NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES
Division of the National Health Laboratory Service

COVID-19 Weekly Testing Summary

Week 8 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 25 February 2023 (week 8 of 2023).

Highlights:

- In the period 1 March 2020 through 25 February 2023, 21,518,988 PCR tests for SARS-CoV-2 have been reported nationally. The number of PCR tests reported in week 8 of 2023 (n= 13,094) was 6.0% higher than the number of PCR tests reported in the previous week (n= 12,386 in week 7 of 2023).
- In week 8, the PCR testing rate was 22 per 100,000 persons. The overall PCR testing rate increased from the previous week (20 per 100,000 persons in week 7 of 2023).
- The PCR testing rate in week 8 was highest in the Gauteng (36 per 100,000 persons), followed by Western Cape (31 per 100,000 persons) and KwaZulu-Natal (22 per 100,000 persons), and lowest in Limpopo (3 per 100,000 persons).
- In week 8, the percentage testing positive was 12.7%, which increased significantly from the previous week (11.1% in week 7, $p<0.05$).
- The percentage testing positive in week 8 was highest in the Western Cape (30.6%), followed by the Northern Cape (16.1%), Free State (15.0%) and Eastern Cape (13.9%). The percentage testing positive was <10.0% in all other provinces.
- In week 8, compared to the previous week, the percentage testing positive increased significantly in the Western Cape, Free State, Gauteng and North West ($p<0.05$), while all other provinces did not change significantly ($p\geq0.05$).
- The percentage testing positive in week 8 was highest in the ≥80 years' age group (26.8%), followed and the 75-79 years' (26.6%) age group.
- Different testing strategies used by different provinces, such as referral of all positive antigen tests for PCR testing, may bias percentage testing positive estimates.

