SOUTH AFRICA WEEK 24 2021

NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES

Division of the National Health Laboratory Service

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 19 June 2021 (Week 24 of 2021).

HIGHLIGHTS

- In the period 1 March 2020 through 19 June 2021, 12,500,358 (11,328,259 PCR and 1,172,099 antigen) tests for SARS-CoV-2 have been reported nationally.
- The number of tests reported in week 24 of 2021 (n=332,501) was higher than the weekly number of tests reported since mid-January 2021.
- The testing rate in week 24 was 558 per 100,000 persons; highest in Gauteng (1018 per 100,000 persons) and lowest in Limpopo (133 per 100,000 persons).
- In week 24 the percentage testing positive was 23.9%, which was 5.9% higher than the previous week.
- The percentage testing positive in week 24 was highest in Gauteng (32.1%), North West (27.0%), Limpopo (26.9%), Mpumalanga (22.0%) and Northern Cape (20.6%) provinces. The percentage testing positive was between 10% and 20% in the Western Cape, Eastern Cape and Free State, and was less than 10% in KwaZulu-Natal.
- In week 24, compared to the previous week, the percentage testing positive increased in all provinces except in the Northern Cape, where it remained unchanged.
- 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 19 June 2021 (week 24 of 2021).

Testing volumes and proportion testing positive

From 1 March 2020 through 19 June 2021, 12,500,358 SARS-CoV-2 tests were reported; 11,328,259 PCR and 1,172,099 antigen tests. The number of tests reported increased weekly from week 10 of 2020, with the highest number of tests reported during the first wave occurring in week 28 of 2020 (n=307,913), and subsequently decreased. Weekly testing volumes increased again from week 48 of 2020 (beginning 22 November 2020), with the highest weekly number of tests since the start of the pandemic reported in week 1 of 2021 (n=500,982). In week 24 of 2021, 332,501 tests were reported, higher than the volume of tests reported in the previous week. 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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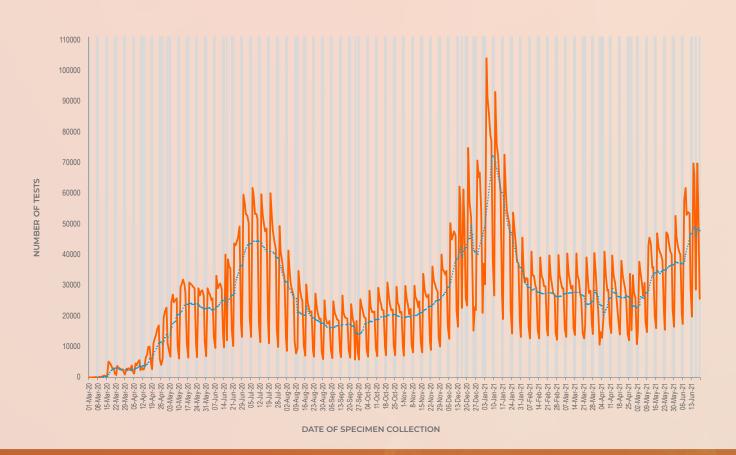


Figure 1. Number of SARS-CoV-2 tests reported by date of specimen collection, South Africa, 1 March 2020 – 19 June 2021. Blue dotted line shows the 7-day moving average of the number of tests reported. Grey bars highlight weekend days and public holidays.

The overall percentage testing positive from week 10 of 2020 through week 24 of 2021 was 15.5% (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 34.6% in week 53 of 2020. The percentage testing positive in week 24 of 2021 was 23.9%, 5.9% higher than observed in the previous week (18.0%, P<0.001), and higher than observed since week 2 of 2021 (beginning 10 January) (Figure 2).

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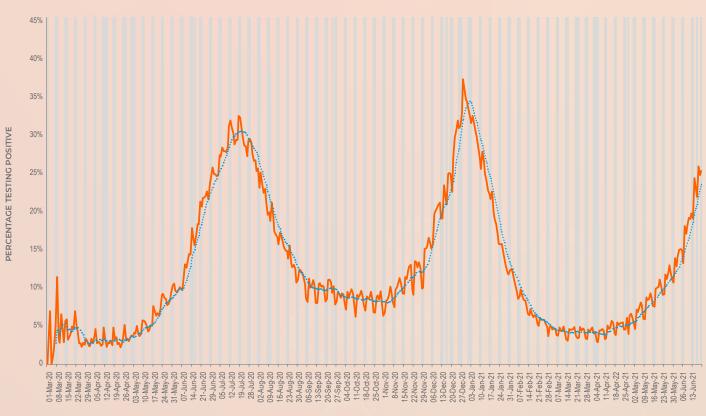
 Table 1. Weekly number of SARS-CoV-2 tests and positive tests reported, South Africa, 1 March 2020 – 19 June 2021

