

COVID-19 TESTING SUMMARY



NATIONAL INSTITUTE FOR
COMMUNICABLE DISEASES

Division of the National Health Laboratory Service

SOUTH AFRICA WEEK 6 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 13 February 2021 (Week 6 of 2021).

HIGHLIGHTS

- In the period 1 March 2020 through 13 February 2021, 8,643,633 PCR and antigen tests for SARS-CoV-2 have been performed nationally.
- The number of tests performed in week 6 of 2021 (n=180,316) was lower than performed in the previous few weeks.
- Testing rates have decreased in all provinces in recent weeks, with the highest testing rates in week 6 in the Western Cape (406 per 100,000 persons), Gauteng (387 per 100,000 persons) and KwaZulu-Natal (374 per 100,000 persons) provinces.
- In week 6 of 2021 the percentage testing positive was 8.6%, which had decreased from a peak of 34.8% in week 53 of 2020 and was lower than observed in the previous few weeks.
- Percentage testing positive in week 6 was highest in Limpopo (14.5%) and Mpumalanga (14.6%) provinces. Percentage testing positive was 7-12% in the Western Cape, Northern Cape, Free State, KwaZulu-Natal, North West and Gauteng, and was <5% in the Eastern Cape.
- In week 6 of 2021, compared to the previous week, the percentage testing positive decreased in all provinces.
- Mean laboratory turnaround time in week 6 was 1.1 days; 1.8 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 13 February 2021 (week 6 of 2021).

Testing volumes and proportion testing positive

From 1 March 2020 through 13 February 2021, 8,643,633 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=307,901), 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=497,106). In week 6 of 2021, 180,316 tests were performed, lower than the number of weekly tests performed since week 49 (beginning 29 November 2020). 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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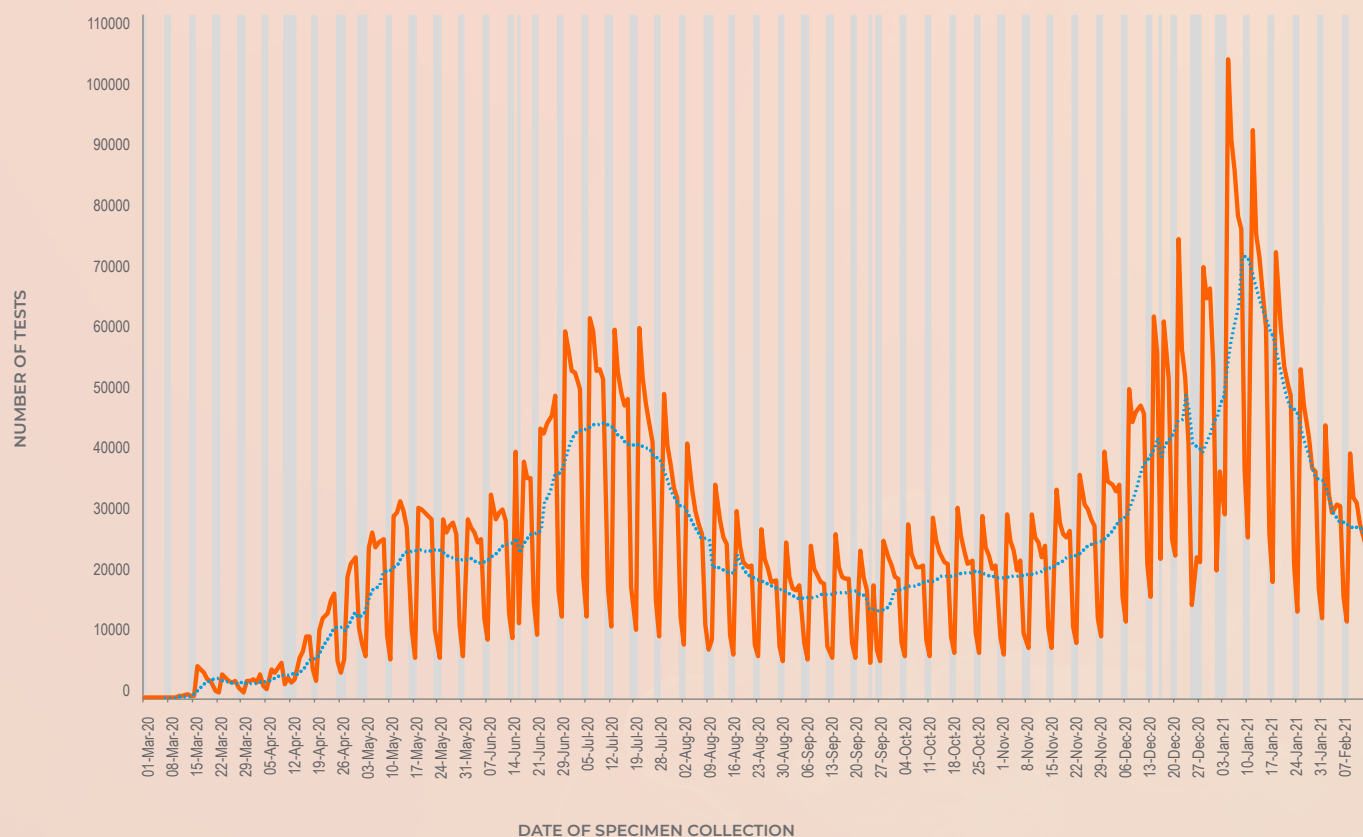


Figure 1. Number of laboratory tests conducted by date of specimen collection, South Africa, 1 March 2020 – 13 February 2021. Blue dotted line shows the 7-day moving average of the number of tests conducted. Grey bars highlight weekend days and public holidays.

The overall percentage testing positive from week 10 of 2020 through week 6 of 2021 was 18.2% (Table 1). During the first wave of infections, the percentage testing positive peaked at 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 34.8% in week 53 of 2020. The percentage testing positive in week 6 of 2021 was 8.6%, continuing the decreasing trend observed in the previous few weeks and 2.5% lower than observed in week 5 (Figure 2).

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Table 1. Weekly number of tests conducted and positive tests, South Africa, 1 March 2020 – 13 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 (0.2)	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	43749 (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 (1.9)	8090	4.9
21	17-May-20	166535 (1.9)	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 (2.0)	22358	12.9
25	14-Jun-20	186044 (2.2)	32638	17.5
26	21-Jun-20	252082 (2.9)	55044	21.8
27	28-Jun-20	302693 (3.5)	75306	24.9
28	05-Jul-20	307901 (3.6)	86032	27.9
29	12-Jul-20	285586 (3.3)	84924	29.7
30	19-Jul-20	270880 (3.1)	78633	29.0
31	26-Jul-20	216374 (2.5)	58392	27.0
32	02-Aug-20	179561 (2.1)	40992	22.8
33	09-Aug-20	141072 (1.6)	26262	18.6
34	16-Aug-20	135004 (1.6)	21374	15.8
35	23-Aug-20	123327 (1.4)	16330	13.2
36	30-Aug-20	112757 (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 (1.1)	10098	10.2
40	27-Sep-20	123052 (1.4)	11008	8.9
41	04-Oct-20	131028 (1.5)	11777	9.0
42	11-Oct-20	137950 (1.6)	12072	8.8
43	18-Oct-20	142146 (1.6)	12066	8.5
44	25-Oct-20	135827 (1.6)	11477	8.4
45	01-Nov-20	138793 (1.6)	12133	8.7
46	08-Nov-20	146970 (1.7)	14839	10.1
47	15-Nov-20	160613 (1.9)	18761	11.7
48	22-Nov-20	175652 (2.0)	22047	12.6
49	29-Nov-20	202958 (2.3)	30763	15.2
50	06-Dec-20	267309 (3.1)	53297	19.9
51	13-Dec-20	293679 (3.4)	68541	23.3
52	20-Dec-20	283401 (3.3)	81890	28.9
53	27-Dec-20	332083 (3.8)	115504	34.8
1	03-Jan-21	497106 (5.8)	150415	30.3
2	10-Jan-21	414342 (4.8)	104341	25.2
3	17-Jan-21	324292 (3.8)	62969	19.4
4	24-Jan-21	246800 (2.9)	34418	13.9
5	31-Jan-21	198119 (2.3)	22049	11.1
6	07-Feb-21	180316 (2.1)	15475	8.6
Total		8643633 (100.0)	1574057	18.2

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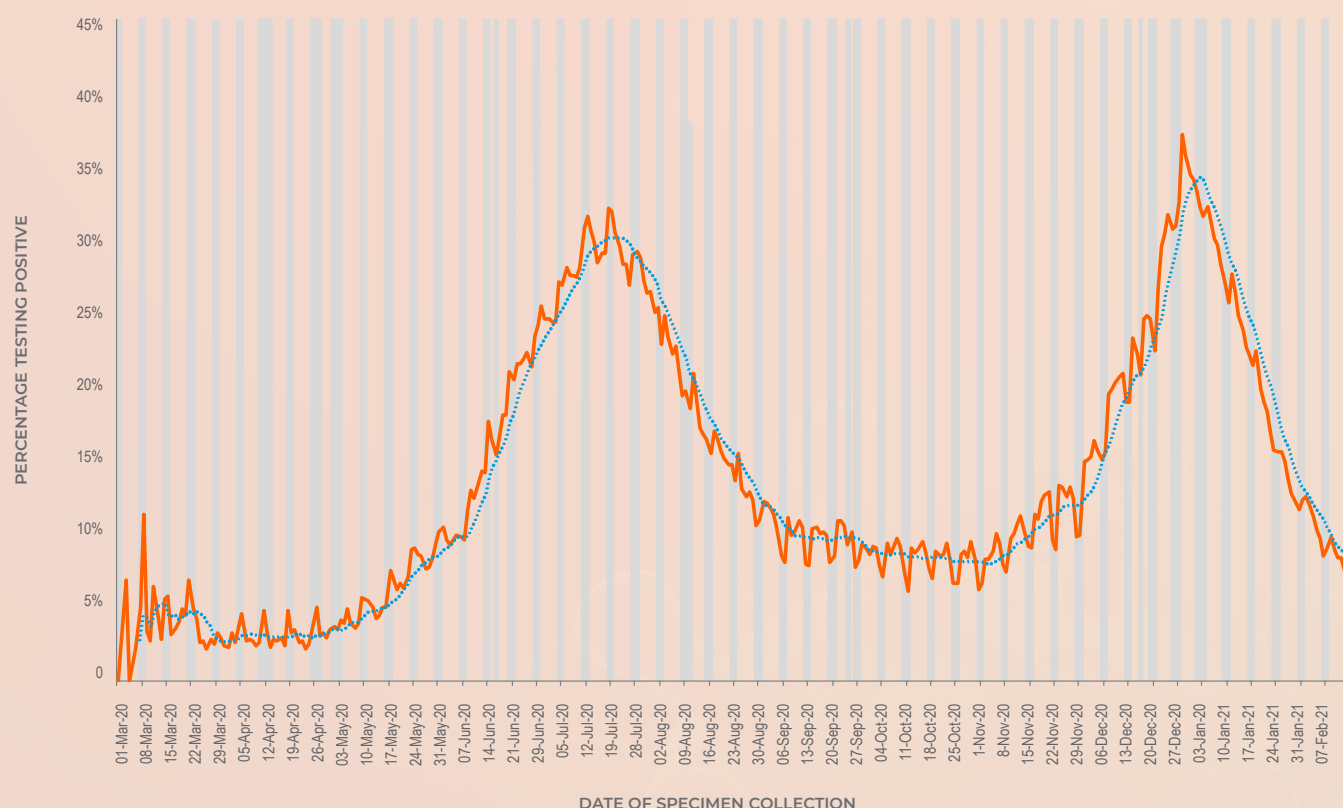


Figure 2. Percentage of laboratory tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 1 March 2020 – 13 February 2021. Blue dotted line shows the 7-day moving average of the percentage testing positive. Grey bars highlight weekend days and public holidays.

Testing in private and public sectors

From 1 March 2020 through 13 February 2021, 3,784,772 laboratory tests were conducted in public sector laboratories, with 18.8% testing positive. Over this same period, private sector laboratories conducted 4,858,861 tests, with 17.7% testing positive (Table 2). Overall the public sector has conducted 43.8% of tests and accounted for 45.3% 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 (35.2%) and private sector (34.4%). From week 5 to week 6 of 2021, the percentage testing positive decreased by 2.8% in the public sector (12.1% to

9.3%, $P < 0.001$), and decreased by 2.1% (10.0% to 7.9%, $P < 0.001$) in the private sector. In week 6 of 2021 the percentage testing positive was higher in the public sector (9.3%) compared to the private sector (7.9%) ($P < 0.001$).

