

SOUTH AFRICA WEEK 29 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 24 July 2021 (Week 29 of 2021).

#### **HIGHLIGHTS**

- In the period 1 March 2020 through 24 July 2021, 14,490,127 (12,895,457 PCR and 1,594,670 antigen) tests for SARS-CoV-2 have been reported nationally.
- The number of tests reported in week 29 of 2021 (n=286,222) was lower than the number of tests reported in recent weeks.
- The testing rate in week 29 was 480 per 100,000 persons; highest in the Western Cape (792 per 100,000 persons) and lowest in Limpopo (221 per 100,000 persons).
- In week 29 the percentage testing positive was 28.7%, which was 3.3% lower than the previous week.
- The percentage testing positive in week 29 was highest Limpopo (42.7%), Mpumalanga (36.4%), North West (35.4%), and Western Cape (31.9%) provinces. The percentage testing positive was between 20% and 30% in the Eastern Cape, Northern Cape, Free State, KwaZulu-Natal and Gauteng.
- In week 29, compared to the previous week, the percentage testing positive increased in the Western Cape, Eastern Cape, Northern Cape and KwaZulu-Natal provinces. The percentage testing positive decreased in Gauteng, Mpumalanga and Limpopo and remained unchanged in the North West and the Free State.
- The number of tests reported is likely underestimated as antigen tests are increasingly being used outside of laboratory settings and reporting may be delayed or results may not be reported.

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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 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.

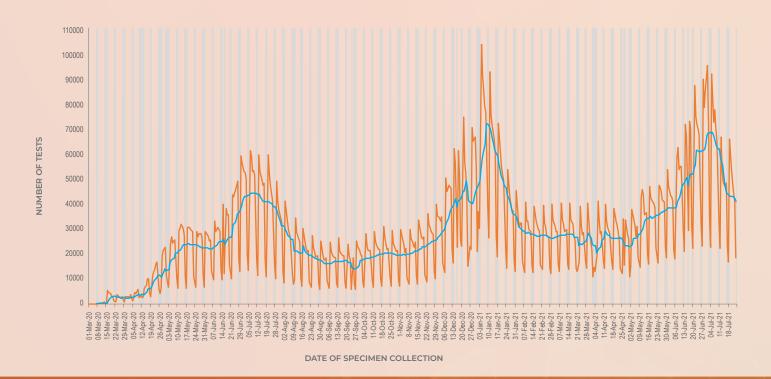
Health district and sub-district (in the metros) level results were mapped based on geo-locatable public and private sector testing facilities. Estimates of overall prevalence were derived using regression techniques. Estimates were adjusted to produce district-specific positive test prevalences based 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 reported between 1 March 2020 (week 10 of 2020), the week when the first case of COVID-19 was confirmed, and 24 July 2021 (week 29 of 2021).

# Testing volumes and proportion testing positive

From 1 March 2020 through 24 July 2021, 14,490,127 SARS-CoV-2 tests were reported; 12,895,457 PCR and 1,594,670 antigen tests. The highest number of tests reported during the first wave occurred in week 28 of 2020 (beginning 5 July, n=307,915). In the second wave, weekly testing volumes increased from week 48 of 2020 (beginning 22 November), with the highest weekly number of tests since the start of the pandemic reported in week 1 of 2021 (beginning 3 January, n=501,120). In the third wave, the weekly number of tests started increasing in week 19 of 2021 (beginning 9 May), and increased weekly to 476,535 tests in week 26 of 2021 (beginning 27 June). The number of tests reported in week 29 was 286,222, lower than the number observed in 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 SARS-CoV-2 tests reported by date of specimen collection, South Africa, 1 March 2020 – 24 July 2021. Blue line shows the 7-day moving average of the number of tests reported. Grey bars highlight weekend days and public holidays.

The overall percentage testing positive from week 10 of 2020 through week 29 of 2021 was 17.4% (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 increased to a peak of 34.6% in week 53 of 2020, and subsequently decreased to 4.0% in week 14 of 2021. The percentage testing positive in week 29 of 2021 was 28.7%, which was 3.3% lower than the previous week (32.0%, P<0.001) (Figure 2).

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Table 1. Weekly number of SARS-CoV-2 tests and positive tests reported, South Africa, 1 March 2020 – 24 July 2021

Week number	Week beginning	No. of tests n (%)	No. of positive tests	Percentage testing positive (%)
10	01-Mar-20	456 (0.0)	13	2.9
11	08-Mar-20	2380 (0.0)	103	4.3
12	15-Mar-20	21567 (0.1)	897	4.2
13	22-Mar-20	17545 (0.1)	544	3.1
14	29-Mar-20	18251 (0.1)	521	2.9
15	05-Apr-20	26299 (0.2)	796	3.0
16	12-Apr-20	43754 (0.3)	1295	3.0
17	19-Apr-20	79179 (0.5)	2177	2.7
18	26-Apr-20	93816 (0.6)	3208	3.4
19	03-May-20	142712 (1.0)	6018	4.2
20	10-May-20	165377 (1.1)	8092	4.9
<u>23</u> 21	17-May-20	166544 (1.1)	11379	6.8
22	24-May-20	156139 (1.1)	12967	8.3
23	31-May-20	153571 (1.1)	15079	9.8
	07-Jun-20	173905 (1.2)	22363	
24 25	14-Jun-20	173903 (1.2) 186090 (1.3)	32653	
<u>26</u>	21-Jun-20	252100 (1.7)	55049 75717	21.8
27	28-Jun-20	302751 (2.1)	75313	24.9
28	05-Jul-20	307915 (2.1)	86040	27.9
29	12-Jul-20	285603 (2.0)	84927	29.7
30	19-Jul-20	270900 (1.9)	78636	29.0
31	26-Jul-20	216396 (1.5)	58394	27.0
32	02-Aug-20_	179573 (1.2)	40996	22.8
33	09-Aug-20	141104 (1.0)	26266	18.6
34	16-Aug-20	135014 (0.9)	21377	15.8
35	23-Aug-20	123333 (0.9)	16331	13.2
36	30-Aug-20	112762 (0.8)	12790	11.3
37	06-Sep-20	116998 (0.8)	11953	10.2
38	13-Sep-20	120716 (0.8)	12012	10.0
39	20-Sep-20	98822 (0.7)	10098	10.2
40	27-Sep-20	123062 (0.8)	11008	8.9
41	04-Oct-20	131045 (0.9)	11779	9.0
42	11-Oct-20	137976 (1.0)	12077	8.8
43	18-Oct-20	142172 (1.0)	12069	8.5
44	25-Oct-20	135853 (0.9)	11479	8.4
45	01-Nov-20	138842 (1.0)	12138	8.7
46	08-Nov-20	147009 (1.0)	14845	10.1
47	15-Nov-20	160649 (1.1)	18765	11.7
48	22-Nov-20	175695 (1.2)	22054	12.6
	29-Nov-20	203150 (1.4)	30768	15.1
50	06-Dec-20	267926 (1.8)	53313	19.9
<u>50</u> 51	13-Dec-20	294469 (2.0)	68578	23.3
51	20-Dec-20	284567 (2.0)	81961	28.8
	27-Dec-20	334394 (2.3)	115737	
<u></u>		501120 (3.5)	151029	
2	10-Jan-21	417916 (2.9)	104788	
Ζ	10-3a11-21	417310 (2.3)	104/88	ZJ.I

