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

COVID-19 Weekly Testing Summary

Week 4 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 28 January 2023 (week 4 of 2023).

Highlights:

- In the period 1 March 2020 through 28 January 2023, 21,466,860 PCR tests for SARS-CoV-2 have been reported nationally. The number of PCR tests reported in week 4 of 2023 (n= 11,971) was 7.9% lower than the number of PCR tests reported in the previous week (n= 12,998 in week 3 of 2023).
- In week 4, the PCR testing rate was 20 per 100,000 persons. The overall PCR testing rate decreased from the previous week (22 per 100,000 persons in week 3 of 2023).
- The PCR testing rate in week 4 was highest in KwaZulu-Natal (28 per 100,000 persons), followed by Gauteng (27 per 100,000 persons) and Western Cape (24 per 100,000 persons), and lowest in Limpopo (3 per 100,000 persons).
- In week 4 the percentage testing positive was 8.3%, which decreased significantly from the previous week (9.2% in week 3, $p<0.05$).
- The percentage testing positive in week 4 was highest in the Free State (16.1%), followed by the Western Cape (14.8%) and the Eastern Cape (12.2%). The percentage testing positive was <10.0% in all other provinces.
- In week 4, compared to the previous week, the percentage testing positive decreased significantly in KwaZulu-Natal and Gauteng ($p<0.05$), while all other provinces did not change significantly ($p\geq0.05$).
- The percentage testing positive in week 4 was highest in the ≥80 years' age group (15.0%), followed by 70-74 years' (14.0%) and 65-69 years' (13.9%) age groups.