The mean turnaround time for PCR tests performed in week 6 of 2021 decreased to 1.1 days; 1.8 days in the public sector and 0.7 days in the private sector (Figure 3). Turnaround times for public sector tests have decreased in all provinces in recent weeks, but remained > 2 days in Mpumalanga (2.7 days), KwaZulu-Natal (2.4 days), Free State (2.1 days), and Limpopo (2.1 days) provinces in week 6 (Figure 4). Eighteen of the 28 (64.3%) NHLS laboratories performing PCR testing for SARS-CoV-2 had turnaround times ≤ 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 – 13 February 2021

Week number	Week beginning	Public sector		Private sector		Public sector percentage of		Ratio of PTP ^a
		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	24167	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	117723	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)	135140	35610 (26.4)	37.5	39.0	1.064
32	02-Aug-20	70566	16996 (24.1)	108995	23996 (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)	67338	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)	74425	5440 (7.3)	39.5	50.6	1.567
41	04-Oct-20	50429	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)	86026	6022 (7.0)	39.5	50.1	1.538
44	25-Oct-20	51281	5721 (11.2)	84546	5756 (6.8)	37.8	49.8	1.639
45	01-Nov-20	53017	6067 (11.4)	85776	6066 (7.1)	38.2	50.0	1.618
46	08-Nov-20	58993	8110 (13.7)	87977	6729 (7.6)	40.1	54.7	1.797
47	15-Nov-20	67797	10702 (15.8)	92816	8059 (8.7)	42.2	57.0	1.818
48	22-Nov-20	74783	12244 (16.4)	100869	9803 (9.7)	42.6	55.5	1.685
49	29-Nov-20	81353	15833 (19.5)	121605	14930 (12.3)	40.1	51.5	1.585
50	06-Dec-20	107592	24736 (23.0)	159717	28561 (17.9)	40.3	46.4	1.286
51	13-Dec-20	116872	29862 (25.6)	176807	38679 (21.9)	39.8	43.6	1.168
52	20-Dec-20	109517	34170 (31.2)	173884	47720 (27.4)	38.6	41.7	1.137
53	27-Dec-20	150118	52887 (35.2)	181965	62617 (34.4)	45.2	45.8	1.024
1	03-Jan-21	234586	70799 (30.2)	262520	79616 (30.3)	47.2	47.1	0.995
2	10-Jan-21	206105	53801 (26.1)	208237	50540 (24.3)	49.7	51.6	1.076
3	17-Jan-21	168639	34902 (20.7)	155653	28067 (18.0)	52.0	55.4	1.148
4	24-Jan-21	127360	18985 (14.9)	119440	15433 (12.9)	51.6	55.2	1.154
5	31-Jan-21	101964	12387 (12.1)	96155	9662 (10.0)	51.5	56.2	1.209
6	07-Feb-21	85560	7972 (9.3)	94756	7503 (7.9)	47.5	51.5	1.177
Total		3784772	712379 (18.8)	4858861	861678 (17.7)	43.8	45.3	1.061

^aRatio 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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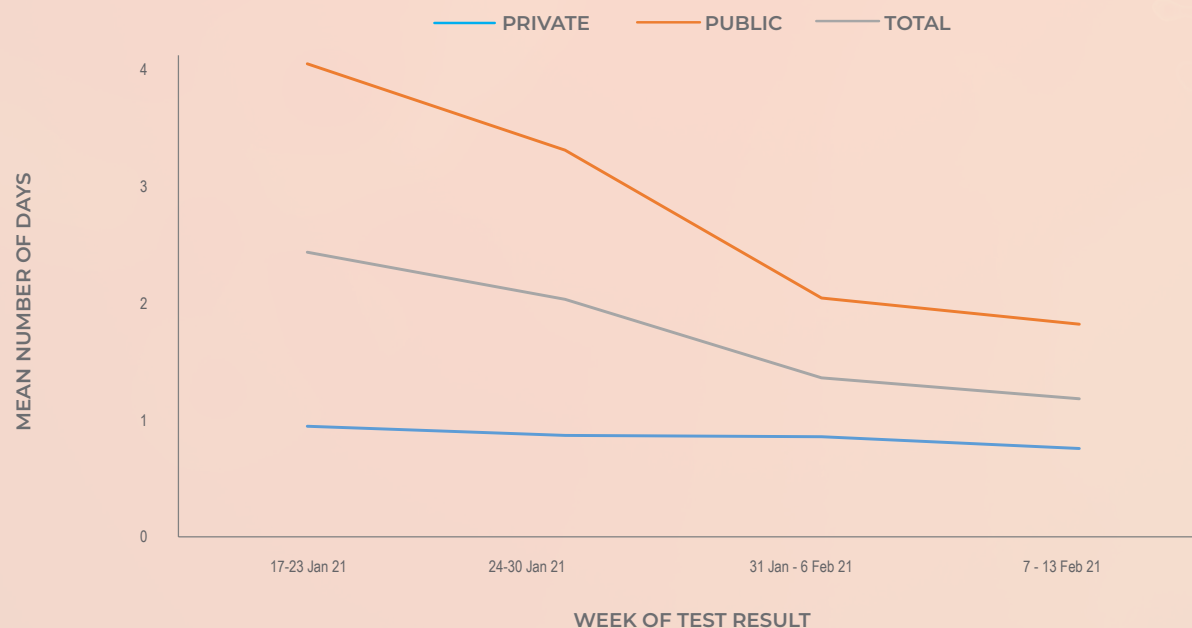


Figure 3. Mean number of days between date of specimen collection and date of test result, by week of test result, South Africa, 17 January – 13 February 2021

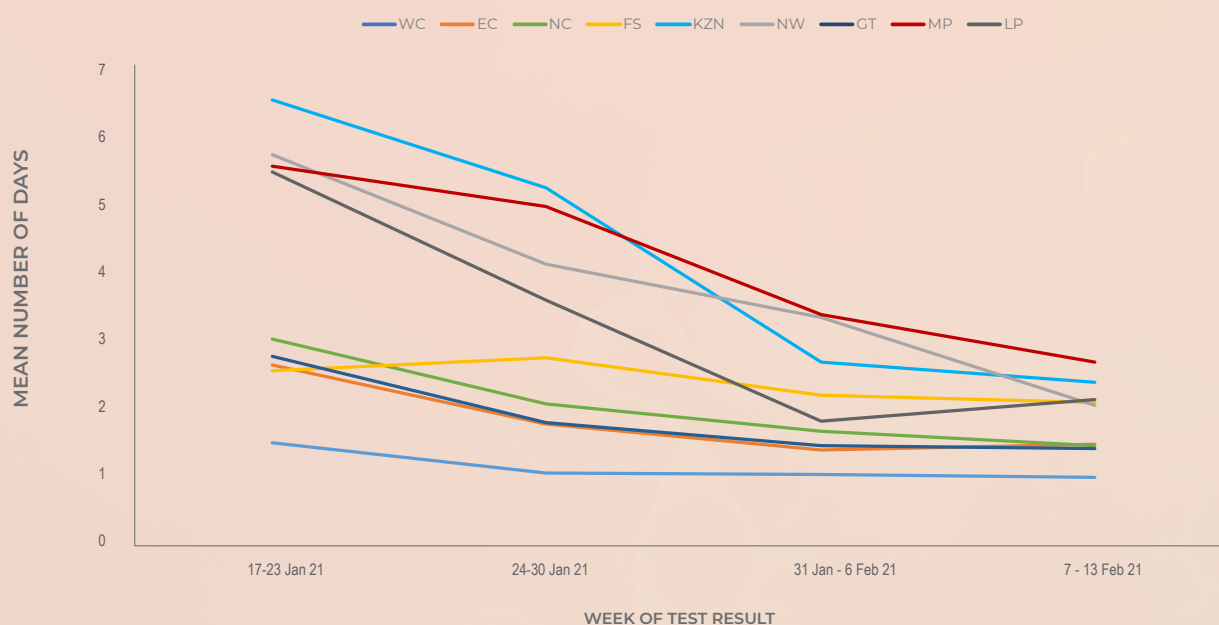


Figure 4. Mean number of days between date of specimen collection and date of test result, by week of test result and province, public sector, South Africa, 17 January – 13 February 2021. WC, Western Cape; EC, Eastern Cape; FS, Free State; KZN, KwaZulu-Natal; GT, Gauteng; NC, Northern Cape; NW, North West; MP, Mpumalanga; LP, Limpopo

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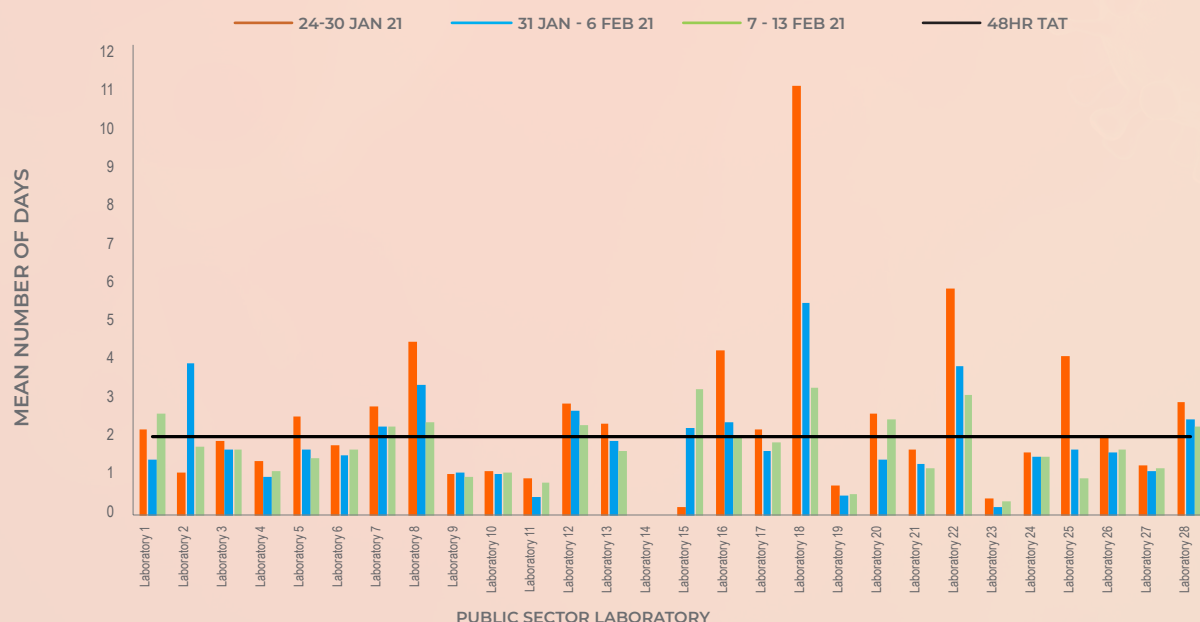


Figure 5. Mean number of days between date of specimen collection and date of test result, by public sector laboratory, 24 January – 13 February 2021. The horizontal black line indicates 48-hour turnaround time (TAT).

Testing by province

Gauteng (33.3%) continued to perform the largest number of tests in week 6 of 2021, followed by KwaZulu-Natal (23.9%) and Western Cape (15.8%) provinces (Table 3). Western Cape (406 per 100,000 persons), Gauteng (387 per 100,000 persons) and KwaZulu-Natal (374 per 100,000 persons) provinces had the highest testing rates in week 6 of 2021 (Figure 6). Testing rates have decreased in all provinces in recent weeks.

The percentage testing positive in week 6 of 2021 was <15% in all provinces, and remained highest in Mpumalanga (14.6%) and Limpopo (14.5%) (Figure 7 and Table 3). Compared to the previous week, the percentage testing positive decreased in week 6 in all provinces ($P \leq 0.001$), with the largest decreases observed in Limpopo (-4.0%) and Northern Cape (-3.7%) provinces. 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).

