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

COVID-19 Weekly Testing Summary

Week 48 of 2022

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 3 December 2022 (week 48 of 2022).

NOTE: From week 28 onwards, only PCR tests are included in the report (i.e. excluding antigen tests).

Highlights:

- In the period 1 March 2020 through 3 December 2022, 21,364,018 PCR tests for SARS-CoV-2 have been reported nationally. The number of PCR tests reported in week 48 of 2022 (n=12,502) was 33% lower than the number of PCR tests reported in the previous week (n= 18,844 in week 47).
- In week 48 the PCR testing rate was 21 per 100,000 persons. The overall PCR testing rate decreased from the previous week (30 per 100,000 persons in week 47).
- The PCR testing rate in week 48 was highest in KwaZulu-Natal and Gauteng (30 per 100,000 persons), followed by the Western Cape (19 per 100,000 persons) and lowest in Limpopo (5 per 100,000 persons).
- In week 48 the percentage testing positive was 9.6%, which decreased significantly from the previous week (11.9% in week 47, $p<0.05$).
- The percentage testing positive in week 48 was highest in the Western Cape (14.3%), followed by the Northern Cape (14.1%) and Gauteng (10.2%). The percentage testing positive was <10.0% in all other provinces.
- In week 48, compared to the previous week, the percentage testing positive decreased in Gauteng, KwaZulu-Natal, the Free State and Limpopo ($p<0.05$). The percentage testing positive did not change significantly in all other provinces ($p\geq0.05$).
- The percentage testing positive in week 48 was highest in the ≥80 years' age group (19.5%), followed by the 50-54 years' (14.6%) and 75-79 (14.6%) years' age groups.

