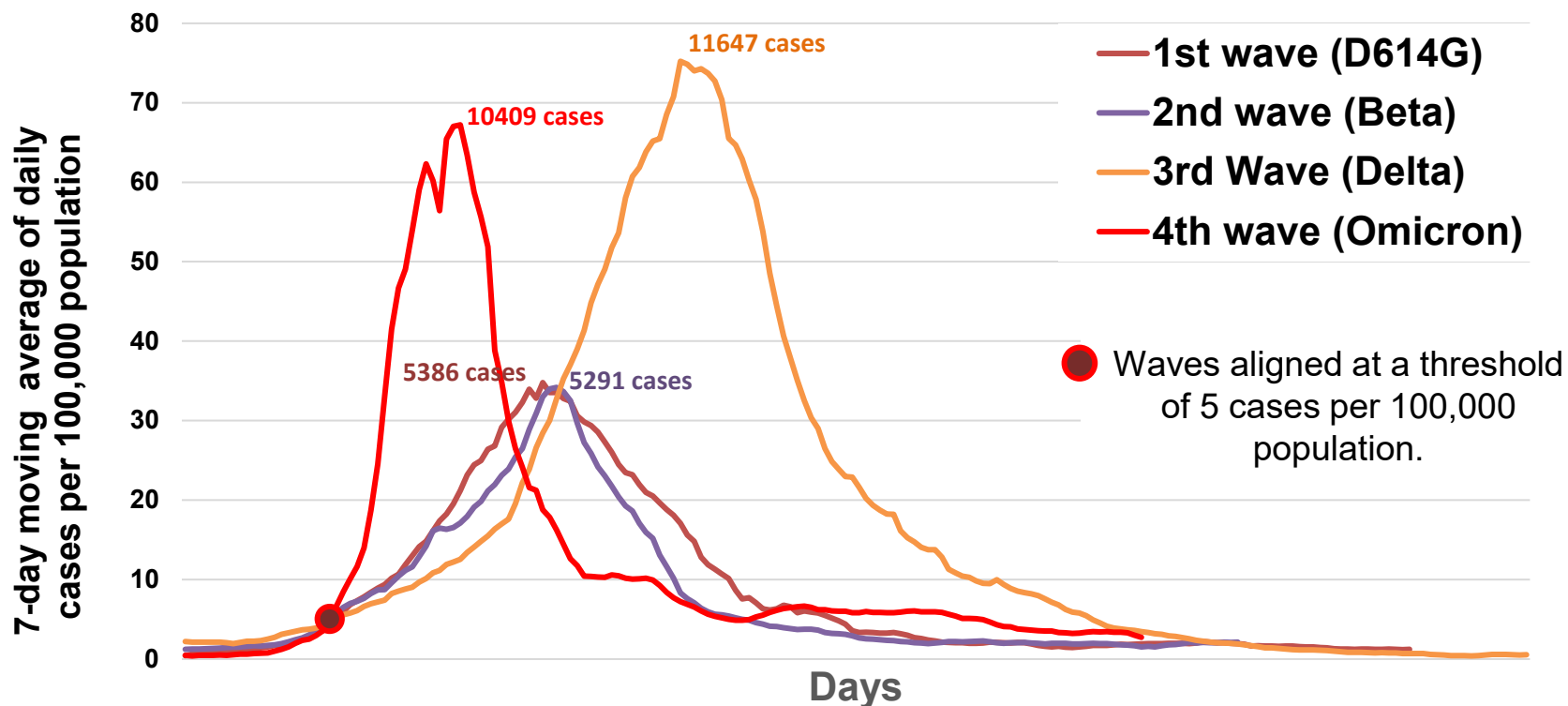
up to - 23 March 2022



Data source: Department of Health; Analysis

SARS-Cov-2 cases in 1st, 2nd & 3rd and 4th waves: Gauteng