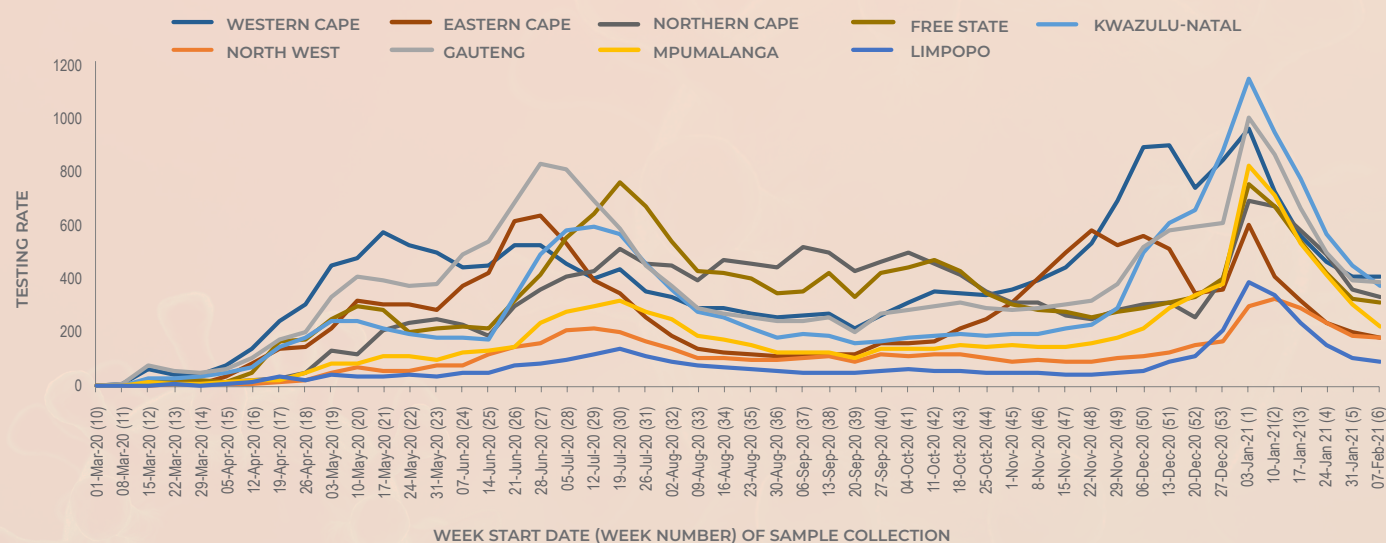


Figure 6. Testing rate per 100,000 persons by province and week of specimen collection, South Africa, 1 March 2020 – 13 February 2021

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Table 3. Weekly number of tests performed and positive tests, by province, South Africa, 24 January – 13 February 2021

Province	Population ^a	24 - 30 Jan 21		31 Jan – 6 Feb 21		7 - 13 Feb 21		Tests per 100,000 persons	Change in percentage positive ^b
		No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)		
Western Cape	7005741	32210	4411 (13.7)	28263	2867 (10.1)	28463	2266 (8.0)	406	-2.2%
Eastern Cape	6734001	16016	1402 (8.8)	13529	755 (5.6)	12162	537 (4.4)	181	-1.2%
Northern Cape	1292786	6300	1046 (16.6)	4644	723 (15.6)	4285	508 (11.9)	331	-3.7%
Free State	2928903	12282	1898 (15.5)	9589	1150 (12.0)	9088	903 (9.9)	310	-2.1%
KwaZulu-Natal	11531628	65178	9394 (14.4)	51801	5637 (10.9)	43174	3279 (7.6)	374	-3.3%
North West	4108816	9558	1640 (17.2)	7717	1051 (13.6)	7362	872 (11.8)	179	-1.8%
Gauteng	15488137	76806	8570 (11.2)	60923	6284 (10.3)	60009	4832 (8.1)	387	-2.3%
Mpumalanga	4679786	19285	3801 (19.7)	14154	2385 (16.9)	10442	1525 (14.6)	223	-2.2%
Limpopo	5852553	8876	2246 (25.3)	5981	1109 (18.5)	5179	752 (14.5)	88	-4.0%
Unknown		289	10 (3.5)	1518	88 (5.8)	152	1 (0.7)		
Total	59622350	246800	34418 (13.9)	198119	22049 (11.1)	180316	15475 (8.6)	302	-2.5%

^a 2020 Mid-year population Statistics SA

^b Current week compared to previous week

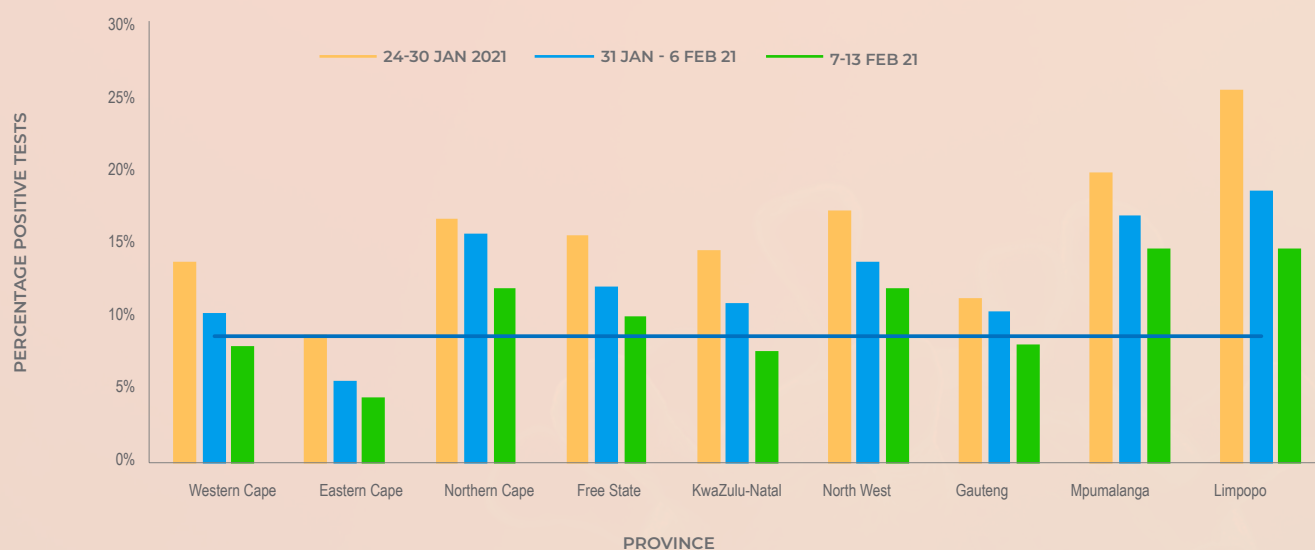


Figure 7. Weekly percentage testing positive, by province, South Africa, 24 January – 13 February 2021. The horizontal blue line shows the national mean for week 6, beginning 7 February 2021.

Testing in the public sector

In the public sector, the percentage testing positive decreased in the past week (12.1% in week 5 to 9.3% in week 6 of 2021, $P < 0.001$) (Table 4). The percentage testing positive in week 6 of 2021 remained highest

in Limpopo (17.5%) and Mpumalanga (16.5%). The percentage testing positive in the public sector remains higher than the national average, not weighted for population size, in the Western Cape, 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, 24 January – 13 February 2021

Province	24-30 Jan 2021		31 Jan - 6 Feb 2021		7 - 13 Feb 2021	
	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)
Western Cape	12663	2233 (17.6)	11049	1298 (11.7)	10412	1043 (10.0)
Eastern Cape	10970	913 (8.3)	9219	501 (5.4)	8033	280 (3.5)
Northern Cape	4221	762 (18.1)	2984	493 (16.5)	2546	344 (13.5)
Free State	7119	1230 (17.3)	5073	679 (13.4)	4173	464 (11.1)
KwaZulu-Natal	44786	6579 (14.7)	36457	4049 (11.1)	29432	2205 (7.5)
North West	5257	920 (17.5)	3724	553 (14.8)	3415	465 (13.6)
Gauteng	28754	3385 (11.8)	23341	3039 (13.0)	20853	2070 (9.9)
Mpumalanga	9758	1870 (19.2)	7055	1155 (16.4)	4657	767 (16.5)
Limpopo	3611	1088 (30.1)	2625	602 (22.9)	1913	334 (17.5)
Unknown	221	5 (2.3)	437	18 (4.1)	126	0 (0.0)
Total	127360	18985 (14.9)	101964	12387 (12.1)	85560	7972 (9.3)

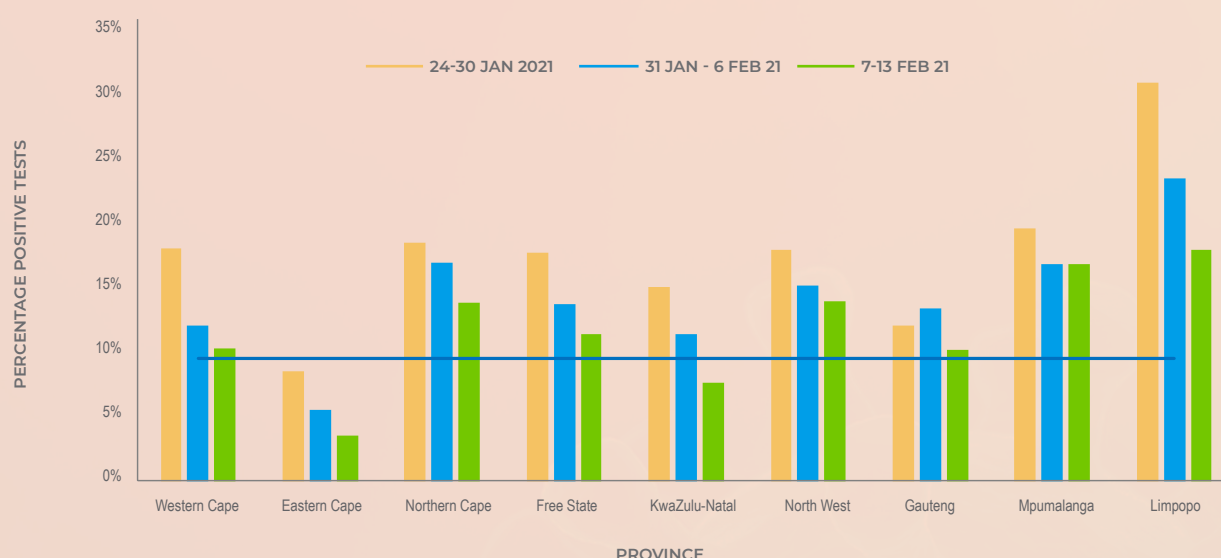


Figure 8. Weekly percentage testing positive in the public sector, by province, South Africa, 24 January – 13 February 2021. The horizontal blue line shows the national mean for week 6 of 2021, beginning 7 February 2021.

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 7 - 13 February 2021, with the highest proportion testing positive nationally. The distribution of public sector facilities in the table above is spatially diffuse; 5 facilities are in each of Mpumalanga and North West; 4 in Limpopo; and three each in the Northern Cape and KwaZulu-Natal.

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Table 5.1 Public sector healthcare facilities with a high proportion testing positive, 7 - 13 February 2021

Facility Name	Province	Tests	PTP (95% CI)
Facility 1	Limpopo	39	0.615 (0.463;0.768)
Facility 2	Northern Cape	54	0.611 (0.481;0.741)
Facility 3	Mpumalanga	27	0.481 (0.293;0.670)
Facility 4	Mpumalanga	25	0.480 (0.284;0.676)
Facility 5	Free State	31	0.419 (0.246;0.593)
Facility 6	North West	94	0.404 (0.305;0.503)
Facility 7	North West	65	0.385 (0.266;0.503)
Facility 8	Limpopo	34	0.382 (0.219;0.546)
Facility 9	Limpopo	42	0.357 (0.212;0.502)
Facility 10	KwaZulu-Natal	27	0.333 (0.156;0.511)
Facility 11	Gauteng	37	0.324 (0.173;0.475)
Facility 12	Northern Cape	48	0.313 (0.181;0.444)
Facility 13	Mpumalanga	29	0.310 (0.142;0.479)
Facility 14	Mpumalanga	49	0.306 (0.177;0.435)
Facility 15	Gauteng	36	0.306 (0.155;0.456)
Facility 16	Western Cape	66	0.303 (0.192;0.414)
Facility 17	KwaZulu-Natal	78	0.295 (0.194;0.396)
Facility 18	North West	34	0.294 (0.141;0.447)
Facility 19	KwaZulu-Natal	34	0.294 (0.141;0.447)
Facility 20	Northern Cape	38	0.289 (0.145;0.434)
Facility 21	Mpumalanga	32	0.281 (0.125;0.437)
Facility 22	Limpopo	32	0.281 (0.125;0.437)
Facility 23	Free State	25	0.280 (0.104;0.456)
Facility 24	North West	25	0.280 (0.104;0.456)
Facility 25	North West	25	0.280 (0.104;0.456)

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 7 - 13 February 2021, with the highest proportion testing positive nationally. Private-sector facilities with high proportions testing positive are concentrated in Gauteng (6), Limpopo (5), Western Cape and KwaZulu-Natal (4 each).

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Table 5.2 Private sector healthcare facilities with a high proportion testing positive, 7 - 13 February 2021

Facility Name	Province	Tests	PTP (95% CI)
Facility 1	KwaZulu-Natal	28	0.357 (0.180;0.535)
Facility 2	Mpumalanga	45	0.311 (0.176;0.446)
Facility 3	Mpumalanga	156	0.288 (0.217;0.360)
Facility 4	KwaZulu-Natal	32	0.281 (0.125;0.437)
Facility 5	Limpopo	29	0.276 (0.113;0.439)
Facility 6	Limpopo	26	0.269 (0.099;0.440)
Facility 7	Limpopo	112	0.268 (0.186;0.350)
Facility 8	Free State	124	0.242 (0.167;0.317)
Facility 9	Gauteng	29	0.241 (0.086;0.397)
Facility 10	Gauteng	29	0.241 (0.086;0.397)
Facility 11	Western Cape	78	0.231 (0.137;0.324)
Facility 12	Gauteng	33	0.212 (0.073;0.352)
Facility 13	Gauteng	66	0.212 (0.113;0.311)
Facility 14	Gauteng	34	0.206 (0.070;0.342)
Facility 15	KwaZulu-Natal	40	0.200 (0.076;0.324)
Facility 16	Limpopo	215	0.195 (0.142;0.248)
Facility 17	Gauteng	74	0.189 (0.100;0.278)
Facility 18	Western Cape	43	0.186 (0.070;0.302)
Facility 19	Eastern Cape	27	0.185 (0.039;0.332)
Facility 20	North West	27	0.185 (0.039;0.332)
Facility 21	Limpopo	159	0.182 (0.122;0.242)
Facility 22	Western Cape	39	0.179 (0.059;0.300)
Facility 23	Western Cape	68	0.176 (0.086;0.267)
Facility 24	Mpumalanga	535	0.176 (0.143;0.208)
Facility 25	KwaZulu-Natal	167	0.174 (0.116;0.231)

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 86% of private testing facilities) in the week from 7 - 13 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 Limpopo and Mpumalanga, four are in each of the Western Cape and Northern Cape, and three in each of Free State and KwaZulu-Natal. One district showed an adjusted proportion testing positive greater than 40%. The proportion of tests returned positive rose significantly in Emakhazeni district in Mpumalanga.