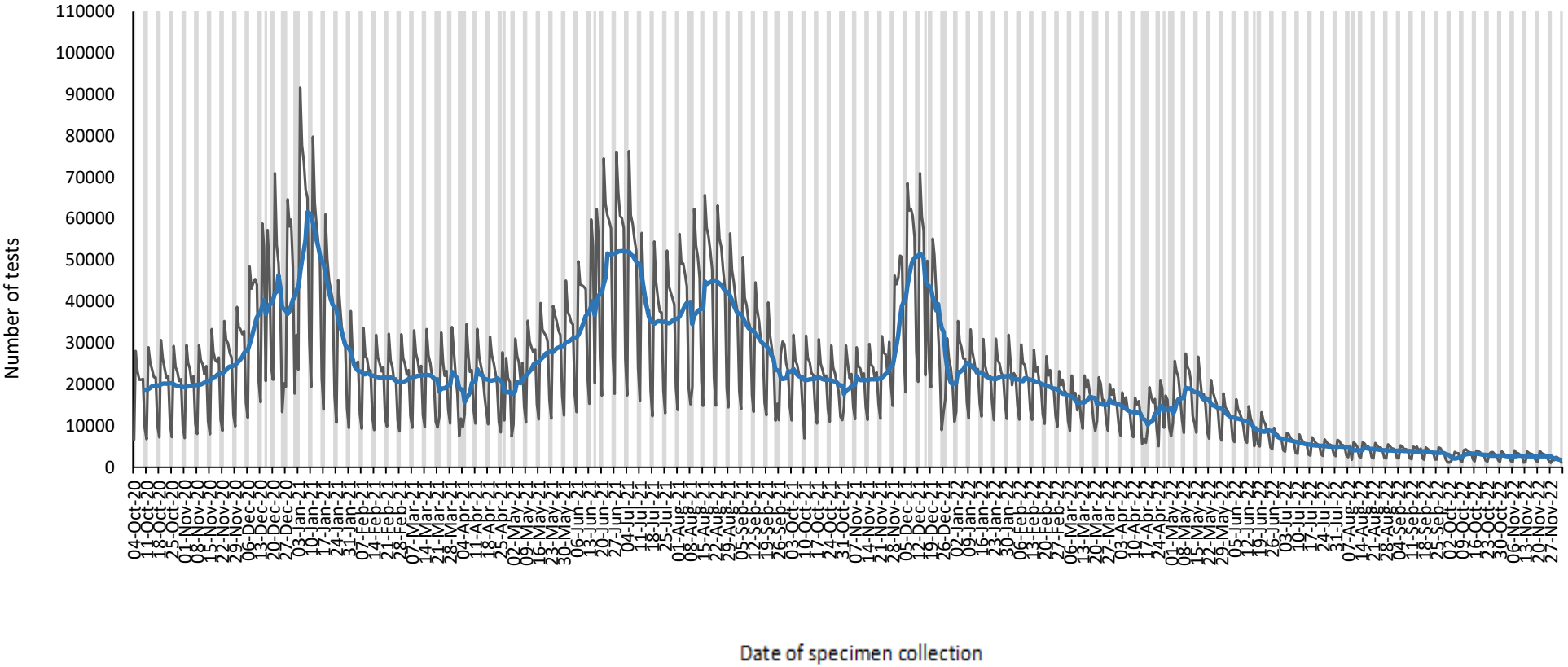

Figure 1. Number of SARS-CoV-2 PCR tests reported by date of specimen collection, South Africa, 4 October 2020 – 3 December 2022. Blue line shows the 7-day moving average of the number of PCR tests reported. Grey bars highlight weekend days and public holiday

Table 1. Weekly number of SARS-CoV-2 PCR tests and positive tests reported, South Africa, 2 January – 3 December 2022

Week number	Week beginning	No. of PCR tests n (%)	No. of positive PCR tests	Percentage testing positive (%)
1	02-Jan-22	176323 (0.8)	45454	25.8
2	09-Jan-22	160321 (0.8)	27666	17.3
3	16-Jan-22	150054 (0.7)	19107	12.7
4	23-Jan-22	153465 (0.7)	20128	13.1
5	24-Jan-22	148529 (0.7)	17695	11.9
6	06-Feb-22	147890 (0.7)	16071	10.9
7	13-Feb-22	140054 (0.7)	14762	10.5
8	14-Feb-22	132987 (0.6)	13026	9.8
9	27-Feb-22	121532 (0.6)	10269	8.4
10	06-Mar-22	109458 (0.5)	8171	7.5
11	13-Mar-22	117609 (0.6)	7722	6.6
12	20-Mar-22	105319 (0.5)	7261	6.9
13	27-Mar-22	106361 (0.5)	7988	7.5
14	03-Apr-22	93780 (0.4)	7864	8.4
15	10-Apr-22	80640 (0.4)	8850	11.0
16	17-Apr-22	92538 (0.4)	17228	18.6
17	24-Apr-22	97823 (0.5)	23648	24.2
18	01-May-22	117063 (0.5)	32991	28.2
19	08-May-22	126890 (0.6)	34323	27.0
20	15-May-22	115233 (0.5)	26650	23.1
21	22-May-22	99452 (0.5)	17374	17.5
22	29-May-22	84468 (0.4)	10606	12.6
23	05-Jun-22	77908 (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	47986 (0.2)	2166	4.5
27	03-Jul-22	43162 (0.2)	2017	4.7
28	10-Jul-22	38533 (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	30923 (0.1)	1256	4.1
34	21-Aug-22	28854 (0.1)	1200	4.2
35	28-Aug-22	28153 (0.1)	1150	4.1
36	04-Sep-22	27328 (0.1)	1268	4.6
37	11-Sep-22	27059 (0.1)	1354	5.0
38	12-Sep-22	24292 (0.1)	1331	5.5
39	25-Sep-22	21365 (0.1)	1422	6.7
40	02-Oct-22	17139 (0.1)	1316	7.7
41	09-Oct-22	22913 (0.1)	2241	9.8
42	16-Oct-22	20871 (0.1)	2133	10.2
43	23-Oct-22	19472 (0.1)	1954	10.0
44	30-Oct-22	18605 (0.1)	2171	11.7
45	06-Nov-22	19217 (0.1)	2508	13.1
46	13-Nov-22	18672 (0.1)	2328	12.5
47	20-Nov-22	18844 (0.1)	2244	11.9
48	27-Nov-22	12502 (0.1)	1202	9.6

