



COVID-19 Weekly Testing Summary

Week 1 of 2023

This report summarises national laboratory PCR testing for SARS-CoV-2, the virus causing COVID-19, in South Africa. This report is based on data for specimens reported up to 6 January 2023 (week 1 of 2023).

Highlights:

- In the period 1 March 2020 through 6 January 2023, 21,424,303 PCR tests for SARS-CoV-2 have been reported nationally. The number of PCR tests reported in week 1 of 2023 (n=7,280) was 7.2% higher than the number of PCR tests reported in the previous week (n= 6,755 in week 52 of 2022).
- In week 1, the PCR testing rate was 12 per 100,000 persons. The overall PCR testing rate increased slightly from the previous week (11 per 100,000 persons in week 52 of 2022).
- The PCR testing rate in week 1 was highest in the Western Cape (18 per 100,000 persons), followed by Gauteng (17 per 100,000 persons) and lowest in Limpopo (1 per 100,000 persons).
- In week 1 the percentage testing positive was 8.6%, which did not change significantly from the previous week (9.0% in week 52, $p \geq 0.05$).
- The percentage testing positive in week 1 was highest in the Eastern Cape (11.5%), followed by the Western Cape (11.1%). The percentage testing positive was <10.0% in all other provinces.
- In week 1, compared to the previous week, the percentage testing positive did not change significantly in any of the provinces ($p \geq 0.05$).
- The percentage testing positive in week 1 was highest in the ≥ 80 years' age group (22.8%), followed by the 75-79 years' (20.0%) age group.