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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 7 - 13 February 2021

Health district or sub-district	Province	PTP (95% CI)	Previous week
Makhuduthamaga	Limpopo	0.469 (0.367-0.571)	0.379 (0.291-0.466)
Emakhazeni	Mpumalanga	0.386 (0.264-0.508)	0.137 (0.054-0.221)
Richtersveld	Northern Cape	0.327 (0.191-0.463)	0.286 (0.184-0.389)
Maquassi Hills	North West	0.272 (0.197-0.347)	0.196 (0.123-0.270)
Lekwa	Mpumalanga	0.253 (0.203-0.303)	0.211 (0.166-0.255)
Bela-Bela	Limpopo	0.251 (0.130-0.371)	0.373 (0.242-0.505)
Mafube	Free State	0.250 (0.159-0.342)	0.191 (0.115-0.267)
Albert Luthuli	Mpumalanga	0.247 (0.187-0.307)	0.221 (0.168-0.275)
Bushbuckridge	Mpumalanga	0.240 (0.201-0.279)	0.214 (0.185-0.243)
Tsantsabane	Northern Cape	0.224 (0.127-0.321)	0.192 (0.107-0.276)
Ga-Segonyana	Northern Cape	0.219 (0.146-0.292)	0.236 (0.158-0.315)
Ba-Phalaborwa	Limpopo	0.218 (0.170-0.266)	0.189 (0.153-0.226)
Thaba Chweu	Mpumalanga	0.217 (0.170-0.264)	0.198 (0.158-0.237)
Setsoto	Free State	0.212 (0.143-0.282)	0.117 (0.083-0.150)
Makhado	Limpopo	0.206 (0.161-0.251)	0.224 (0.184-0.263)
Nama Khoi	Northern Cape	0.201 (0.161-0.240)	0.186 (0.149-0.223)
Mfolozi	KwaZulu-Natal	0.199 (0.093-0.306)	0.080 (0.030-0.130)
Ubuhlebezwe	KwaZulu-Natal	0.198 (0.138-0.258)	0.216 (0.159-0.273)
Cederberg	Western Cape	0.197 (0.101-0.294)	0.316 (0.221-0.411)
Bergrivier	Western Cape	0.188 (0.122-0.253)	0.191 (0.134-0.248)
Matzikama	Western Cape	0.183 (0.117-0.248)	0.317 (0.240-0.395)
Langeberg	Western Cape	0.182 (0.108-0.257)	0.193 (0.108-0.278)
Mogalakwena	Limpopo	0.181 (0.136-0.227)	0.176 (0.136-0.216)
Maluti a Phofung	Free State	0.179 (0.148-0.209)	0.235 (0.202-0.268)
Umzumbe	KwaZulu-Natal	0.179 (0.119-0.238)	0.292 (0.236-0.347)

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 9.1 Proportions testing positive by health sub-district in the Western Cape, Eastern Cape, Gauteng and KwaZulu-Natal provinces based on public and private sector data for the week of 7 - 13 February 2021.

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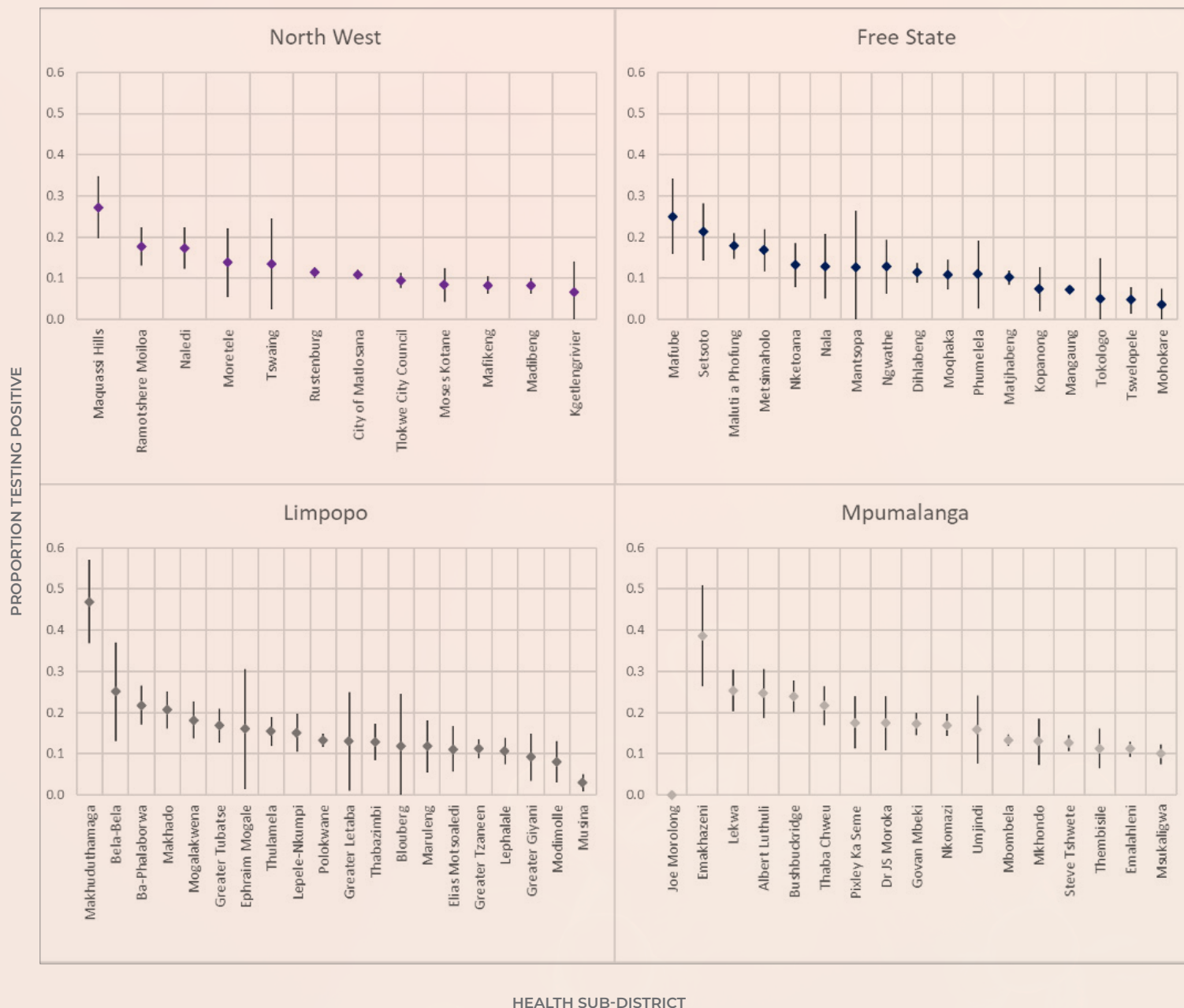


Figure 9.2 Proportions testing positive by health sub-district in the North West, Free State, Limpopo and Mpumalanga provinces based on public and private sector data for the week of 7 - 13 February 2021.

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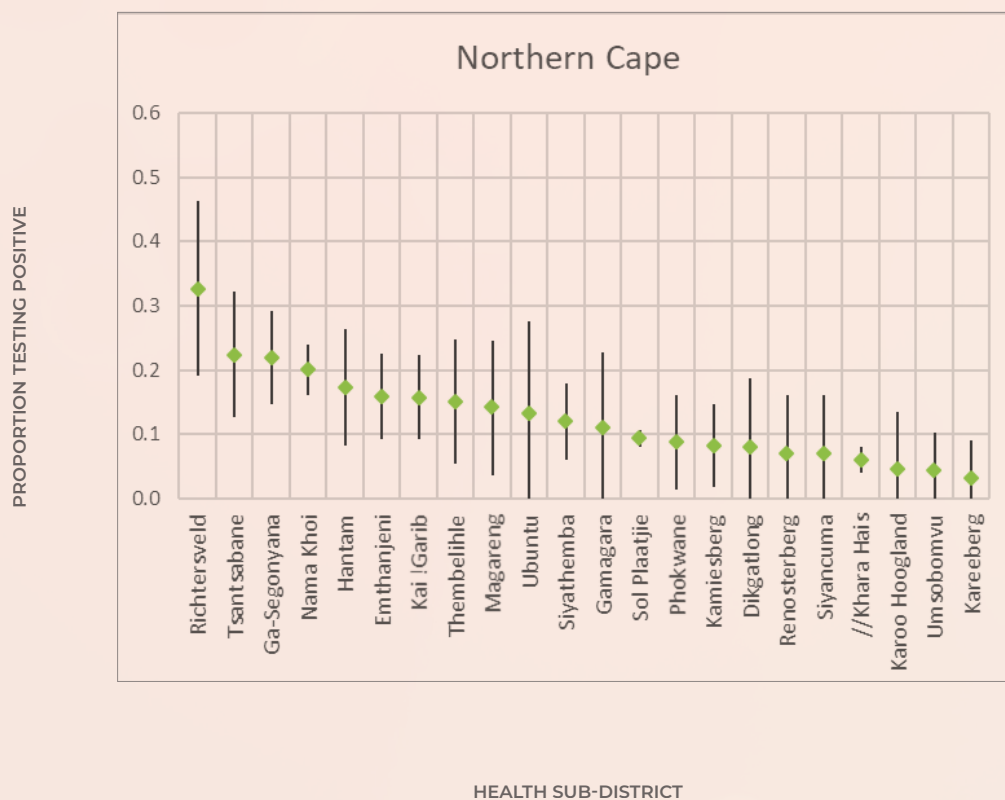


Figure 9.3 Proportions testing positive by health sub-districts in the Northern Cape Province based on public and private sector data for the week of 7 - 13 February 2021.

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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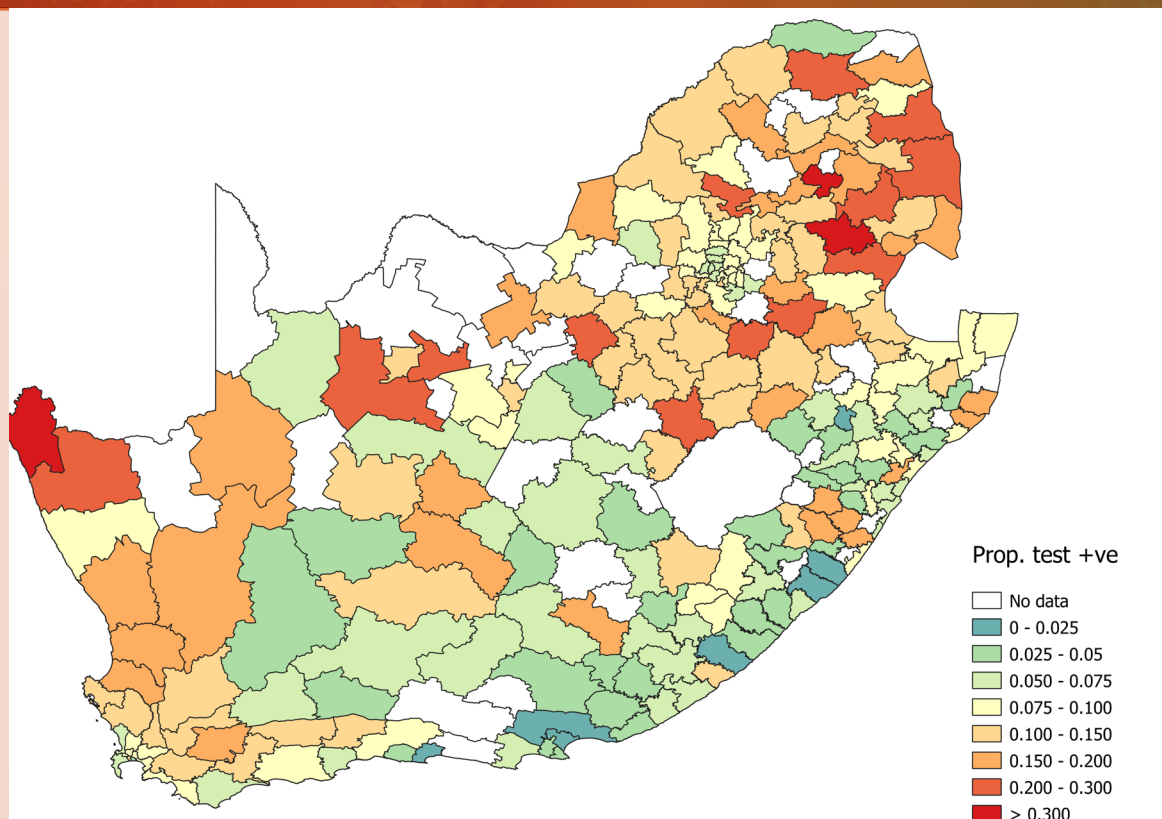


