

# COVID-19 TESTING SUMMARY



NATIONAL INSTITUTE FOR  
COMMUNICABLE DISEASES

Division of the National Health Laboratory Service

SOUTH AFRICA WEEK 5 2021

## OVERVIEW OF REPORT

This report summarises national laboratory 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 February 2021 (Week 5 of 2021).

## HIGHLIGHTS

- In the period 1 March 2020 through 6 February 2021, 8,444,483 PCR and antigen tests for SARS-CoV-2 have been performed nationally.
- The number of tests performed in week 5 of 2021 (n=185,941) was lower than performed in the previous few weeks.
- Testing rates decreased in all provinces in week 5, with KwaZulu-Natal (397 per 100,000 persons), Western Cape (388 per 100,000 persons), Gauteng (375 per 100,000 persons) and Northern Cape (348 per 100,000 persons) provinces having the highest testing rates.
- In week 5 of 2021 the percentage testing positive was 11.2%, which had decreased from a peak of 34.9% in week 53 of 2020 and was lower than observed in the previous few weeks.
- Percentage testing positive in week 5 was highest in Limpopo (18.6%), Mpumalanga (17.6%) and Northern Cape (15.3%) provinces. Percentage testing positive was 10-15% in the Western Cape, Free State, KwaZulu-Natal, North West and Gauteng, and was <10% in the Eastern Cape.
- In week 5 of 2021, compared to the previous week, the percentage testing positive decreased in all provinces, except the Northern Cape where it did not change.
- Mean laboratory turnaround time in week 5 was 1.3 days; 2.0 days in the public sector and <1 day in the private sector.

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## 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. Results of reported rapid antigen-based tests are included in this report, however data are incomplete and efforts are ongoing to improve data completeness.

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 48 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. We used 2020 mid-year population estimates from Statistics South

Africa to calculate the testing rate, expressed as tests per 100,000 persons. Patient admission status for public and private sector tests was determined based on the reported patient facility. Laboratory turnaround times were calculated for PCR-based tests and were calculated as the mean number of days between specimen collection and reporting of the result. Categorical variables were compared using the chi-squared test, and continuous variables with the students t-test, with a P-value < 0.05 considered statistically significant.

Health district and sub-district (in the metros) level results were mapped based on geo-locatable public and private sector testing facilities. Estimates of overall prevalence were derived using regression techniques. Estimates were adjusted to produce district-specific positive test prevalences based on the national average age and sex profile of testing for that week. This adjustment allows more accurate comparison of the proportion testing positive across districts.

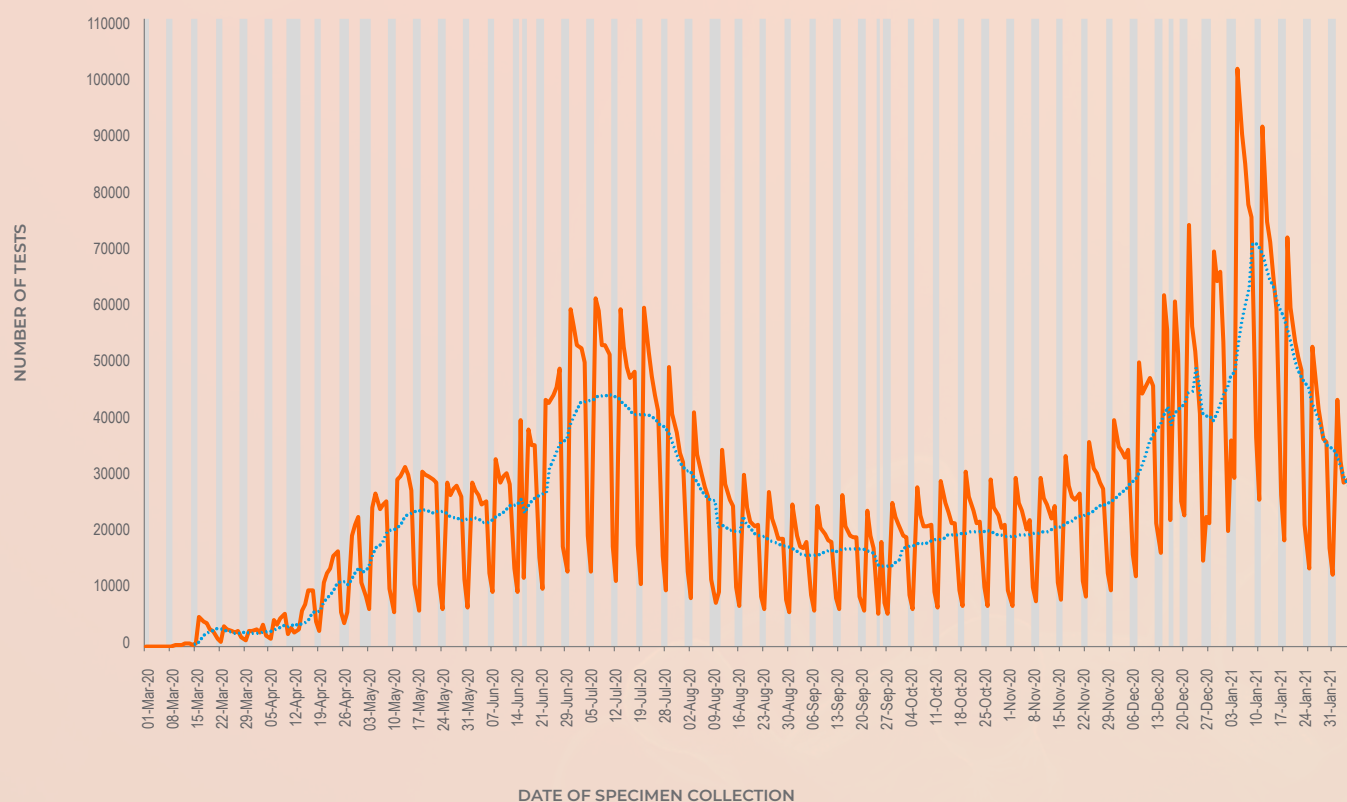
The report includes tests conducted between 1 March 2020 (week 10 of 2020), the week when the first case of COVID-19 was confirmed, and 6 February 2021 (week 5 of 2021).

## Testing volumes and proportion testing positive

From 1 March 2020 through 6 February 2021, 8,444,483 laboratory tests (PCR and antigen tests) for SARS-CoV-2 were performed. The number of tests performed increased weekly from week 10 of 2020, with the highest number of tests performed during the first wave occurring in week 28 of 2020 (n=307,900), and subsequently decreased. Weekly testing volumes increased again from week 47 (beginning 15 November 2020), with the highest weekly number of tests performed since the start of the pandemic performed in week 1 of 2021 (n=494,787). In week 5 of 2021, 185,941 tests were performed, lower than the previous few weeks. All tests for samples collected in the previous week may not yet be reflected. Reduced testing volumes were observed over weekends and public holidays (Figure 1).

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**Figure 1.** Number of laboratory tests conducted by date of specimen collection, South Africa, 1 March 2020 – 6 February 2021. Blue dotted line shows the 7-day moving average of the number of tests conducted. Grey bars highlight weekend days and public holidays.

The overall percentage testing positive from week 10 of 2020 through week 5 of 2021 was 18.4% (Table 1). During the first wave of infections, the percentage testing positive increased week on week from week 18 to a peak of 29.7% in week 29 of 2020, and subsequently decreased to 8.4% in week 44 of 2020. During the second wave of infections the percentage testing positive started increasing from week 46 of 2020, to a peak of 34.9% in week 53 of 2020. The percentage testing positive in week 5 of 2021 was 11.2%, continuing the decreasing trend observed in the previous few weeks (Figure 2).

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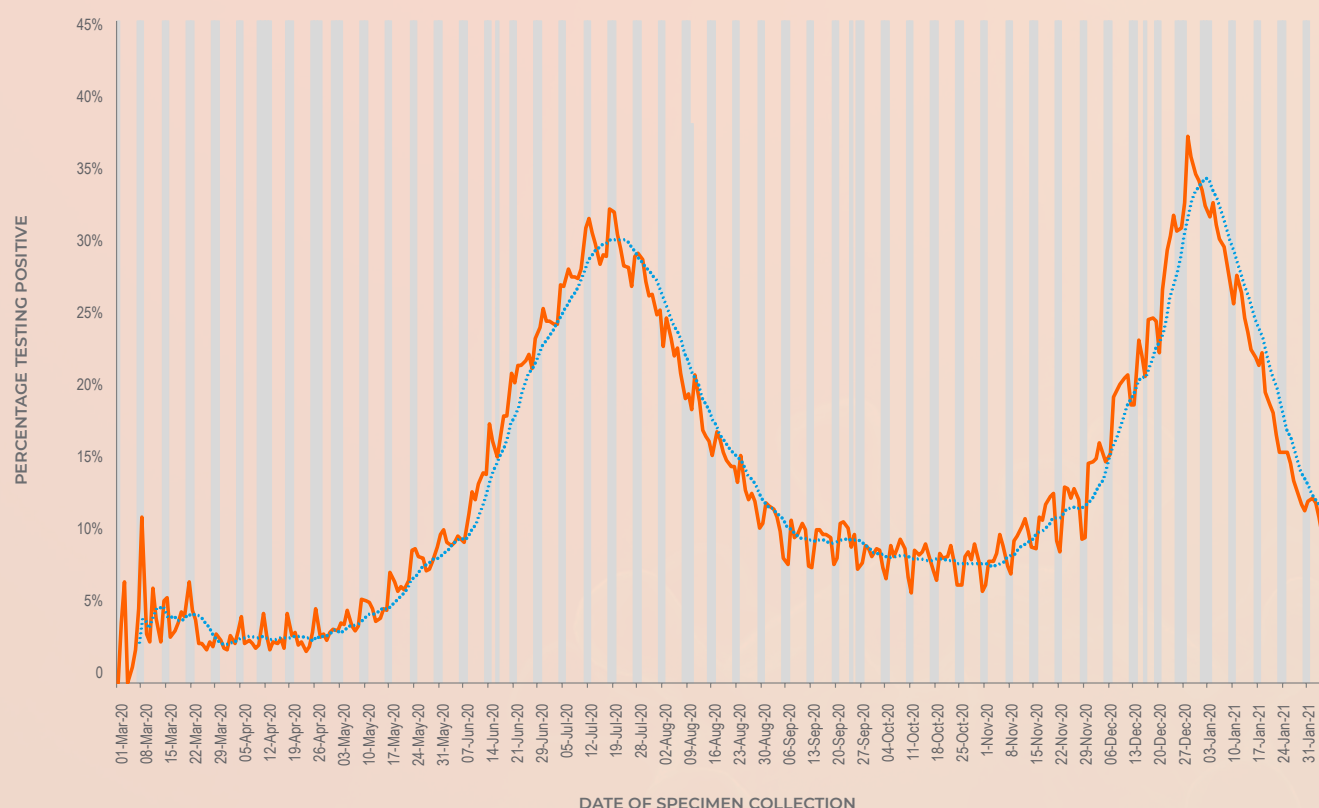
**Table 1.** Weekly number of tests conducted and positive tests, South Africa, 1 March 2020 – 6 February 2021

Week number	Week beginning	No. of tests n (%)	No. of positive tests	Percentage testing positive (%)
10	01-Mar-20	454 (0.0)	13	2.9
11	08-Mar-20	2380 (0.0)	103	4.3
12	15-Mar-20	21567 (0.3)	897	4.2
13	22-Mar-20	17541 (0.2)	543	3.1
14	29-Mar-20	18245 (0.2)	520	2.9
15	05-Apr-20	26298 (0.3)	796	3.0
16	12-Apr-20	43748 (0.5)	1295	3.0
17	19-Apr-20	79174 (0.9)	2177	2.7
18	26-Apr-20	93807 (1.1)	3203	3.4
19	03-May-20	142700 (1.7)	6017	4.2
20	10-May-20	165368 (2.0)	8090	4.9
21	17-May-20	166535 (2.0)	11379	6.8
22	24-May-20	156133 (1.8)	12967	8.3
23	31-May-20	153562 (1.8)	15079	9.8
24	07-Jun-20	173890 (2.1)	22358	12.9
25	14-Jun-20	186044 (2.2)	32638	17.5
26	21-Jun-20	252082 (3.0)	55044	21.8
27	28-Jun-20	302693 (3.6)	75306	24.9
28	05-Jul-20	307900 (3.6)	86032	27.9
29	12-Jul-20	285586 (3.4)	84924	29.7
30	19-Jul-20	270880 (3.2)	78633	29.0
31	26-Jul-20	216373 (2.6)	58391	27.0
32	02-Aug-20	179560 (2.1)	40991	22.8
33	09-Aug-20	141072 (1.7)	26262	18.6
34	16-Aug-20	135004 (1.6)	21374	15.8
35	23-Aug-20	123327 (1.5)	16330	13.2
36	30-Aug-20	112756 (1.3)	12790	11.3
37	06-Sep-20	116991 (1.4)	11952	10.2
38	13-Sep-20	120707 (1.4)	12011	10.0
39	20-Sep-20	98815 (1.2)	10098	10.2
40	27-Sep-20	123051 (1.5)	11007	8.9
41	04-Oct-20	131027 (1.6)	11777	9.0
42	11-Oct-20	137950 (1.6)	12072	8.8
43	18-Oct-20	142144 (1.7)	12066	8.5
44	25-Oct-20	135826 (1.6)	11477	8.4
45	01-Nov-20	138788 (1.6)	12133	8.7
46	08-Nov-20	146962 (1.7)	14839	10.1
47	15-Nov-20	160610 (1.9)	18761	11.7
48	22-Nov-20	175645 (2.1)	22043	12.5
49	29-Nov-20	202950 (2.4)	30762	15.2
50	06-Dec-20	267297 (3.2)	53296	19.9
51	13-Dec-20	293645 (3.5)	68537	23.3
52	20-Dec-20	283364 (3.4)	81884	28.9
53	27-Dec-20	331141 (3.9)	115411	34.9
1	03-Jan-21	494787 (5.9)	150268	30.4
2	10-Jan-21	413266 (4.9)	104215	25.2
3	17-Jan-21	323970 (3.8)	62933	19.4
4	24-Jan-21	244927 (2.9)	34286	14.0
5	31-Jan-21	185941 (2.2)	20866	11.2
<b>Total</b>		<b>8444483 (100.0)</b>	<b>1556846</b>	<b>18.4</b>



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**Figure 2.** Percentage of laboratory tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 1 March 2020 – 6 February 2021. Blue dotted line shows the 7-day moving average of the percentage testing positive. Grey bars highlight weekend days and public holidays.