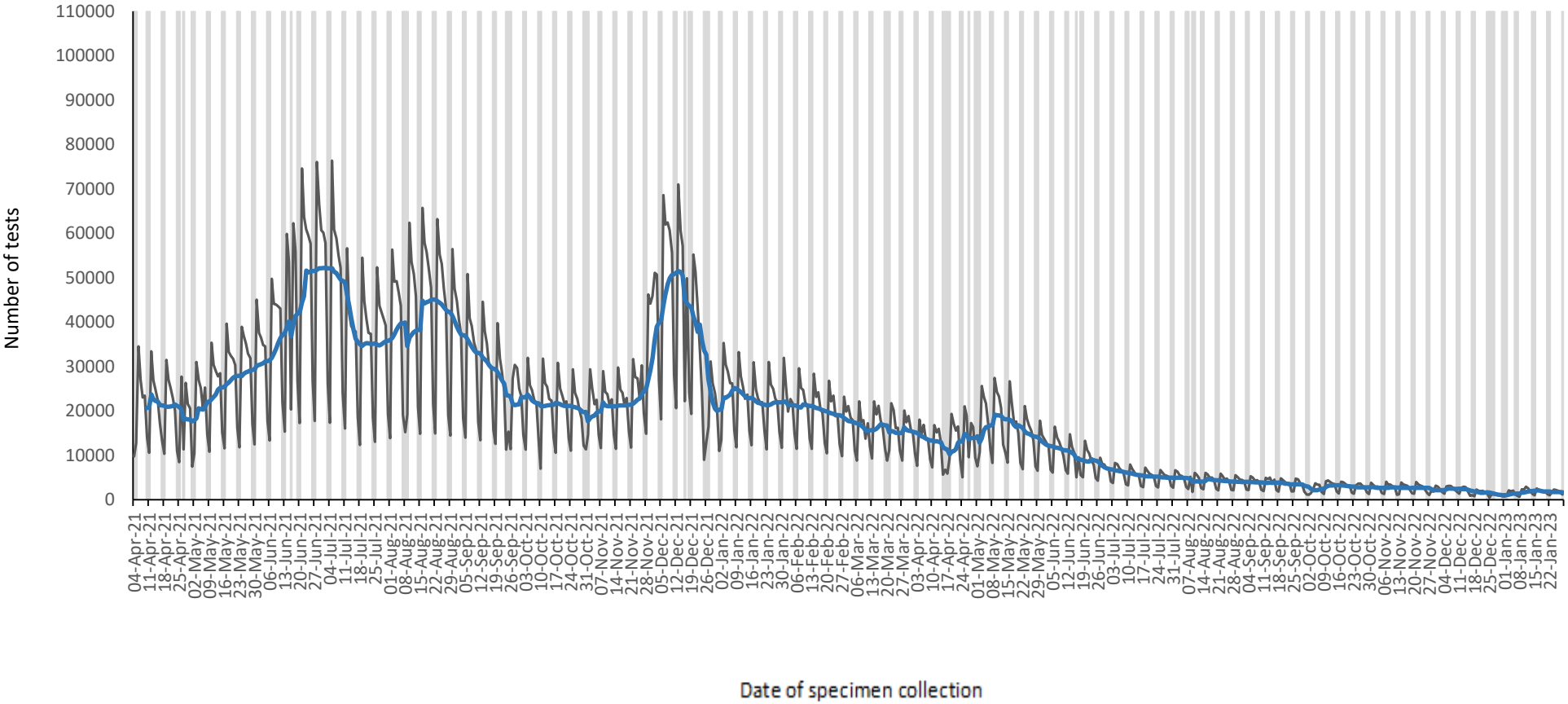

Figure 1. Number of SARS-CoV-2 PCR tests reported by date of specimen collection, South Africa, 4 April 2021 – 28 January 2023. Blue line shows the 7-day moving average of the number of PCR tests reported. Grey bars highlight weekend days and public holidays.

Table 1. Weekly number of SARS-CoV-2 PCR tests and positive tests reported, South Africa, 5 June 2022 – 28 January 2023

Week number	Week beginning	No. of PCR tests n (%)	No. of positive PCR tests	Percentage testing positive (%)
23	05-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	03-Jul-22	43164 (0.2)	2017	4.7
28	10-Jul-22	38538 (0.2)	1882	4.9
29	17-Jul-22	36470 (0.2)	1679	4.6
30	24-Jul-22	34807 (0.2)	1574	4.5
31	31-Jul-22	34401 (0.2)	1369	4.0
32	07-Aug-22	28663 (0.1)	1177	4.1
33	14-Aug-22	30927 (0.1)	1259	4.1
34	21-Aug-22	28857 (0.1)	1202	4.2
35	28-Aug-22	28155 (0.1)	1150	4.1
36	04-Sep-22	27330 (0.1)	1269	4.6
37	11-Sep-22	27067 (0.1)	1358	5.0
38	12-Sep-22	24308 (0.1)	1344	5.5
39	25-Sep-22	21378 (0.1)	1431	6.7
40	02-Oct-22	17182 (0.1)	1334	7.8
41	09-Oct-22	22968 (0.1)	2251	9.8
42	16-Oct-22	20907 (0.1)	2143	10.3
43	23-Oct-22	19553 (0.1)	1972	10.1
44	30-Oct-22	18655 (0.1)	2178	11.7
45	06-Nov-22	19276 (0.1)	2524	13.1
46	13-Nov-22	18771 (0.1)	2363	12.6
47	20-Nov-22	18973 (0.1)	2274	12.0
48	27-Nov-22	15236 (0.1)	1497	9.8
49	04-Dec-22	17389 (0.1)	1640	9.4
50	11-Dec-22	13823 (0.1)	1091	7.9
51	18-Dec-22	11925 (0.1)	903	7.6
52	25-Dec-22	7272 (0.0)	663	9.1
1	01-Jan-23	9941 (0.0)	881	8.9
2	08-Jan-23	14089 (0.1)	1355	9.6
3	15-Jan-23	12998 (0.1)	1191	9.2
4	22-Jan-23	11971 (0.1)	988	8.3