Figure 10. Proportion testing positive by health sub-district in South Africa for the week of 7 - 13 February 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

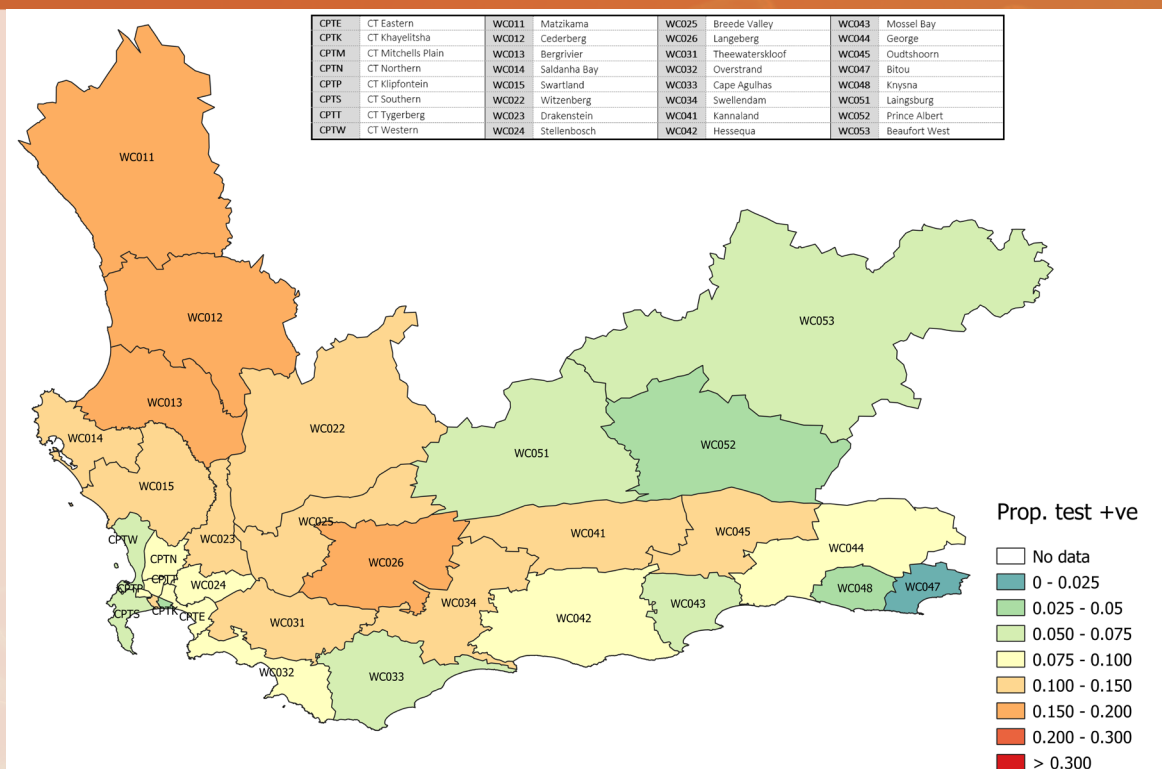


Figure 11. Proportion testing positive by health sub-district in the Western Cape province for the week of 7 - 13 February 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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BUF	Buffalo City	EC122	Mquma	EC135	Infoka Yethu	EC155	Nyandeni
EC101	Camdeboo	EC123	Great Kei	EC136	Emalahleni	EC156	Mhlontlo
EC102	Blue Crane Route	EC124	Amahathi	EC137	Engobo	EC157	King Sabata Dalindyebo
EC103	Iwantsi	EC126	Nqushwa	EC138	Sakhisizwe	EC441	Matatiele
EC104	Makana	EC127	Nkomo	EC141	Elundini	EC442	Umtshvubu
EC105	Ndlambe	EC128	Ntuba	EC142	Senqu	EC443	Mbizana
EC106	Sundays River Valley	EC131	Inxuba Yethemba	EC143	Maletswai	EC444	Ntabankulu
EC107	Baviaans	EC132	Tsolwana	EC144	Gantep	NMAA	Nelson Mandela Bay A
EC108	Kouga	EC133	Inkwenkwa	EC153	Nguza Hill	NMAB	Nelson Mandela Bay B
EC109	Kou-Kamma	EC134	Lukani	EC154	Port St Johns	NMAC	Nelson Mandela Bay C
EC121	Mohashe						

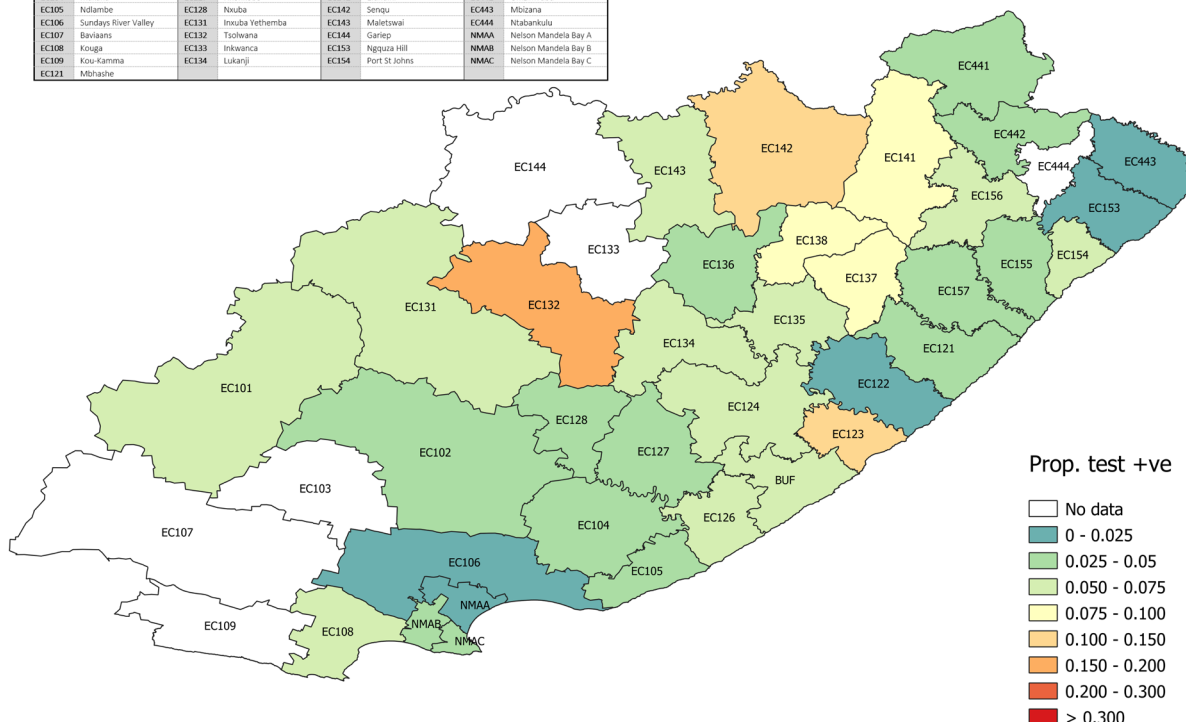


Figure 12. Proportion testing positive by health sub-district in the Eastern Cape province for the week of 7 - 13 February 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

NC061	Richtersveld	NC074	Kareeberg	NC085	Tsantsabane
NC062	Kama Xhosi	NC075	Rensselaersburg	NC086	Agaiepoole
NC064	Kamiesberg	NC076	Thembelille	NC091	Sol Plaatje
NC065	Hantam	NC077	Siyathemba	NC092	Dikgatong
NC066	Karoo Hoogland	NC078	Svanevlei	NC093	Magareng
NC067	Wit-Karoo	NC081	Karoo	NC094	Phokwane
NC071	Uburu	NC082	Karoo	NC451	Joe Morolong
NC072	Umsobomvu	NC083	/Kharu Halls	NC452	Ga-Segonyana
NC073	Emfuzweni	NC084	Witels	NC453	Gamagara

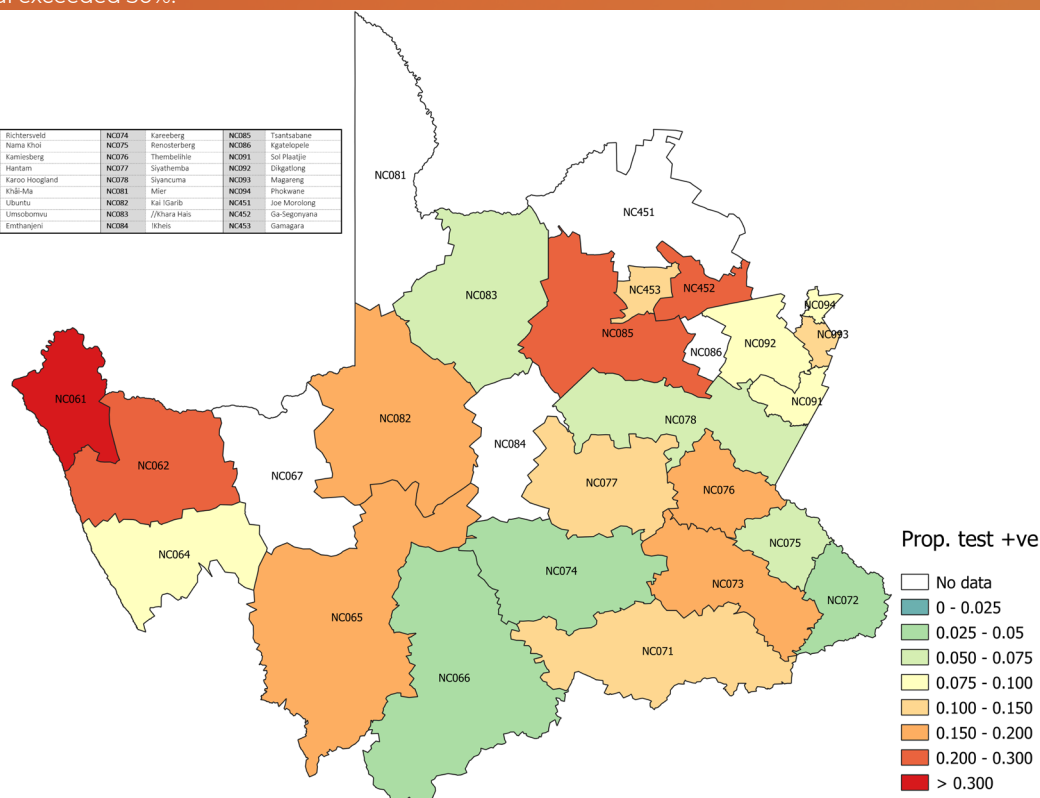


Figure 13. Proportion testing positive by health sub-district in Northern Cape Province for the week of 7 - 13 February 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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MAN	Mangaung	FS181	Masilonyana	FS191	Setso	FS196	Mantsopa
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	Mafube

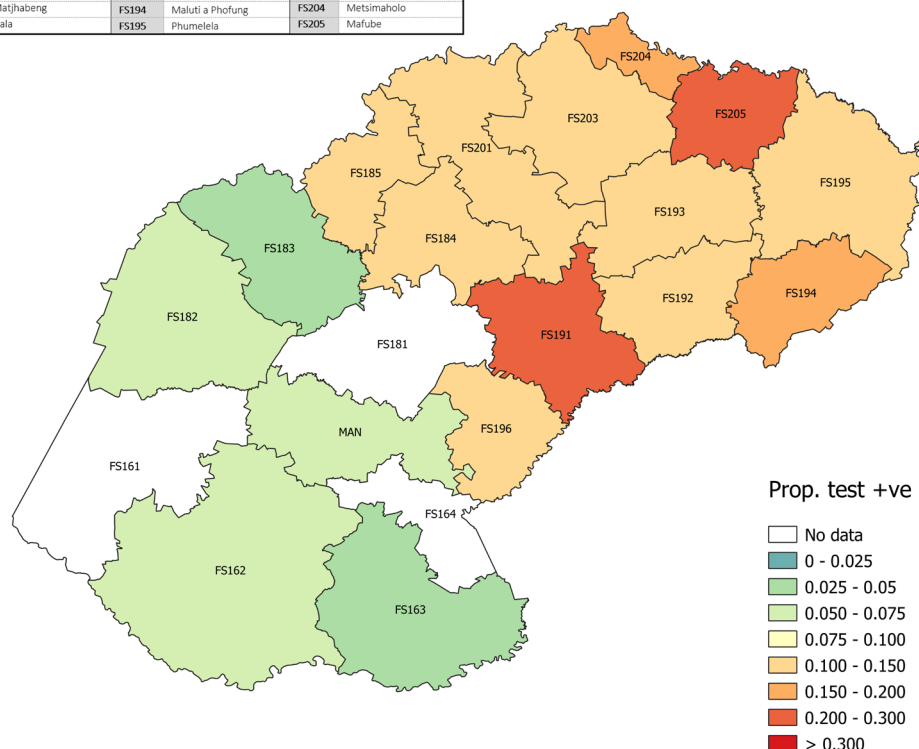


Figure 14. Proportion testing positive by health sub-district in Free State Province for the week of 7 - 13 February 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