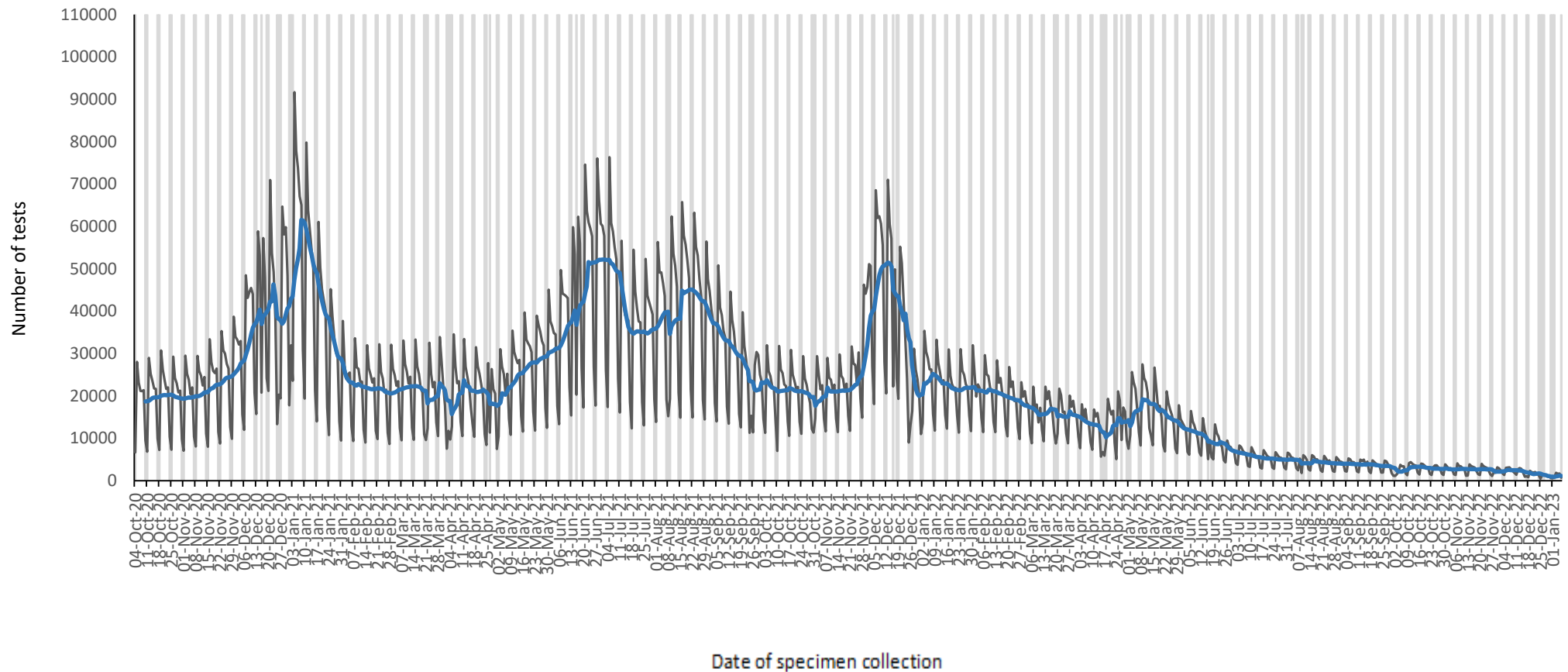


Figure 1. Number of SARS-CoV-2 PCR tests reported by date of specimen collection, South Africa, 4 October 2020 – 6 January 2023. Blue line shows the 7-day moving average of the number of PCR tests reported. Grey bars highlight weekend days and public holiday



Table 1. Weekly number of SARS-CoV-2 PCR tests and positive tests reported, South Africa, 5 June 2022– 6 January 2023

Week number	Week beginning	No. of PCR tests n (%)	No. of positive PCR tests	Percentage positive (%)	testing
23	05-Jun-22	77910 (0.4)	7498	9.6	
24	12-Jun-22	63279 (0.3)	4488	7.1	
25	19-Jun-22	61551 (0.3)	3358	5.5	
26	26-Jun-22	47987 (0.2)	2166	4.5	
27	03-Jul-22	43163 (0.2)	2017	4.7	
28	10-Jul-22	38538 (0.2)	1882	4.9	
29	17-Jul-22	36468 (0.2)	1678	4.6	
30	24-Jul-22	34807 (0.2)	1574	4.5	
31	31-Jul-22	34400 (0.2)	1369	4.0	
32	07-Aug-22	28662 (0.1)	1177	4.1	
33	14-Aug-22	30924 (0.1)	1256	4.1	
34	21-Aug-22	28855 (0.1)	1200	4.2	
35	28-Aug-22	28154 (0.1)	1150	4.1	
36	04-Sep-22	27329 (0.1)	1268	4.6	
37	11-Sep-22	27062 (0.1)	1354	5.0	
38	12-Sep-22	24294 (0.1)	1331	5.5	
39	25-Sep-22	21369 (0.1)	1423	6.7	
40	02-Oct-22	17164 (0.1)	1318	7.7	
41	09-Oct-22	22955 (0.1)	2243	9.8	
42	16-Oct-22	20898 (0.1)	2135	10.2	
43	23-Oct-22	19535 (0.1)	1956	10.0	
44	30-Oct-22	18648 (0.1)	2174	11.7	
45	06-Nov-22	19260 (0.1)	2512	13.0	
46	13-Nov-22	18731 (0.1)	2336	12.5	
47	20-Nov-22	18944 (0.1)	2256	11.9	
48	27-Nov-22	15218 (0.1)	1495	9.8	
49	04-Dec-22	17371 (0.1)	1640	9.4	
50	11-Dec-22	13795 (0.1)	1087	7.9	
51	18-Dec-22	11914 (0.1)	902	7.6	
52	25-Dec-22	6755 (0.0)	608	9.0	
1	01-Jan-23	7280 (0.0)	626	8.6	