## Testing in private and public sectors

From 1 March 2020 through 6 February 2021, 3,682,743 laboratory tests were conducted in public sector laboratories, with 19.1% testing positive. Over this same period, private sector laboratories conducted 4,761,740 tests, with 17.9% testing positive (Table 2). Overall the public sector has conducted 43.6% of tests and accounted for 45.2% of positive tests. In the first wave of infections the peak percentage testing positive was observed in week 30 of 2020 in the public sector (28.8%), and in week 29 of 2020 in the private sector (30.6%). In the second wave of infections the highest percentage testing positive was observed in week 53 of 2020 in both the public sector (35.4%) and private sector (34.4%). From week 4 to week 5 of 2021, the percentage testing positive decreased by 2.6% in the public sector (15.0% to

12.4%,  $P < 0.001$ ), and decreased by 2.8% (12.9% to 10.1%,  $P < 0.001$ ) in the private sector. In week 5 of 2021 the percentage testing positive was higher in the public sector (12.4%) compared to the private sector (10.1%) ( $P < 0.001$ ).

The mean turnaround time for PCR tests conducted in week 5 of 2021 was 1.3 days. Turnaround time decreased in the public sector (2.0 days) and remained consistent in the private sector (0.8 days) (Figure 3). Turnaround times for public sector tests decreased in provinces with high turnaround times in week 4, but remained  $> 2$  days in Mpumalanga (3.4 days), North West (3.4 days), KwaZulu-Natal (2.7 days) and Free State (2.2 days) provinces in week 5 (Figure 4). Nineteen of the 28 (67.9%) NHLS laboratories performing PCR testing for SARS-CoV-2 had turnaround times  $\leq 2$  days (Figure 5).

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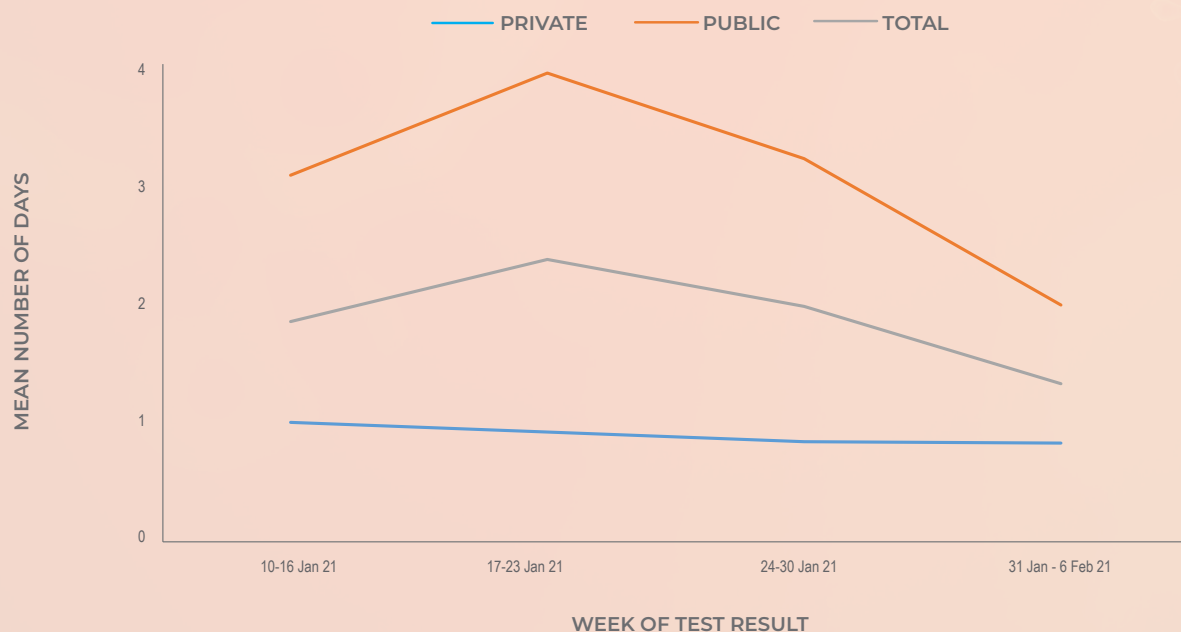
**Table 2.** Weekly number of tests conducted and positive tests, by healthcare sector, South Africa, 1 March 2020 – 6 February 2021

Week number	Week beginning	Public sector		Private sector		Public sector percentage of		Ratio of PTP <sup>a</sup>
		Tests	Cases n (%)	Tests	Positive tests n (%)	Tests (%)	Positive tests (%)	
10	01-Mar-20	293	10 (3.4)	161	3 (1.9)	64.5	76.9	1.832
11	08-Mar-20	401	27 (6.7)	1979	76 (3.8)	16.8	26.2	1.753
12	15-Mar-20	1442	81 (5.6)	20125	816 (4.1)	6.7	9.0	1.385
13	22-Mar-20	3477	149 (4.3)	14064	394 (2.8)	19.8	27.4	1.530
14	29-Mar-20	5868	194 (3.3)	12377	326 (2.6)	32.2	37.3	1.255
15	05-Apr-20	11735	417 (3.6)	14563	379 (2.6)	44.6	52.4	1.365
16	12-Apr-20	24166	672 (2.8)	19582	623 (3.2)	55.2	51.9	0.874
17	19-Apr-20	55110	1595 (2.9)	24064	582 (2.4)	69.6	73.3	1.197
18	26-Apr-20	67468	2453 (3.6)	26339	750 (2.8)	71.9	76.6	1.277
19	03-May-20	94336	4506 (4.8)	48364	1511 (3.1)	66.1	74.9	1.529
20	10-May-20	107997	5443 (5.0)	57371	2647 (4.6)	65.3	67.3	1.092
21	17-May-20	98647	7031 (7.1)	67888	4348 (6.4)	59.2	61.8	1.113
22	24-May-20	77596	6411 (8.3)	78537	6556 (8.3)	49.7	49.4	0.990
23	31-May-20	63943	6626 (10.4)	89619	8453 (9.4)	41.6	43.9	1.099
24	07-Jun-20	64653	8038 (12.4)	109237	14320 (13.1)	37.2	36.0	0.948
25	14-Jun-20	61147	11982 (19.6)	124897	20656 (16.5)	32.9	36.7	1.185
26	21-Jun-20	90452	20425 (22.6)	161630	34619 (21.4)	35.9	37.1	1.054
27	28-Jun-20	106366	27244 (25.6)	196327	48062 (24.5)	35.1	36.2	1.046
28	05-Jul-20	117722	32238 (27.4)	190178	53794 (28.3)	38.2	37.5	0.968
29	12-Jul-20	110658	31383 (28.4)	174928	53541 (30.6)	38.7	37.0	0.927
30	19-Jul-20	105206	30319 (28.8)	165674	48314 (29.2)	38.8	38.6	0.988
31	26-Jul-20	81234	22782 (28.0)	135139	35609 (26.3)	37.5	39.0	1.064
32	02-Aug-20	70566	16996 (24.1)	108994	23995 (22.0)	39.3	41.5	1.094
33	09-Aug-20	58660	11172 (19.0)	82412	15090 (18.3)	41.6	42.5	1.040
34	16-Aug-20	56136	9621 (17.1)	78868	11753 (14.9)	41.6	45.0	1.150
35	23-Aug-20	50317	7790 (15.5)	73010	8540 (11.7)	40.8	47.7	1.324
36	30-Aug-20	45419	6096 (13.4)	67337	6694 (9.9)	40.3	47.7	1.350
37	06-Sep-20	51054	6421 (12.6)	65937	5531 (8.4)	43.6	53.7	1.499
38	13-Sep-20	53704	6547 (12.2)	67003	5464 (8.2)	44.5	54.5	1.495
39	20-Sep-20	44840	5530 (12.3)	53975	4568 (8.5)	45.4	54.8	1.457
40	27-Sep-20	48627	5568 (11.5)	74424	5439 (7.3)	39.5	50.6	1.567
41	04-Oct-20	50428	5688 (11.3)	80599	6089 (7.6)	38.5	48.3	1.493
42	11-Oct-20	53444	5702 (10.7)	84506	6370 (7.5)	38.7	47.2	1.415
43	18-Oct-20	56120	6044 (10.8)	86024	6022 (7.0)	39.5	50.1	1.538
44	25-Oct-20	51281	5721 (11.2)	84545	5756 (6.8)	37.8	49.8	1.639
45	01-Nov-20	53017	6067 (11.4)	85771	6066 (7.1)	38.2	50.0	1.618
46	08-Nov-20	58993	8110 (13.7)	87969	6729 (7.6)	40.1	54.7	1.797
47	15-Nov-20	67795	10702 (15.8)	92815	8059 (8.7)	42.2	57.0	1.818
48	22-Nov-20	74782	12244 (16.4)	100863	9799 (9.7)	42.6	55.5	1.685
49	29-Nov-20	81352	15833 (19.5)	121598	14929 (12.3)	40.1	51.5	1.585
50	06-Dec-20	107590	24736 (23.0)	159707	28560 (17.9)	40.3	46.4	1.286
51	13-Dec-20	116867	29862 (25.6)	176778	38675 (21.9)	39.8	43.6	1.168
52	20-Dec-20	109501	34169 (31.2)	173863	47715 (27.4)	38.6	41.7	1.137
53	27-Dec-20	149208	52804 (35.4)	181933	62607 (34.4)	45.1	45.8	1.028
1	03-Jan-21	232399	70703 (30.4)	262388	79565 (30.3)	47.0	47.1	1.003
2	10-Jan-21	205190	53725 (26.2)	208076	50490 (24.3)	49.7	51.6	1.079
3	17-Jan-21	168409	34895 (20.7)	155561	28038 (18.0)	52.0	55.4	1.150
4	24-Jan-21	125650	18884 (15.0)	119277	15402 (12.9)	51.3	55.1	1.164
5	31-Jan-21	91477	11346 (12.4)	94464	9520 (10.1)	49.2	54.4	1.231
<b>Total</b>		<b>3682743</b>	<b>703002 (19.1)</b>	<b>4761740</b>	<b>853844 (17.9)</b>	<b>43.6</b>	<b>45.2</b>	<b>1.065</b>

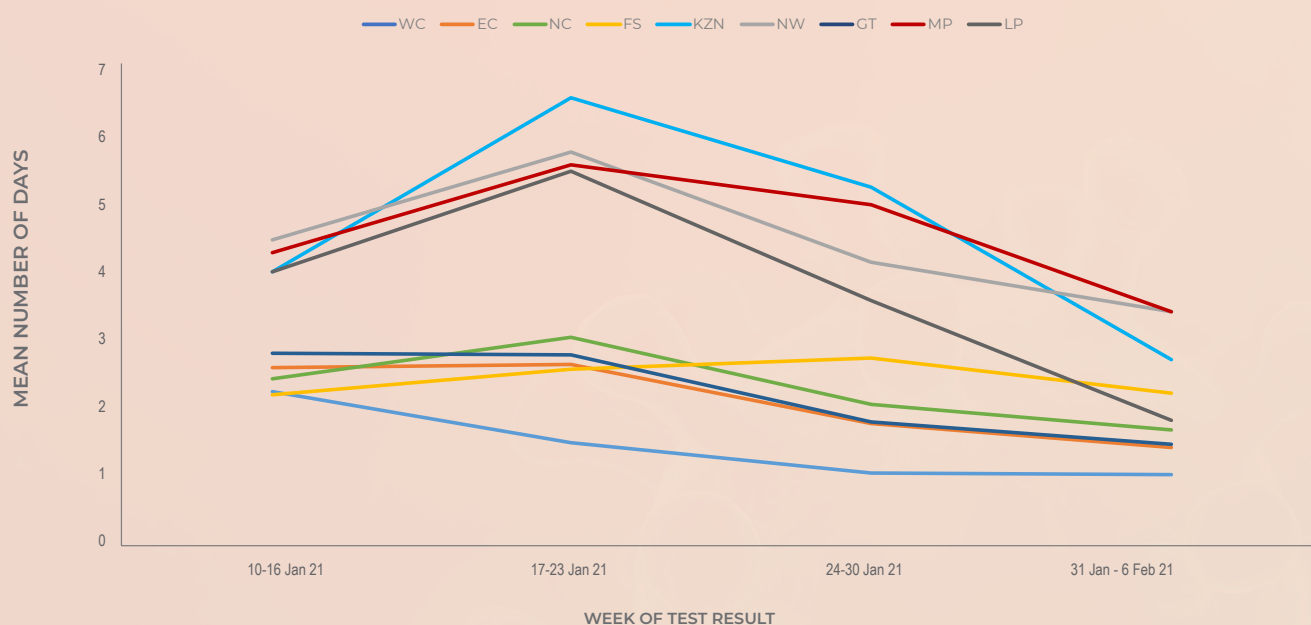
<sup>a</sup>Ratio of percentage testing positive (PTP) in the public sector to the private sector calculated as (no. of cases/total tests in public sector)/ (no. of cases/total tests in private sector)

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**Figure 3.** Mean number of days between date of specimen collection and date of test result, by week of test result, South Africa, 10 January – 6 February 2021