ETHN	eThekweni North	KZN233	Indaka	KZN273	The Big 5 False Bay
ETHS	eThekweni South	KZN234	Umtshezi	KZN274	Hiabisa
ETHS	eThekweni South	KZN235	Okhahlamba	KZN275	Mtubatuba
ETHW	eThekweni West	KZN236	Imbabarane	KZN281	Mfolosi
KZN211	Vulamehlo	KZN241	Endumeni	KZN282	uMkhathuzi
KZN212	Umdoni	KZN242	Nqulu	KZN283	Ntambanana
KZN213	Umkumbe	KZN244	Mzinga	KZN284	uMlalazi
KZN214	uMuziwabantu	KZN245	Umvoti	KZN285	Mthonjaneni
KZN215	Ezingolweni	KZN252	Newcastle	KZN286	Nxandla
KZN216	Hlabisa Coast	KZN253	Emadlangeni	KZN291	Mandleni
KZN221	uMhwenathi	KZN254	Dannhauser	KZN292	KwaDukuza
KZN222	uMngeni	KZN261	eDumbe	KZN293	Ndwedwe
KZN223	Mpofana	KZN262	uPhongolo	KZN294	Maphumulo
KZN224	Impendle	KZN263	Abapuli	KZN431	Ingwe
KZN225	The Mounduli	KZN265	hongoma	KZN432	Kwa Sani
KZN226	Mkhambathini	KZN266	Ulundi	KZN433	Greater Kokstad
KZN227	Richmond	KZN271	Umlalabyalingana	KZN434	Ubuhlebezwe
KZN232	Emtsheni/Ladysmith	KZN272	Jozini	KZN435	Umtshini

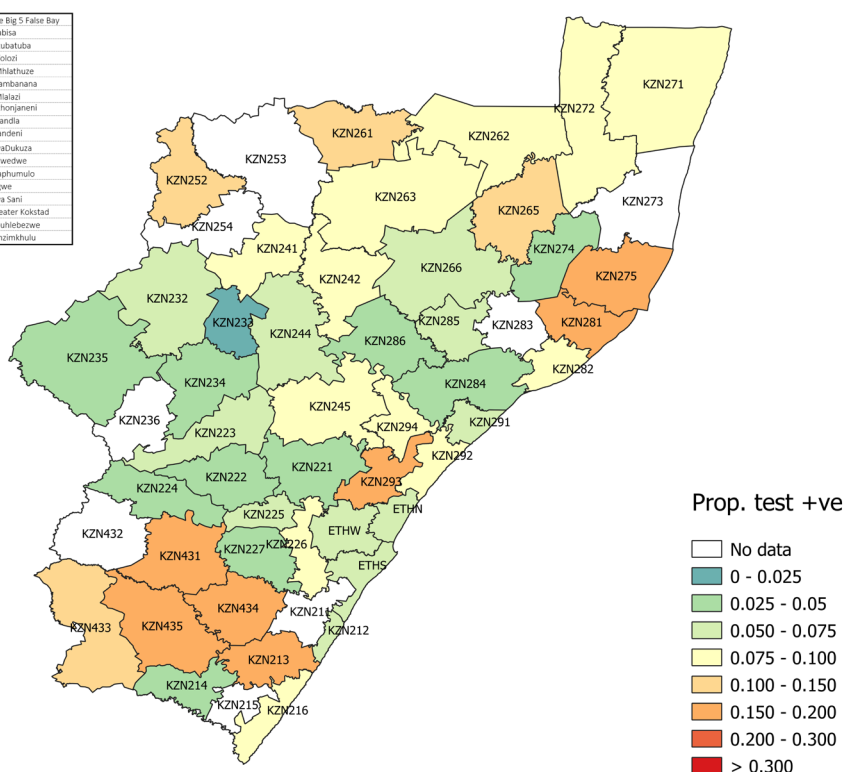


Figure 15. Proportion testing positive by health sub-district in KwaZulu-Natal Province for the week of 7 - 13 February 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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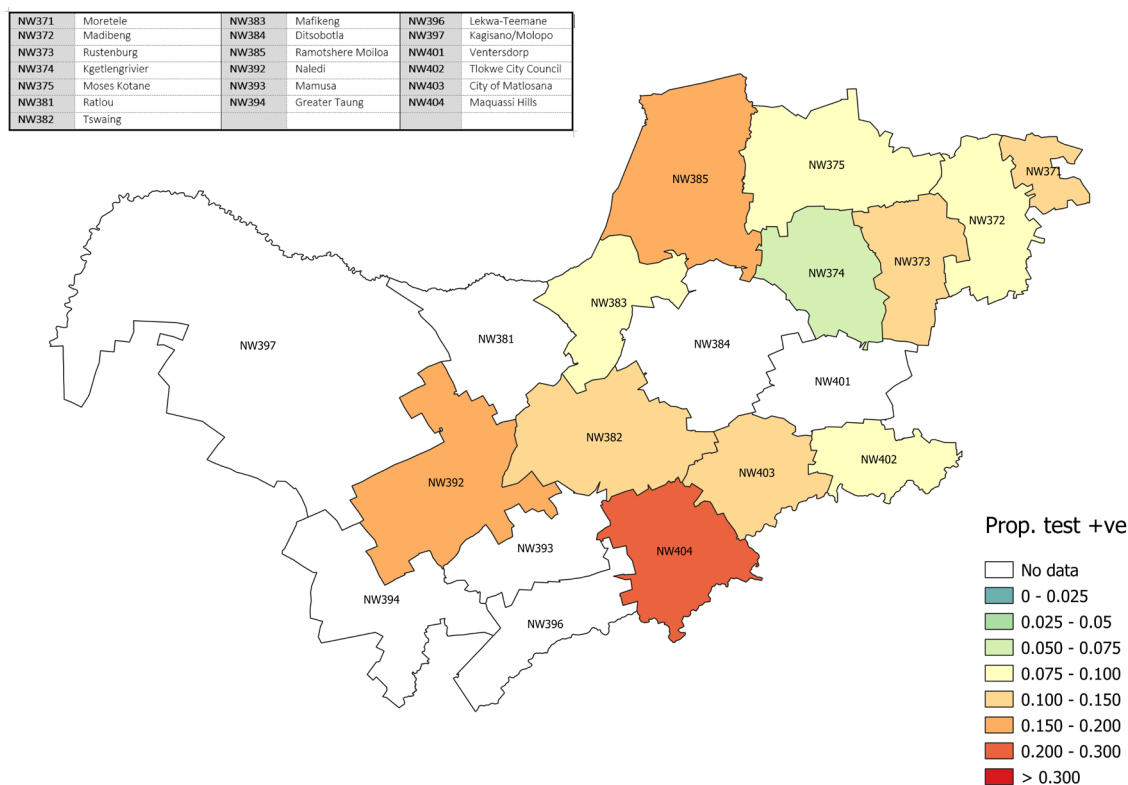


Figure 16. Proportion testing positive by health sub-district in North West Province for the week of 7 - 13 February 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

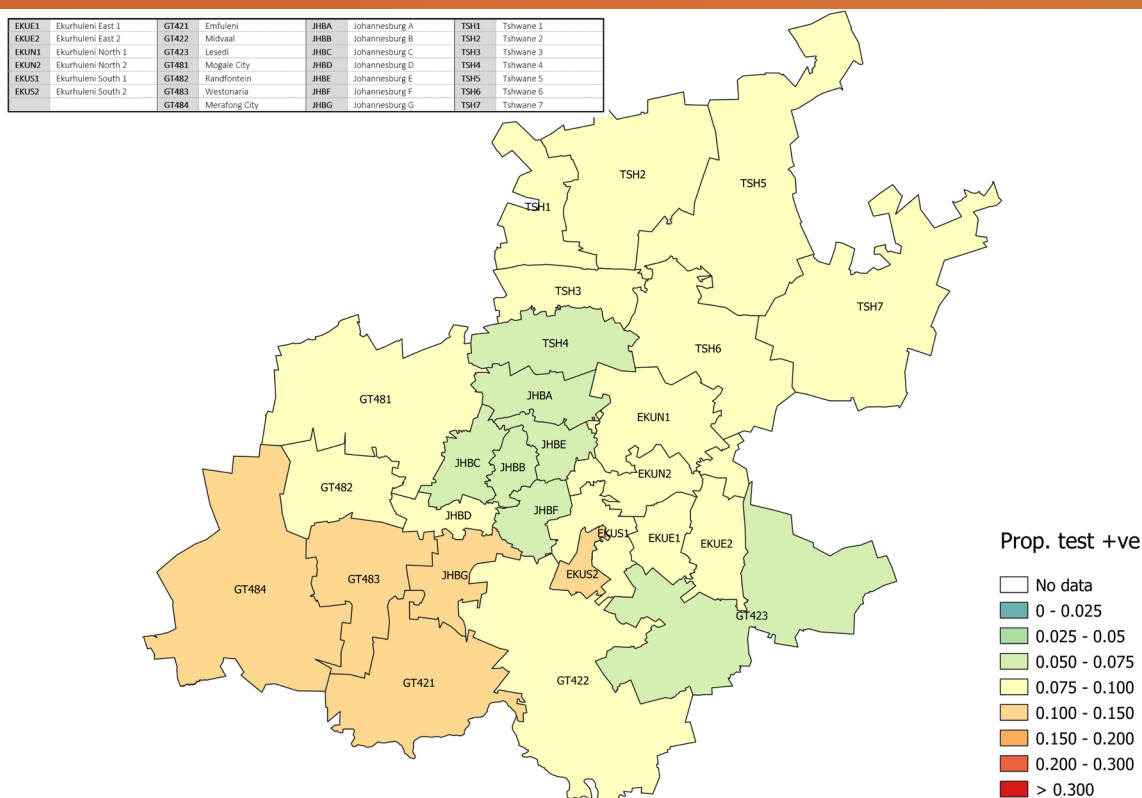


Figure 17. Proportion testing positive by health sub-district in Gauteng Province for the week of 7 - 13 February 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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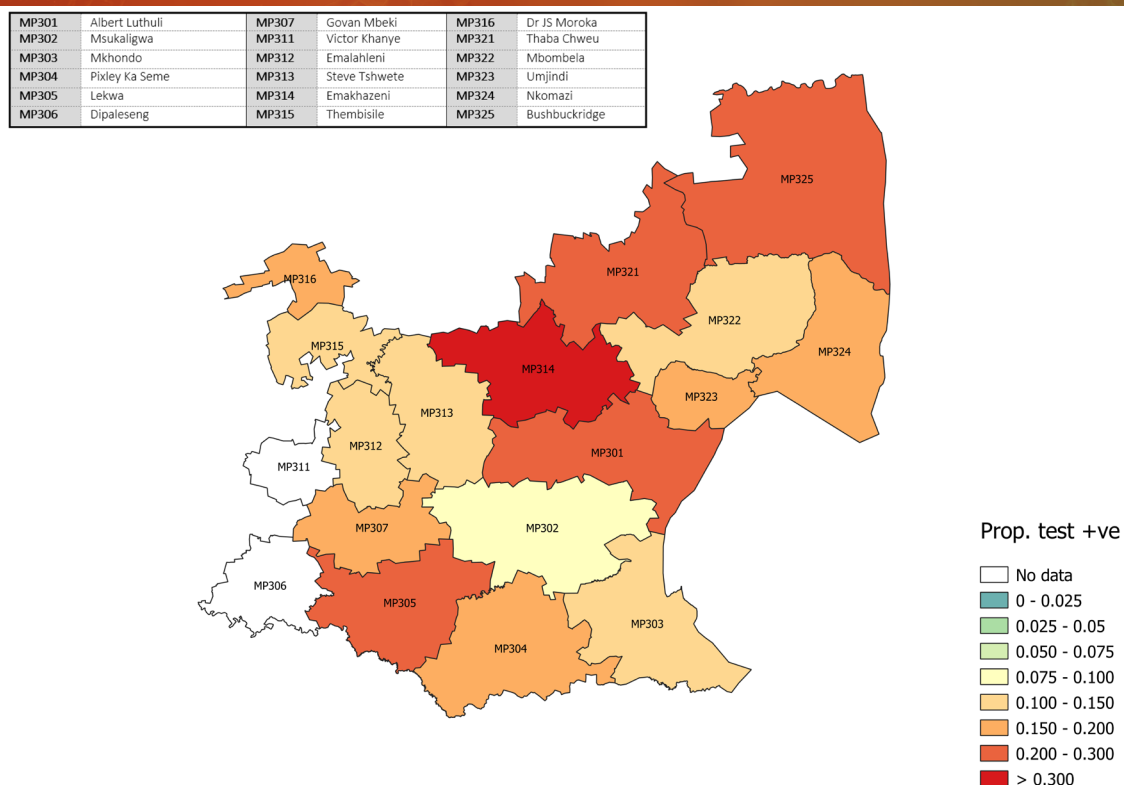