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3	17-Jan-21	327354 (2.3)	63251	19.3
4	24-Jan-21	249435 (1.7)	34629	13.9
5	31-Jan-21	203590 (1.4)	22357	11.0
6	07-Feb-21	193211 (1.3)	16461	8.5
7	14-Feb-21	190372 (1.3)	12169	6.4
8	21-Feb-21	184414 (1.3)	10373	5.6
9	28-Feb-21	189283 (1.3)	8672	4.6
10	07-Mar-21	193166 (1.3)	8318	4.3
11	14-Mar-21	185412 (1.3)	8139	4.4
12	21-Mar-21	172538 (1.2)	7340	4.3
13	28-Mar-21	163250 (1.1)	7058	4.3
14	04-Apr-21	180472 (1.2)	7277	4.0
15	11-Apr-21	183984 (1.3)	8835	4.8
16	18-Apr-21	184123 (1.3)	9457	5.1
17	25-Apr-21	159237 (1.1)	9165	5.8
18	02-May-21	193545 (1.3)	13411	6.9
19	09-May-21	238369 (1.6)	19845	8.3
20	16-May-21	246080 (1.7)	24111	9.8
21	23-May-21	259349 (1.8)	29574	11.4
22	30-May-21	266726 (1.8)	35826	13.4
23	06-Jun-21	331459 (2.3)	58653	17.7
24	13-Jun-21	362221 (2.5)	86330	23.8
25	20-Jun-21	423901 (2.9)	116240	27.4
26	27-Jun-21	476535 (3.3)	143174	30.0
27	04-Jul-21	431146 (3.0)	138515	32.1
28	11-Jul-21	307316 (2.1)	98296	32.0
29	18-Jul-21	286222 (2.0)	82231	28.7
	Total	14,490,127(100.0)	2,520,382	17.4

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**Figure 2.** Percentage of tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 1 March 2020 – 24 July 2021. Blue 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 24 July 2021, 6,370,093 tests were reported in the public sector, with 17.4% testing positive. Over this same period, the private sector reported 8,120,034 tests, with 17.4% testing positive (Table 2). Overall, the public sector has reported 44.0% of tests and accounted for 44.0% 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 (34.9%) and private sector (34.4%). From week 28 to week 29 of 2021, the percentage testing positive decreased by 1.8% in the public sector (31.4% in week 28 to 29.6% in week 29, P<0.001) and decreased by 4.7% in the private sector (32.6% in week 28 to 27.9% in week 29, P<0.001). In week 29 the percentage testing positive in the public sector (29.6%) was 1.7% higher than in the private sector (27.9%, P=0.001).

The mean turnaround time for PCR tests reported in week 29 of 2021 was 1.1 days; 1.5 days in the public sector and 0.7 days in the private sector (Figure 3). Turnaround times for public sector PCR tests were >2 days in the Eastern Cape and Mpumalanga provinces in week 29 (Figure 4). Increases in turnaround times were observed in the Eastern Cape and Free State provinces in the past week, while decreases were observed in KwaZulu-Natal, North West, Gauteng and Limpopo provinces. Twenty-three of the 28 (82.1%) NHLS laboratories performing PCR testing for SARS-CoV-2 had turnaround times ≤2 days in week 29 (Figure 5).

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**Table 2.** Weekly number of tests and positive tests reported, by healthcare sector, South Africa, 1 March 2020 – 24 July 2021