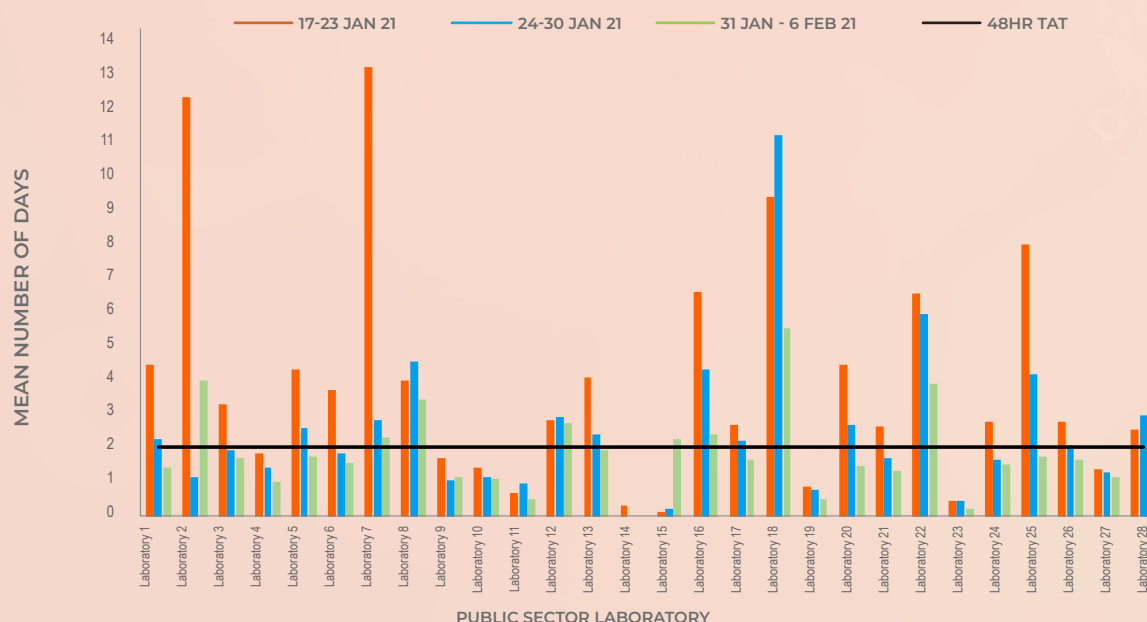


**Figure 4.** Mean number of days between date of specimen collection and date of test result, by week of test result and province, public sector, South Africa, 10 January – 6 February 2021. WC, Western Cape; EC, Eastern Cape; FS, Free State; KZN, KwaZulu-Natal; GT, Gauteng; NC, Northern Cape; NW, North West; MP, Mpumalanga; LP, Limpopo



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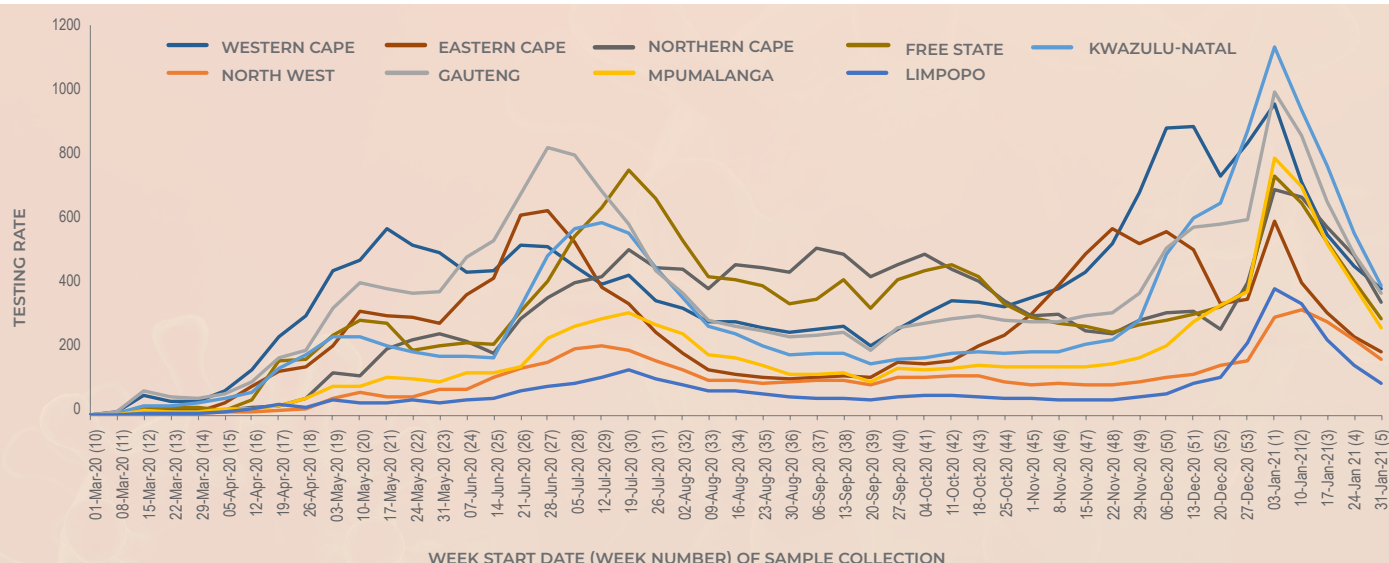


**Figure 5.** Mean number of days between date of specimen collection and date of test result, by public sector laboratory, 17 January – 6 February 2021. The horizontal black line indicates 48-hour turnaround time (TAT).

## Testing by province

Gauteng (31.3%) performed the largest number of tests in week 5 of 2021, followed by KwaZulu-Natal (24.6%) and Western Cape (14.6%) provinces (Table 3). KwaZulu-Natal (397 per 100,000 persons), Western Cape (388 per 100,000 persons), Gauteng (375 per 100,000 persons) and Northern Cape (348 per 100,000 persons) provinces had the highest testing rates in week 5 of 2021 (Figure 6). Testing rates continued to decrease in all provinces in the past week.

The percentage testing positive in week 5 of 2021 was highest in Limpopo (18.6%), Mpumalanga (17.6%) and Northern Cape (15.3%). Percentage testing positive was 10-15% in the Western Cape, Free State, KwaZulu-Natal, North West and Gauteng, and was <10% in the Eastern Cape in week 5 of 2021 (Figure 7 and Table 3). Compared to the previous week, the percentage testing positive decreased in week 5 in all provinces ( $P < 0.001$ ), except the Northern Cape where it did not change ( $P = 0.091$ ). The percentage testing positive was higher than the national average, not weighted for population size, in the Northern Cape, Free State, North West, Mpumalanga and Limpopo (Figure 7).



**Figure 6.** Testing rate per 100,000 persons by province and week of specimen collection, South Africa, 1 March 2020 – 6 February 2021



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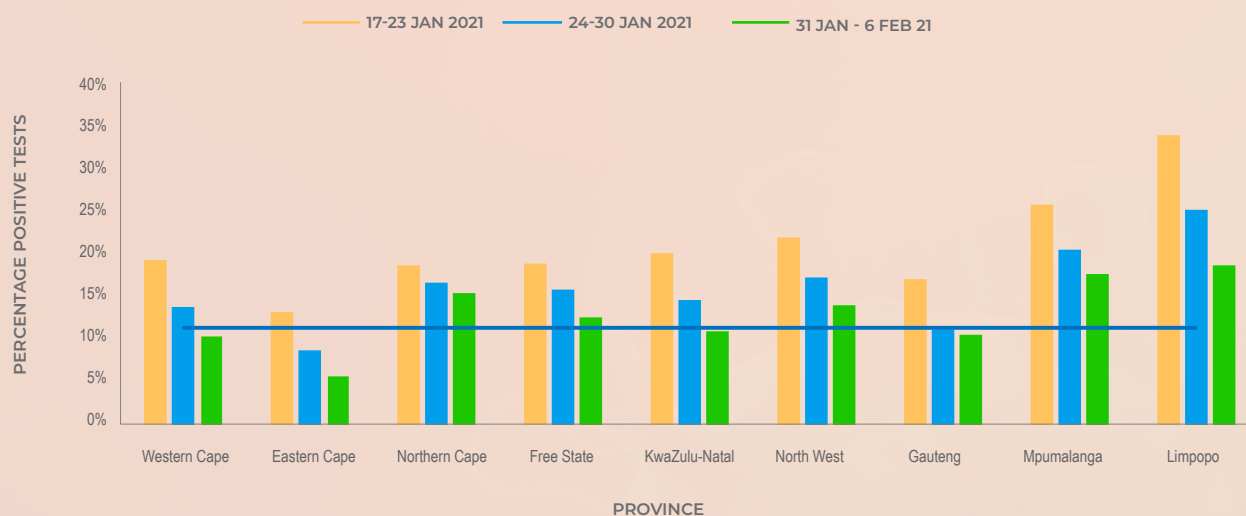
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**Table 3.** Weekly number of tests performed and positive tests, by province, South Africa, 17 January – 6 February 2021

Province	Population <sup>a</sup>	17 – 23 Jan 21		24 - 30 Jan 21		31 Jan – 6 Feb 21		Tests per 100,000 persons	Change in percentage positive <sup>b</sup>
		No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)		
Western Cape	7005741	38871	7473 (19.2)	32156	4405 (13.7)	27150	2780 (10.2)	388	-3.5%
Eastern Cape	6734001	21331	2788 (13.1)	16104	1399 (8.7)	13033	720 (5.5)	194	-3.2%
Northern Cape	1292786	7493	1397 (18.6)	6346	1047 (16.5)	4499	688 (15.3)	348	-1.2%
Free State	2928903	15536	2905 (18.7)	11998	1895 (15.8)	8713	1084 (12.4)	297	-3.4%
KwaZulu-Natal	11531628	88564	17628 (19.9)	64382	9336 (14.5)	45832	5020 (11.0)	397	-3.5%
North West	4108816	11883	2593 (21.8)	9439	1616 (17.1)	6962	963 (13.8)	169	-3.3%
Gauteng	15488137	101788	17164 (16.9)	76683	8550 (11.1)	58112	6075 (10.5)	375	-0.7%
Mpumalanga	4679786	24745	6370 (25.7)	18619	3783 (20.3)	12472	2192 (17.6)	267	-2.7%
Limpopo	5852553	13638	4609 (33.8)	8940	2249 (25.2)	5791	1075 (18.6)	99	-6.6%
Unknown		121	6 (5.0)	260	6 (2.3)	3377	269 (8.0)		
<b>Total</b>	<b>59622350</b>	<b>323970</b>	<b>62933 (19.4)</b>	<b>244927</b>	<b>34286 (14.0)</b>	<b>185941</b>	<b>20866 (11.2)</b>	<b>312</b>	<b>-2.8%</b>

<sup>a</sup> 2020 Mid-year population Statistics SA

<sup>b</sup> Current week compared to previous week



**Figure 7.** Weekly percentage testing positive, by province, South Africa, 17 January – 6 February 2021. The horizontal blue line shows the national mean for week 5, beginning 31 January 2021.

## Testing in the public sector

In the public sector, the percentage testing positive decreased in the past week (15.0% in week 4 to 12.4% in week 5 of 2021,  $P < 0.001$ ) (Table 4). The percentage testing positive in week 5 of 2021 remained highest

in Limpopo (23.2%) and Mpumalanga (17.7%). The percentage testing positive in the public sector remains higher than the national average, not weighted for population size, in the Northern Cape, Free State, North West, Gauteng, Mpumalanga and Limpopo provinces (Figure 8).

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**Table 4.** Weekly number of tests conducted and positive tests in the public sector, by province, South Africa, 17 January – 6 February 2021

Province	17-23 Jan 2021		24-30 Jan 2021		31 Jan - 6 Feb 2021	
	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)
Western Cape	16361	3611 (22.1)	12625	2228 (17.6)	10023	1220 (12.2)
Eastern Cape	15800	2065 (13.1)	11063	910 (8.2)	8786	470 (5.3)
Northern Cape	4877	983 (20.2)	4270	763 (17.9)	2888	461 (16.0)
Free State	9749	1979 (20.3)	6840	1227 (17.9)	4232	617 (14.6)
KwaZulu-Natal	59337	12113 (20.4)	44014	6527 (14.8)	31209	3500 (11.2)
North West	6714	1545 (23.0)	5159	898 (17.4)	3037	468 (15.4)
Gauteng	38129	7217 (18.9)	28689	3384 (11.8)	21064	2869 (13.6)
Mpumalanga	11765	3223 (27.4)	9102	1854 (20.4)	5486	973 (17.7)
Limpopo	5677	2159 (38.0)	3696	1092 (29.5)	2454	569 (23.2)
Unknown	0	0 (0.0)	192	1 (0.5)	2298	199 (8.7)
<b>Total</b>	<b>168409</b>	<b>34895 (20.7)</b>	<b>125650</b>	<b>18884 (15.0)</b>	<b>91477</b>	<b>11346 (12.4)</b>



**Figure 8.** Weekly percentage testing positive in the public sector, by province, South Africa, 17 January – 6 February 2021. The horizontal blue line shows the national mean for week 5 of 2021, beginning 31 January 2021.

## Facilities with high proportions testing positive

Table 5.1 shows the 25 public sector clinics, hospitals and testing laboratories (where specimens were not tied to a particular facility), that had 25 or more

specimens tested and at least five positive results in the week of 31 January – 6 February 2021, with the highest proportion testing positive nationally. The distribution of public sector facilities is spatially diffuse; each province has at least one facility on the list; 6 are in each of KwaZulu-Natal and Limpopo.