Figure 18. Proportion testing positive by health sub-district in Mpumalanga Province for the week of 7 - 13 February 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

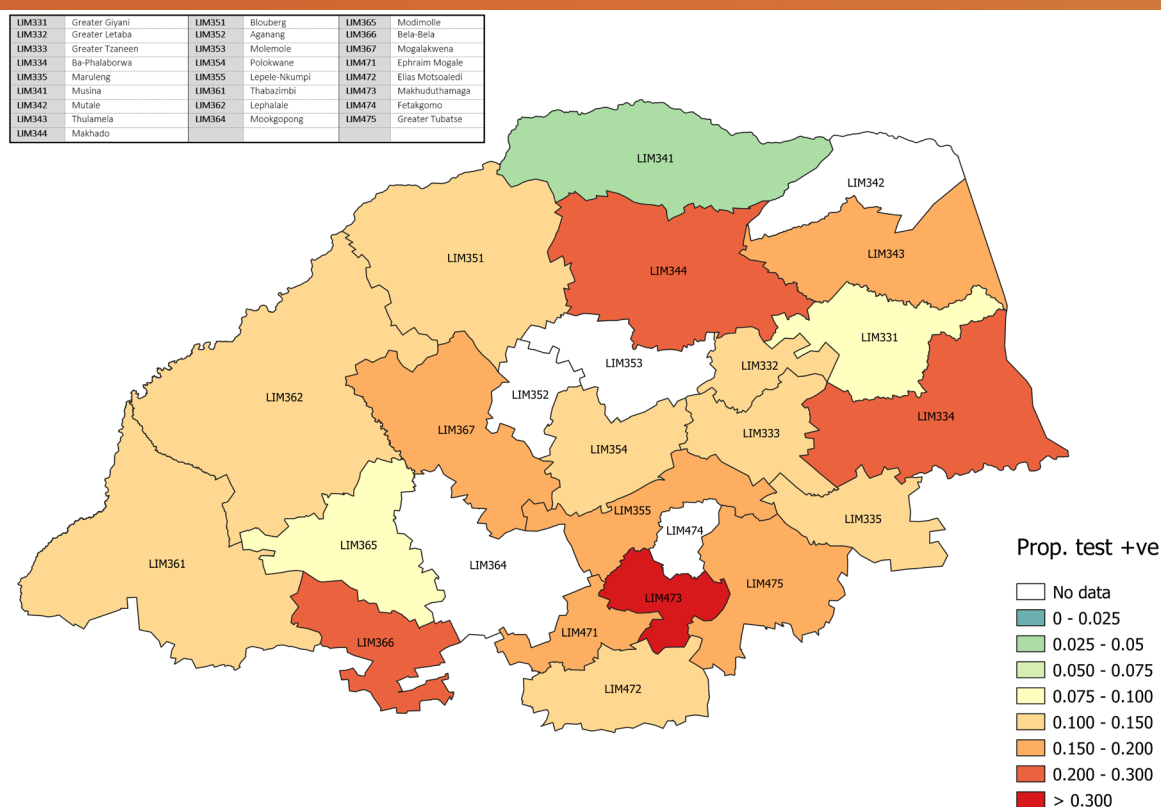


Figure 19. Proportion testing positive by health sub-district in Limpopo Province for the week of 7 - 13 February 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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Testing by patient admission status

In week 6 of 2021, 37.5% of tests were performed for hospitalised patients; 50.3% in the public sector and 27.3% in the private sector (Figure 20). The percentage testing positive continued to decrease among both inpatients and outpatients in the past week, and in

week 6 was similar among outpatients (9.3%) and inpatients (8.6%) (Figure 21). In week 6 of 2021 the mean laboratory turnaround time in the public sector continued to be lower for inpatients (1.6 days) compared to outpatients (2.1 days) with decreases observed in both groups in the past few weeks (Figure 22).

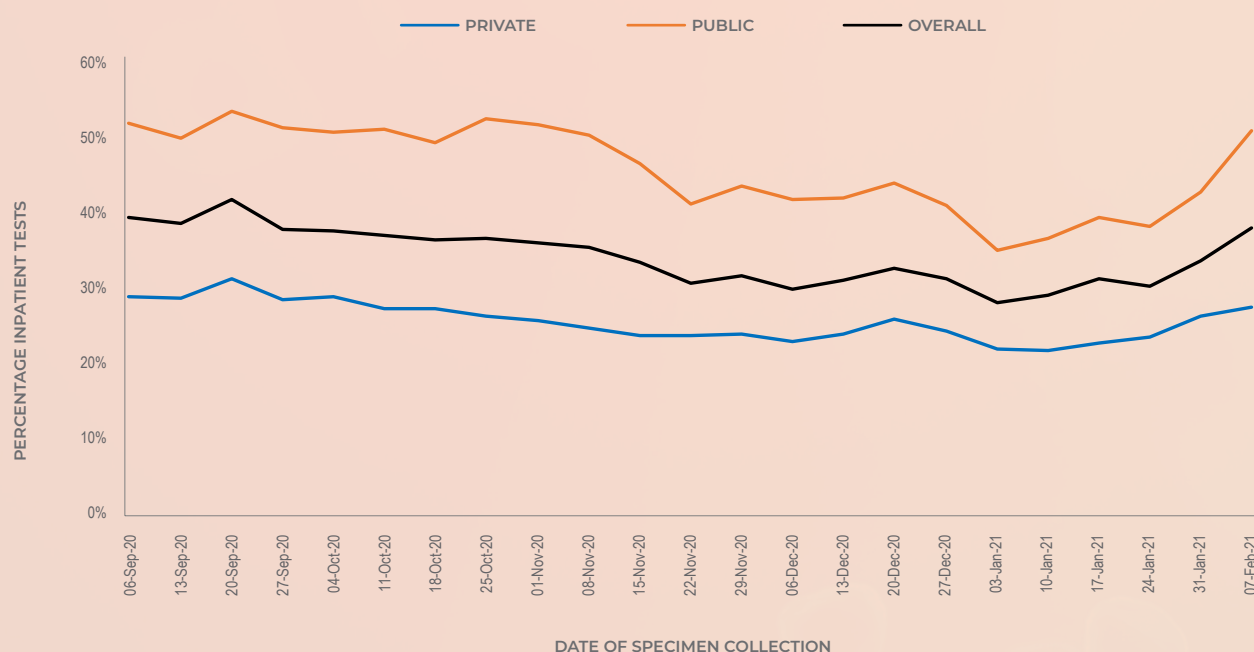


Figure 20. Percentage of inpatient tests performed by health sector, 6 September 2020 – 13 February 2021

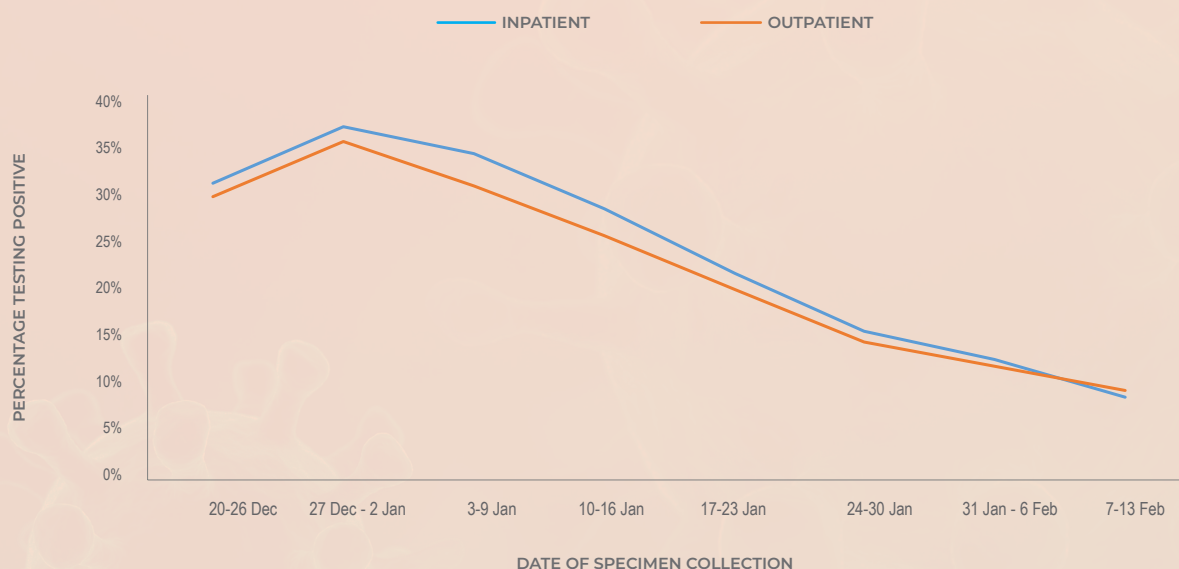


Figure 21. Percentage testing positive by patient admission status in the public sector, 20 December 2020 – 13 February 2021

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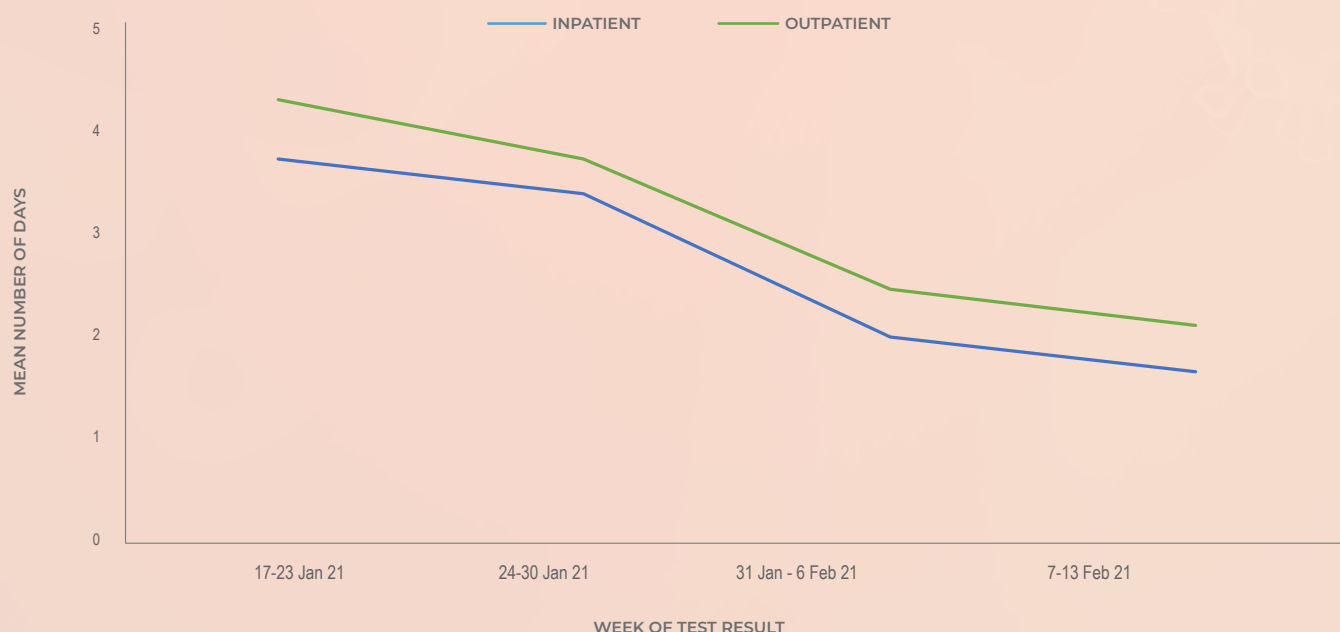


Figure 22. Mean number of days between date of specimen collection and date of test result in the public sector by patient admission status, 17 January – 13 February 2021

Testing by age and sex

Similar to the previous few weeks, the mean age of individuals tested in week 6 of 2021 was 39.8 years, and was similar among males (40.0 years) and females (39.8 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 6, the testing rate was higher in females (306 per 100,000 persons) compared to males (283 per 100,000 persons) (Figure 24). The highest testing rates were observed in individuals ≥ 80 years of age (651 per 100,000 persons) in week 6. 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).