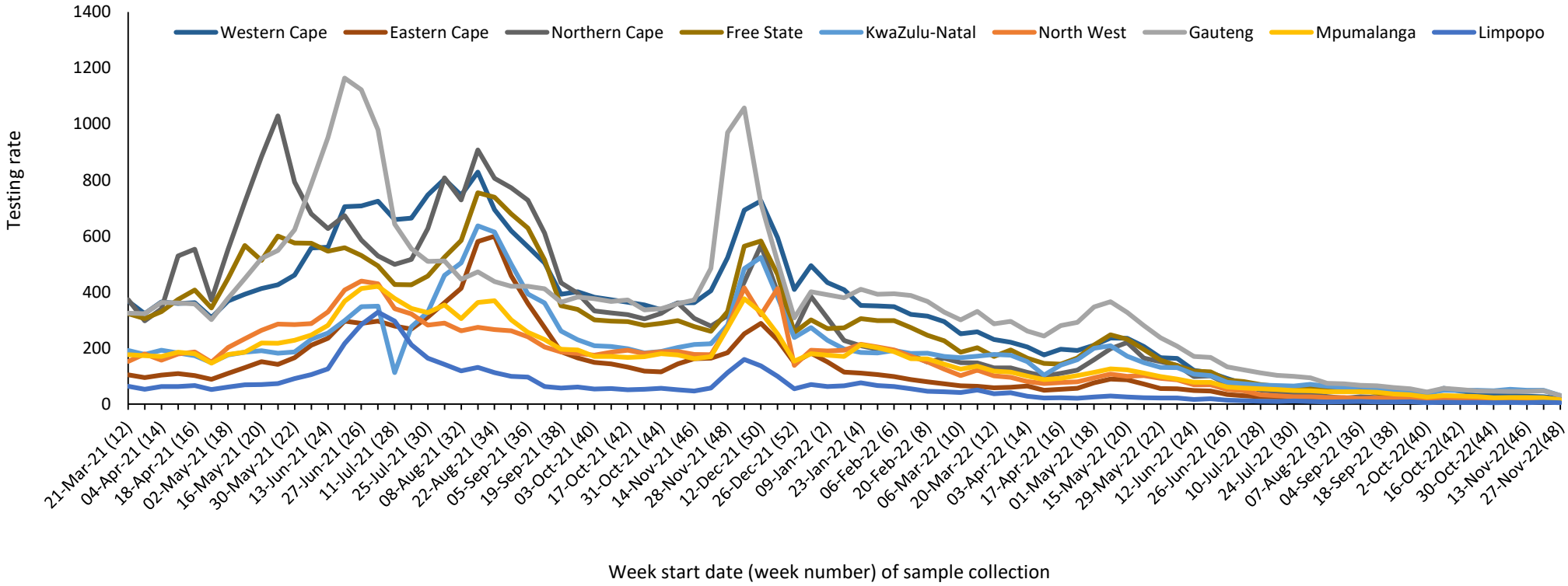

Figure 2. PCR testing rate per 100,000 persons by province and week of specimen collection, South Africa, 21 March 2021 – 3 December 2022