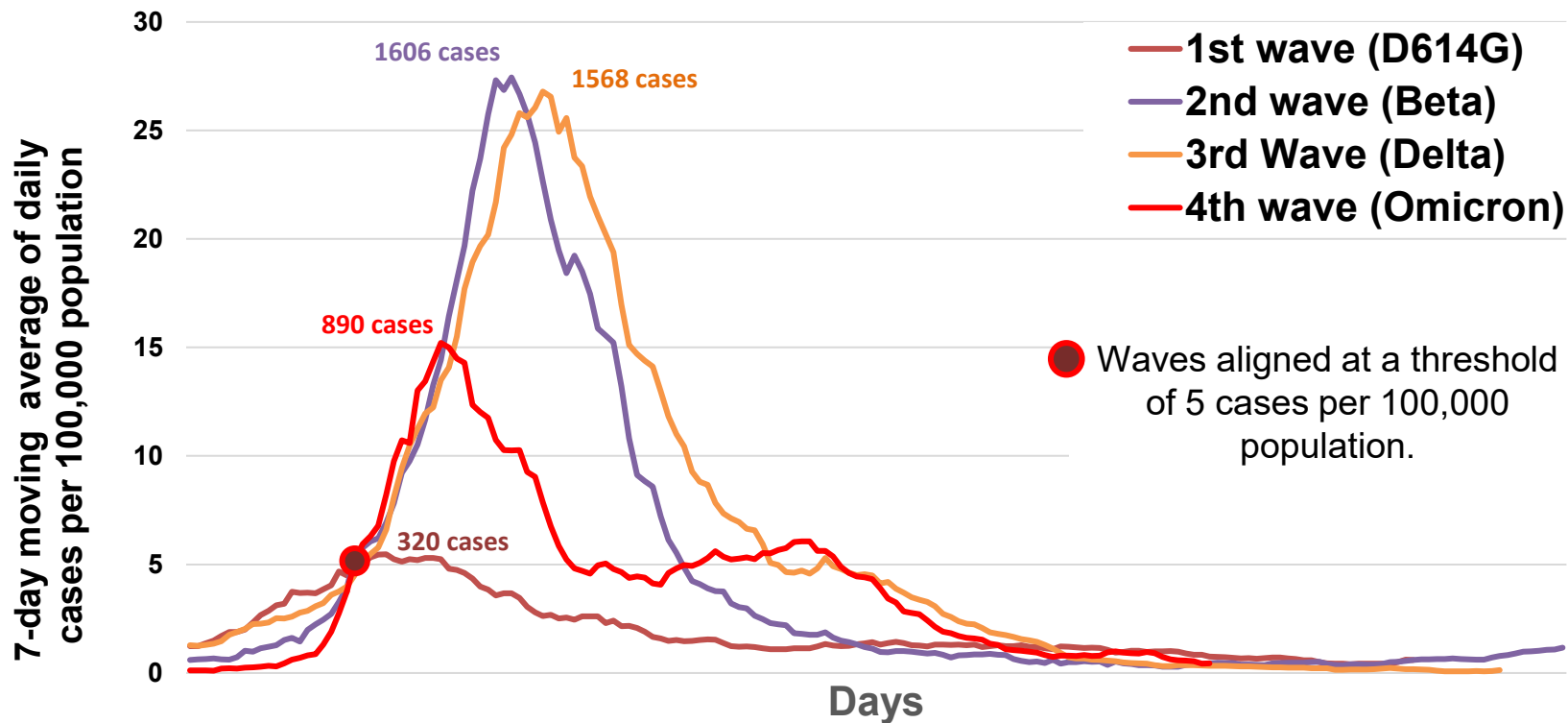
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Data source: Department of Health; Analysis: Marothi Letsoalo; Ande Mchunu