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**Table 5.1** Public sector healthcare facilities with a high proportion testing positive, 31 January – 6 February 2021

Facility Name	Province	Tests	PTP (95% CI)
Facility 1	Western Cape	26	0.500 (0.308;0.692)
Facility 2	Northern Cape	50	0.480 (0.342;0.618)
Facility 3	Northern Cape	27	0.444 (0.257;0.632)
Facility 4	Eastern Cape	30	0.433 (0.256;0.611)
Facility 5	KwaZulu-Natal	28	0.429 (0.245;0.612)
Facility 6	Mpumalanga	42	0.429 (0.279;0.578)
Facility 7	KwaZulu-Natal	28	0.429 (0.245;0.612)
Facility 8	KwaZulu-Natal	39	0.410 (0.256;0.565)
Facility 9	Northern Cape	30	0.400 (0.225;0.575)
Facility 10	Gauteng	25	0.400 (0.208;0.592)
Facility 11	Limpopo	81	0.395 (0.289;0.502)
Facility 12	Limpopo	36	0.389 (0.230;0.548)
Facility 13	Northern Cape	31	0.387 (0.216;0.559)
Facility 14	Limpopo	58	0.379 (0.254;0.504)
Facility 15	KwaZulu-Natal	37	0.378 (0.222;0.535)
Facility 16	North West	82	0.366 (0.262;0.470)
Facility 17	Limpopo	55	0.364 (0.237;0.491)
Facility 18	Limpopo	31	0.355 (0.186;0.523)
Facility 19	KwaZulu-Natal	51	0.353 (0.222;0.484)
Facility 20	North West	37	0.351 (0.198;0.505)
Facility 21	KwaZulu-Natal	40	0.350 (0.202;0.498)
Facility 22	Limpopo	43	0.349 (0.206;0.491)
Facility 23	Free State	29	0.345 (0.172;0.518)
Facility 24	Gauteng	157	0.344 (0.270;0.418)
Facility 25	Western Cape	32	0.344 (0.179;0.508)

95% CI: 95% confidence interval; PTP: positive test proportion

Table 5.2 shows the 25 private sector clinics, hospitals and testing laboratories (where specimens were not tied to a particular facility), that had 25 or more specimens tested and at least five positive results in the week of 31 January – 6 February 2021, with the highest proportion testing positive nationally. Private-sector facilities with high proportions testing positive are concentrated in KwaZulu-Natal (8) and Gauteng (5), with four in each of Mpumalanga and Limpopo.



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**Table 5.2** Private sector healthcare facilities with a high proportion testing positive, 31 January – 6 February 2021

Facility Name	Province	Tests	PTP (95% CI)
Facility 1	Mpumalanga	42	0.381 (0.234;0.528)
Facility 2	Western Cape	79	0.342 (0.237;0.446)
Facility 3	Mpumalanga	92	0.315 (0.220;0.410)
Facility 4	KwaZulu-Natal	35	0.286 (0.136;0.435)
Facility 5	Limpopo	322	0.267 (0.219;0.315)
Facility 6	KwaZulu-Natal	45	0.267 (0.137;0.396)
Facility 7	KwaZulu-Natal	28	0.250 (0.090;0.410)
Facility 8	North West	66	0.242 (0.139;0.346)
Facility 9	Mpumalanga	116	0.241 (0.164;0.319)
Facility 10	Gauteng	25	0.240 (0.073;0.407)
Facility 11	KwaZulu-Natal	25	0.240 (0.073;0.407)
Facility 12	Western Cape	25	0.240 (0.073;0.407)
Facility 13	KwaZulu-Natal	46	0.239 (0.116;0.362)
Facility 14	Gauteng	26	0.231 (0.069;0.393)
Facility 15	Limpopo	275	0.229 (0.179;0.279)
Facility 16	Limpopo	88	0.227 (0.140;0.315)
Facility 17	Gauteng	27	0.222 (0.065;0.379)
Facility 18	Mpumalanga	45	0.222 (0.101;0.344)
Facility 19	KwaZulu-Natal	50	0.220 (0.105;0.335)
Facility 20	KwaZulu-Natal	207	0.217 (0.161;0.274)
Facility 21	Gauteng	38	0.211 (0.081;0.340)
Facility 22	Free State	57	0.211 (0.105;0.316)
Facility 23	KwaZulu-Natal	34	0.206 (0.070;0.342)
Facility 24	Gauteng	39	0.205 (0.078;0.332)
Facility 25	Limpopo	181	0.204 (0.146;0.263)

95% CI: 95% confidence interval; PTP: positive test proportion

## Health district-level results

The data from geo-locatable public testing (almost every public sector facility in the country) and private testing (approximately 83% of private testing facilities) in the week from 31 January – 6 February 2021 have been located within the spatial framework of the health districts and health sub-districts (in the metros). The results, for the 25 municipalities and metropolitan health sub-districts showing the greatest proportions testing positive (PTP) are shown in Table 6. As proportions testing positive continue to decline, districts showing high PTP are increasingly spatially diffuse. Five of the districts showing the greatest PTP are in each of KwaZulu-

Natal, Limpopo, and the Northern Cape. Four districts are in Mpumalanga. No districts showed an adjusted proportion testing positive greater than 40%. The proportion of tests returned positive rose significantly in Mamusa district in the North West.



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**Table 6.** Health sub-districts with the highest proportion testing positive based on public and private sector data for the week of 31 January – 6 February 2021

Health district or sub-district	Province	PTP (95% CI)	Previous week
Phumelela	Free State	0.385 (0.267-0.503)	0.229 (0.160-0.297)
Bela-Bela	Limpopo	0.379 (0.242-0.515)	0.234 (0.145-0.322)
Makhuduthamaga	Limpopo	0.377 (0.288-0.467)	0.335 (0.269-0.400)
Ezingoleni	KwaZulu-Natal	0.337 (0.227-0.447)	0.464 (0.385-0.543)
Matzikama	Western Cape	0.319 (0.241-0.397)	0.347 (0.282-0.412)
Cederberg	Western Cape	0.308 (0.214-0.403)	0.372 (0.264-0.481)
Mamusa	North West	0.305 (0.159-0.452)	0.077 (0.052-0.102)
Umjindi	Mpumalanga	0.305 (0.205-0.404)	0.276 (0.192-0.360)
Umzumbe	KwaZulu-Natal	0.300 (0.243-0.358)	0.376 (0.328-0.425)
Richtersveld	Northern Cape	0.286 (0.184-0.388)	0.322 (0.221-0.422)
Mtubatuba	KwaZulu-Natal	0.284 (0.217-0.351)	0.316 (0.261-0.370)
Ubuntu	Northern Cape	0.283 (0.134-0.432)	0.168 (0.033-0.303)
Pixley Ka Seme	Mpumalanga	0.280 (0.201-0.358)	0.301 (0.253-0.348)
Ratlou	North West	0.270 (0.155-0.385)	0.281 (0.178-0.385)
Mpofana	KwaZulu-Natal	0.269 (0.150-0.389)	0.255 (0.199-0.312)
Greater Letaba	Limpopo	0.266 (0.129-0.403)	0.433 (0.314-0.551)
Greater Tubatse	Limpopo	0.261 (0.220-0.303)	0.254 (0.217-0.291)
Ga-Segonyana	Northern Cape	0.249 (0.156-0.343)	0.216 (0.160-0.272)
Umzimkhulu	KwaZulu-Natal	0.245 (0.197-0.292)	0.240 (0.197-0.283)
Maluti a Phofung	Free State	0.245 (0.209-0.280)	0.285 (0.256-0.314)
Joe Morolong	Northern Cape	0.242 (0.110-0.375)	0.171 (0.096-0.246)
Mkhondo	Mpumalanga	0.240 (0.182-0.299)	0.273 (0.222-0.324)
Elias Motsoaledi	Limpopo	0.231 (0.171-0.292)	0.278 (0.217-0.339)
Bushbuckridge	Mpumalanga	0.230 (0.196-0.264)	0.237 (0.212-0.263)
Hantam	Northern Cape	0.228 (0.119-0.338)	0.164 (0.092-0.237)

95% CI: 95% confidence interval; PTP: adjusted positive test proportion; Elements marked in **red** have current week proportions testing positive that are **higher** than, and CIs that do not overlap with, the previous week proportions and CIs. Elements marked in **blue** have current week proportions testing positive that are **lower** than, and CIs that do not overlap with, the previous week proportions and CIs.

The data for every district with a non-zero proportion testing positive or where the range of confidence interval is not more than 30% (15% either side of the point estimate) for the current week is presented graphically below.

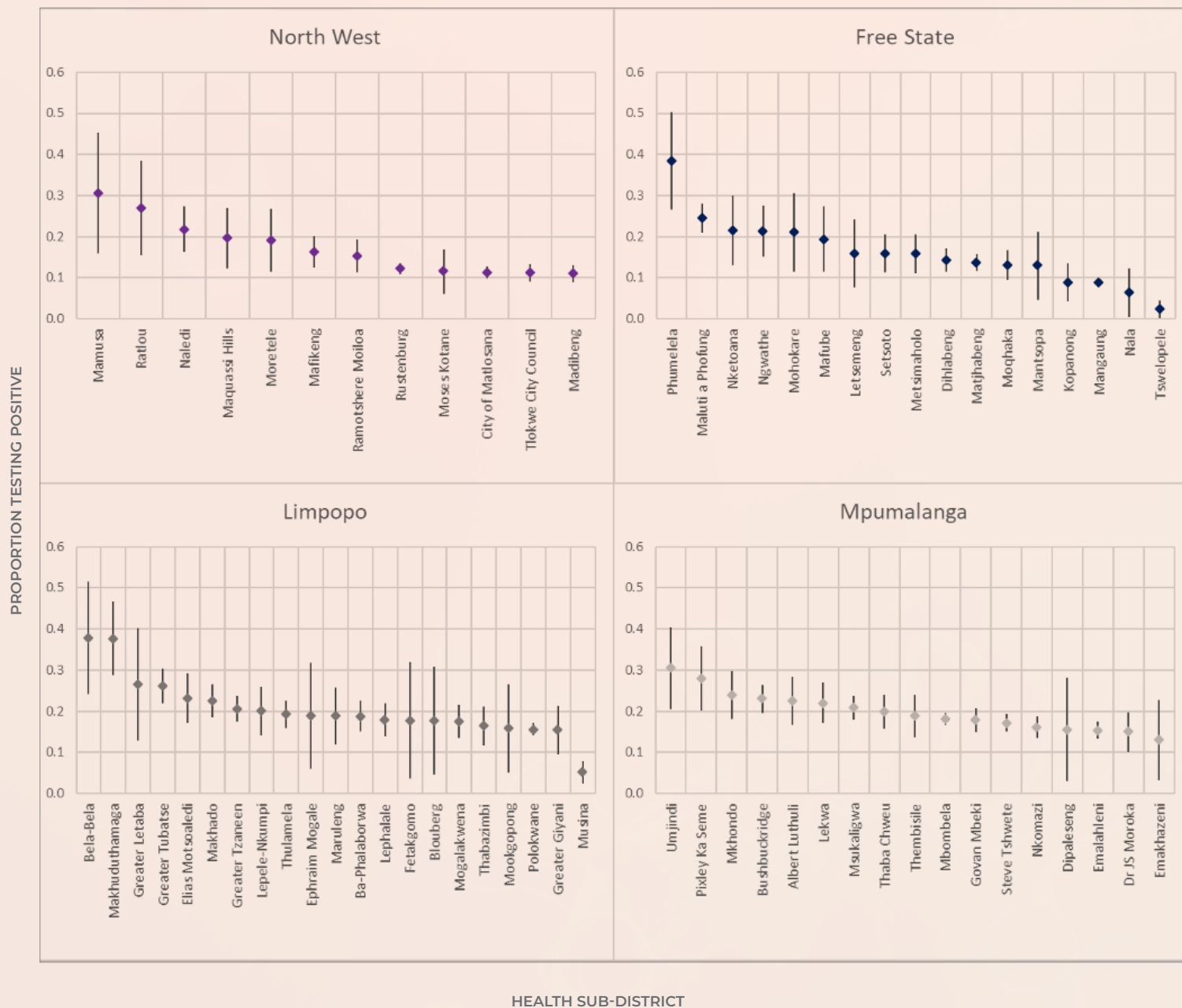
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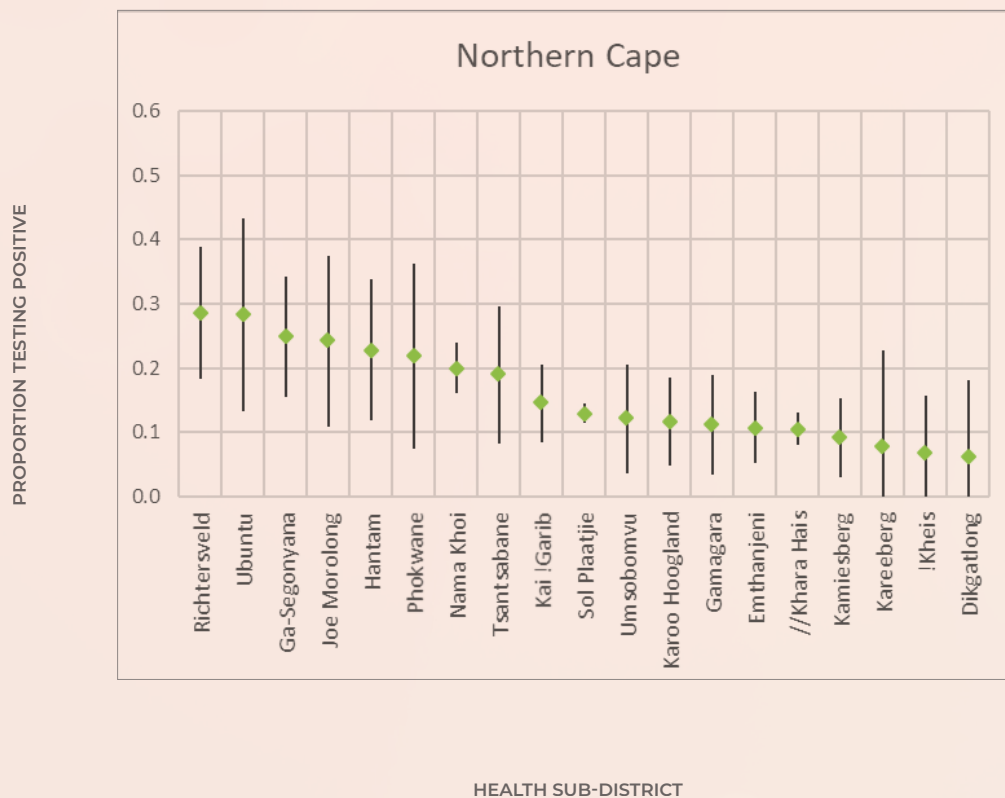


**Figure 9.2** Proportions testing positive by health sub-district in the North West, Free State, Limpopo and Mpumalanga provinces based on public and private sector data for the week of 31 January – 6 February 2021.