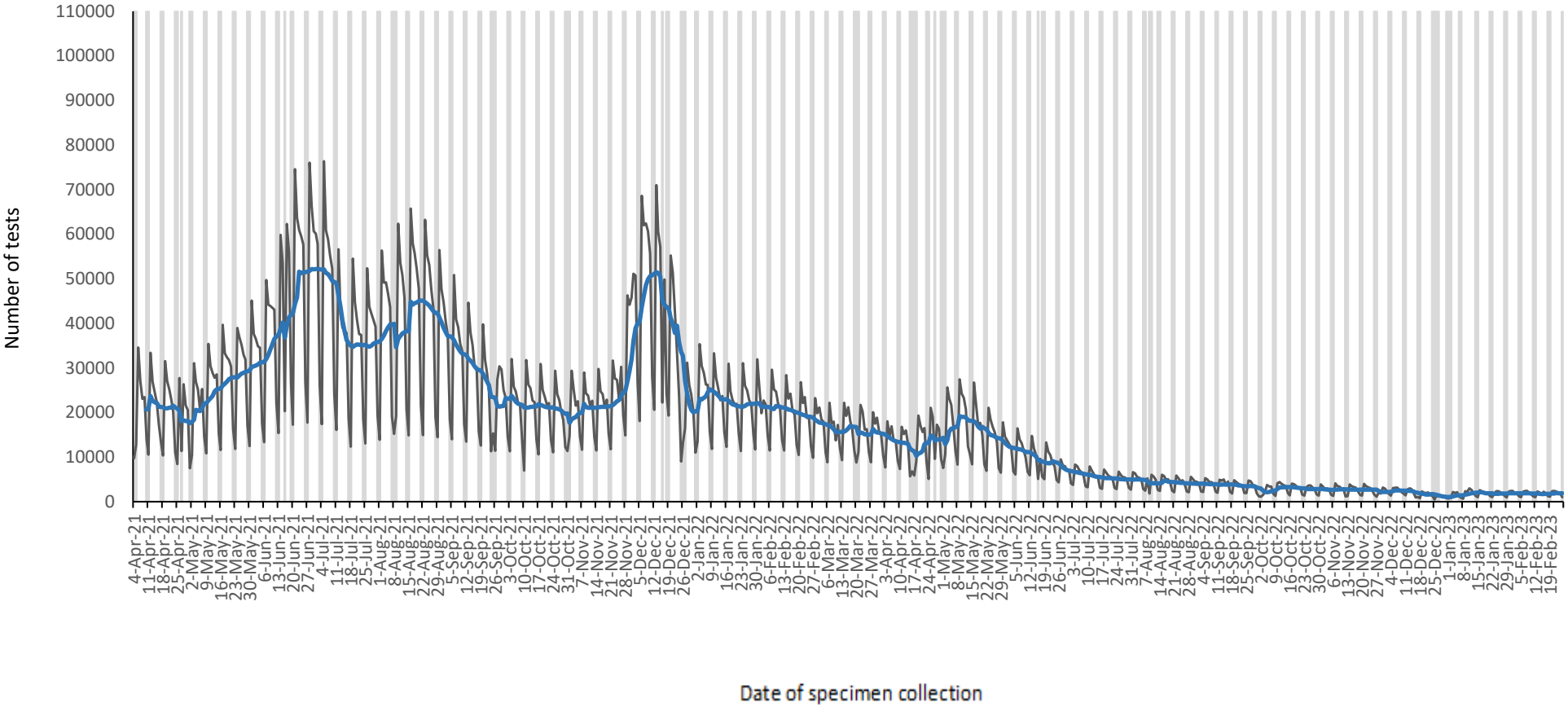

Figure 1. Number of SARS-CoV-2 PCR tests reported by date of specimen collection, South Africa, 4 April 2021 – 25 February 2023. Blue line shows the 7-day moving average of the number of PCR tests reported. Grey bars highlight weekend days and public holidays.

Table 1. Weekly number of SARS-CoV-2 PCR tests and positive tests reported, South Africa, 5 June 2022 – 25 February 2023

Week number	Week beginning	No. of PCR tests n (%)	No. of positive PCR tests	Percentage testing positive (%)
23	5-Jun-22	77910 (0.4)	7498	9.6
24	12-Jun-22	63280 (0.3)	4489	7.1
25	19-Jun-22	61551 (0.3)	3358	5.5
26	26-Jun-22	47989 (0.2)	2166	4.5
27	3-Jul-22	43164 (0.2)	2017	4.7
28	10-Jul-22	38540 (0.2)	1882	4.9
29	17-Jul-22	36470 (0.2)	1679	4.6
30	24-Jul-22	34808 (0.2)	1574	4.5
31	31-Jul-22	34401 (0.2)	1369	4.0
32	7-Aug-22	28665 (0.1)	1177	4.1
33	14-Aug-22	30928 (0.1)	1259	4.1
34	21-Aug-22	28858 (0.1)	1202	4.2
35	28-Aug-22	28155 (0.1)	1150	4.1
36	4-Sep-22	27330 (0.1)	1269	4.6
37	11-Sep-22	27068 (0.1)	1358	5.0
38	12-Sep-22	24309 (0.1)	1344	5.5
39	25-Sep-22	21378 (0.1)	1431	6.7
40	2-Oct-22	17182 (0.1)	1334	7.8
41	9-Oct-22	22968 (0.1)	2251	9.8
42	16-Oct-22	20907 (0.1)	2143	10.3
43	23-Oct-22	19557 (0.1)	1972	10.1
44	30-Oct-22	18658 (0.1)	2178	11.7
45	6-Nov-22	19280 (0.1)	2524	13.1
46	13-Nov-22	18773 (0.1)	2363	12.6
47	20-Nov-22	18983 (0.1)	2275	12.0
48	27-Nov-22	15260 (0.1)	1497	9.8
49	4-Dec-22	17416 (0.1)	1640	9.4
50	11-Dec-22	13850 (0.1)	1091	7.9
51	18-Dec-22	11940 (0.1)	904	7.6
52	25-Dec-22	7278 (0.0)	663	9.1
1	1-Jan-23	9957 (0.0)	882	8.9
2	8-Jan-23	14124 (0.1)	1355	9.6
3	15-Jan-23	13053 (0.1)	1191	9.1
4	22-Jan-23	12622 (0.1)	1017	8.1
5	29-Jan-23	12965 (0.1)	1206	9.3
6	5-Feb-23	12759 (0.1)	1480	11.6
7	12-Feb-23	12386 (0.1)	1371	11.1
8	19-Feb-23	13094 (0.1)	1657	12.7