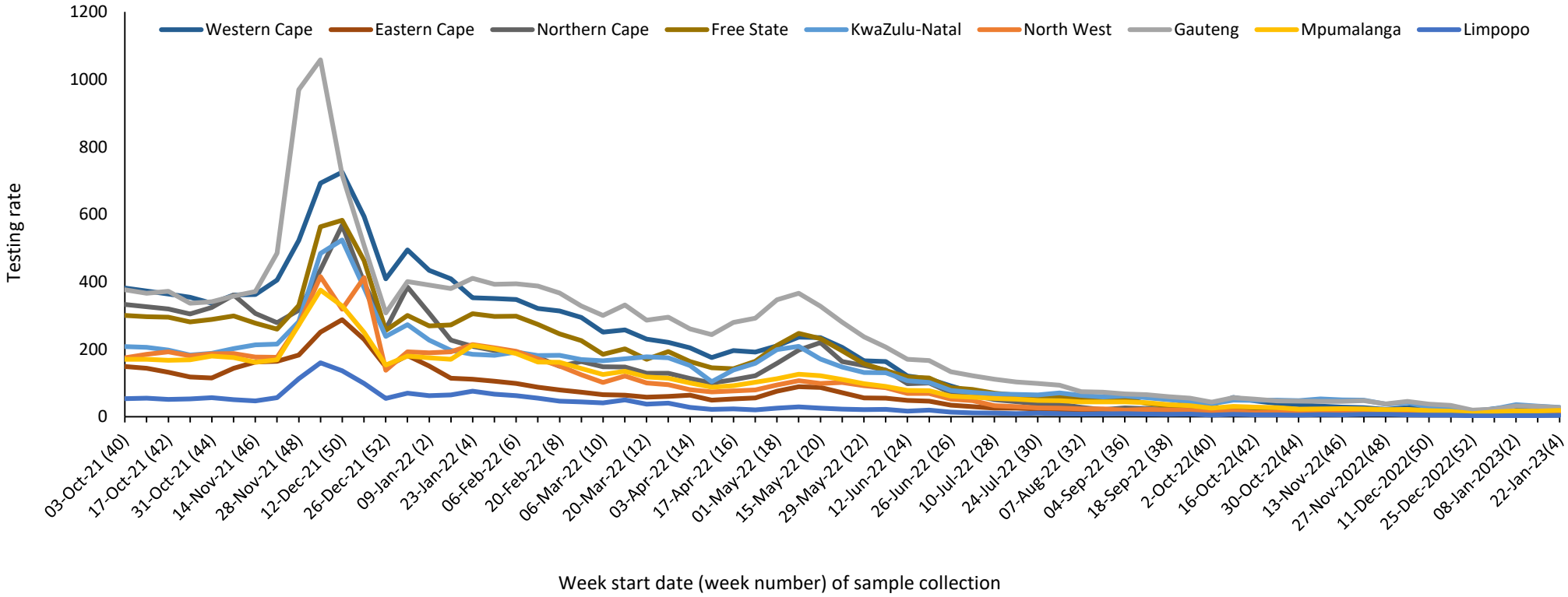

Figure 2. PCR testing rate per 100,000 persons by province and week of specimen collection, South Africa, 3 October 2021 – 28 January 2023