		Pub	lic sector	Priva	te sector	Public secto	r proportion of	Ratio
Week number	Week beginning	Tests	Cases n (%)	Tests	Positive tests n (%)	Tests (%)	Positive tests (%)	of PTP <sup>a</sup>
10	01-Mar-20	294	10 (3.4)	162	3 (1.9)	64.5	76.9	1.837
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	3478	149 (4.3)	14067	395 (2.8)	19.8	27.4	1.526
14	29-Mar-20	5868	194 (3.3)	12383	327 (2.6)	32.2	37.2	1.252
15	05-Apr-20	11735	417 (3.6)	14564	379 (2.6)	44.6	52.4	1.366
16	12-Apr-20	24167	672 (2.8)	19587	623 (3.2)	55.2	51.9	0.874
17	19-Apr-20	55110	1595 (2.9)	24069	582 (2.4)	69.6	73.3	1.197
18	26-Apr-20	67469	2453 (3.6)	26347	755 (2.9)	71.9	76.5	1.269
19	03-May-20	94338	4507 (4.8)	48374	1511 (3.1)	66.1	74.9	1.529
20	10-May-20	108001	5443 (5.0)	57376	2649 (4.6)	65.3	67.3	1.092
21	17-May-20	98648	7031 (7.1)	67896	4348 (6.4)	59.2	61.8	1.113
22	24-May-20	77597	6411 (8.3)	78542	6556 (8.3)	49.7	49.4	0.990
23_	31-May-20	63945	6626 (10.4)	89626	8453 (9.4)	41.6	43.9	1.099
24	07-Jun-20	64655	8039 (12.4)	109250	14324 (13.1)	37.2	35.9	0.948
25	14-Jun-20	61149	11982 (19.6)	124941	20671 (16.5)	32.9	36.7	1.184
26	21-Jun-20	90455	20425 (22.6)	161645	34624 (21.4)	35.9	37.1	1.054
27	28-Jun-20	106374	27245 (25.6)	196377	48068 (24.5)	35.1	36.2	1.046
28_	05-Jul-20	117727	32239 (27.4)	190188	53801 (28.3)	38.2	37.5	0.968
29	12-Jul-20	110664	31383 (28.4)	174939	53544 (30.6)	38.7	37.0	0.927
30	19-Jul-20	105218	30319 (28.8)	165682	48317 (29.2)	38.8	38.6	0.988
31	26-Jul-20	81248	22782 (28.0)	135148	35612 (26.4)	37.5	39.0	1.064
32	02-Aug-20	70566	16996 (24.1)	109007	24000 (22.0)	39.3	41.5	1.094
33	09-Aug-20	58661	11172 (19.0)	82443	15094 (18.3)	41.6	42.5	1.040
34	16-Aug-20	56138	9621 (17.1)	78876	11756 (14.9)	41.6	45.0	1.150
35	23-Aug-20	50319	7790 (15.5)	73014	8541 (11.7)	40.8	47.7	1.323
36	30-Aug-20	45422	6096 (13.4)	67340	6694 (9.9)	40.3	47.7	1.350
37	06-Sep-20	51055	6421 (12.6)	65943	5532 (8.4)	43.6	53.7	1.499
38	13-Sep-20	53707	6547 (12.2)	67009	5465 (8.2)	44.5	54.5	1.495
39	20-Sep-20	44842	5530 (12.3)	53980	4568 (8.5)	45.4	54.8	1.457
40	27-Sep-20	48629	5568 (11.4)	74433	5440 (7.3)	39.5	50.6	1.567
41	04-Oct-20	50435	5690 (11.3)	80610	6089 (7.6)	38.5	48.3	1.494
42	11-Oct-20	53452	5702 (10.7)	84524	6375 (7.5)	38.7	47.2	1.414
43	18-Oct-20	56123	6045 (10.8)	86049	6024 (7.0)	39.5	50.1	1.539
44	25-Oct-20	51287	5721 (11.2)	84566	5758 (6.8)	37.8	49.8	1.638
45	01-Nov-20	52999	6061 (11.4)	85843	6077 (7.1)	38.2	49.9	1.615
46	08-Nov-20	58914	8097 (13.7)	88095	6748 (7.7)	40.1	54.5	1.794
47_	15-Nov-20	67582	10584 (15.7)	93067	8181 (8.8)	42.1	56.4	1.782
48_	22-Nov-20	74574	12200 (16.4)	101121	9854 (9.7)	42.4	55.3	1.679
49	29-Nov-20	81269	15730 (19.4)	121881	15038 (12.3)	40.0	51.1	1.569
50	06-Dec-20	107910	24716 (22.9)	160016	28597 (17.9)	40.3	46.4	1.282
51	13-Dec-20	117212	29815 (25.4)	177257	38763 (21.9)	39.8	43.5	1.163
52	20-Dec-20	109913	34128 (31.1)	174654	47833 (27.4)	38.6	41.6	1.134
53	27-Dec-20	151632	52932 (34.9)	182762	62805 (34.4)	45.3	45.7	1.016
1	03-Jan-21	236998	71063 (30.0)	264122	79966 (30.3)	47.3	47.1	0.990
2	10-Jan-21	204010	52958 (26.0)	213906	51830 (24.2)	48.8	50.5	1.071
3_	17-Jan-21	165664	34458 (20.8)	161690	28793 (17.8)	50.6	54.5	1.168
4	24-Jan-21	123233	18992 (15.4)	126202	15637 (12.4)	49.4	54.8	1.244
5	31-Jan-21	99762	12065 (12.1)	103828	10292 (9.9)	49.0	54.0	1.220
6	07-Feb-21	91300	8505 (9.3)	101911	7956 (7.8)	47.3	51.7	1.193
7	14-Feb-21	86213	6670 (7.7)	104159	5499 (5.3)	45.3	54.8	1.465
8	21-Feb-21	82487	5790 (7.0)	101927	4583 (4.5)	44.7	55.8	1.561
9	28-Feb-21	87836	4666 (5.3)	101447	4006 (3.9)	46.4	53.8	1.345
10	07-Mar-21	92702	4576 (4.9)	100464	3742 (3.7)	48.0	55.0	1.325
11	14-Mar-21	89872	4437 (4.9)	95540	3702 (3.9)	48.5	54.5	1.274
12	21-Mar-21	76937	3457 (4.5)	95601	3883 (4.1)	44.6	47.1	1.106
13	28-Mar-21	70817	3454 (4.9)	92433	3604 (3.9)	43.4	48.9	1.251
14	04-Apr-21	79276	3352 (4.2)	101196	3925 (3.9)	43.9	46.1	1.090
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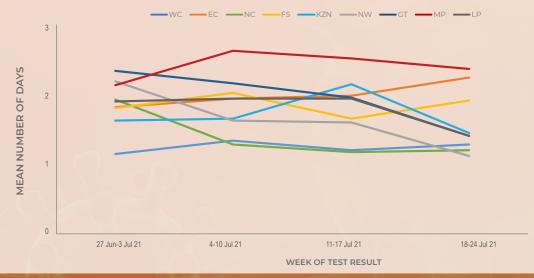
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15	11-Apr-21	85299	4357 (5.1)	98685	4478 (4.5)	46.4	49.3	1.126
16	18-Apr-21	79926	4708 (5.9)	104197	4749 (4.6)	43.4	49.8	1.292
17	25-Apr-21	69854	4114 (5.9)	89383	5051 (5.7)	43.9	44.9	1.042
18	02-May-21	80922	5442 (6.7)	112623	7969 (7.1)	41.8	40.6	0.950
19	09-May-21	90659	7304 (8.1)	147710	12541 (8.5)	38.0	36.8	0.949
20	16-May-21	99115	9089 (9.2)	146965	15022 (10.2)	40.3	37.7	0.897
21	23-May-21	119527	11706 (9.8)	139822	17868 (12.8)	46.1	39.6	0.766
22	30-May-21	110076	11747 (10.7)	156650	24079 (15.4)	41.3	32.8	0.694
23	06-Jun-21	144693	19591 (13.5)	186766	39062 (20.9)	43.7	33.4	0.647
24	13-Jun-21	150069	29050 (19.4)	212152	57280 (27.0)	41.4	33.6	0.717
25	20-Jun-21	174381	41815 (24.0)	249520	74425 (29.8)	41.1	36.0	0.804
26	27-Jun-21	226713	62001 (27.3)	249822	81173 (32.5)	47.6	43.3	0.842
27	04-Jul-21	205292	62649 (30.5)	225854	75866 (33.6)	47.6	45.2	0.908
28	11-Jul-21	147465	46253 (31.4)	159851	52043 (32.6)	48.0	47.1	0.963
29	18-Jul-21	136371	40409 (29.6)	149851	41822 (27.9)	47.6	49.1	1.062
	Total	6,370,093	1,107,870 (17.4)	8,120,034	1,412,512 (17.4)	44.0	44.0	1.000

<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)



**Figure 3.** Mean number of days between date of specimen collection and date of test result for PCR tests, by week of test result, South Africa, 27 June – 24 July 2021



**Figure 4.** Mean number of days between date of specimen collection and date of test result for PCR tests, by week of test result and province, public sector, South Africa, 27 June – 24 July 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 for PCR tests, by public sector laboratory, 4-24 July 2021. The horizontal black line indicates 48-hour turnaround time (TAT).

#### Testing by province

Gauteng reported the largest number of tests (32.6%), followed by Western Cape (19.4%) in week 29 of 2021 (Table 3). The overall testing rate decreased from 515 per 100,000 persons in week 28 to 480 per 100,000 in week 29. The testing rate ranged from 792 per 100,000 persons in Western Cape to 221 per 100,000 persons in Limpopo (Figure 6). In week 29, testing rates decreased most notably in Gauteng, North West and Limpopo provinces and increased in Kwazulu-Natal (222 per 100,000 in week 28 to 413 per 100,000 in week 29).

The percentage testing positive in week 29 was highest in Limpopo (42.7%), Mpumalanga (36.4%), North West (35.4%),

and Western Cape (31.9%) provinces. The percentage testing positive was between 20% and 30% in the Eastern Cape, Northern Cape, Free State, KwaZulu-Natal and Gauteng. (Figure 7 and Table 3). Compared to the previous week, the percentage testing positive in week 29 increased (P≤0.001) in the Western Cape, Eastern Cape, Northern Cape and KwaZulu-Natal. The percentage testing positive decreased (P<0.001) in Gauteng, Mpumalanga and Limpopo provinces and remained unchanged in the North West (P=0.152) and the Free State (P=0.053). The percentage testing positive was higher than the national average, not weighted for population size, in the Western Cape, Northern Cape, North West, Gauteng, Mpumalanga and Limpopo provinces (Figure 7).