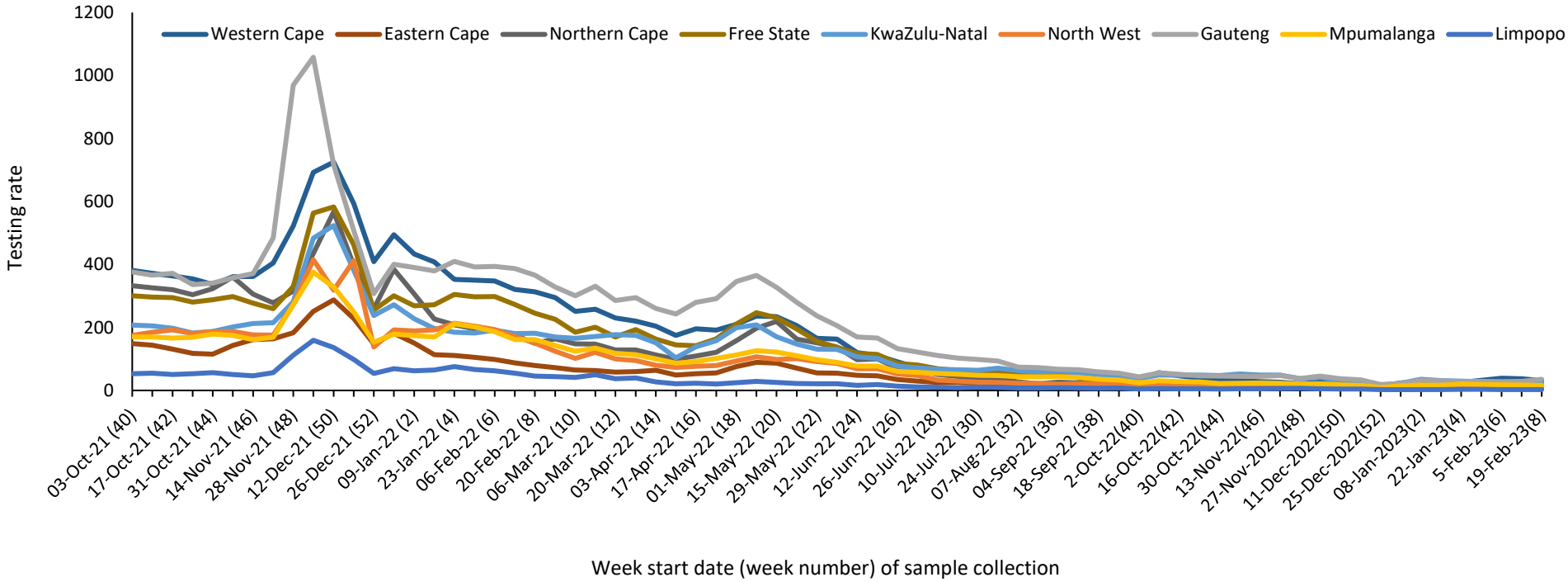

Figure 2. PCR testing rate per 100,000 persons by province and week of specimen collection, South Africa, 3 October 2021 – 25 February 2023