SARS-Cov-2 cases in 1st, 2nd & 3rd and 4th waves: Limpopo

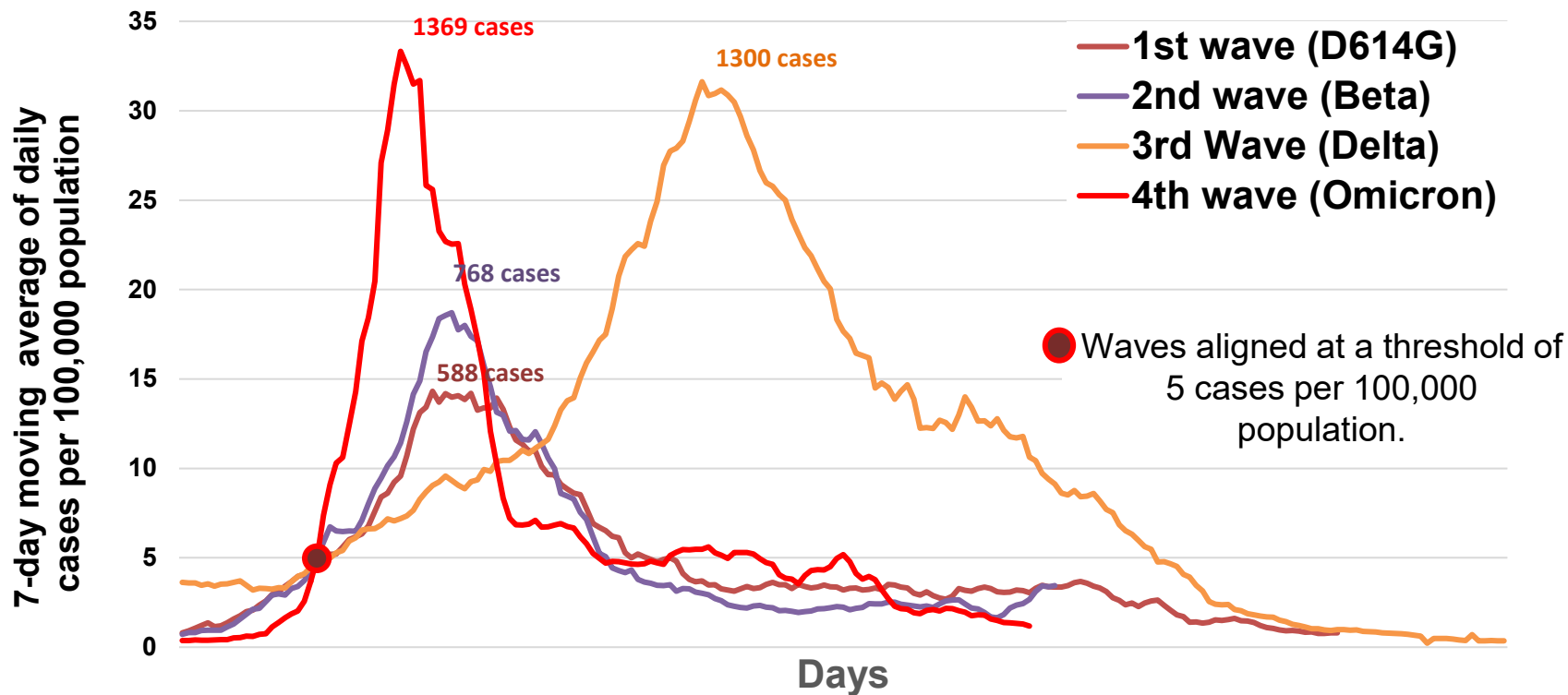
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Data source: Department of Health; Analysis: Marothi Letsoalo; Ande Mchunu