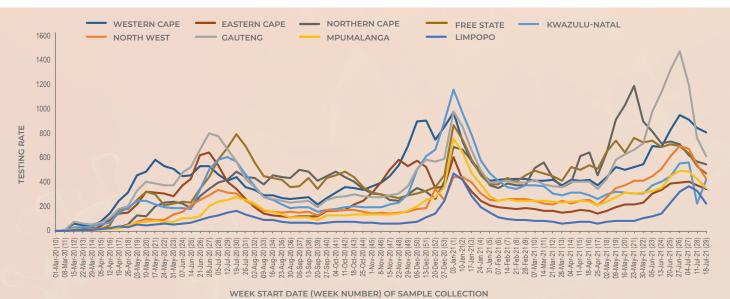


Figure 6. Testing rate per 100,000 persons by province and week of specimen collection, South Africa, 1 March 2020 – 24 July 2021

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Table 3. Weekly number of tests and positive tests reported, by province, South Africa, 4-24 July 2021

		4-10	) Jul 2021	11-17	Jul 2021	18-24	4 Jul 2021		
Province	Population <sup>a</sup>	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	Tests per 100,000 persons	Change in percentage positive <sup>b</sup>
Western Cape	7005741	62587	16916 (27.0)	58129	17424 (30.0)	55467	17686 (31.9)	792	1.9%
Eastern Cape	6734001	26890	4546 (16.9)	24706	4810 (19.5)	22725	4776 (21.0)	337	1.5%
Northern Cape	1292786	7855	1684 (21.4)	7216	1822 (25.2)	6941	2025 (29.2)	537	3.9%
Free State	2928903	18362	3828 (20.8)	15378	3470 (22.6)	13655	3212 (23.5)	466	1.0%
KwaZulu-Natal	11531628	63287	11523 (18.2)	25641	4987 (19.4)	47576	9943 (20.9)	413	1.4%
North West	4108816	27152	10397 (38.3)	21923	7912 (36.1)	17360	6144 (35.4)	423	-0.7%
Gauteng	15488137	181527	70436 (38.8)	115865	41385 (35.7)	93319	27012 (28.9)	603	-6.8%
Mpumalanga	4679786	22500	8372 (37.2)	19598	7506 (38.3)	16224	5898 (36.4)	347	-1.9%
Limpopo	5852553	20978	10813 (51.5)	18852	8980 (47.6)	12944	5533 (42.7)	221	-4.9%
Unknown		8	O (O.O)	8	0 (0.0)	11	2 (18.2)		
Total	59,622,350	431,146	138,515 (32.1)	307,316	98,296 (32.0)	286,222	82,231 (28.7)	480	-3.3%

a 2020 Mid-year population Statistics SA

b Current week compared to previous week



**Figure 7.** Weekly percentage testing positive, by province, South Africa, 4-24 July 2021. The horizontal blue line shows the national mean for week 29, beginning 18 July 2021

#### Testing in the public sector

In the public sector, the percentage testing positive decreased in the past week (31.4% in week 28 to 29.6% in week 29, P<0.001) (Table 4). The percentage testing positive in week 29 was highest in Limpopo (49.3%), Western Cape (36.5%), North West (36.5%)

and Mpumalanga (36.4%) provinces. The percentage testing positive in the public sector remains higher than the national average, not weighted for population size, in the Western Cape, North West, Gauteng, Mpumalanga and Limpopo provinces (Figure 8).

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Table 4. Weekly number of tests and positive tests reported in the public sector, by province, South Africa, 4-24 July 2021

	4-10 J	ul 2021	11-17 J	ul 2021	18-24 3	lul 2021
Province	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)
Western Cape	27888	7930 (28.4)	26733	8611 (32.2)	24178	8827 (36.5)
Eastern Cape	18412	2781 (15.1)	17174	3225 (18.8)	15702	3136 (20.0)
Northern Cape	5426	1135 (20.9)	4841	1229 (25.4)	4453	1287 (28.9)
Free State	10046	1768 (17.6)	9130	1892 (20.7)	7630	1701 (22.3)
KwaZulu-Natal	40024	6973 (17.4)	16729	2899 (17.3)	30317	6153 (20.3)
North West	13667	4534 (33.2)	11846	3925 (33.1)	8737	3193 (36.5)
Gauteng	72154	29401 (40.7)	44864	17329 (38.6)	33569	11183 (33.3)
Mpumalanga	9692	3468 (35.8)	8741	3210 (36.7)	6813	2477 (36.4)
Limpopo	7983	4659 (58.4)	7407	3933 (53.1)	4971	2452 (49.3)
Unknown	0	0 (0.0)	0	0 (0.0)	1	0 (0.0)
Total	205,292	62,649 (30.5)	147,465	46,253 (31.4)	136,371	40,409 (29.6)



**Figure 8.** Weekly percentage testing positive in the public sector, by province, South Africa, 4-24 July 2021. The horizontal blue line shows the national mean for week 29 of 2021, beginning 18 July 2021.

# Facilities with high proportions testing positive

The data on testing at facility level for the public sector for week 29 includes only PCR test results due to the failure of some facilities to report on negative antigen test results which, if included, would result in an overestimate of the positive test proportion (PTP). All tests (PCR and antigen) conducted in the

private sector are included. 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 by PCR and at least five positive results in the week of 18-24 July 2021. Eight of the 25 public facilities showing the highest PTP are in Limpopo, with seven in the Western Cape, and six in North West.

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Table 5.1 Public sector healthcare facilities with a high proportion testing positive, 18-24 July 2021

Facility Name	Province	Tests	PTP (95% CI)
Facility 1	North West	54	0.944 (0.883;1.006)
Facility 2	Limpopo	28	0.821 (0.680;0.963)
Facility 3	North West	30	0.800 (0.657;0.943)
Facility 4	Limpopo	29	0.793 (0.646;0.941)
Facility 5	Limpopo	47	0.787 (0.670;0.904)
Facility 6	Gauteng	28	0.786 (0.634;0.938)
Facility 7	North West	64	0.781 (0.680;0.883)
Facility 8	Limpopo	49	0.755 (0.635;0.876)
Facility 9	Gauteng	32	0.750 (0.600;0.900)
Facility 10	North West	79	0.747 (0.651;0.843)
Facility 11	Western Cape	72	0.736 (0.634;0.838)
Facility 12	KwaZulu-Natal	28	0.714 (0.547;0.882)
Facility 13	Western Cape	26	0.692 (0.515;0.870)
Facility 14	Western Cape	58	0.672 (0.552;0.793)
Facility 15	North West	84	0.667 (0.566;0.767)
Facility 16	Western Cape	74	0.662 (0.554;0.770)
Facility 17	Limpopo	76	0.658 (0.551;0.765)
Facility 18	Western Cape	35	0.657 (0.500;0.814)
Facility 19	Limpopo	32	0.656 (0.492;0.821)
Facility 20	Western Cape	58	0.655 (0.533;0.777)
Facility 21	Free State	155	0.652 (0.577;0.727)
Facility 22	Limpopo	37	0.649 (0.495;0.802)
Facility 23	North West	34	0.647 (0.486;0.808)
Facility 24	Western Cape	62	0.645 (0.526;0.764)
Facility 25	Northern Cape	28	0.679 (0.506;0.852)

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 18-24 July 2021, with the highest proportion testing positive nationally. The private-sector facilities with the 25 highest proportions testing positive are concentrated in Gauteng (16), with three in the Western Cape, and two in each of KwaZulu-Natal and Limpopo.