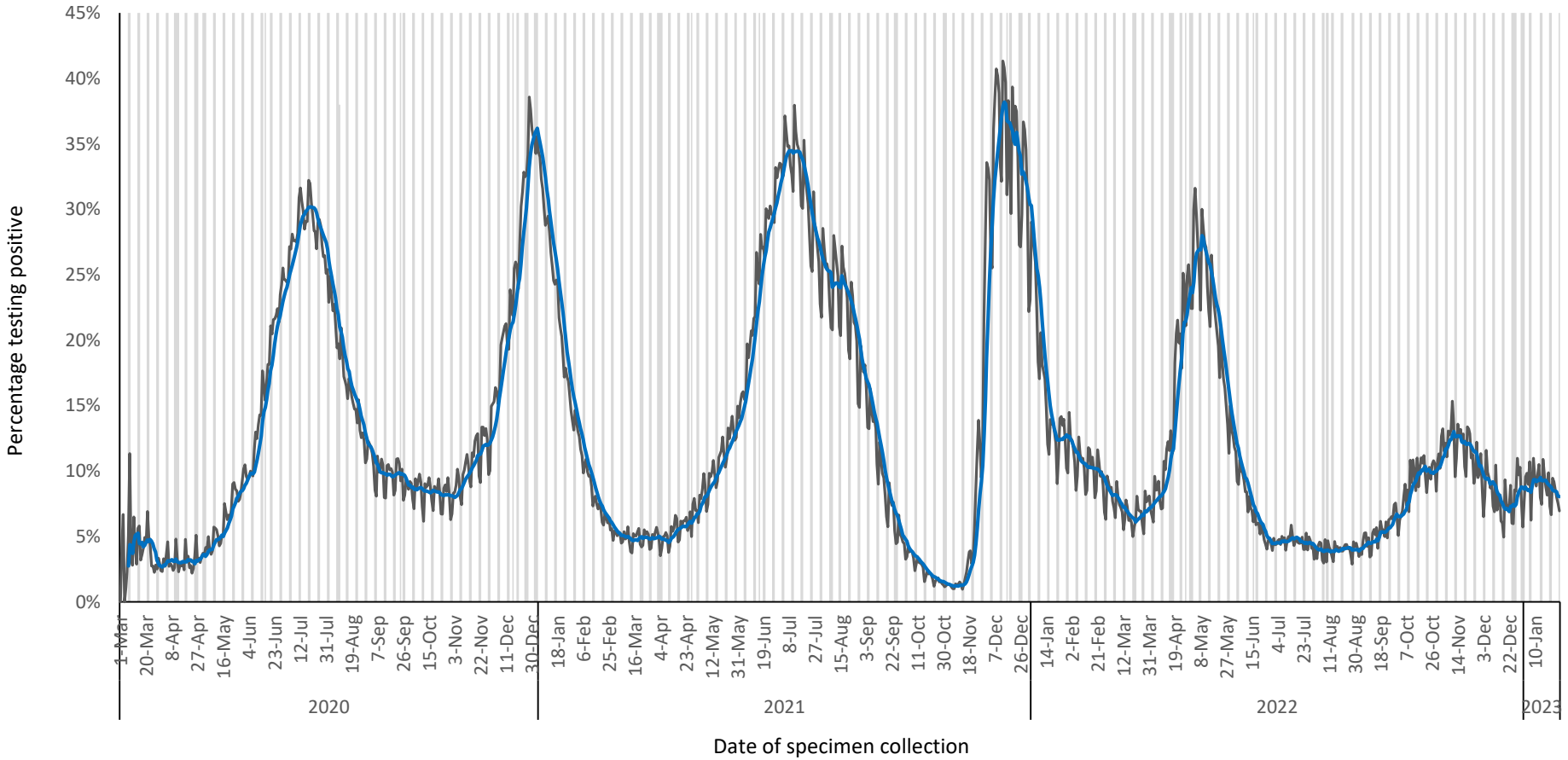

Figure 3. Percentage of PCR tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 1 March 2020 – 28 January 2023. Blue line shows the 7-day moving average of the percentage testing positive. Grey bars highlight weekend days and public holidays.