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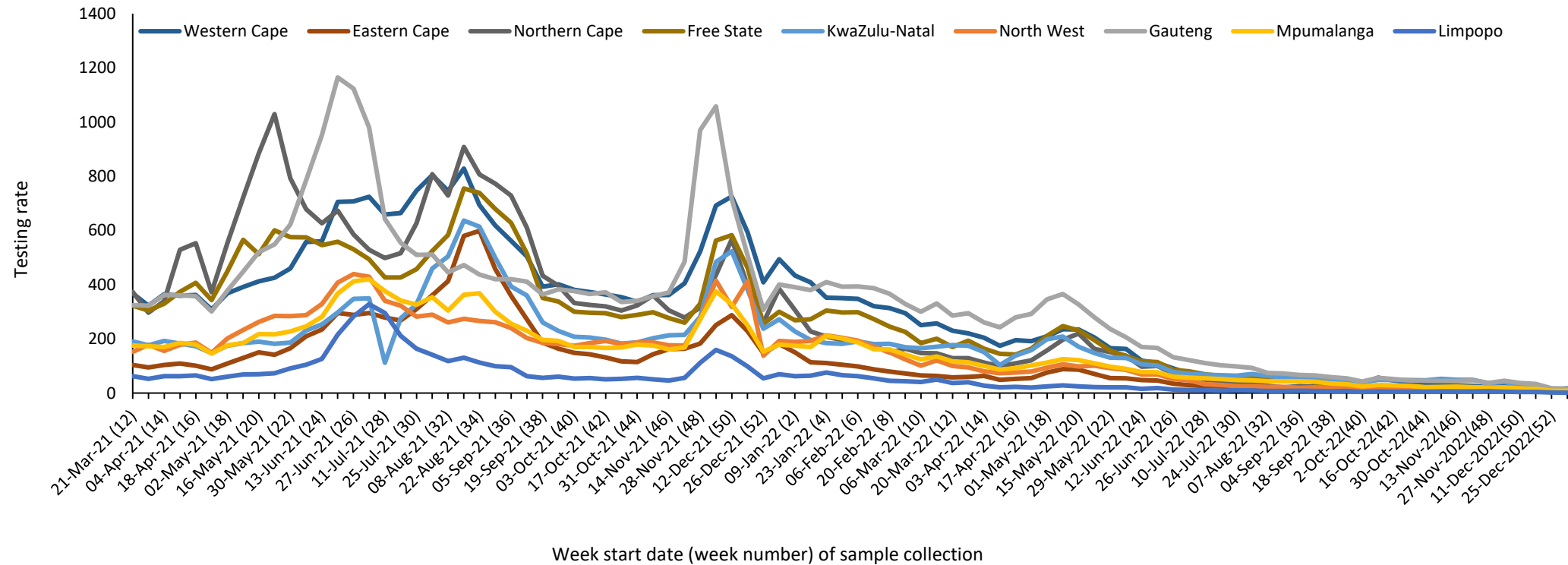


Figure 2. PCR testing rate per 100,000 persons by province and week of specimen collection, South Africa, 21 March 2021 – 6 January 2023