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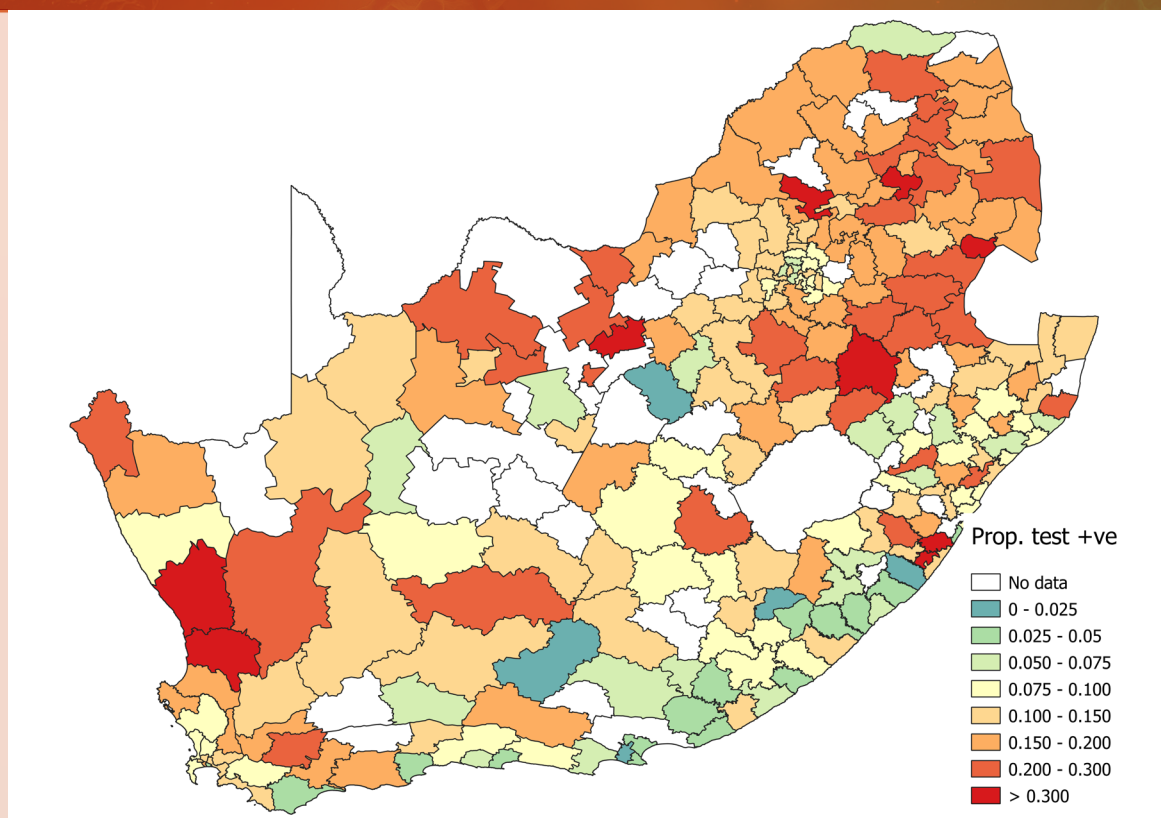
**Figure 9.3** Proportions testing positive by health sub-districts in the Northern Cape Province based on public and private sector data for the week of 31 January – 6 February 2021.

The spatial pattern of adjusted proportions testing positive, including both public and private sector data, by health district and sub-district are shown for South Africa (Figure 10), Western Cape (Figure 11), Eastern Cape (Figure 12), Northern Cape (Figure 13), Free State (Figure 14), KwaZulu-Natal (Figure 15), North West (Figure 16), Gauteng (Figure 17), Mpumalanga (Figure 18) and Limpopo (Figure 19).

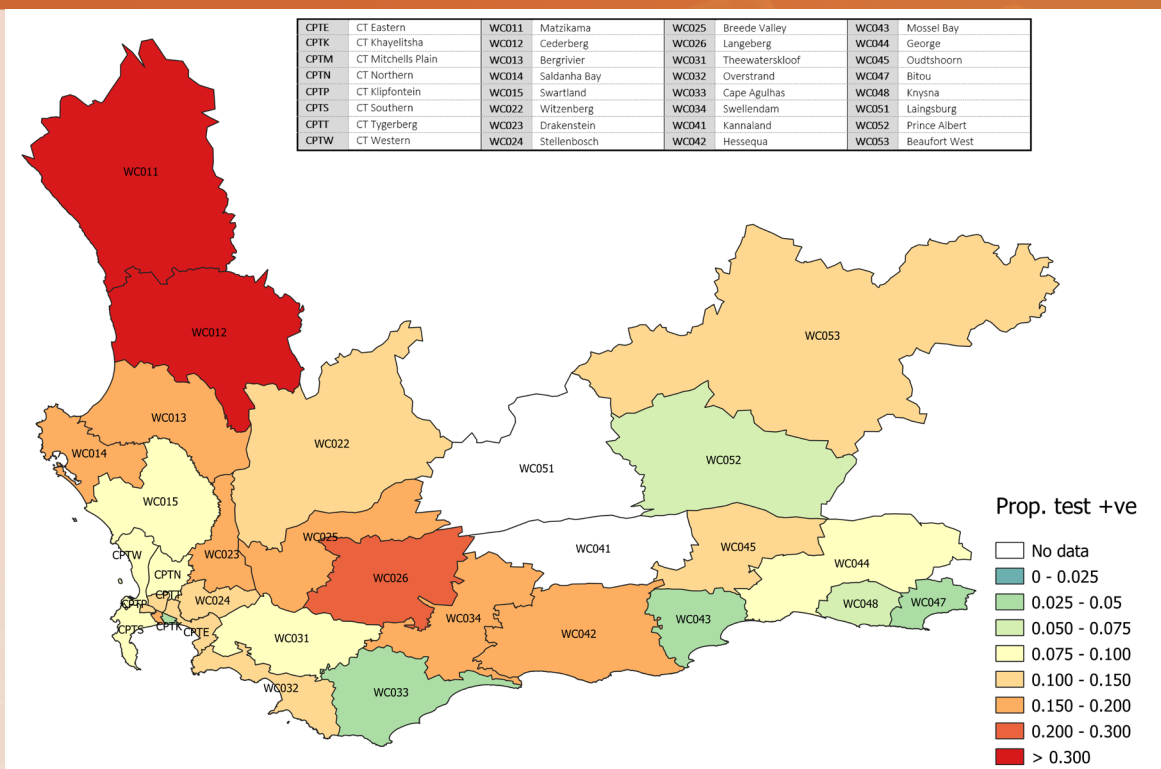


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**Figure 10.** Proportion testing positive by health sub-district in South Africa for the week of 31 January – 6 February 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.



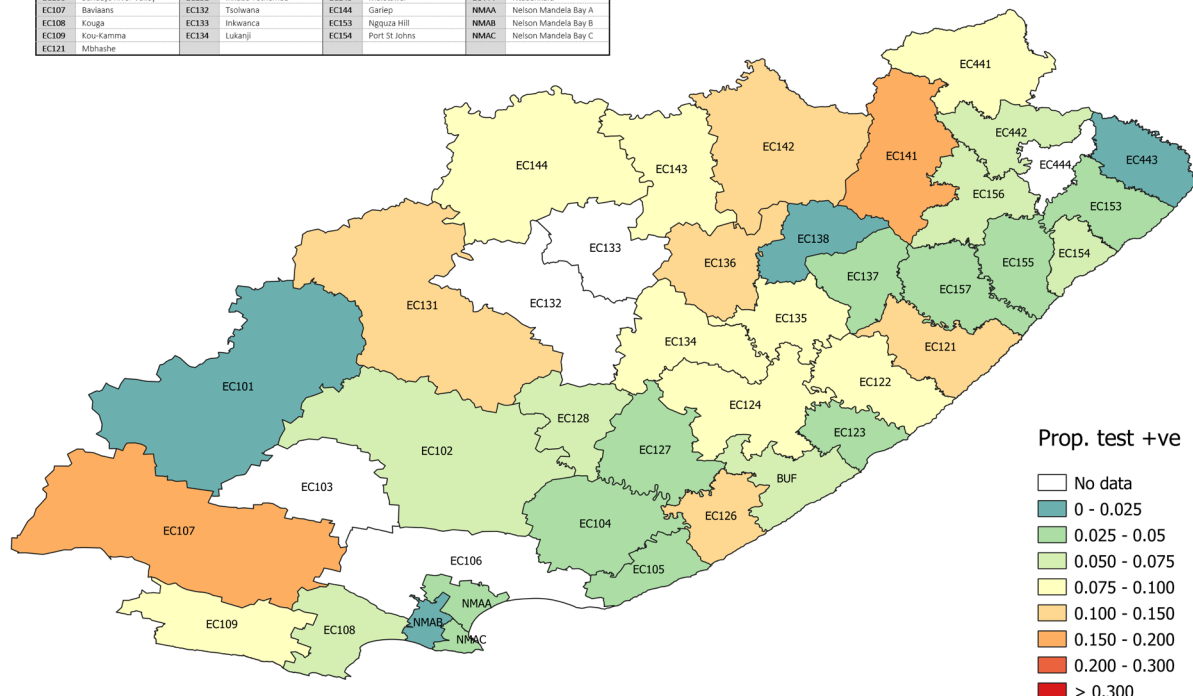
**Figure 11.** Proportion testing positive by health sub-district in the Western Cape province for the week of 31 January – 6 February 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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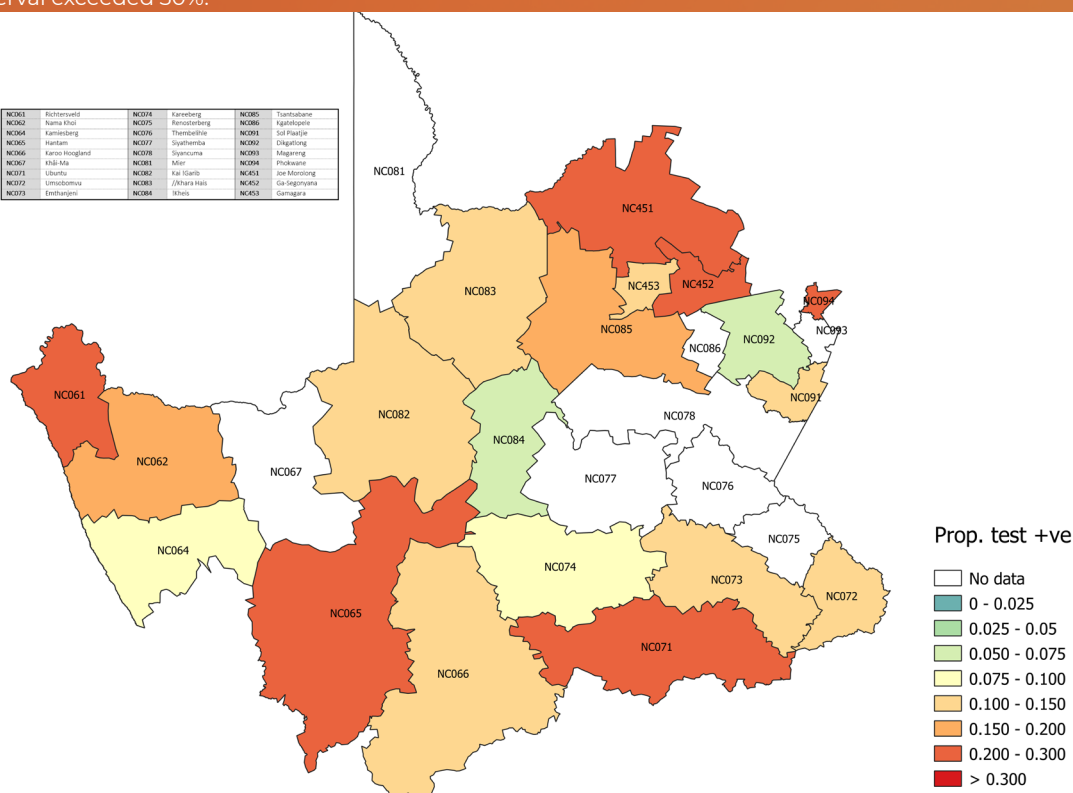
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BUF	Buffalo City	EC122	Mnquma	EC135	Intika Yethu	EC155	Nyandeni
EC101	Camdeboo	EC123	Great Kei	EC136	Emalahleni	EC156	Mhlontlo
EC102	Blue Crane Route	EC124	Amahliathi	EC137	Engcobo	EC157	King Sabata Dalindyebo
EC103	Waveren	EC126	Nqushwa	EC138	Sakhiswwe	EC441	Mazafiele
EC104	Malana	EC127	Nkonkobe	EC141	Elundini	EC442	Umpimvubu
EC105	Indlambe	EC128	Nxuba	EC142	Senqu	EC443	Mbizana
EC106	Sundays River Valley	EC131	Inxuba Yethemba	EC143	Maletswai	EC444	Ntabankulu
EC107	Baviaans	EC132	Tsolwana	EC144	Gariep	NMAA	Nelson Mandela Bay A
EC108	Kouga	EC133	Inkwanca	EC153	Nqunusa Hill	NMAB	Nelson Mandela Bay B
EC109	Kou-Kamma	EC134	Lukani	EC154	Port St Johns	NMAC	Nelson Mandela Bay C
EC121	Mthashe						



**Figure 12.** Proportion testing positive by health sub-district in the Eastern Cape province for the week of 31 January – 6 February 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

NC061	Richtersveld	NC074	Karaberg	NC085	Tsantabane
NC062	Ruma Khoi	NC075	Rensosterberg	NC086	Tgantsipole
NC064	Karaberg	NC076	Thembelille	NC091	Sol Plaatje
NC065	Karaberg	NC077	Sydenhams	NC092	Olapheng
NC066	Karoo Hoogland	NC078	Sydenhams	NC093	Magereng
NC067	Karoo Hoogland	NC079	Karoo	NC094	Prokari
NC071	Uitenhage	NC080	Karoo	NC095	Joe Molelele
NC072	Uitenhage	NC081	Karoo	NC096	Go-Segonyana
NC073	Uitenhage	NC082	Karoo	NC097	Gamagara