SARS-Cov-2 cases in 1st, 2nd & 3rd and 4th waves: North West

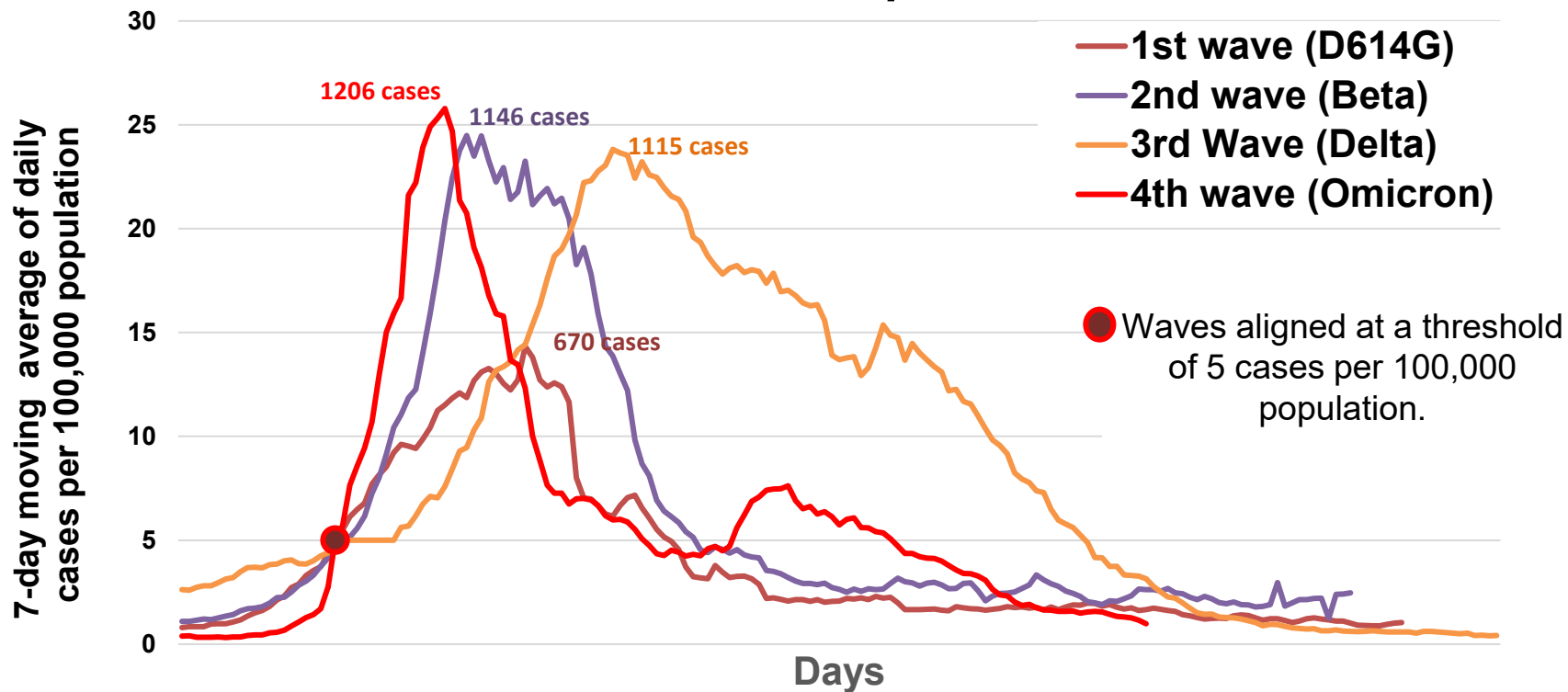
7-day moving average cases per 100,000 population
up to - 23 March 2022



Data source: Department of Health; Analysis: Marothi Letsoalo; Ande Mchunu

SARS-Cov-2 cases in 1st, 2nd & 3rd and 4th waves: Mpumalanga

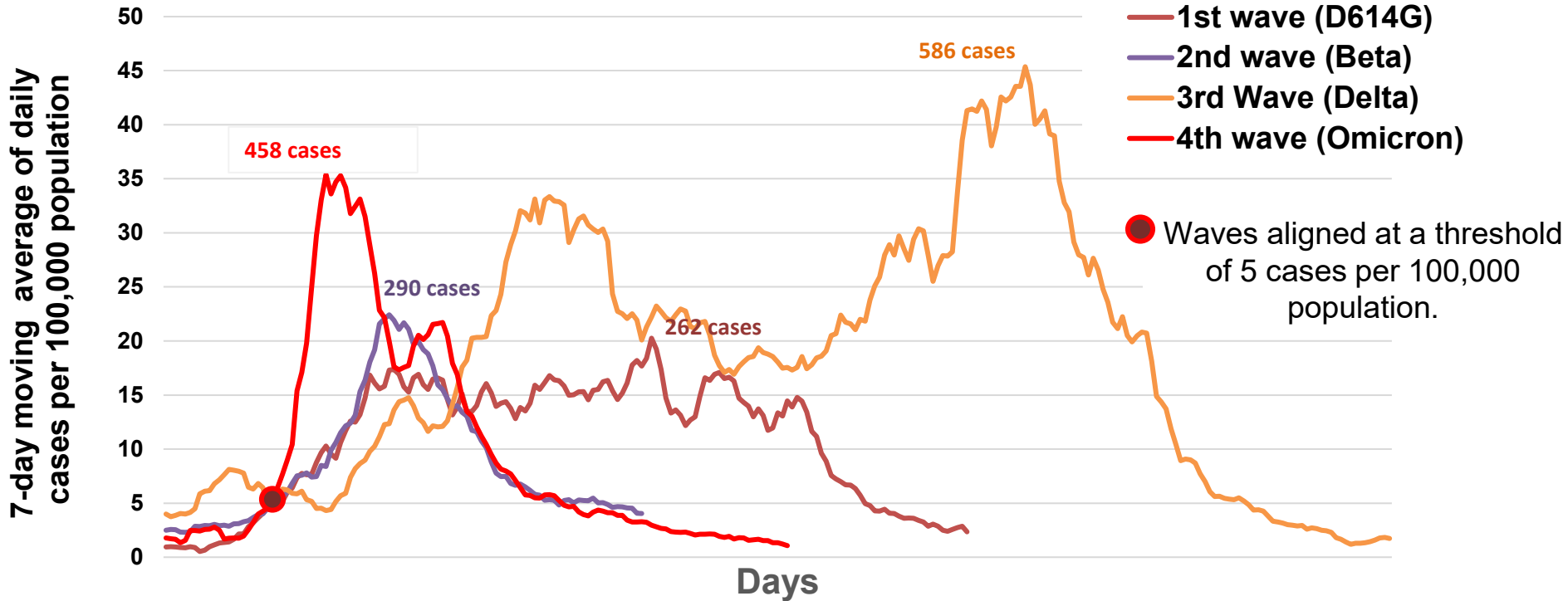
7-day moving average cases per 100,000 population
up to - 23 March 2022