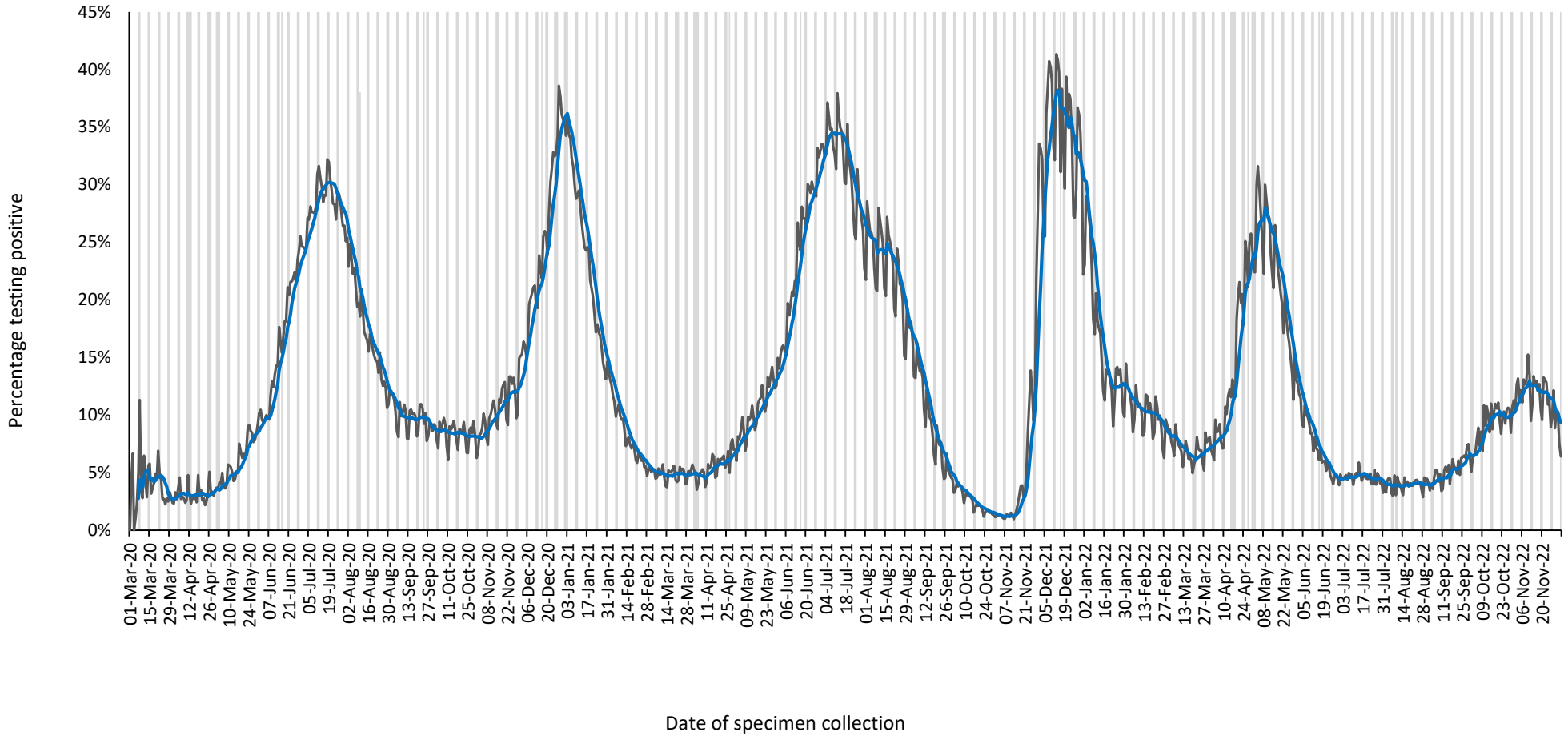

Figure 3. Percentage of PCR tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 1 March 2020 – 3 December 2022. Blue line shows the 7-day moving average of the percentage testing positive. Grey bars highlight weekend days and public holidays.

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Table 2. Weekly number of PCR tests and positive tests reported by province, South Africa, 13 November – 3 December 2022