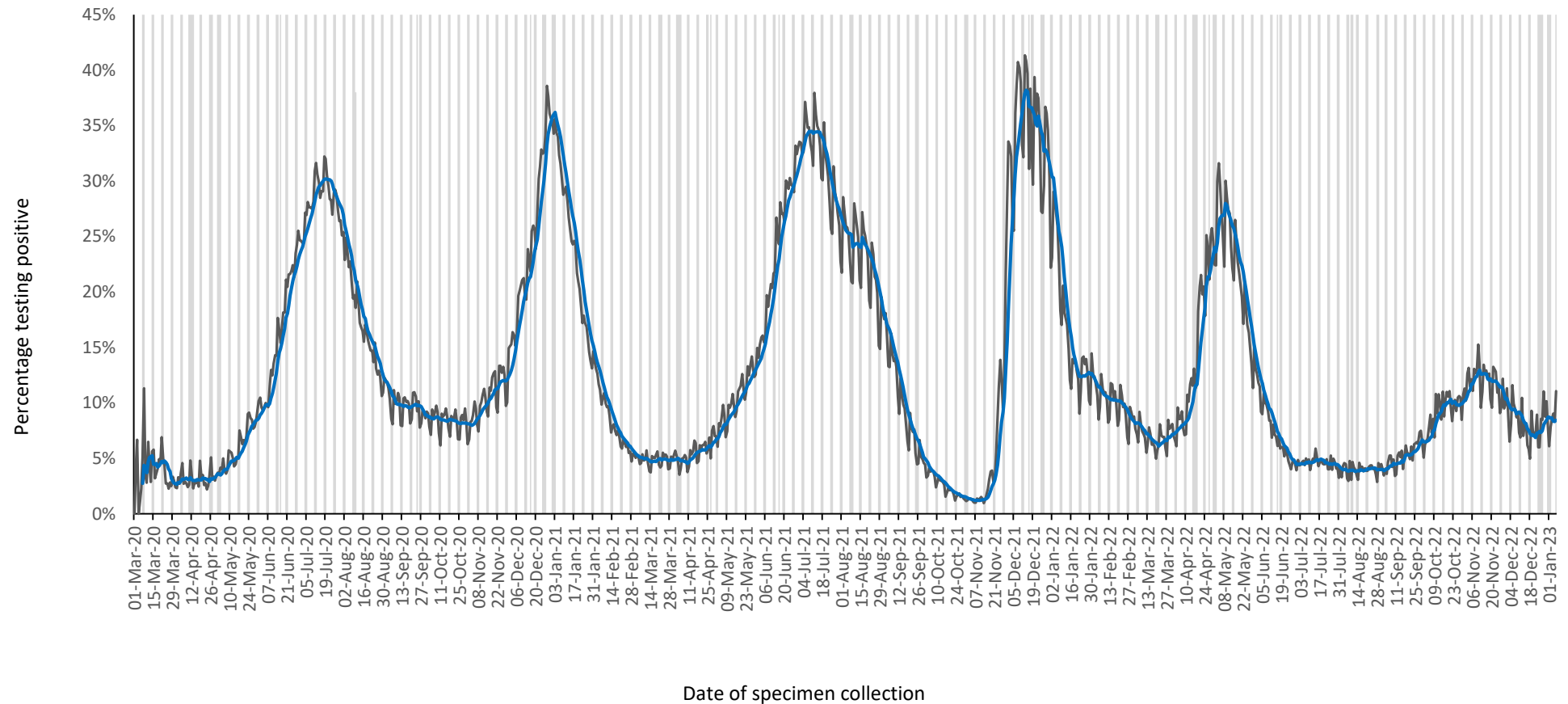


Figure 3. Percentage of PCR tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 1 March 2020 – 6 January 2023. Blue line shows the 7-day moving average of the percentage testing positive. Grey bars highlight weekend days and public holidays.

Table 2. Weekly number of PCR tests and positive tests reported by province, South Africa, 18 December 2022 – 6 January 2023

Province	Population ^a	18 - 24 Dec 2022		25 - 31 Dec 2022		1 - 6 Jan 2022		Testing rate per 100,000	Change in percentage positive from previous week ^b
		No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)		
Western Cape	7113776	1418	162 (11.4)	823	99 (12.0)	1264	140 (11.1)	18	-1.0%
Eastern Cape	6676590	607	47 (7.7)	381	42 (11.0)	547	63 (11.5)	8	0.5%
Northern Cape	1303047	112	10 (8.9)	85	7 (8.2)	88	7 (8.0)	7	-0.3%
Free State	2932441	306	31 (10.1)	227	18 (7.9)	151	9 (6.0)	5	-2.0%
KwaZulu-Natal	11513575	2897	268 (9.3)	1825	201 (11.0)	1869	179 (9.6)	16	-1.4%
North West	4122854	289	14 (4.8)	134	7 (5.2)	174	15 (8.6)	4	3.4%
Gauteng	15810388	5272	305 (5.8)	2739	197 (7.2)	2678	179 (6.7)	17	-0.5%
Mpumalanga	4743584	763	50 (6.6)	396	33 (8.3)	425	27 (6.4)	9	-2.0%
Limpopo	5926724	248	15 (6.0)	142	4 (2.8)	84	7 (8.3)	1	5.5%
Unknown		2	0 (0.0)	3	0 (0.0)	0	0 (0.0)		
Total	60142978	11914	902 (7.6)	6755	608 (9.0)	7280	626 (8.6)	12	-0.4%