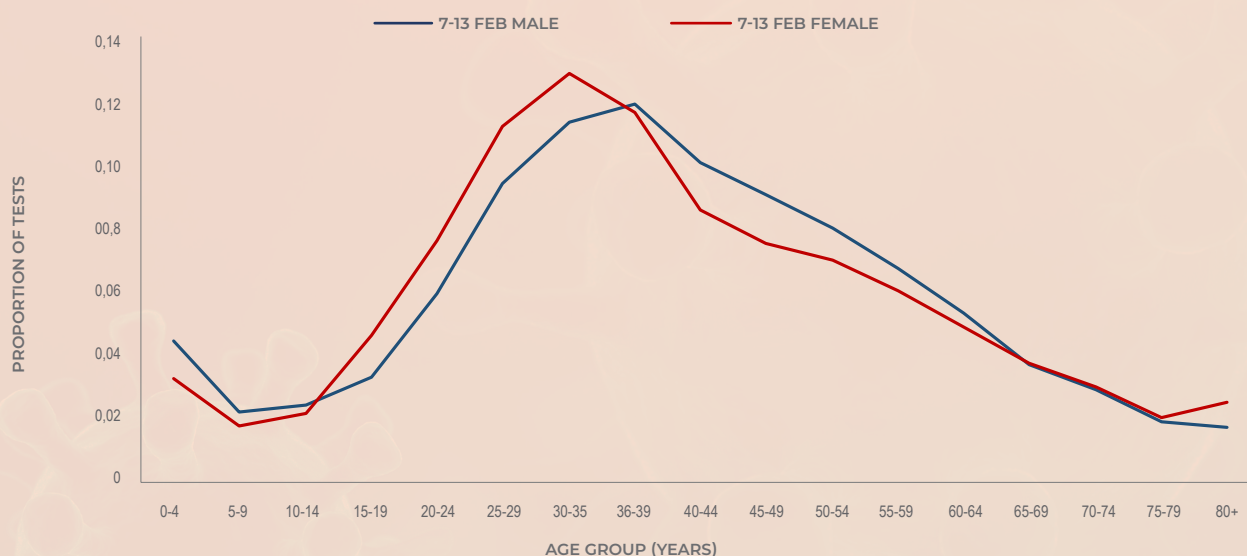


Figure 23. Proportion of tests by age group and sex, South Africa, week 6, 7 - 13 February 2021

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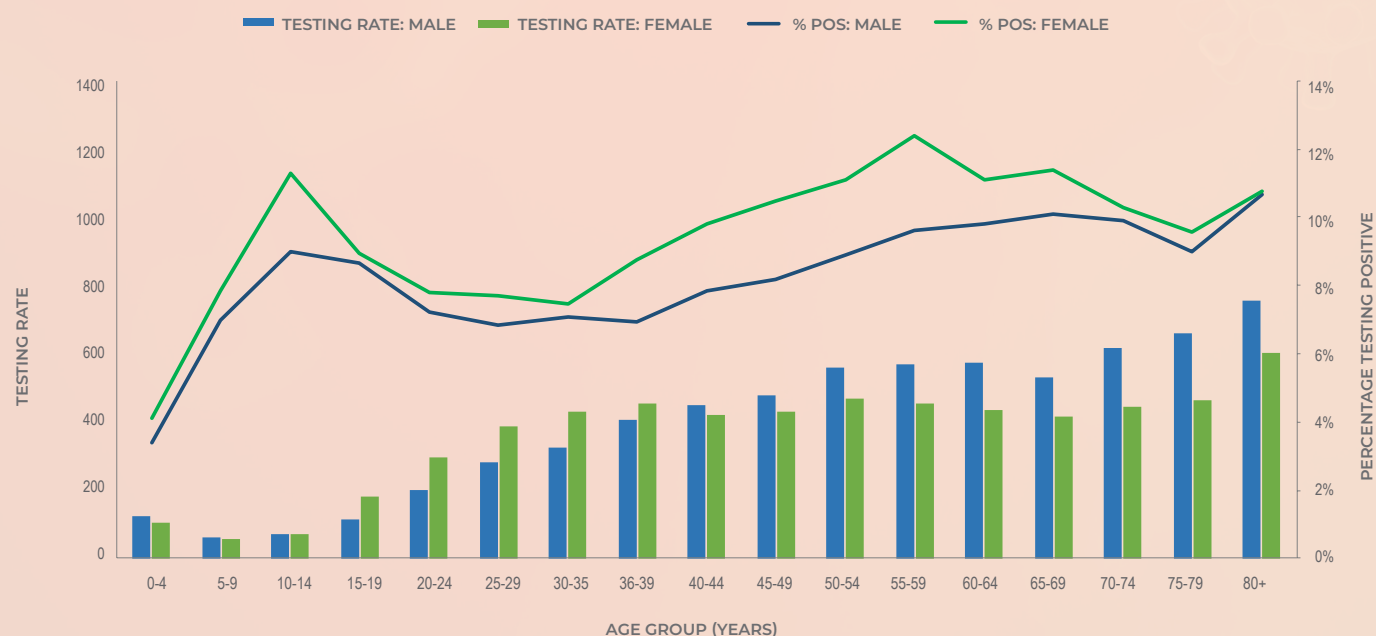


Figure 24. Testing rates per 100,000 persons and percentage testing positive by age group and sex, South Africa, week 6, 7 - 13 February 2021

Testing by test type

Up to the end of week 6 of 2021, 399,124 antigen tests had been performed, of which 94.7% were in the public sector. In week 6, 32,431 antigen tests were performed, of which 91.5% were in the public sector. The percentage of antigen tests of all tests performed decreased slightly from 19.6% in week 5 to 17.9% in week 6 (Figure 25). The majority of antigen tests have been performed in KwaZulu-Natal (46.6%)

and Eastern Cape (15.2%) provinces (Figure 25). The percentage testing positive was higher for PCR tests compared to antigen tests, although decreases were observed for both types of tests in recent weeks (Figure 26). Not all antigen tests are included in this report, efforts are ongoing to improve completeness.

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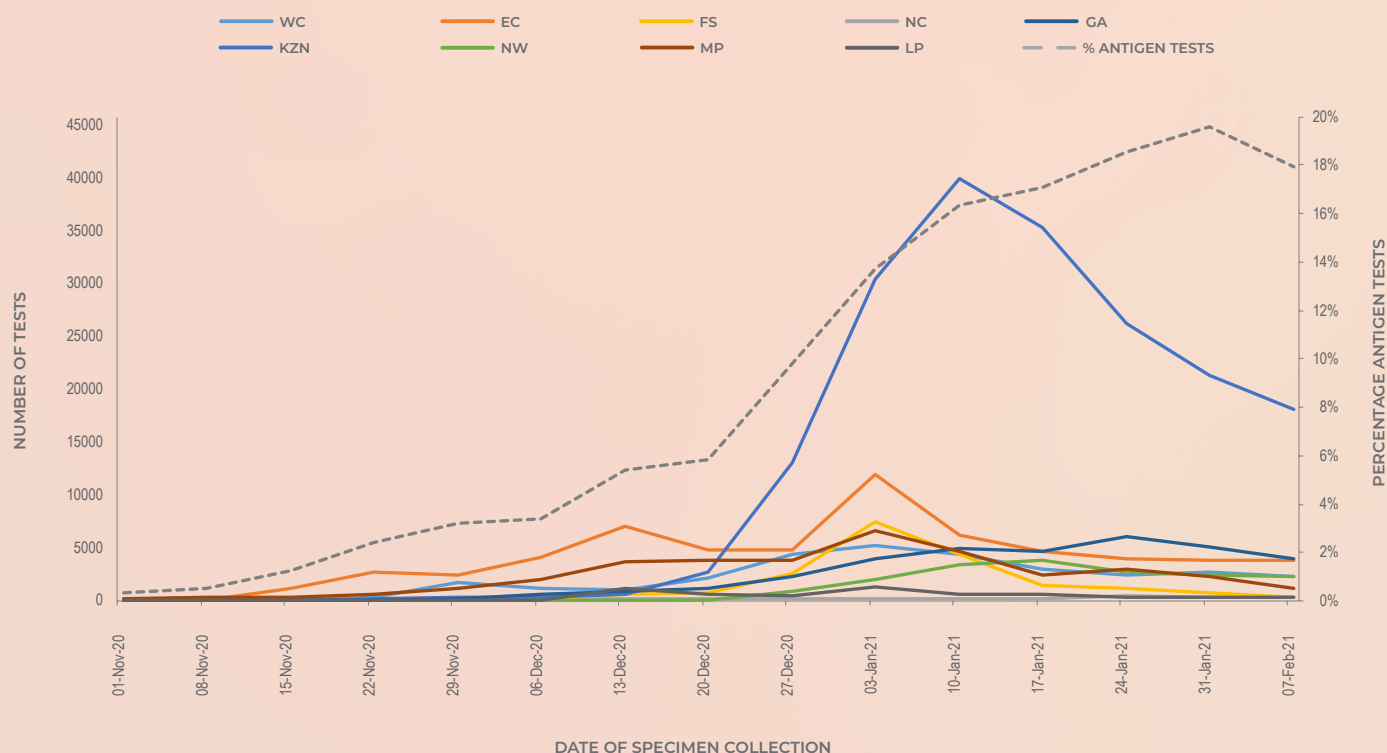


Figure 25. Number of antigen tests by province, and overall percentage antigen tests, South Africa, 1 November 2020 – 13 February 2021. WC, Western Cape; EC, Eastern Cape; FS, Free State; KZN, KwaZulu-Natal; GT, Gauteng; NC, Northern Cape; NW, North West; MP, Mpumalanga; LP, Limpopo

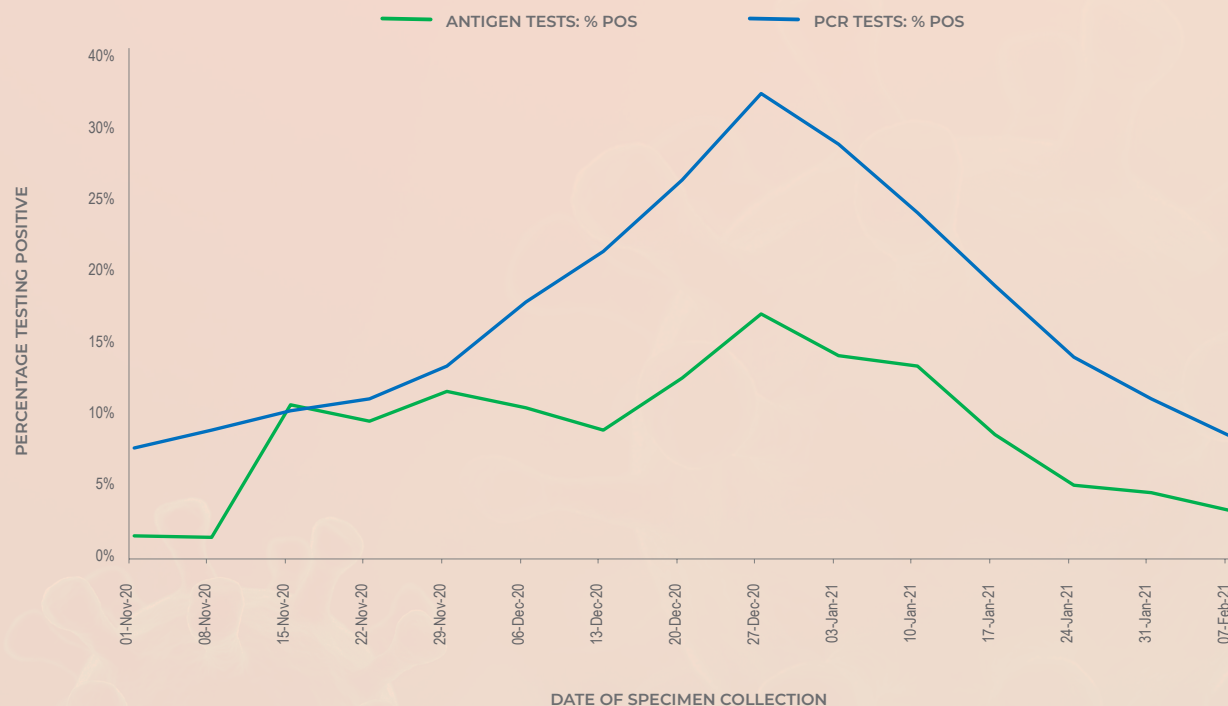


Figure 26. Percentage of laboratory tests positive for SARS-CoV-2 by test type and date of specimen collection, South Africa, 1 November 2020 – 13 February 2021

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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=497,106), with the number of tests performed in week 6 of 2021 (n=180,316) continuing to decrease compared to the previous few weeks. Gauteng (33.3%) performed the largest number of tests in week 6, followed by KwaZulu-Natal (23.9%) and Western Cape (15.8%) provinces. Testing rates have decreased in all provinces in recent weeks, and were highest in week 6 in the Western Cape (406 per 100,000 persons), Gauteng (387 per 100,000 persons) and KwaZulu-Natal (374 per 100,000 persons) provinces. Antigen tests accounted for 17.9% of all tests performed in week 6. The overall laboratory turnaround time for PCR tests decreased to 1.1 days in week 6; 1.8 days in the public sector and <1 day in the private sector.

In the second wave of infections the percentage testing positive peaked at 34.8% in week 53 of 2020, and has subsequently decreased. In week 6 of 2021 the percentage testing positive decreased to 8.6%. The percentage testing positive in week 6 was highest in Limpopo (14.5%) and Mpumalanga (14.6%) provinces. Percentage testing positive was 7-12% in the Western Cape, Northern Cape, Free State, KwaZulu-Natal, North West and Gauteng, and was <5% in the Eastern Cape. In week 6, compared to the previous week, the percentage testing positive decreased in all provinces.