Province	Population[a]	13 - 19 Nov 2022		20 - 26 Nov 2022		27 Nov - 3 Dec 2022			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	7113776	1966	250 (12.7)	1854	231 (12.5)	1380	197 (14.3)	19	1.8%
Eastern Cape	6676590	1358	65 (4.8)	1398	68 (4.9)	1028	48 (4.7)	15	-0.2%
Northern Cape	1303047	220	20 (9.1)	182	17 (9.3)	142	20 (14.1)	11	4.7%
Free State	2932441	535	59 (11.0)	492	65 (13.2)	372	25 (6.7)	13	-6.5%
KwaZulu-Natal	11513575	5656	690 (12.2)	5582	643 (11.5)	3474	314 (9.0)	30	-2.5%
North West	4122854	514	57 (11.1)	481	53 (11.0)	346	30 (8.7)	8	-2.3%
Gauteng	15810388	7017	1015 (14.5)	7424	1004 (13.5)	4734	484 (10.2)	30	-3.3%
Mpumalanga	4743584	1114	127 (11.4)	1057	121 (11.4)	735	66 (9.0)	15	-2.5%
Limpopo	5926724	292	45 (15.4)	371	42 (11.3)	291	18 (6.2)	5	-5.1%
Unknown		0	0 (0.0)	3	0 (0.0)	0	0 (0.0)		
Total	60142978	18672	2328 (12.5)	18844	2244 (11.9)	12502	1202 (9.6)	21	-2.3%

[a] 2021 Mid-year population Statistics SA
[b] Current week compared to previous week

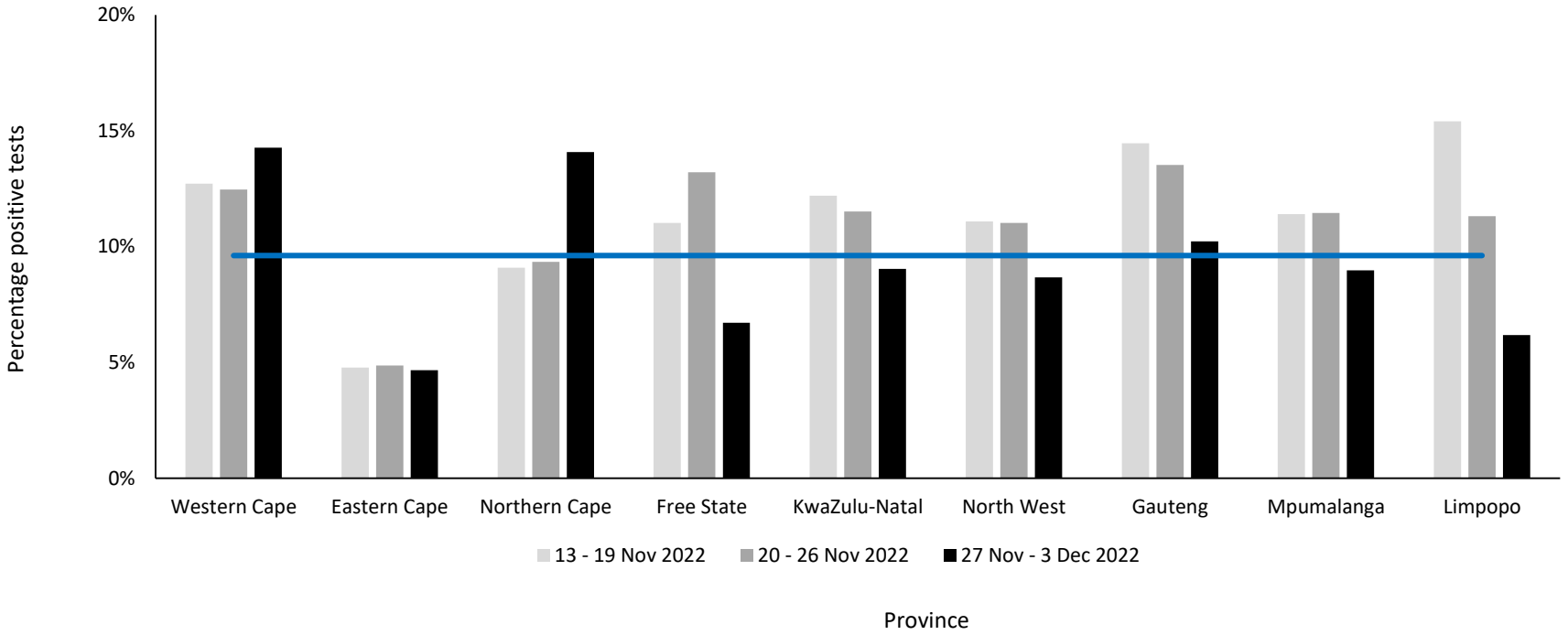

Figure 4. Weekly percentage testing positive (PCR tests only) by province, South Africa, 13 November – 3 December 2022. The horizontal blue line shows the national mean for week 48, beginning 27 November 2022