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 (0.2)	897	4.2
13	22-Mar-20	17544 (0.1)	544	3.1
14	29-Mar-20	18249 (0.1)	521	2.9
15	05-Apr-20	26299 (0.2)	796	3.0
16	12-Apr-20	43752 (0.4)	1295	3.0
17	19-Apr-20	79176 (0.6)	2177	2.7
18	26-Apr-20	93814 (0.8)	3208	3.4
19	03-May-20	142710 (1.1)	6018	4.2
20	10-May-20	165374 (1.3)	8092	4.9
21	17-May-20	166544 (1.3)	11379	6.8
22	24-May-20	156139 (1.2)	12967	8.3
23	31-May-20	153570 (1.2)	15079	9.8
24	07-Jun-20	173903 (1.4)	22362	12.9
25	14-Jun-20	186090 (1.5)	32653	17.5
26	21-Jun-20	252097 (2.0)	55049	21.8
27		302743 (2.4)	75309	24.9
28	05-Jul-20	307913 (2.5)	86039	27.9
29	12-Jul-20	285599 (2.3)	84927	29.7
30	19-Jul-20	270897 (2.2)	78636	29.0
31	26-Jul-20	216394 (1.7)	58393	27.0
32	02-Aug-20	179573 (1.4)	40996	22.8
33	09-Aug-20	141103 (1.1)	26265	18.6
34	16-Aug-20	135014 (1.1)	21377	15.8
35	23-Aug-20	123333 (1.0)	16331	13.2
36		112762 (0.9)	12790	11.3
37	06-Sep-20	116997 (0.9)	11953	10.2
38	13-Sep-20	120715 (1.0)	12012	10.0
39		98818 (0.8)	10098	10.2
40	20 <u>Sep 20</u> 27-Sep-20	123062 (1.0)	11008	8.9
41	04-Oct-20	131044 (1.0)	11778	9.0
42	11-Oct-20	137974 (1.1)	12077	8.8
43	18-Oct-20	142171 (1.1)	12069	8.5
<u> </u>	25-Oct-20	135848 (1.1)	11478	8.4
45	01-Nov-20	138820 (1.1)	12135	8.7
46	08-Nov-20	147007 (1.2)	14845	10.1
47	15-Nov-20	160646 (1.3)	18763	11.7
48		175686 (1.4)	22052	12.6
48	22-Nov-20	203146 (1.6)	30766	12.0
<u>49</u> 50		267917 (2.1)	53311	19.9
<u>50</u>	13-Dec-20	294455 (2.4)	68575	23.3
<u>51</u> 52		284549 (2.3)		23.5
53	20-Dec-20 27-Dec-20	284349 (2.3) 334379 (2.7)	115731	20.034.6
<u> </u>	27-Dec-20 03-Jan-21	500982 (4.0)	15731	<u> </u>
12	05-Jan-21 10-Jan-21	<u>500982 (4.0)</u> 417865 (3.3)	104772	
2	TO-Jan-21	417005 (3.3)	104772	25.1

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3	17-Jan-21	327294 (2.6)	63238	19.3	
4	24-Jan-21	249386 (2.0)	34619	13.9	
5	31-Jan-21	203420 (1.6)	22329	11.0	
6	07-Feb-21	193100 (1.5)	16445	8.5	
7	14-Feb-21	190247 (1.5)	12137	6.4	
8	21-Feb-21	184273 (1.5)	10359	5.6	
9	28-Feb-21	189194 (1.5)	8666	4.6	
10	07-Mar-21	192531 (1.5)	8312	4.3	
	14-Mar-21	185205 (1.5)	8129	4.4	
12	21-Mar-21	171586 (1.4)	7324	4.3	
13	28-Mar-21	163029 (1.3)	7044	4.3	
14	04-Apr-21	179525 (1.4)	7260	4.0	
15	11-Apr-21	183064 (1.5)	8811	4.8	
16	18-Apr-21	183149 (1.5)	9421	5.1	
17	25-Apr-21	158036 (1.3)	9150	5.8	
18	02-May-21	191711 (1.5)	13383	7.0	
19	09-May-21	236529 (1.9)	19812	8.4	
20	16-May-21	243494 (1.9)	24053	9.9	
21	23-May-21	254913 (2.0)	29454	11.6	
22	30-May-21	257156 (2.1)	35573	13.8	
23	06-Jun-21	323939 (2.6)	58158	18.0	
24	13-Jun-21	332501 (2.7)	79369	23.9	
	Total	12,500,358 (100.0)	1,933,649	15.5	

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DATE OF SPECIMEN COLLECTION

Figure 2. Percentage of tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 1 March 2020 – 19 June 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 19 June 2021, 5,421,329 tests were reported in the public sector, with 15.6% testing positive. Over this same period, the private sector reported 7,079,029 tests, with 15.3% testing positive (Table 2). Overall, the public sector has reported 43.4% of tests and accounted for 44.4% 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 23 to week 24 of 2021, the percentage testing positive increased by 4.6% in the public sector (14.1% in week 23 to 18.7% in week 24, P<0.001) and by 6.2% in the

private sector (20.8% in week 23 to 27.0% in week 24, P<0.001). In week 24 the percentage testing positive in the private sector (27.0%) was 8.3% higher than in the public sector (18.7%, P<0.001). The private sector reported 70.8% of positive tests in week 24.