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Table 2. Weekly number of PCR tests and positive tests reported by province, South Africa, 8 –28 January 2023

Province	Population[a]	08- 14 Jan 2023		15- 21 Jan 2023		22- 28 Jan 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	1996	206 (10.3)	1785	239 (13.4)	1740	257 (14.8)	24	1.4%
Eastern Cape	6676691	903	125 (13.8)	764	104 (13.6)	738	90 (12.2)	11	-1.4%
Northern Cape	1308734	193	25 (13.0)	227	30 (13.2)	162	13 (8.0)	12	-5.2%
Free State	2921611	378	56 (14.8)	388	54 (13.9)	384	62 (16.1)	13	2.2%
KwaZulu-Natal	11538325	4088	440 (10.8)	3589	321 (8.9)	3183	210 (6.6)	28	-2.3%
North West	4186984	413	25 (6.1)	355	30 (8.5)	401	34 (8.5)	10	0.0%
Gauteng	16098571	5136	384 (7.5)	4926	345 (7.0)	4304	246 (5.7)	27	-1.3%
Mpumalanga	4720497	798	79 (9.9)	777	51 (6.6)	856	57 (6.7)	18	0.1%
Limpopo	5941439	178	15 (8.4)	178	17 (9.6)	200	19 (9.5)	3	-0.1%
Unknown		6	0 (0.0)	9	0 (0.0)	3	0(0.0)		
Total	60604992	14089	1355 (9.6)	12998	1191 (9.2)	11971	988 (8.3)	20	-0.9%