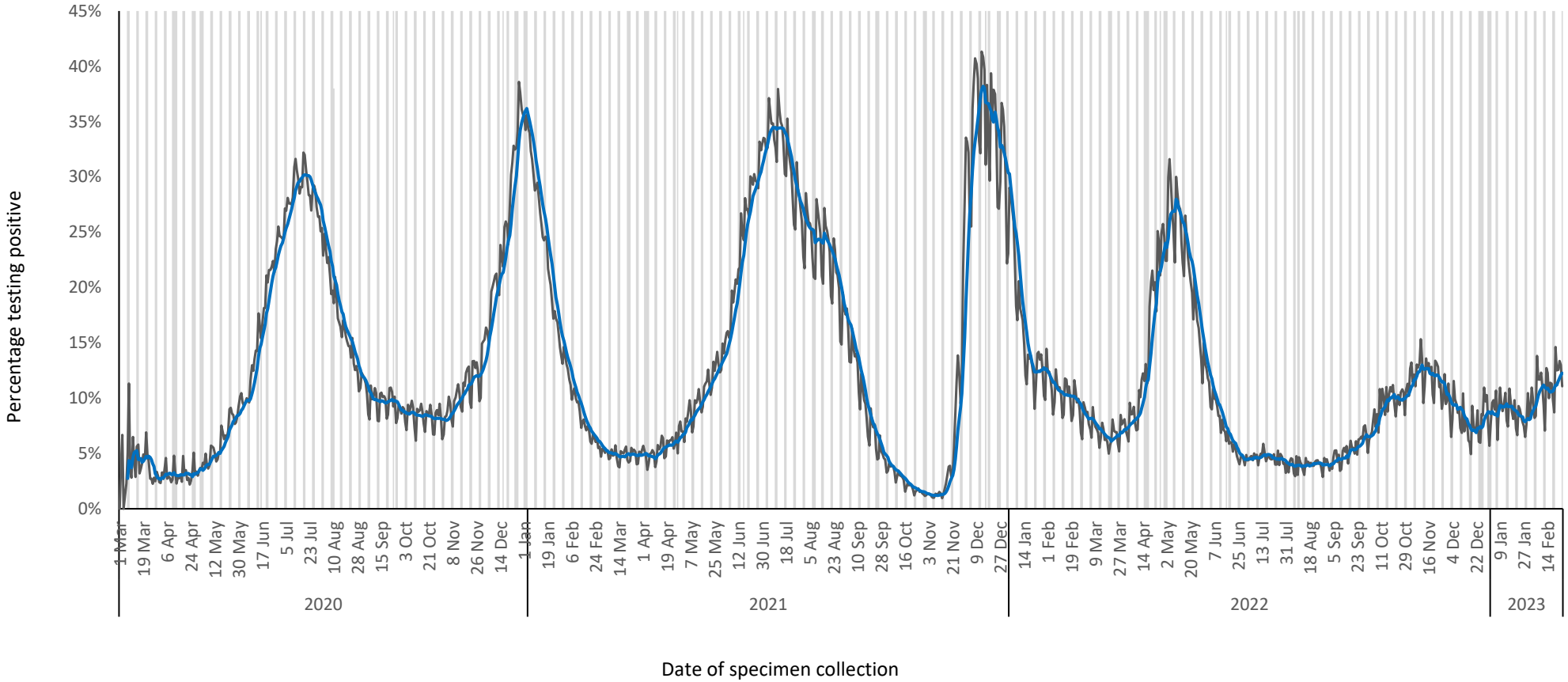

Figure 3. Percentage of PCR tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 1 March 2020 – 25 February 2023. Blue line shows the 7-day moving average of the percentage testing positive. Grey bars highlight weekend days and public holidays.