^a 2022 Mid-year population Statistics SA

^b Current week compared to previous week

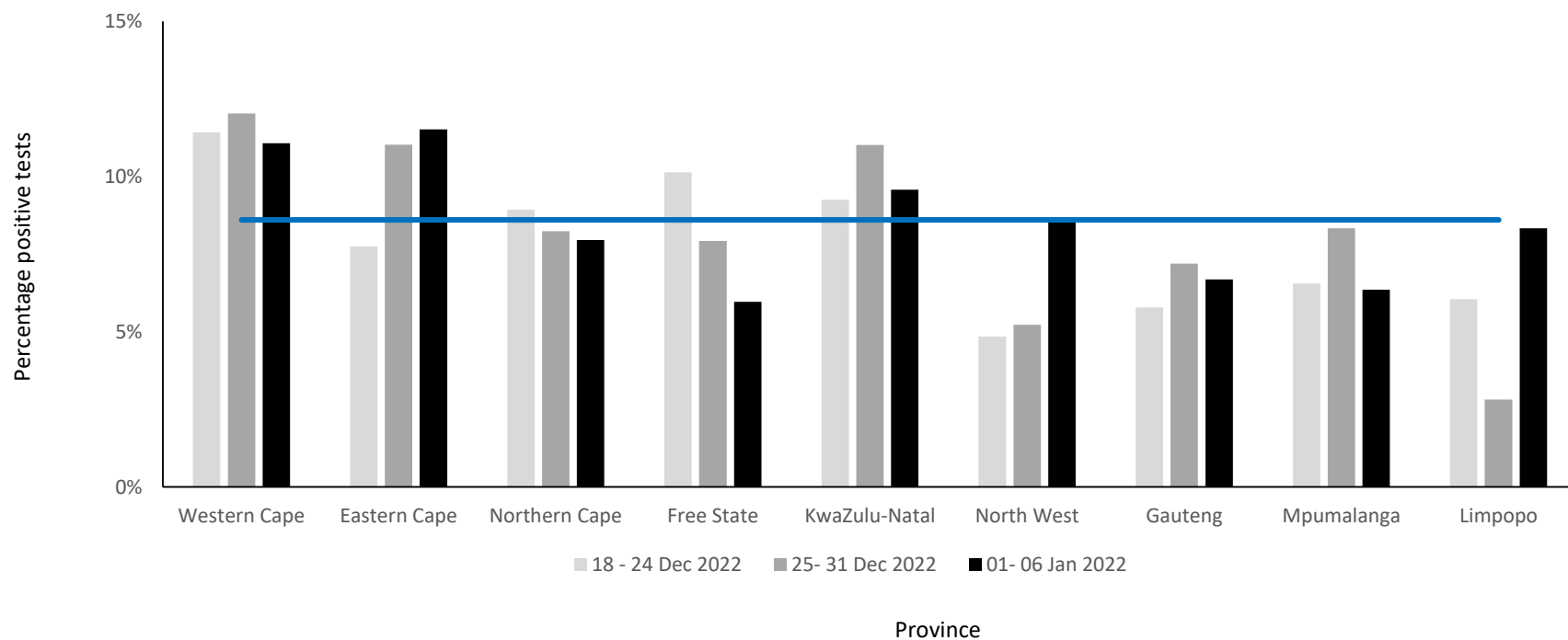


Figure 4. Weekly percentage testing positive (PCR tests only) by province, South Africa, 18 December 2022 – 6 January 2023. The horizontal blue line shows the national mean for week 1, beginning 1 January 2023