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

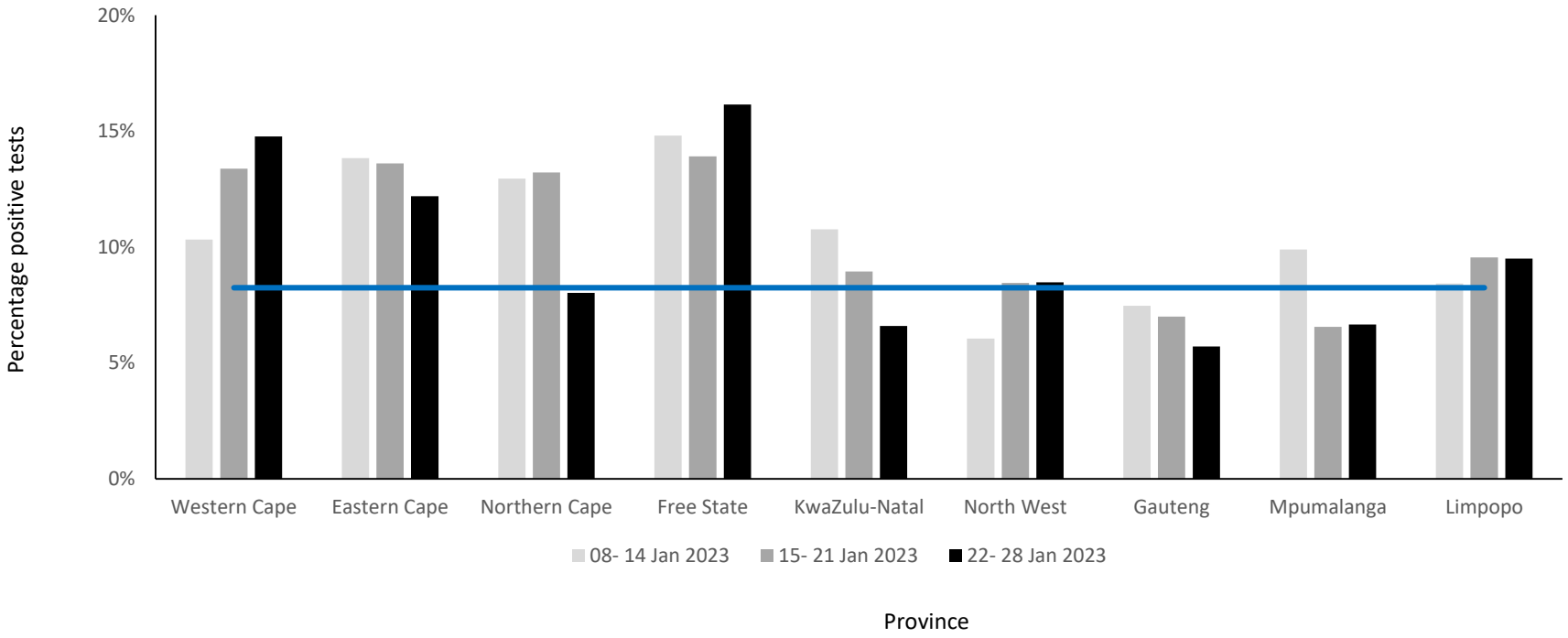

Figure 4. Weekly percentage testing positive (PCR tests only) by province, South Africa, 8 – 28 January 2023. The horizontal blue line shows the national mean for week 4, beginning 22 January 2023

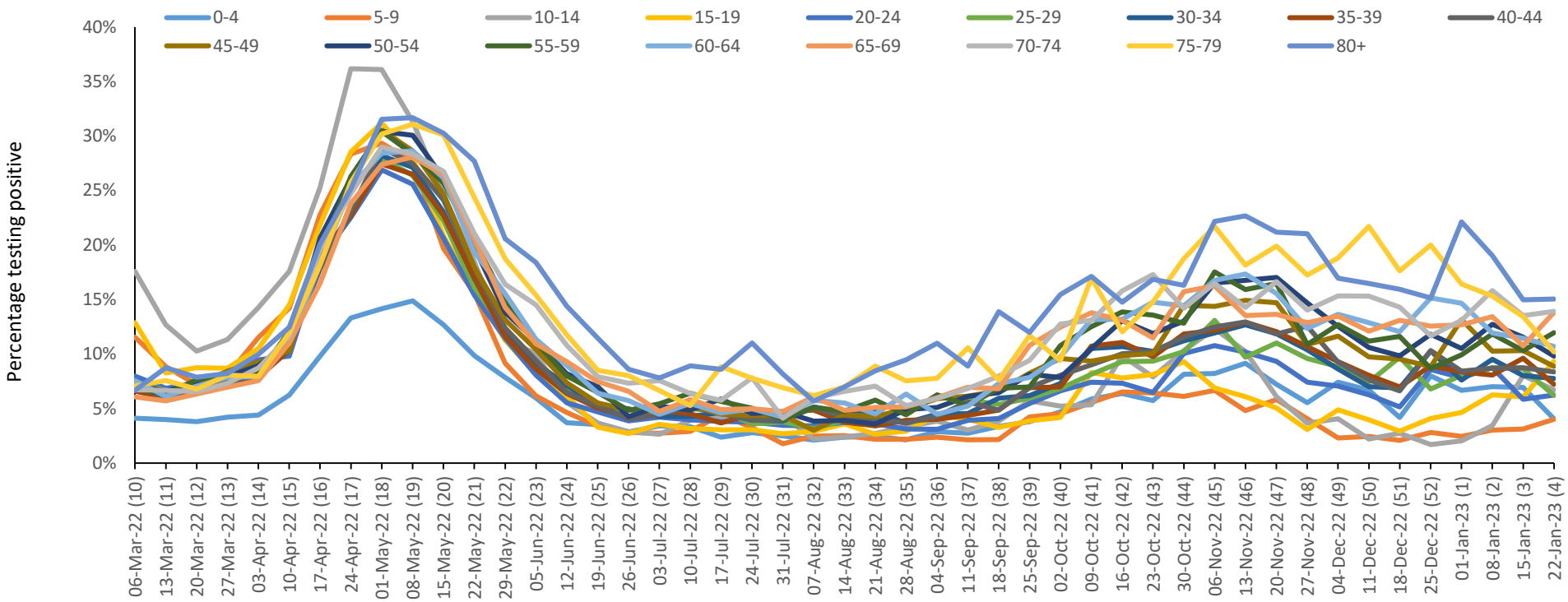

Figure 5. Percentage testing positive (PCR tests only) by age group and week of specimen collection, South Africa, 6 March 2022 – 28 January 2023

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 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.