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Table 5.2 Private sector healthcare facilities with a high proportion testing positive, 18-24 July 2021

Facility Name	Province	Tests	PTP (95% CI)
Facility 1	Gauteng	62	0.677 (0.561;0.794)
Facility 2	Gauteng	54	0.648 (0.521;0.776)
Facility 3	Gauteng	38	0.632 (0.478;0.785)
Facility 4	Gauteng	52	0.615 (0.483;0.748)
Facility 5	Western Cape	48	0.583 (0.444;0.723)
Facility 6	Mpumalanga	104	0.577 (0.482;0.672)
Facility 7	Western Cape	54	0.574 (0.442;0.706)
Facility 8	Gauteng	63	0.571 (0.449;0.694)
Facility 9	Limpopo	56	0.554 (0.423;0.684)
Facility 10	Gauteng	35	0.543 (0.378;0.708)
Facility 11	Gauteng	82	0.537 (0.429;0.645)
Facility 12	Western Cape	94	0.532 (0.431;0.633)
Facility 13	KwaZulu-Natal	89	0.528 (0.424;0.632)
Facility 14	Gauteng	112	0.527 (0.434;0.619)
Facility 15	Gauteng	57	0.526 (0.397;0.656)
Facility 16	Gauteng	103	0.524 (0.428;0.621)
Facility 17	Gauteng	113	0.522 (0.430;0.614)
Facility 18	Gauteng	73	0.521 (0.406;0.635)
Facility 19	Gauteng	33	0.515 (0.345;0.686)
Facility 20	Gauteng	59	0.508 (0.381;0.636)
Facility 21	Gauteng	67	0.507 (0.388;0.627)
Facility 22	KwaZulu-Natal	139	0.504 (0.420;0.587)
Facility 23	Gauteng	81	0.494 (0.385;0.603)
Facility 24	Free State	154	0.494 (0.415;0.572)
Facility 25	Limpopo	112	0.491 (0.398;0.584)

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

#### Health district-level results

The data from geolocatable public testing (almost every public sector facility in the country) and private testing (approximately 84% of private testing facilities) in the week from 18-24 July 2021 have been located within the spatial framework of the health districts and health sub-districts (in the metros). Districts with fewer than 20 tests reported during the week have been excluded from the analysis.

The results, for the 25 municipalities and metropolitan health sub-districts showing the greatest proportions testing positive (PTP) are shown in the table below. Eleven of the 25 districts are Limpopo, six in the Western Cape and four in the North West.

For the fifth week, all 25 districts with the highest PTP showed a PTP in the current week in excess of 30%. For the fourth consecutive week, all districts exceeded 40%, and 11 exceeded 50% (last week, 18). PTP exceeded 30% in a further 92 districts (94 last week). Significant increases were observed in four of the 25 districts with the highest PTP (Kgetlengsrivier in North West, Tsantsabane in the Northern Cape, and Langeberg and Beaufort West in the Western Cape). There was a statistically significant reduction in PTP in three districts in Limpopo (Makhado, Mogalakwena, and Thulamela).

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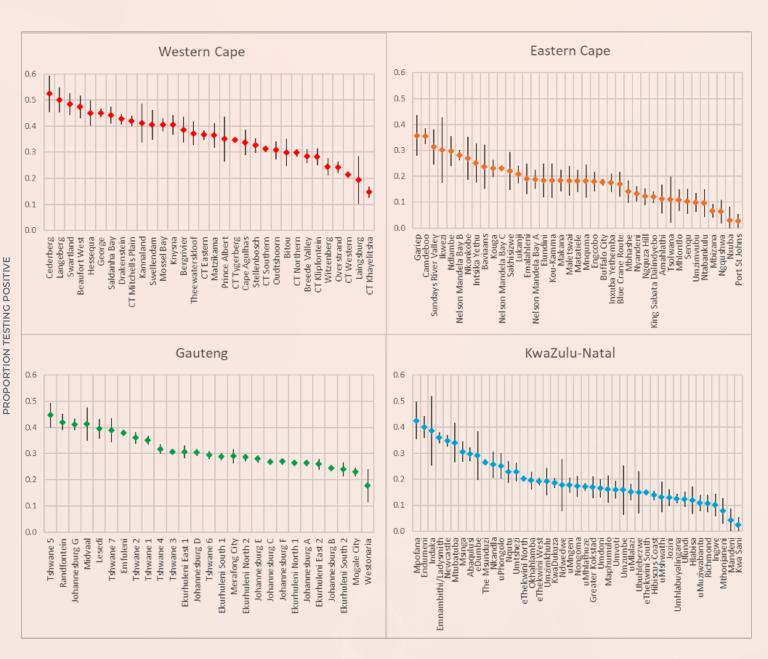
Table 6. Health sub-districts with the highest proportion testing positive based on public and private sector data for the week of

Health district or sub-district	Province	PTP (95% CI)	Previous week
Tswaing	North West	0.656 (0.552-0.761)	0.517 (0.423-0.610)
Ephraim Mogale	Limpopo	0.633 (0.524-0.743)	0.455 (0.368-0.542)
Mookgopong	Limpopo	0.631 (0.506-0.757)	0.460 (0.375-0.544)
Bela-Bela	Limpopo	0.607 (0.512-0.702)	0.656 (0.578-0.734)
Ratlou	North West	0.552 (0.459-0.646)	0.413 (0.335-0.492)
Blouberg	Limpopo	0.533 (0.429-0.638)	0.550 (0.467-0.632)
Aganang	Limpopo	0.531 (0.384-0.677)	0.718 (0.571-0.865)
Cederberg	Western Cape	0.524 (0.455-0.593)	0.455 (0.364-0.547)
Kgetlengrivier	North West	0.517 (0.454-0.580)	0.344 (0.290-0.397)
Tsantsabane	Northern Cape	0.507 (0.366-0.647)	0.266 (0.172-0.360)
Langeberg	Western Cape	0.501 (0.451-0.550)	0.370 (0.324-0.417)
Swartland	Western Cape	0.484 (0.443-0.526)	0.479 (0.437-0.520)
Makhado	Limpopo		0.599 (0.570-0.627)
Makhuduthamaga	Limpopo	0.479 (0.409-0.549)	0.513 (0.449-0.577)
Beaufort West	Western Cape	0.473 (0.430-0.516)	0.239 (0.199-0.280)
Ventersdorp	North West	0.464 (0.345-0.584)	0.469 (0.365-0.572)
Steve Tshwete	Mpumalanga	0.463 (0.440-0.485)	0.466 (0.445-0.487)
Modimolle	Limpopo	0.457 (0.399-0.516)	0.435 (0.390-0.480)
Thembisile	Mpumalanga	0.454 (0.395-0.513)	0.398 (0.348-0.448)
Hessequa	Western Cape	0.451 (0.402-0.499)	0.364 (0.316-0.413)
George	Western Cape	0.450 (0.434-0.467)	0.426 (0.409-0.443)
Tshwane 5	Gauteng	0.447 (0.399-0.495)	0.462 (0.420-0.503)
Mogalakwena	Limpopo	0.445 (0.407-0.483)	0.524 (0.491-0.557)
Thulamela	Limpopo	0.444 (0.412-0.476)	0.507 (0.479-0.535)
Lepele-Nkumpi	Limpopo	0.442 (0.383-0.502)	0.459 (0.415-0.503)

testing positive that are higher than, and CIs that do not overlap with, the previous week proportions and CIs. Elements have current week proportions testing positive that are previous week proportions and Cls.

The data for the current week 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), and where more than 20 tests were conducted in the present week, is presented graphically below.