Data source: Department of Health; Analysis: Marothi Letsoalo; Ande Mchunu

SARS-Cov-2 cases in 1st, 2nd & 3rd and 4th waves: Northern Cape

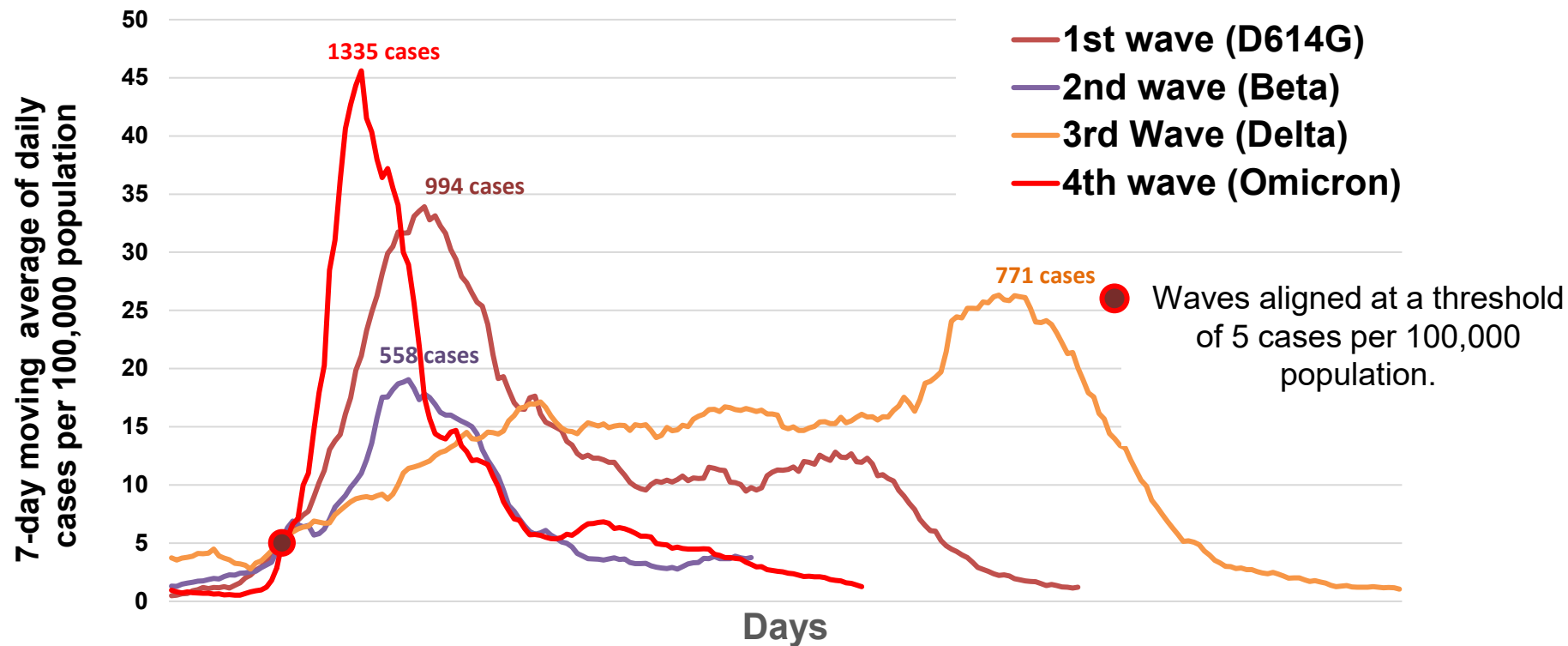
7-day moving average cases per 100,000 population up to – 23 March 2022