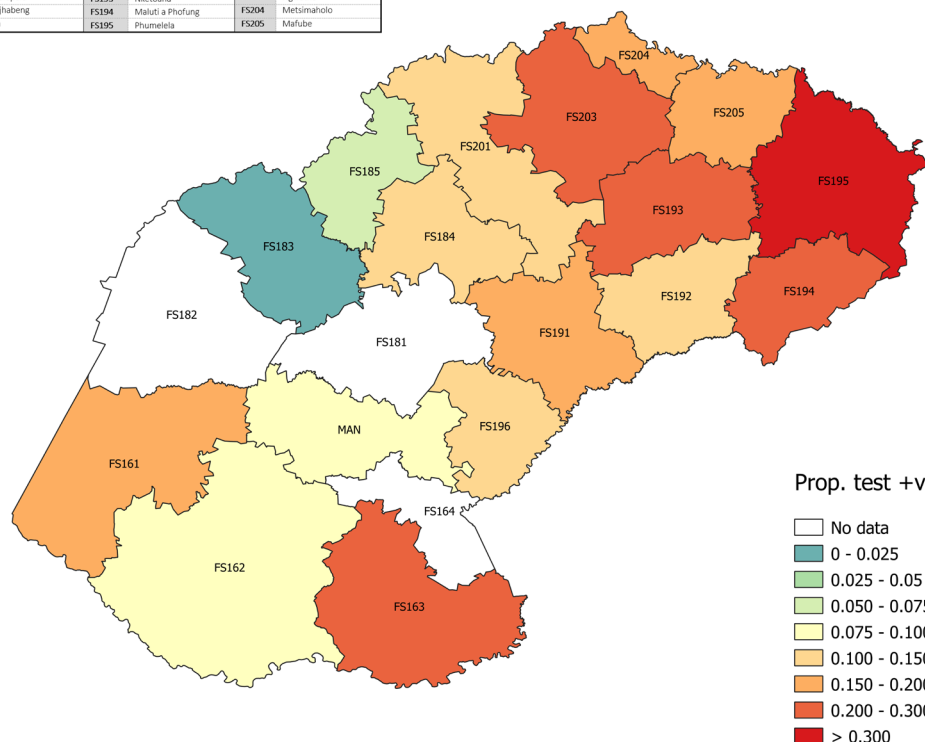
**Figure 13.** Proportion testing positive by health sub-district in Northern Cape Province for the week of 31 January – 6 February 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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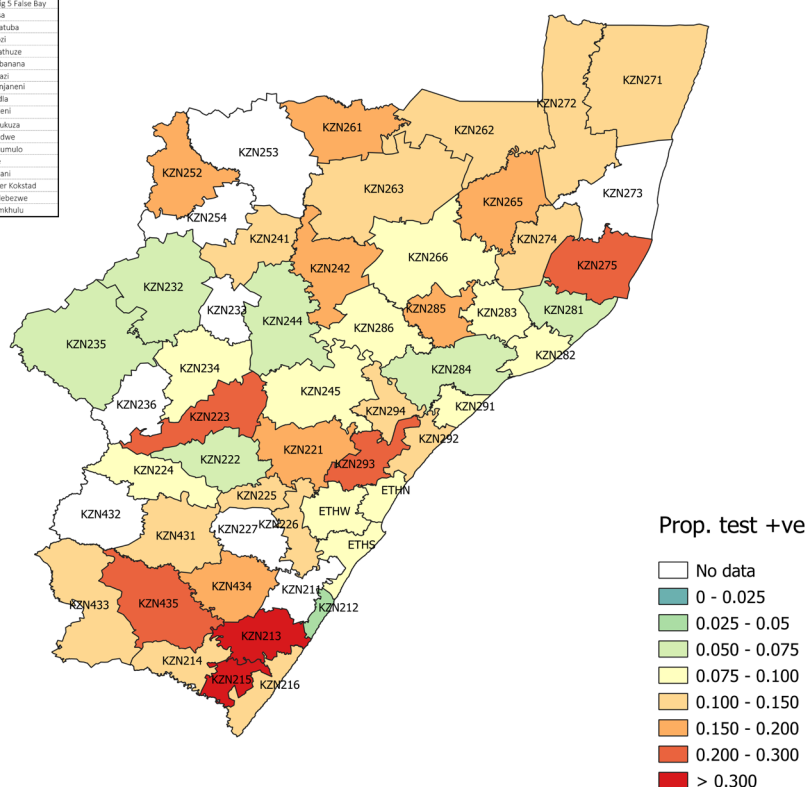
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MAN	Mangaung	FS181	Masforyana	FS191	Setsoot	FS196	Mantzopa
FS161	Letsemeng	FS182	Tokologo	FS192	Dihlabeng	FS201	Moghaka
FS162	Kopanong	FS183	Tswelopele	FS193	Nketoana	FS203	Ngwathe
FS163	Mohokare	FS184	Matjhabeng	FS194	Maluti a Phofung	FS204	Metsimaholo
FS164	Naledi	FS185	Nala	FS195	Phumelela	FS205	Malube



**Figure 14.** Proportion testing positive by health sub-district in Free State Province for the week of 31 January – 6 February 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

ETHN	eThekaini North	KZN233	Indaka	KZN273	The Big 5 False Bay
ETHS	eThekaini South	KZN234	Umshesh	KZN274	Hlabisa
ETHW	eThekaini West	KZN235	Olshahlamba	KZN275	Mthababisa
KZN211	Vulamehlo	KZN236	Imbabazane	KZN281	Mfolosi
KZN212	Umdoni	KZN241	Endumeni	KZN282	uMthathuze
KZN213	Umtumbi	KZN242	Nqutu	KZN283	Ntambanana
KZN214	uMuziwabantu	KZN244	Mzinga	KZN284	uMlalazi
KZN215	Ezingoleni	KZN245	Umtoti	KZN285	Mthonjaneni
KZN216	Hlabisa Coast	KZN252	Newcastle	KZN286	Nkandla
KZN217	uMthathuze	KZN253	Emadlangeni	KZN291	Mandeni
KZN218	uMngeni	KZN254	Damshausen	KZN292	Kwa-Dukuza
KZN219	Mpofana	KZN261	eDumbe	KZN293	Ndwebwe
KZN220	Impendle	KZN262	uPhongolo	KZN294	Magphumulo
KZN221	The Mpondweni	KZN263	Alaqulali	KZN295	Ingwe
KZN222	Mkhambathini	KZN264	Nongoma	KZN296	Kwa-Sali
KZN223	Richmond	KZN265	Ulundi	KZN297	Greater Kokstad
KZN224	Emnambithu/Ludrymth	KZN271	Umlabuyalingana	KZN298	Ubuhlebezwe
		KZN272	Jozini	KZN299	Umtshakulu



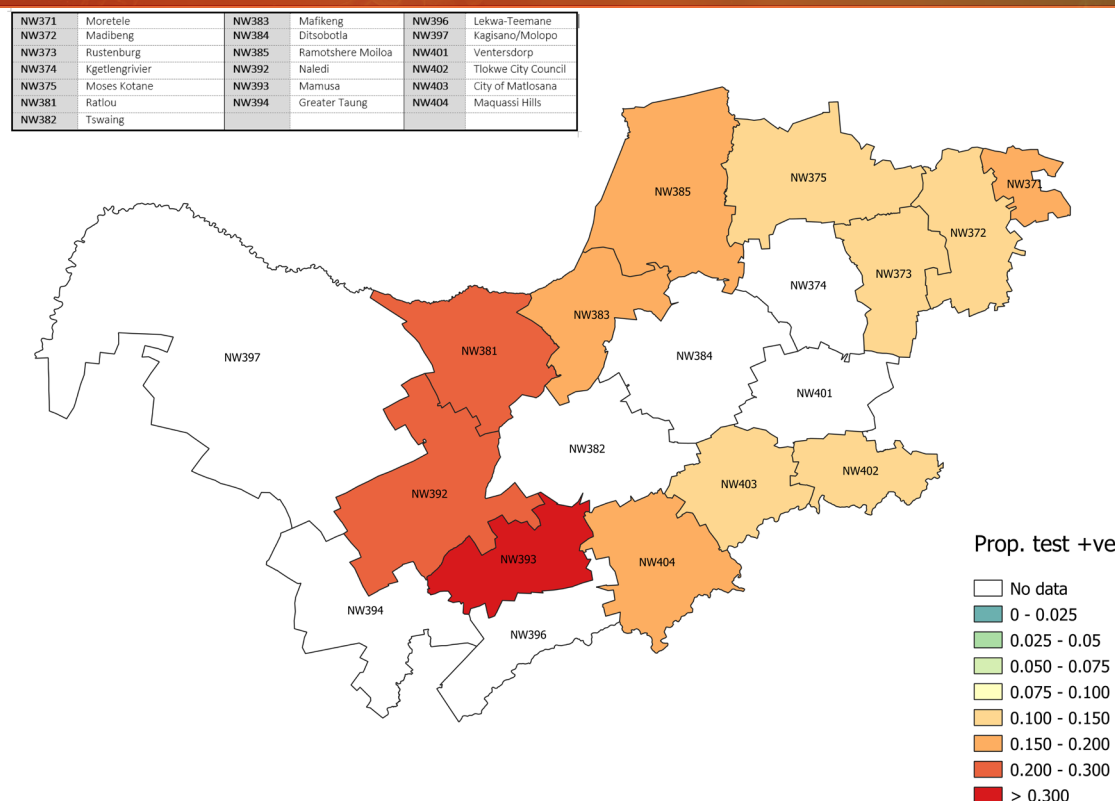
**Figure 15.** Proportion testing positive by health sub-district in KwaZulu-Natal Province for the week of 31 January – 6 February 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.



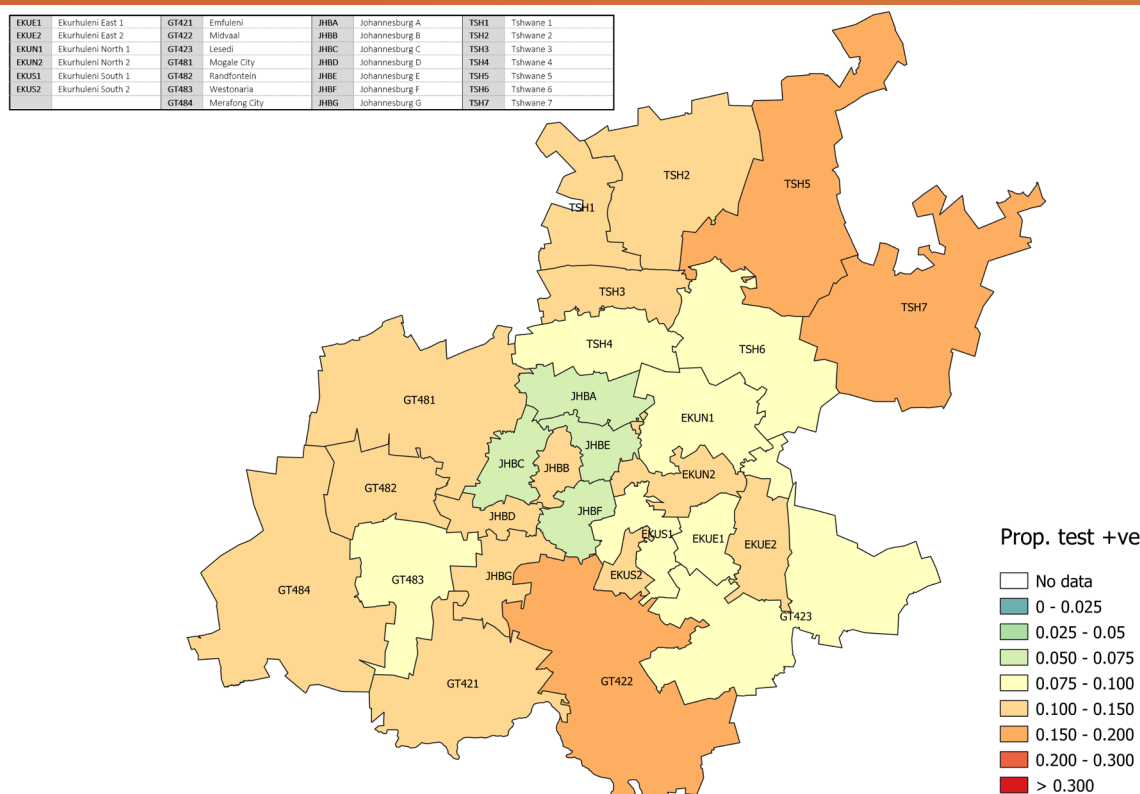
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**Figure 16.** Proportion testing positive by health sub-district in North West Province for the week of 31 January – 6 February 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.



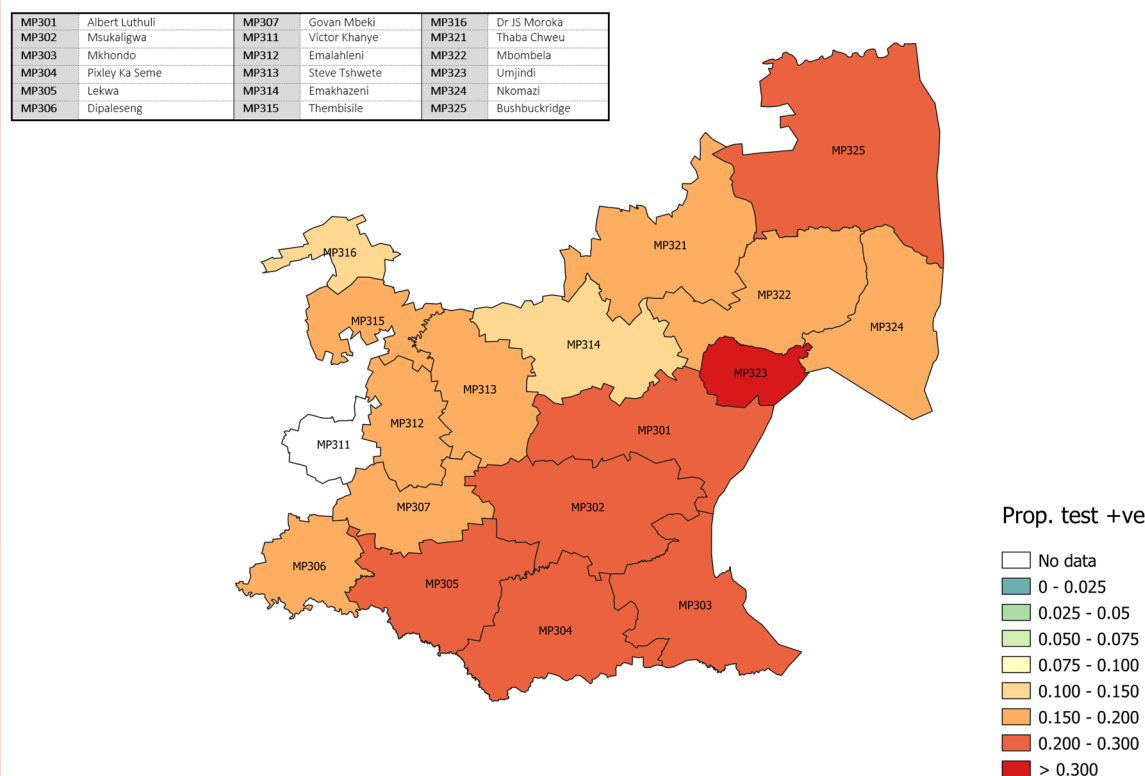
**Figure 17.** Proportion testing positive by health sub-district in Gauteng Province for the week of 31 January – 6 February 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.