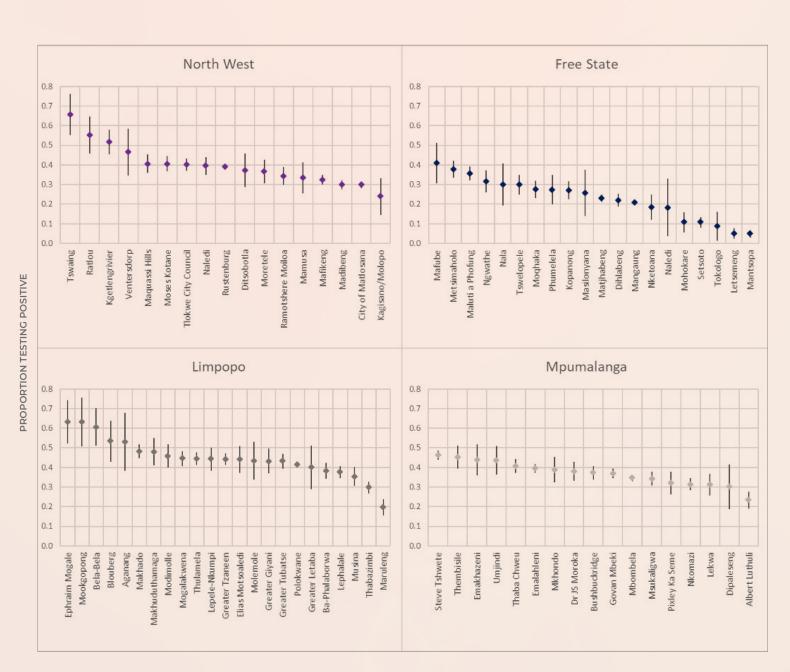
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HEALTH SUB-DISTRICT

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 18-24 July 2021.

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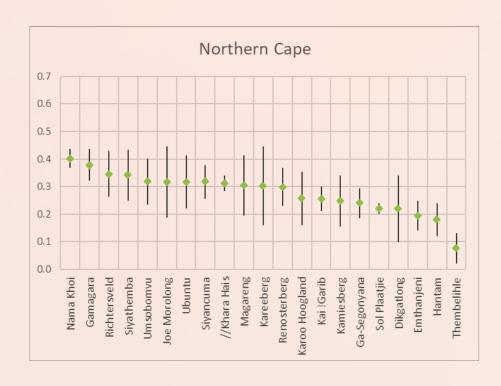


**HEALTH SUB-DISTRICT** 

**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 18-24 July 2021.

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PROPORTION TESTING POSITIVE

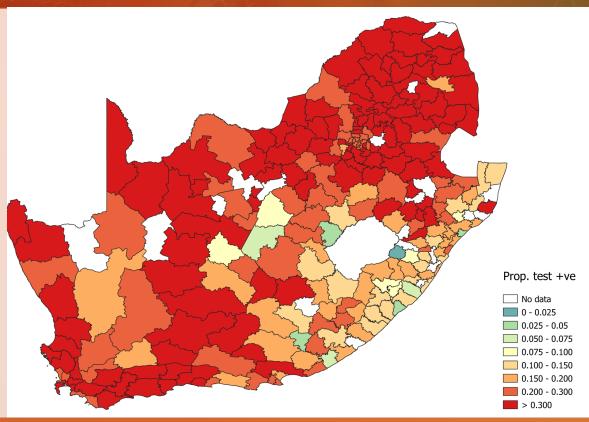


**HEALTH SUB-DISTRICT** 

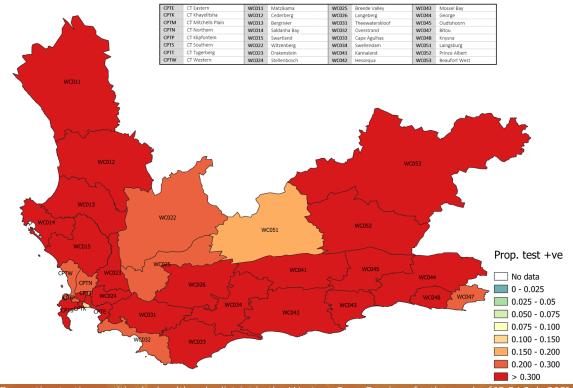
Figure 9.3 Proportions testing positive by health sub-districts in the Northern Cape Province based on public and private sector data for the week of 18-24 July 2021.

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 18-24 July 2021. Areas shaded white represent districts in which either (i) no tests were reported, (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 18-24 July 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%

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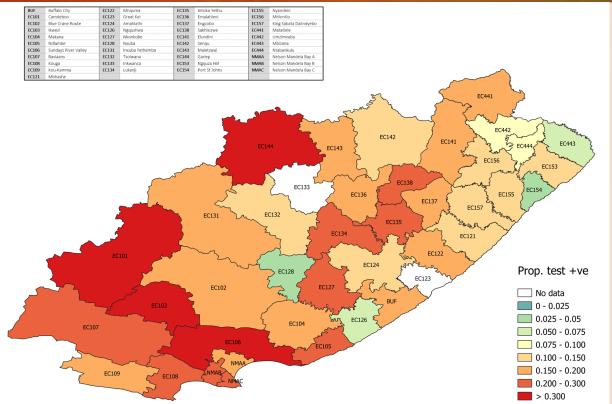
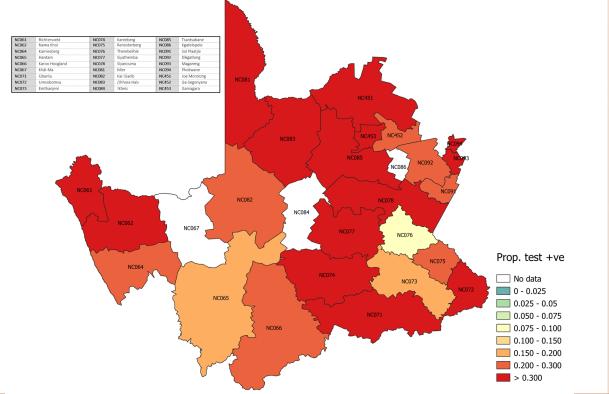


Figure 12. Proportion testing positive by health sub-district in the Eastern Cape Province for the week of 18-24 July 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.