Data source: Department of Health; Analysis: Marothi Letsoalo; Ande Mchunu

SARS-Cov-2 cases in 1st, 2nd & 3rd and 4th waves: Free State

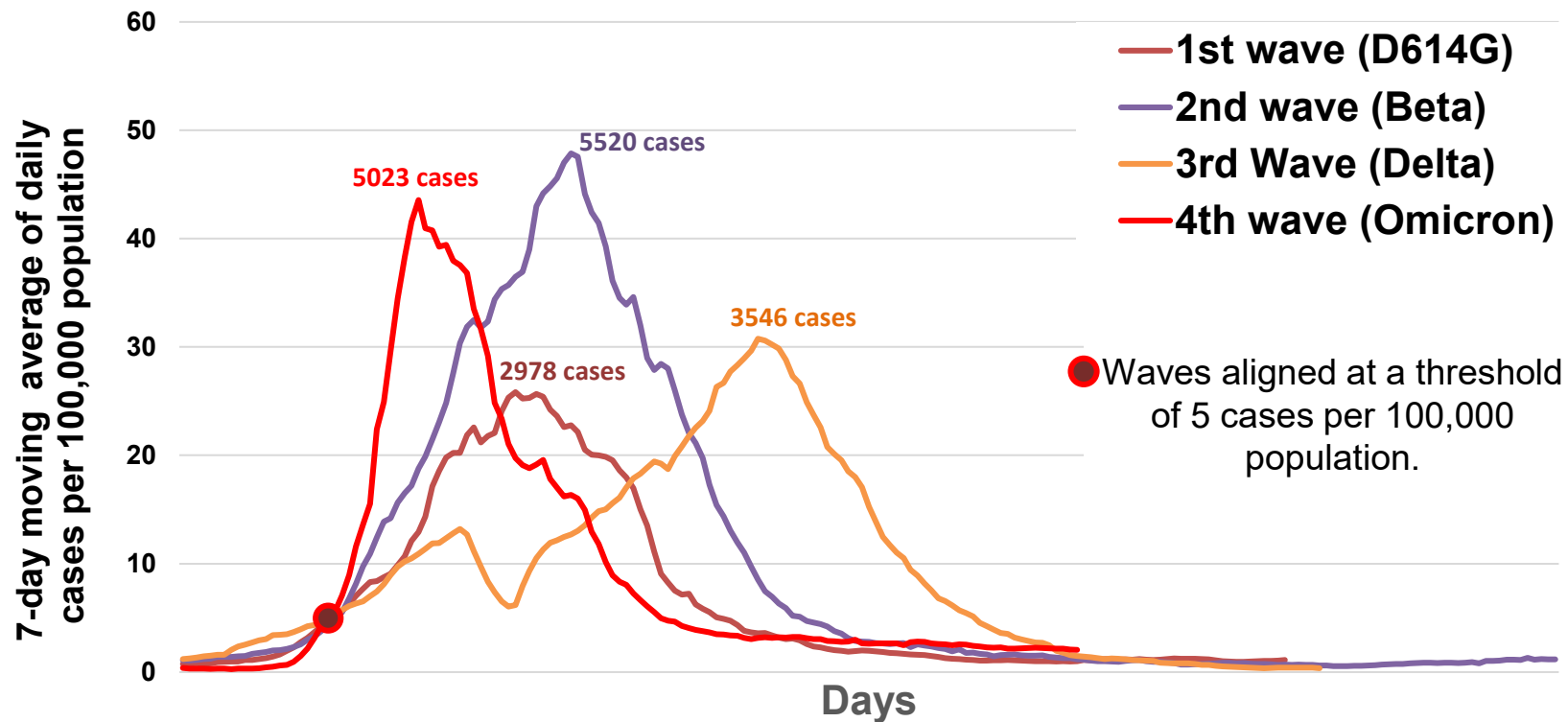
7-day moving average cases per 100,000 population up to - 23 March 2022