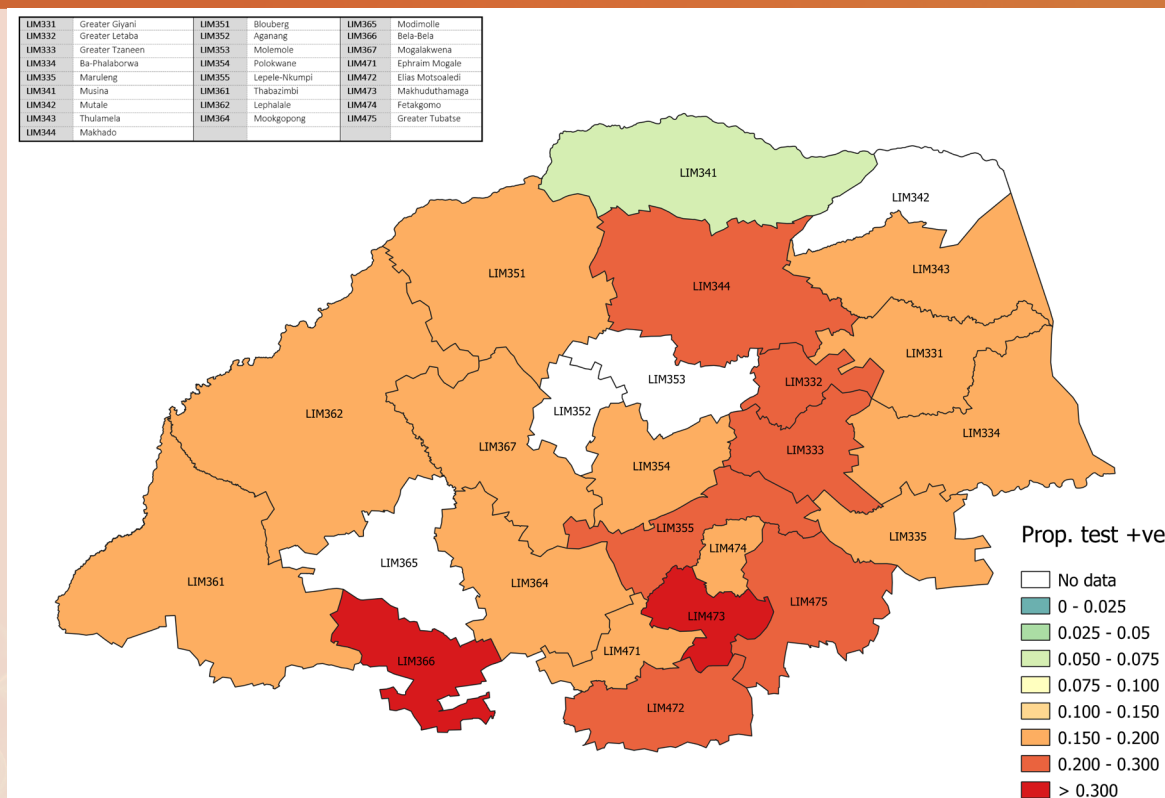
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**Figure 18.** Proportion testing positive by health sub-district in Mpumalanga Province for the week of 31 January – 6 February 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.



**Figure 19.** Proportion testing positive by health sub-district in Limpopo Province for the week of 31 January – 6 February 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

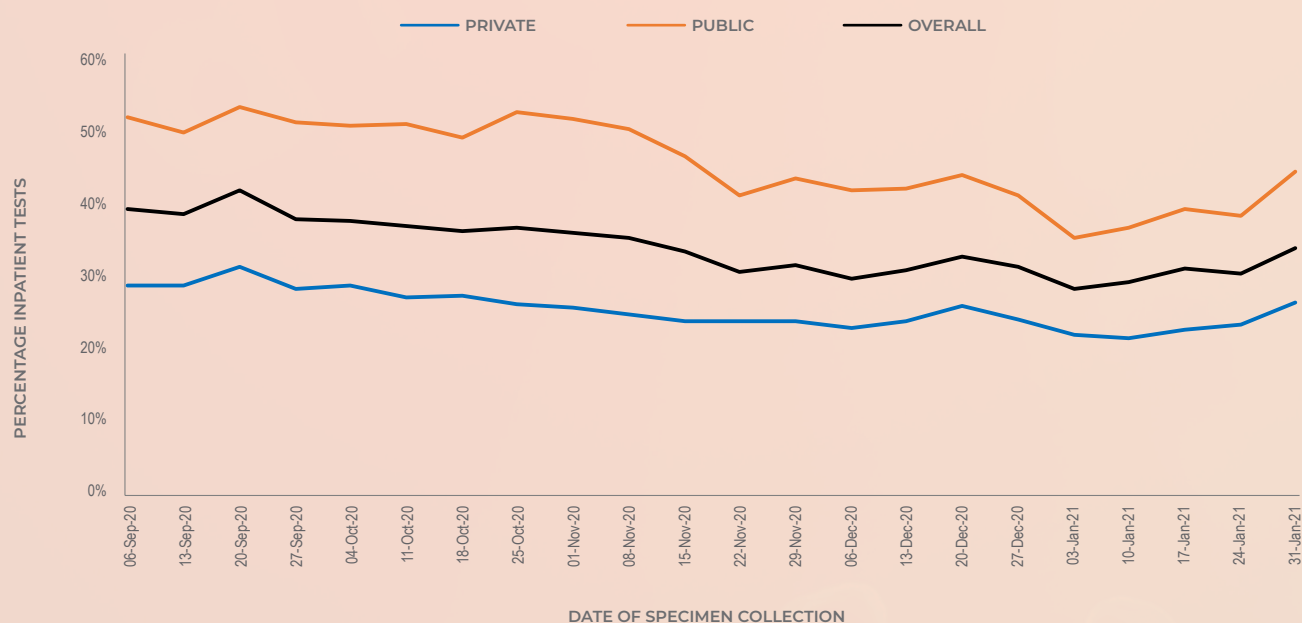
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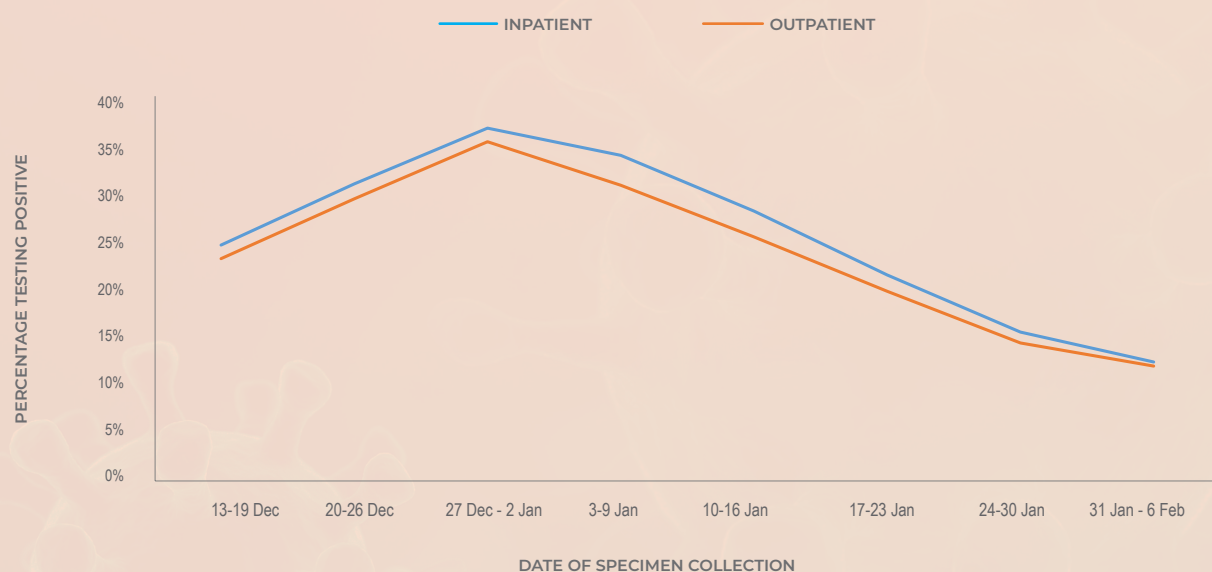
## Testing by patient admission status

In week 5 of 2021, 33.5% of tests were performed for hospitalised patients; 43.9% in the public sector and 26.3% in the private sector (Figure 20). The percentage testing positive decreased among both inpatients and outpatients in the past week, and

in week 5 was similar among outpatients (12.0%) and inpatients (12.5%) (Figure 21). In week 5 of 2021 the mean laboratory turnaround time in the public sector continued to be lower for inpatients (2.0 days) compared to outpatients (2.4 days) with decreases observed in both groups in the past few weeks (Figure 22).



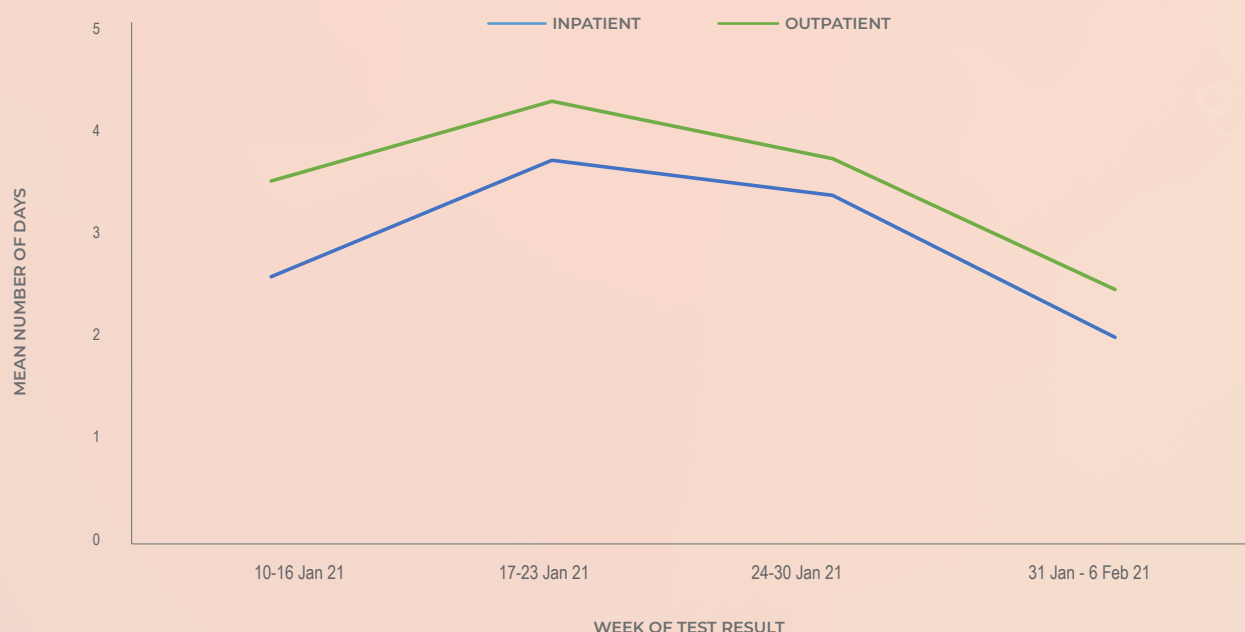
**Figure 20.** Percentage of inpatient tests performed by health sector, 6 September 2020 – 6 February 2021



**Figure 21.** Percentage testing positive by patient admission status in the public sector, 13 December 2020 – 6 February 2021

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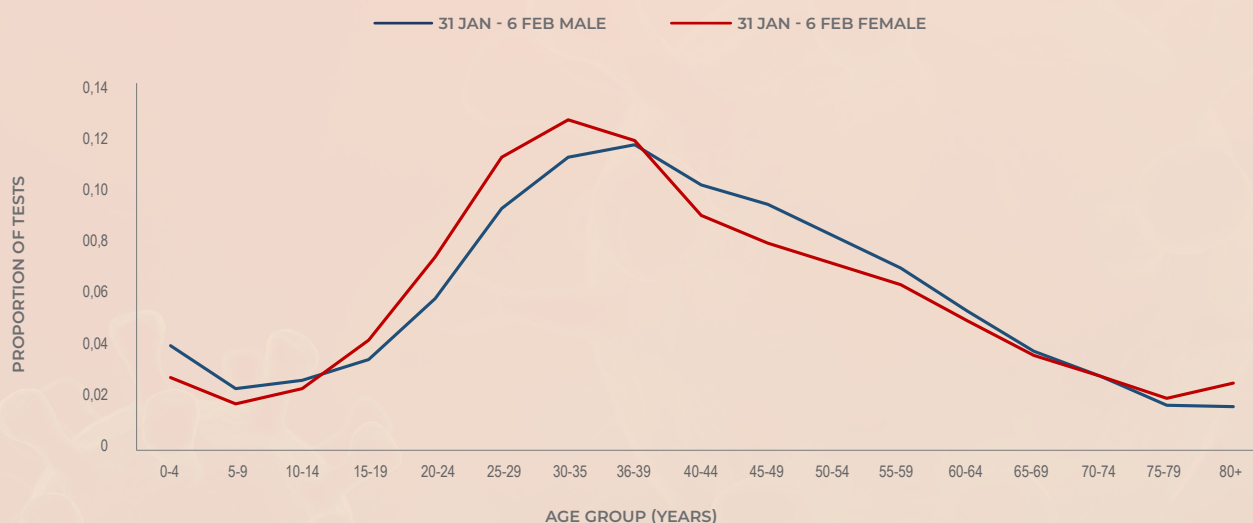


**Figure 22.** Mean number of days between date of specimen collection and date of test result in the public sector by patient admission status, 10 January – 6 February 2021

## Testing by age and sex

Similar to the previous few weeks, the mean age of individuals tested in week 5 of 2021 was 40.1 years, and was similar among males (40.2 years) and females (40.1 years). As in the previous few weeks, the majority of tests were performed in individuals in the 25-44 years' age groups although the distribution of tests was slightly skewed towards younger age groups in

females compared to males (Figure 23). In week 5, the testing rate was higher in females (318 per 100,000 persons) compared to males (289 per 100,000 persons) (Figure 24). The highest testing rates were observed in individuals  $\geq 80$  years of age (669 per 100,000 persons) in week 5. The percentage testing positive increased with increasing age, with a peak in the 10-14 years' age group, and was higher in females compared to males (Figure 24).