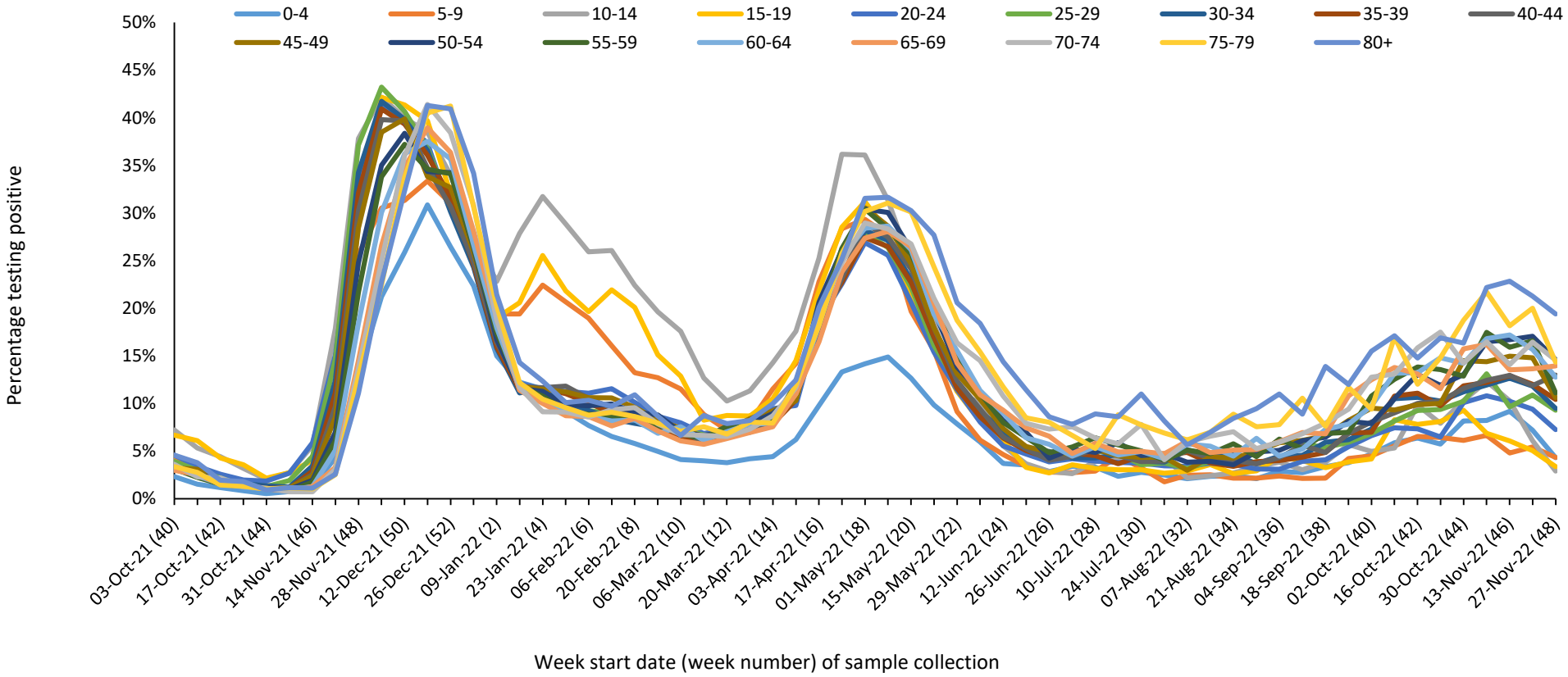

Figure 5. Percentage testing positive (PCR tests only) by age group and week of specimen collection, South Africa, 3 October 2021 – 3 December 2022

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, and 2021 estimates were used from week 2 of 2022 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 makes percentage testing positive and number of reported tests difficult to interpret and compare.