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Table 2. Weekly number of PCR tests and positive tests reported by province, South Africa, 5 February – 25 February 2023

Province	Population[a]	5- 11 Feb 2023		12- 18 Feb 2023		19- 25 Feb 2023			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 (%)	Testing rate per 100,000	
Western Cape	7212142	2806	777 (27.7)	2647	701 (26.5)	2264	692 (30.6)	31	4.1%
Eastern Cape	6676691	748	98 (13.1)	674	91 (13.5)	700	97 (13.9)	10	0.4%
Northern Cape	1308734	132	13 (9.8)	118	10 (8.5)	143	23 (16.1)	11	7.6%
Free State	2921611	341	36 (10.6)	328	28 (8.5)	374	56 (15.0)	13	6.4%
KwaZulu-Natal	11538325	2880	169 (5.9)	2655	125 (4.7)	2508	120 (4.8)	22	0.1%
North West	4186984	370	26 (7.0)	324	15 (4.6)	449	43 (9.6)	11	4.9%
Gauteng	16098571	4468	286 (6.4)	4678	346 (7.4)	5727	558 (9.7)	36	2.3%
Mpumalanga	4720497	842	65 (7.7)	787	47 (6.0)	771	56 (7.3)	16	1.3%
Limpopo	5941439	168	10 (6.0)	164	8 (4.9)	151	12 (7.9)	3	3.1%
Unknown		4	0 (0.0)	11	0 (0.0)	7	0(0.0)		
Total	60604992	12759	1480 (11.6)	12386	1371 (11.1)	13094	1657 (12.7)	22	1.6%

[a] 2022 Mid-year population Statistics SA
[b] Current week compared to previous week