**Figure 13.** Proportion testing positive by health sub-district in Northern Cape Province for the week of 18-24 July 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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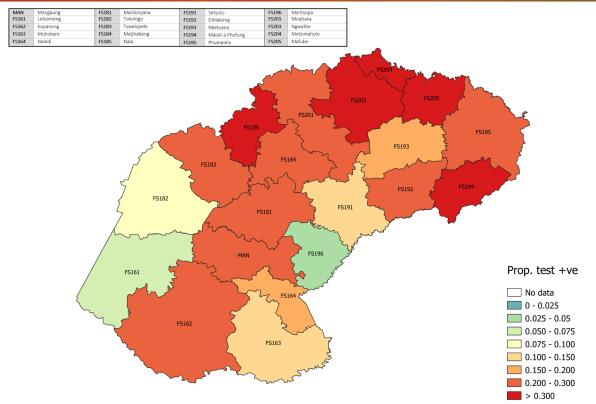
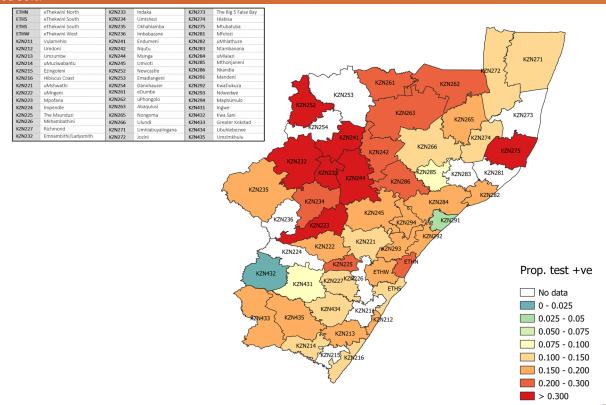
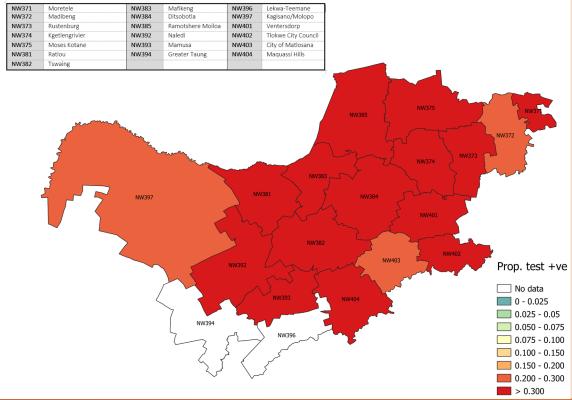


Figure 14. Proportion testing positive by health sub-district in Free State Province for the week of 18-24 July 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

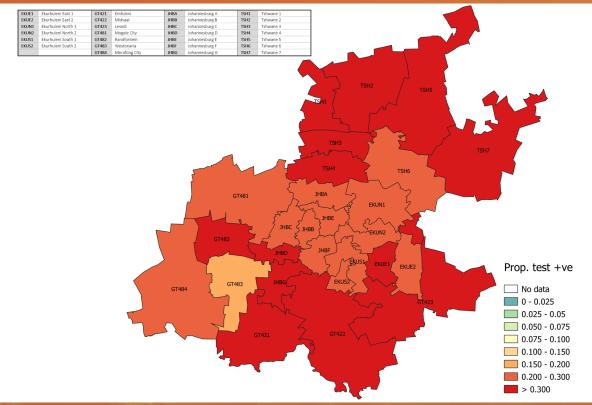


**Figure 15.** Proportion testing positive by health sub-district in KwaZulu-Natal Province for the week of 18-24 July 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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**Figure 16.** Proportion testing positive by health sub-district in North West Province for the week of 18-24 July 2021. Areas shaded white represent districts in which either (i) no tests were reported, (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 18-24 July 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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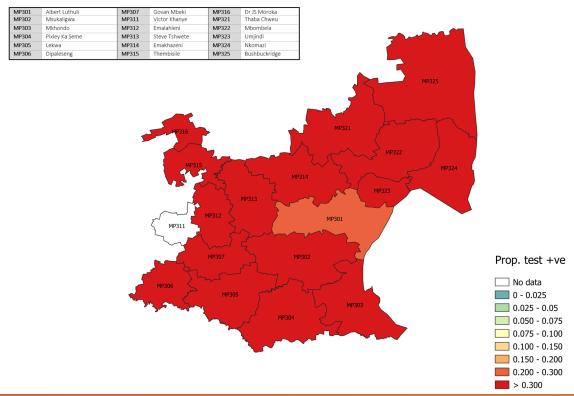
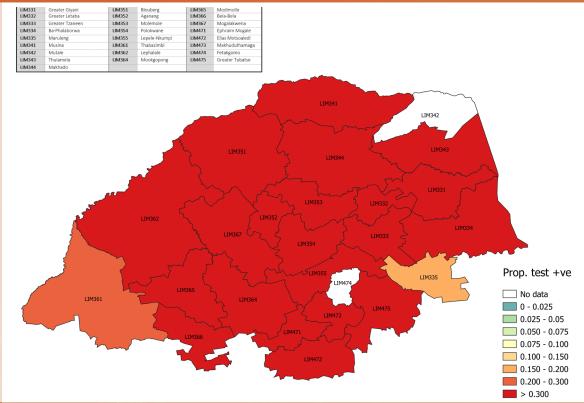


Figure 18. Proportion testing positive by health sub-district in Mpumalanga Province for the week of 18-24 July 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.



**Figure 19.** Proportion testing positive by health sub-district in Limpopo Province for the week of 18-24 July 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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#### Testing by patient admission status

In week 29 of 2021, 37.2% of reported tests were for hospitalised patients; 46.9% in the public sector and 27.2% in the private sector (Figure 20). The percentage testing positive in week 29 was higher among outpatients (31.6%) compared to inpatients (24.6%),

and have decreased from the previous week in both groups (Figure 21). In week 29 the mean laboratory turnaround time for PCR tests in the public sector was higher among outpatients (1.8 days) compared to inpatients (1.2 days) (Figure 22).

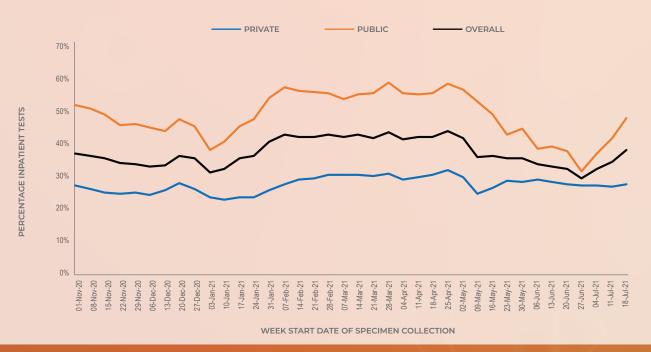


Figure 20. Percentage of inpatient tests reported by health sector, 1 November 2020 – 24 July 2021



Figure 21. Percentage testing positive by patient admission status, 30 May – 24 July 2021

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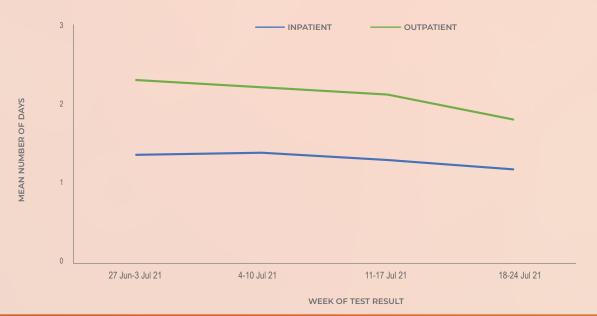


Figure 22. Mean number of days between date of specimen collection and date of test result for PCR tests in the public sector by patient admission status, 27 June – 24 July 2021

#### Testing by age and sex

The median age of individuals tested in week 29 of 2021 was 38 years (interquartile range (IQR) 28-52), and was similar among males (39 years; IQR 28-52) and females (38 years; IQR 28-52). The majority of reported tests (59.4%) were in individuals in the 20-49 years' age group (Figure 23). In week 29, the testing rate was slightly higher among females (488 per 100,000 persons) than males (449 per 100,000 persons) (Figure

24). Testing rates in week 29 were highest in the ≥80 years age group (1029 per 100,000 persons). The percentage testing positive was highest in individuals aged 55-59 years (34.4%), and in this same age group in males (33.1%) and in females (35.7%).