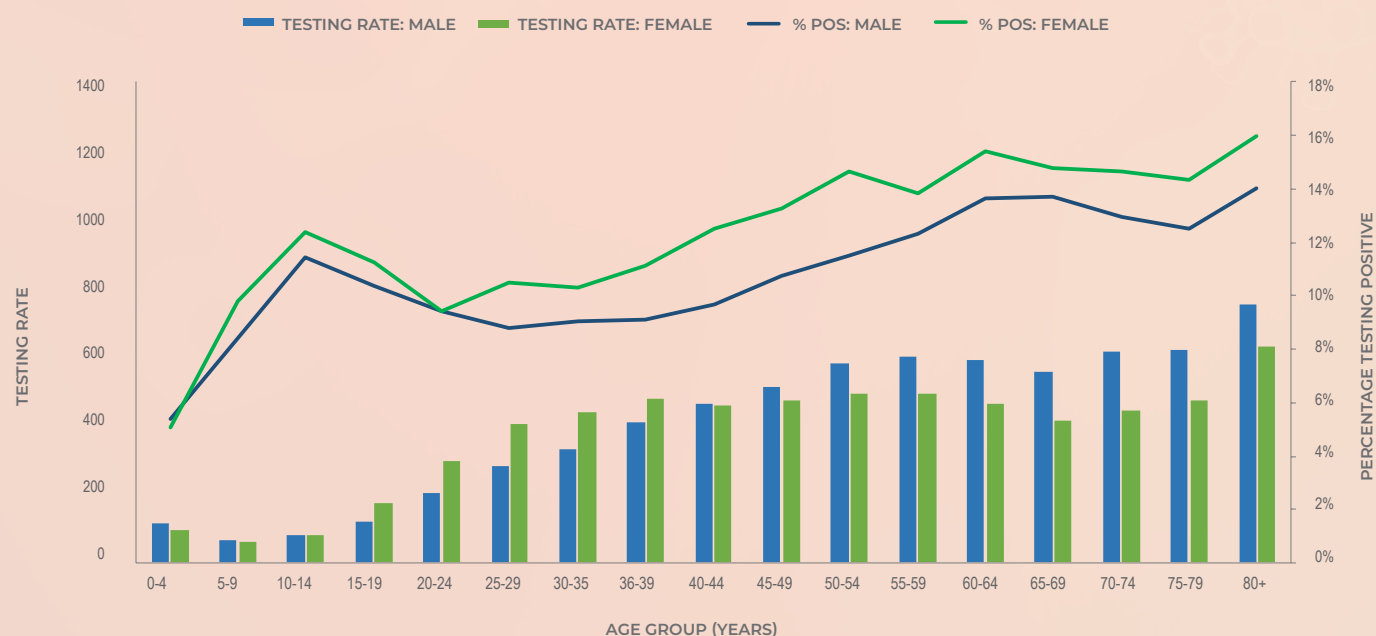


**Figure 23.** Proportion of tests by age group and sex, South Africa, week 5, 31 January – 6 February 2021



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**Figure 24.** Testing rates per 100,000 persons and percentage testing positive by age group and sex, South Africa, week 5, 31 January – 6 February 2021

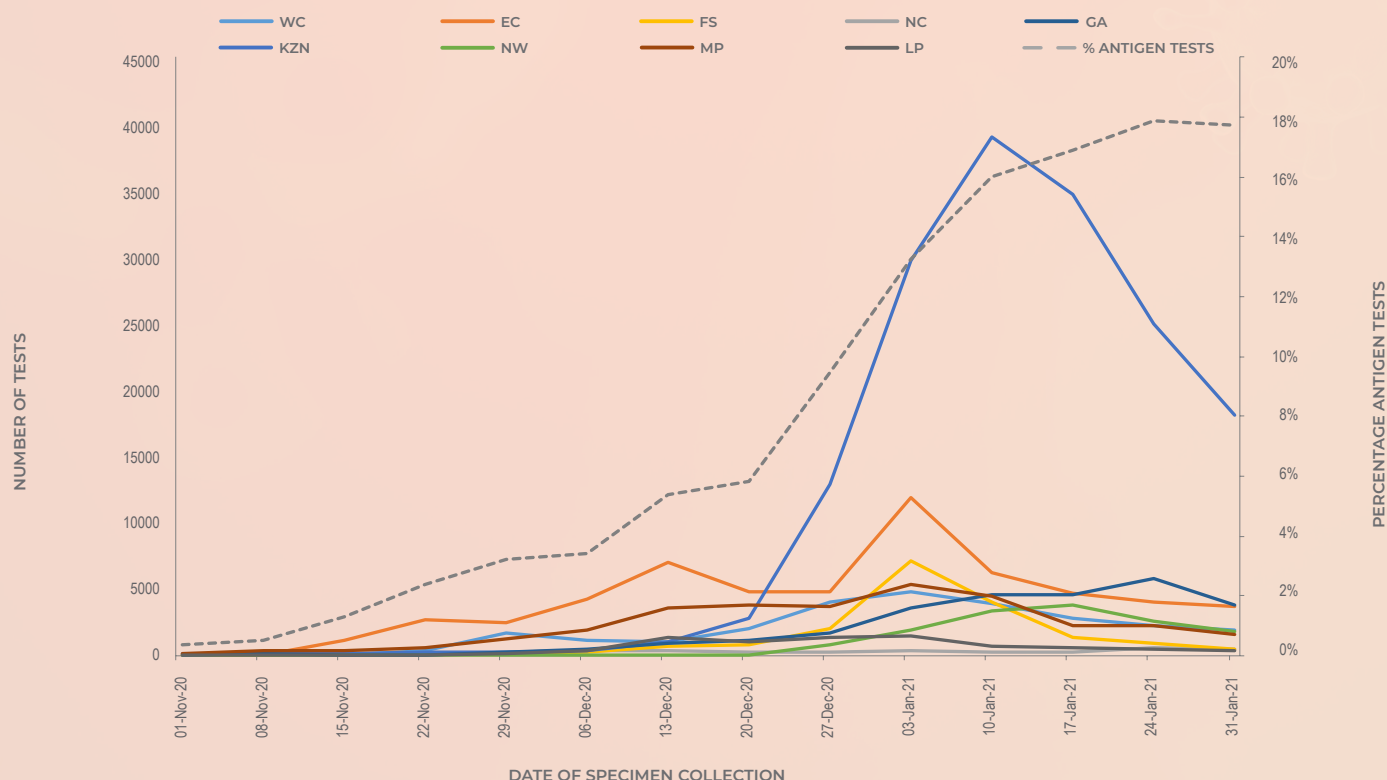
## Testing by test type

Testing for SARS-CoV-2 using rapid antigen tests was initiated towards the end of October 2020. Up to the end of week 5 of 2021, 358,208 antigen tests had been performed (33,223 in week 5). The percentage of antigen tests of all tests conducted has increased over recent weeks from 0.1% in week 44 of 2020 to 17.8% in week 5 of 2021. The majority of antigen tests have been performed in KwaZulu-Natal (n=164,445, 46.6%) and Eastern Cape (n=57,656, 16.3%) provinces

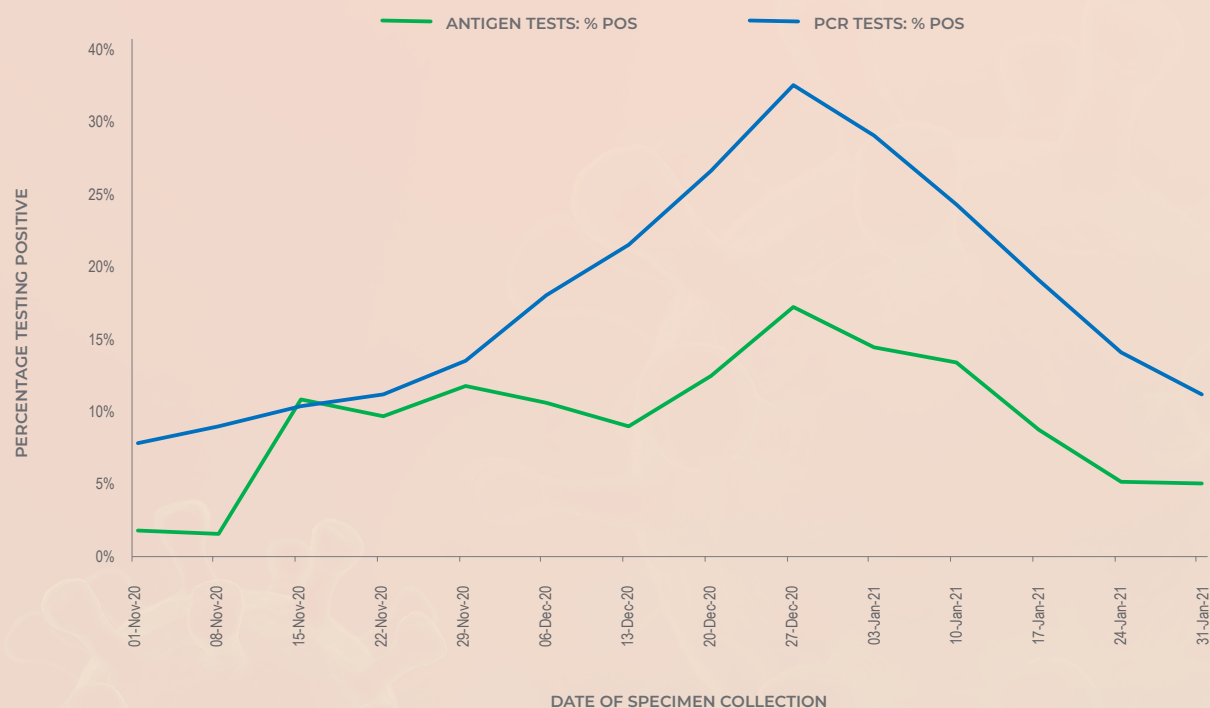
(Figure 25). Over recent weeks the percentage testing positive was higher for PCR tests compared to antigen tests, although decreases were observed for both types of tests (Figure 26). Not all antigen tests are included in this report, efforts are ongoing to improve completeness.

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**Figure 25.** Number of antigen tests by province, and overall percentage antigen tests, South Africa, 1 November 2020 – 6 February 2021. WC, Western Cape; EC, Eastern Cape; FS, Free State; KZN, KwaZulu-Natal; GT, Gauteng; NC, Northern Cape; NW, North West; MP, Mpumalanga; LP, Limpopo



**Figure 26.** Percentage of laboratory tests positive for SARS-CoV-2 by test type and date of specimen collection, South Africa, 1 November 2020 – 6 February 2021

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## Limitations

- A backlog in testing of samples by laboratories affects the reported numbers of tests performed. 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 and PCR vs. antigen-based tests) used by different provinces makes percentage testing positive difficult to interpret and compare.
- Health district and sub-district level were mapped based on the testing facility and not place of residence.
- Patient admission status was categorised based on the reported patient facility and may not reflect whether the patient was actually admitted to hospital.
- Antigen tests may be underestimated as they are used in a number of different settings and results may not be reported.

## CONCLUSIONS

Weekly testing volumes have decreased since week 1 of 2021 (n=494,787), with the number of tests performed in week 5 of 2021 (n=185,941) continuing to decrease compared to the previous few weeks. Gauteng (31.3%) performed the largest number of tests in week 5, followed by KwaZulu-Natal (24.6%) and Western Cape (14.6%) provinces. Testing rates decreased in all provinces in week 5, with KwaZulu-Natal (397 per 100,000 persons), Western Cape (388 per 100,000 persons), Gauteng (375 per 100,000 persons) and Northern Cape (348 per 100,000 persons) provinces having the highest testing rates. The percentage of antigen tests of all tests performed has increased since antigen testing was implemented towards the end of October 2020, and accounted for 17.8% of all tests in week 5. The overall laboratory turnaround time for PCR tests decreased to 1.3 days in week 5; 2.0 days in the public sector and <1 day in the private sector.

In the second wave of infections the percentage testing positive peaked at 34.9% in week 53 of 2020, and has subsequently decreased. In week 5 of 2021 the percentage testing positive decreased to 11.2%. The percentage testing positive in week 5 was highest in Limpopo (18.6%), Mpumalanga (17.6%) and Northern Cape (15.3%) provinces. Percentage testing positive was 10-15% in the Western Cape, Free State, KwaZulu-Natal, North West and Gauteng, and was <10% in the Eastern Cape. In week 5, compared to the previous week, the percentage testing positive decreased in all provinces, except the Northern Cape where it did not change.