Data source: Department of Health; Analysis: Marothi Letsoalo; Ande Mchunu

SARS-Cov-2 cases in 1st, 2nd & 3rd and 4th waves: KwaZulu Natal

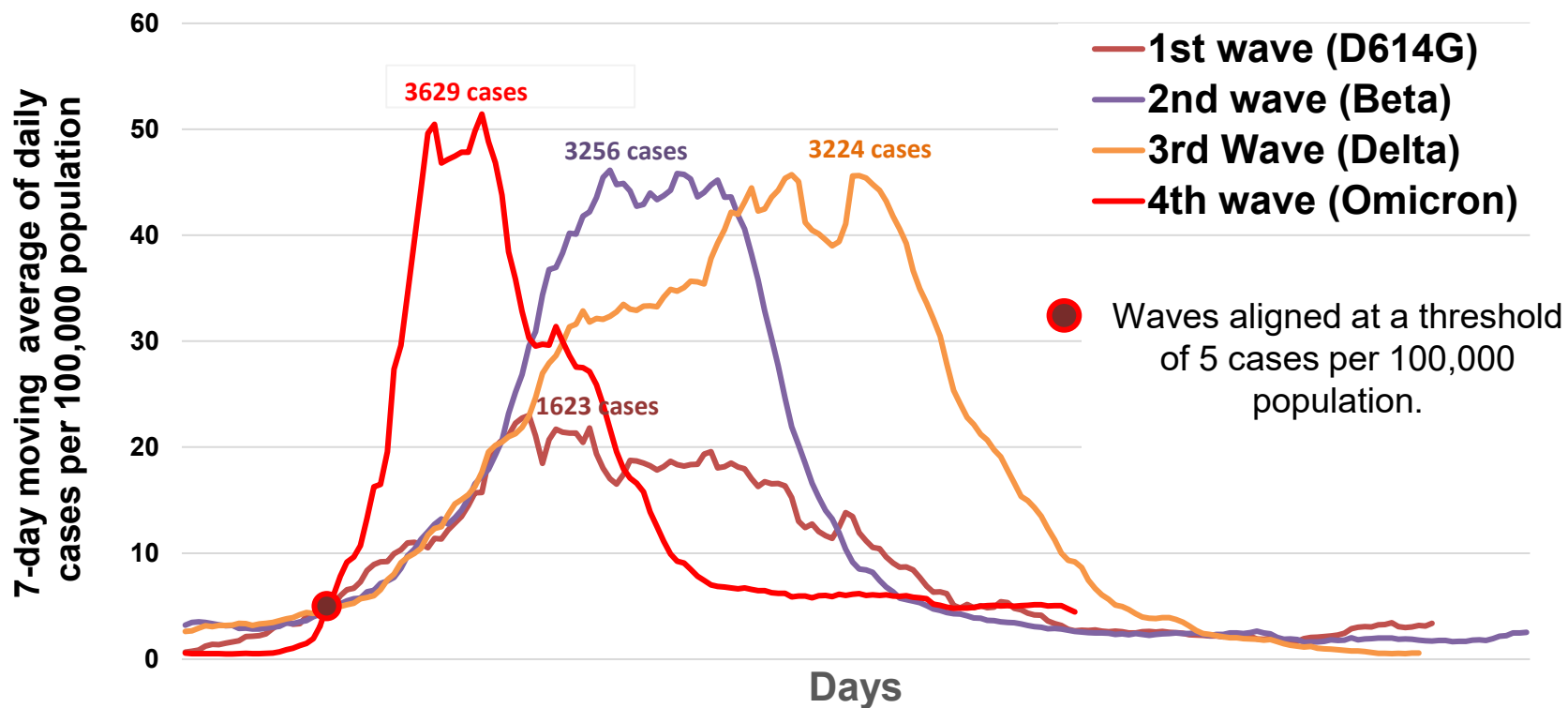
7-day moving average cases per 100,000 population
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Data source: Department of Health; Analysis: Marothi Letsoalo; Ande Mchunu