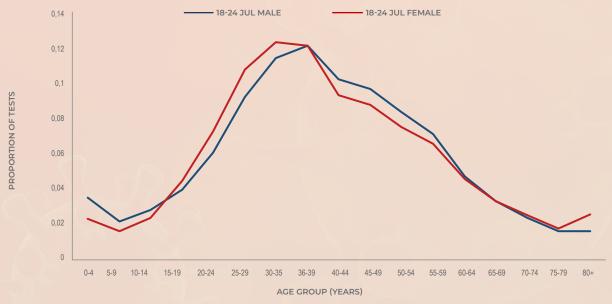


Figure 23. Proportion of tests by age group and sex, South Africa, week 29, 18-24 July 2021

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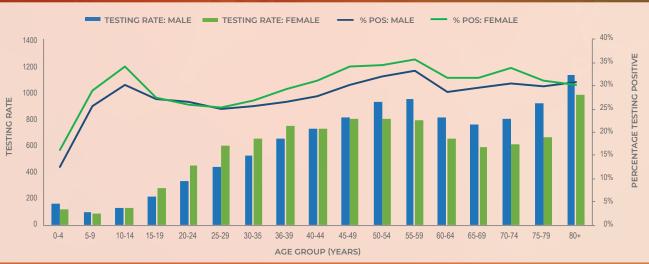
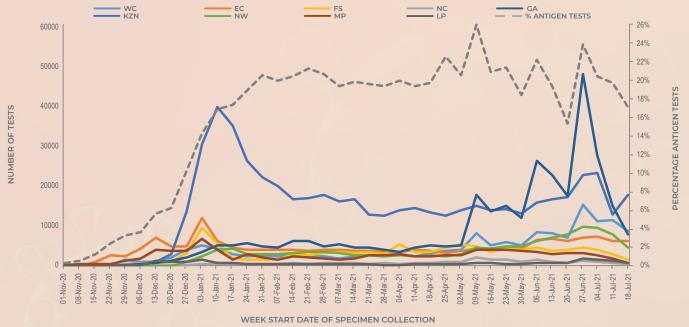


Figure 24. Testing rates per 100,000 persons and percentage testing positive by age group and sex, South Africa, week 29, 18-24 July 2021

#### Testing by test type

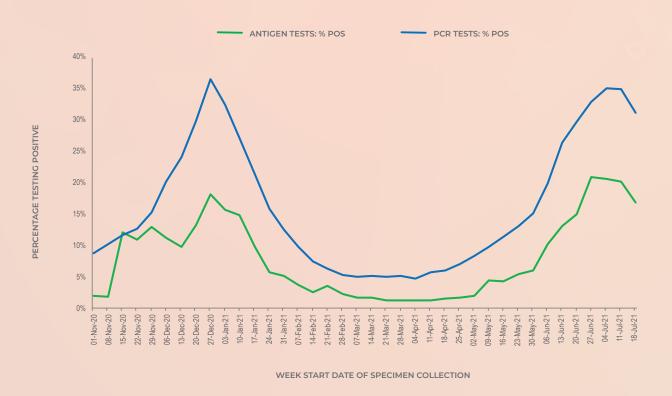
Uptotheendofweek29of2021,11.0% (1,594,670/14,490,127) of all reported tests were antigen tests. In week 29, 17.0% (48,745/286,222) of reported tests were antigen tests (Figure 25). Overall, 81.2% of antigen tests have been performed in the public sector, and in week 29 the public sector accounted for 76.8% of antigen tests. Since antigen testing began in November 2020, the majority of antigen tests have been reported from KwaZulu-Natal (34.5%) and Gauteng (19.8%) provinces. In the past few weeks, KwaZulu-Natal and Gauteng have performed the highest weekly number of antigen tests, although the weekly number of antigen tests

reported in Gauteng has decreased in the past three weeks. The percentage testing positive in week 29 was higher for PCR (31.2%) tests compared to antigen (16.8%) tests, and have decreased in both groups compared to the previous week (Figure 26). The mean turnaround time for antigen tests reported in week 29 increased to 8.9 days in the public sector and remained low (0.3 days) in the private sector (Figure 27). The number of antigen tests reported is likely underestimated as antigen tests are increasingly being used outside of laboratory settings and results may not be reported or reporting may be delayed. In addition, if only positive antigen tests were reported, this would have resulted in an overestimation of percentage testing positive.

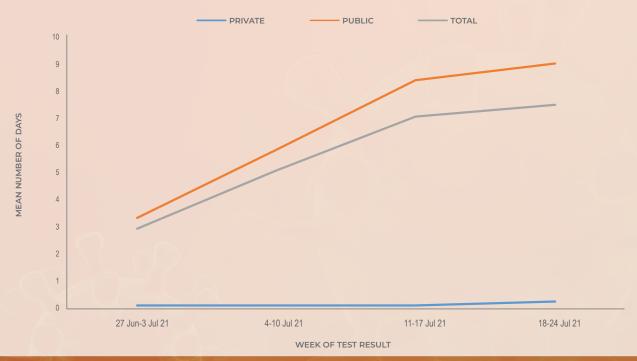


**Figure 25.** Number of antigen tests by province, and overall percentage antigen tests, South Africa, 1 November 2020 – 24 July 2021. WC, Western Cape; EC, Eastern Cape; FS, Free State; KZN, KwaZulu-Natal; GA, Gauteng; NC, Northern Cape; NW, North West; MP, Mpumalanga; LP, Limpopo

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**Figure 26.** Percentage of laboratory tests positive for SARS-CoV-2 by test type and date of specimen collection, South Africa, 1 November 2020 – 24 July 2021



**Figure 27.** Mean number of days between date of specimen collection and date of test result for antigen tests, by week of test result, South Africa, 20 June - 24 July 2021

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#### 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 and PCR vs. antigen-based tests) used by different provinces makes percentage testing positive and number of reported tests 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

The number of tests reported in week 29 (n=286,222) was lower than the number of tests reported in recent weeks. Gauteng (32.6%) and Western Cape (19.4%) provinces reported the largest number of tests in week 29. The overall testing rate in week 29 was 480 per 100,000 persons; highest in the Western Cape (792 per 100,000 persons) and lowest in Limpopo (221 per 100,000 persons). Testing rates decreased in Gauteng, North West and Limpopo provinces and increased in KwaZulu-Natal. Antigen tests accounted for 17.0% (48,745/ 286,222) of all tests reported in week 29, however the number of antigen tests is likely underestimated due to under-reporting and delayed reporting of antigen tests. The overall mean laboratory turnaround time for PCR tests was 1.1 days in week 29; 1.5 days in the public sector and 0.7 days in the private sector.

The percentage testing positive in week 29 was 28.7%, which was 3.3% lower than the previous week. The percentage testing positive in week 29 was highest in Limpopo (42.7%), Mpumalanga (36.4%), North West (35.4%) and Western Cape (31.9%) provinces. The percentage testing positive was between 20% and 30% in the Eastern Cape, Northern Cape, Free State, KwaZulu-Natal and Gauteng. Compared to the previous week, the percentage testing positive in week 29 increased in the Western Cape, Eastern Cape, Northern Cape and KwaZulu-Natal. The percentage testing positive decreased in Gauteng, Mpumalanga and Limpopo provinces, and remained unchanged in the North West and the Free State.