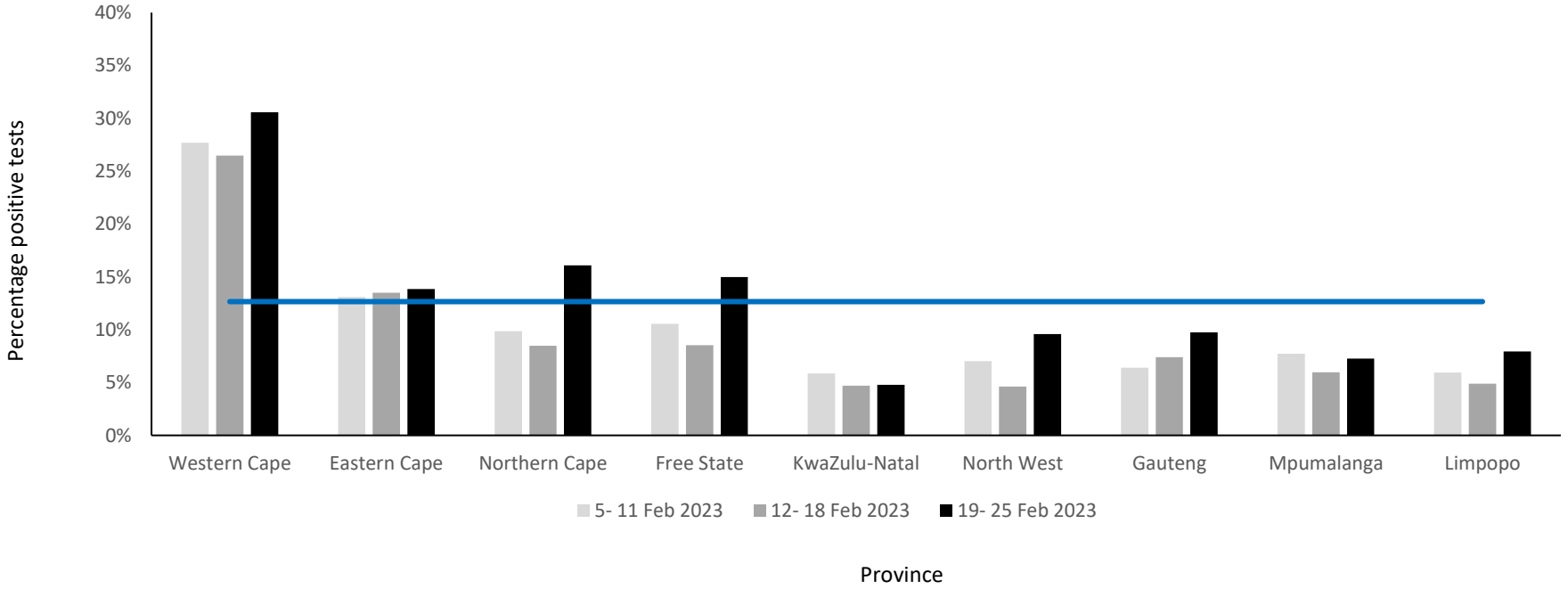

Figure 4. Weekly percentage testing positive (PCR tests only) by province, South Africa, 5 February – 25 February 2023. The horizontal blue line shows the national mean for week 8, beginning 19 February 2023

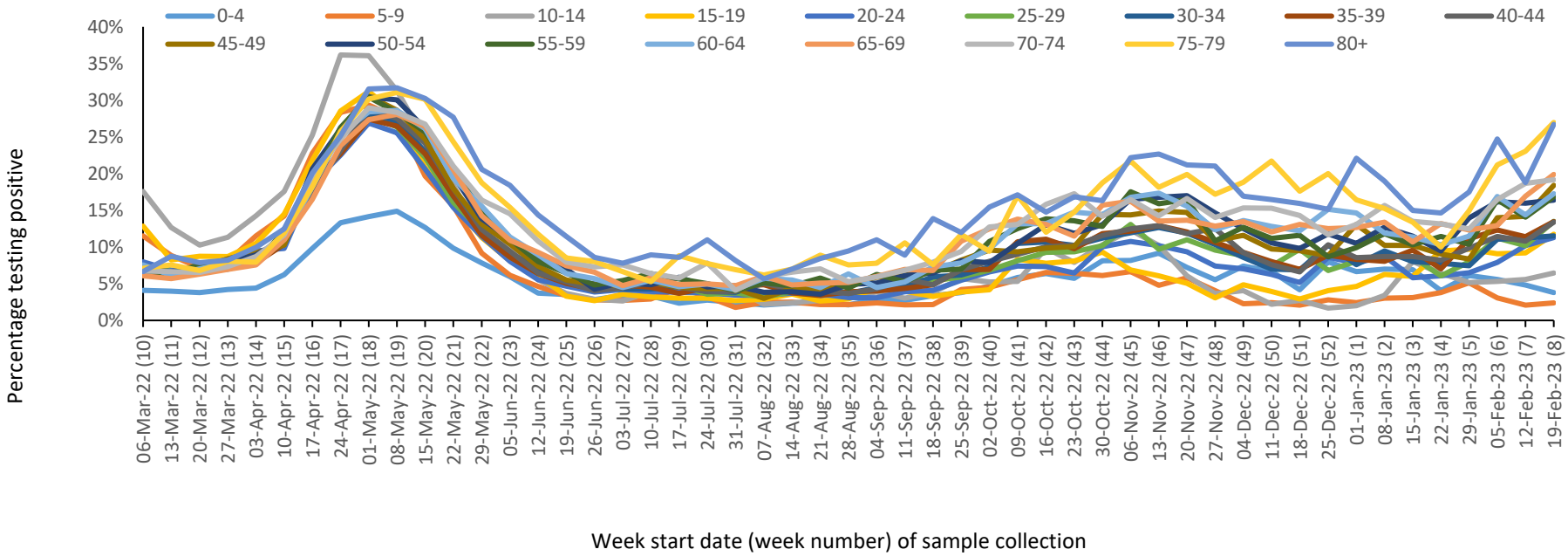

Figure 5. Percentage testing positive (PCR tests only) by age group and week of specimen collection, South Africa, 6 March 2022 – 25 February 2023

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 of 2022 report (week starting 3 July 2022). However, as of the week 28 of 2022 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.