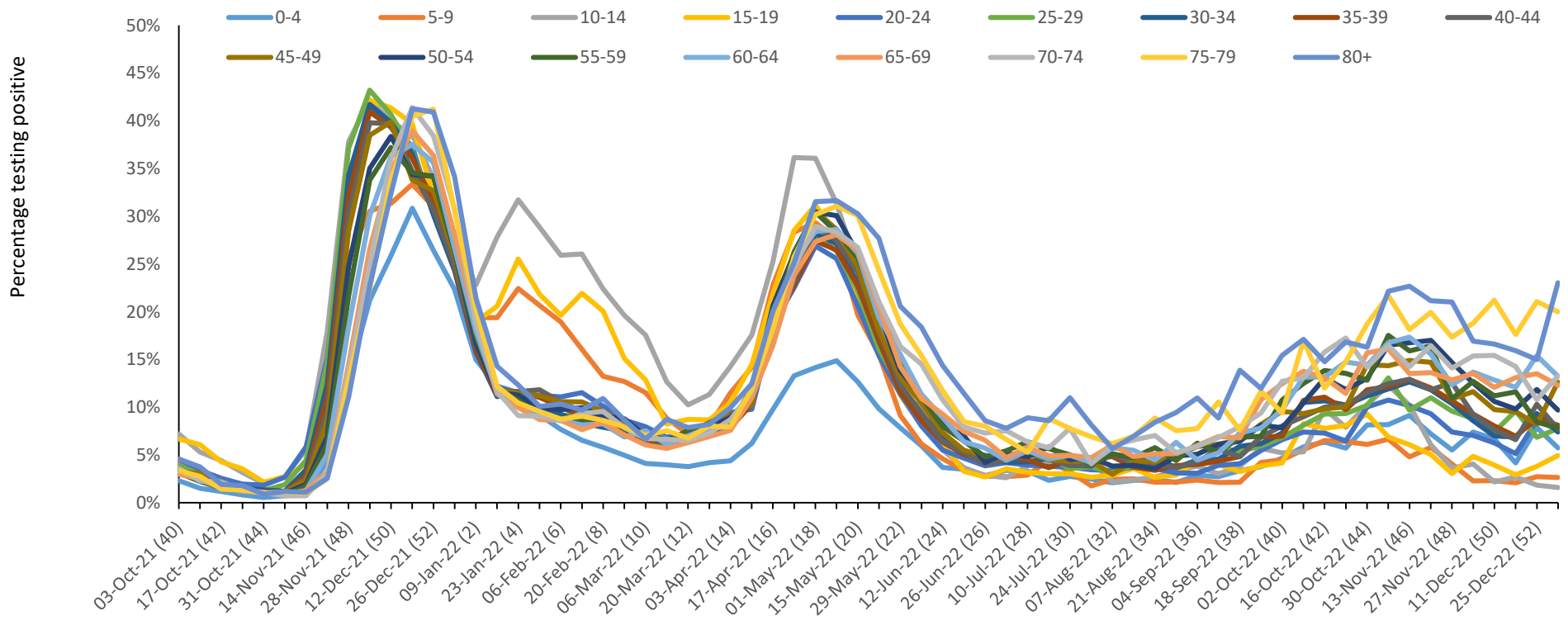


Figure 5. Percentage testing positive (PCR tests only) by age group and week of specimen collection, South Africa, 3 October 2021 – 6 January 2023

Methods

Testing for SARS-CoV-2 began on 28 January 2020 at the NICD and after the first case was confirmed on 5th March 2020, testing was expanded to a larger network of private and NHLS laboratories. Laboratory testing was conducted for people meeting the case definition for persons under investigation (PUI). This definition was updated several times over the reporting period but at different times included (i) symptomatic individuals seeking testing, (ii) hospitalised individuals for whom testing was done, (iii) individuals in high-risk occupations, (iv) individuals in outbreak settings, and (v) individuals identified through community screening and testing (CST) programmes which were implemented in April 2020 and was discontinued from the week beginning 17th May. CST was implemented differently in different provinces, and ranged from mass screening approaches (including asymptomatic individuals) to screening of individuals in contact with a confirmed case to targeted testing of clusters of cases. Respiratory specimens were submitted to testing laboratories. Testing was performed using reverse transcriptase real-time PCR, which detects SARS-CoV-2 viral genetic material. Laboratories used any one of several in-house and commercial PCR assays to test for the presence of SARS-CoV-2 RNA. Testing for SARS-CoV-2 using rapid antigen-based tests was implemented towards the end of October 2020 and results of reported rapid antigen-based tests were included in this report until the week 27 report (week starting 3 July 2022). However, as of the week 28 report (week starting 10 July 2022), this report was updated to only include reported PCR tests due to incomplete and delayed reporting of antigen-based tests.

Test results were automatically fed into a data warehouse after result authorisation. We excluded specimens collected outside South Africa and duplicate entries of the same test for an individual. From week 49 of 2020 onwards, test data were reported from the Notifiable Medical Conditions Surveillance System (NMCSS). Date of specimen receipt in the laboratory was used when date of specimen collection was missing. Proportion testing positive (PTP) was calculated as the number of positive tests/total number of tests and presented as percentage by multiplying with 100. Testing rates were calculated using mid-year population estimates from Statistics South Africa and expressed as tests per 100,000 (2019 estimates were used from week 10 of 2020 to week 40 of 2021, 2020 estimates were used from week 41 of 2021 to week 1 of 2022, 2021 estimates were used from week 2 of 2022 to week 52 of 2022 and 2022 estimates were used from week 1 of 2023 onwards). Categorical variables were compared using the chi-squared test, with a P-value<0.05 considered statistically significant.

Limitations

- A backlog in testing of samples by laboratories affects the reported number of tests. As a result, numbers tested during this period may change in subsequent reports.
- If higher-priority specimens were tested preferentially this would likely result in an inflated proportion testing positive.
- Different and changing testing strategies (targeted vs. mass testing, PCR vs. antigen-based tests or prioritisation of severe or at-risk cases during epidemic waves) used by different provinces and testing practices over holidays makes percentage testing positive and number of reported tests difficult to interpret and compare.