SARS-Cov-2 cases in 1st, 2nd & 3rd and 4th waves: Western Cape

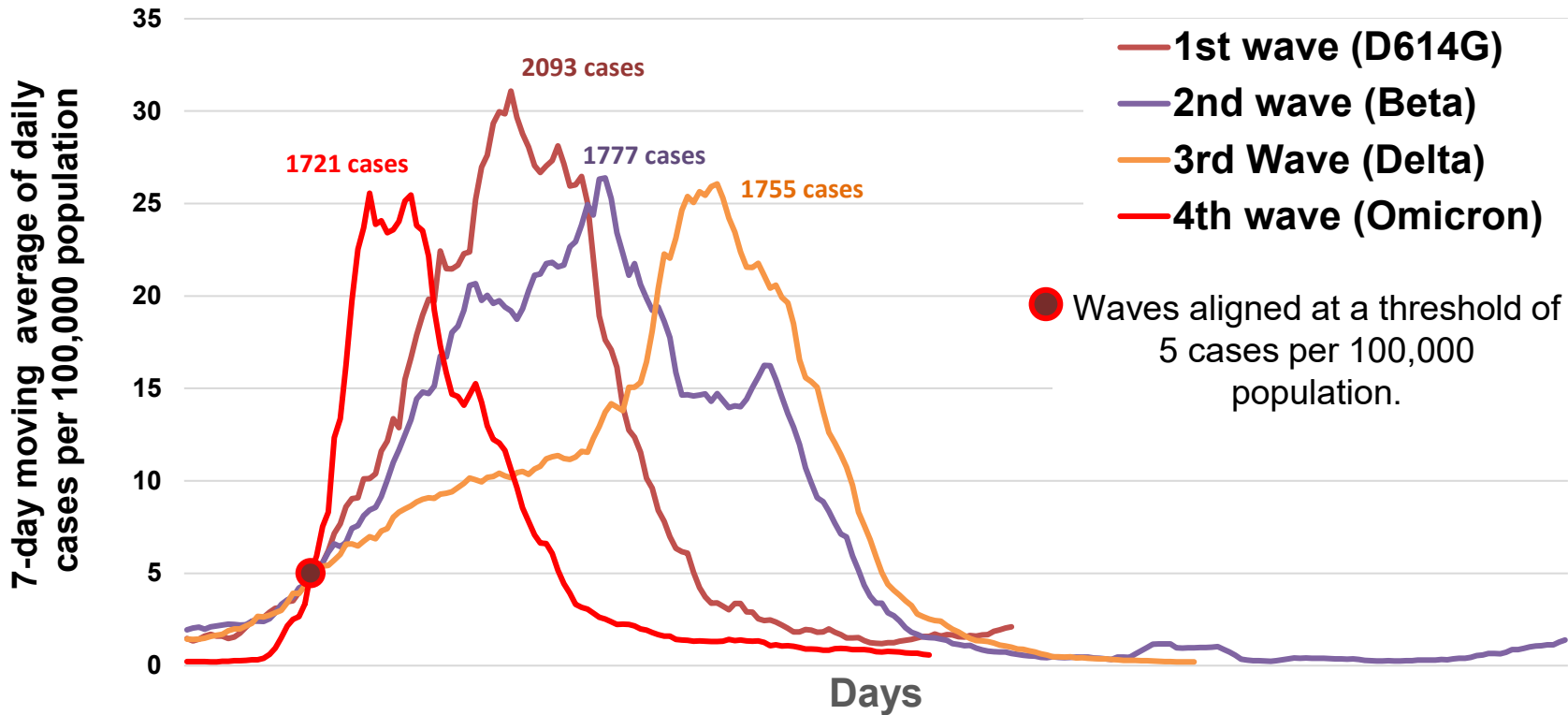
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SARS-Cov-2 cases in 1st, 2nd & 3rd and 4th waves: Eastern Cape

7-day moving average cases per 100,000 population
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