The mean turnaround time for PCR tests reported in week 24 of 2021 was 1.1 days; 2.1 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 Northern Cape, Free State, Gauteng and Mpumalanga provinces in week 24 (Figure 4). Increases in turnaround times were observed in the Northern Cape, Mpumalanga and Gauteng provinces whilst decreases in turnaround time were observed in the Free State and North West provinces in the past week. Twenty of the 28 (71.4%) NHLS laboratories performing PCR testing for SARS-CoV-2 had turnaround times ≤2 days in week 24 (Figure 5).

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		Public sector Private sector		te sector	Public sector	Ratio		
Week	Week	Tests	Cases	Tests	Positive tests	Tests (%)	Positive tests	of PTP
umber	beginning	16363	n (%)	16363	n (%)	16363 (70)	(%)	
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)	14066	395 (2.8)	19.8	27.4	1.526
14	29-Mar-20	5868	194 (3.3)	12381	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)	19585	623 (3.2)	55.2	51.9	0.874
17	19-Apr-20	55110	1595 (2.9)	24066	582 (2.4)	69.6	73.3	1.197
18	26-Apr-20	67469	2453 (3.6)	26345	755 (2.9)	71.9	76.5	1.269
19	03-May-20	94338	4507 (4.8)	48372	1511 (3.1)	66.1	74.9	1.529
20	<u>10-May-20</u>	108000	5443 (5.0)	57374	2649 (4.6)	65.3	67.3	1.092
21	17-May-20	98648	7031 (7.1)	67896	4348 (6.4)	<u> </u>	61.8	1.113
22	24-May-20	77597	6411 (8.3)	78542	6556 (8.3)	49.7	49.4	0.990
<u>23</u> 24	31-May-20	63945	6626 (10.4)	89625	8453 (9.4)	41.6	<u> </u>	1.099
	07-Jun-20	64655	8039 (12.4)	109248		37.2		0.948
25	14-Jun-20	61149	11982 (19.6)	124941	20671 (16.5)	32.9	36.7	1.184
<u>26</u> 27	<u>21-Jun-20</u> 28-Jun-20	90454 106371	20425 (22.6) 27244 (25.6)	161643 196372	<u> </u>	<u>35.9</u> <u>35.1</u>	<u> </u>	<u>1.054</u> 1.046
2728		106371	32239 (27.4)	196372	53800 (28.3)	<u>35.1</u>	36.2 37.5	0.968
<u>20</u> 29	12-Jul-20	110664	31383 (28.4)	174935	53544 (30.6)	<u>38.2</u>	37.5	0.966
30	19-Jul-20	105217	30319 (28.8)	165680	48317 (29.2)	38.8	38.6	0.988
3031	26-Jul-20	81248	22782 (28.0)	135146	35611 (26.4)	37.5	39.0	1.064
<u> </u>	02-Aug-20	70566	16996 (24.1)	109007	24000 (22.0)	37.5 39.3	41.5	1.064
33	02-Aug-20 09-Aug-20	58661	11172 (19.0)	82442	15093 (18.3)	<u></u>	42.5	1.094
34	16-Aug-20	56138	9621 (17.1)	78876	11756 (14.9)	41.6	45.0	1.150
<u> </u>	23-Aug-20	50319	7790 (15.5)	73014	8541 (11.7)	40.8	47.7	1.323
<u> </u>	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)	65942	5532 (8.4)	43.6	53.7	1.499
38	13-Sep-20	53707	6547 (12.2)	67008	5465 (8.2)	44.5	54.5	1.495
39	20-Sep-20	44841	5530 (12.3)	53977	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	50434	5689 (11.3)	80610	6089 (7.6)	38.5	48.3	1.493
42	11-Oct-20	53451	5702 (10.7)	84523	6375 (7.5)	38.7	47.2	1.414
43	18-Oct-20	56123	6045 (10.8)	86048	6024 (7.0)	39.5	50.1	1.539
44	25-Oct-20	51286	5721 (11.2)	84562	5757 (6.8)	37.8	49.8	1.639
45	01-Nov-20	52999	6061 (11.4)	85821	6074 (7.1)	38.2	49.9	1.616
46	08-Nov-20	58913	8097 (13.7)	88094	6748 (7.7)	40.1	54.5	1.794
47	15-Nov-20	67582	10584 (15.7)	93064	8179 (8.8)	42.1	56.4	1.782
48	22-Nov-20	74573	12200 (16.4)	101113	9852 (9.7)	42.4	55.3	1.679
49	29-Nov-20	81269	15730 (19.4)	121877	15036 (12.3)	40.0	51.1	1.569
50	06-Dec-20	107909	24715 (22.9)	160008	28596 (17.9)	40.3	46.4	1.282
51	13-Dec-20	117212	29815 (25.4)	177243	38760 (21.9)	39.8	43.5	1.163
52	20-Dec-20	109912	34128 (31.1)	174637	47830 (27.4)	38.6	41.6	1.134
53	27-Dec-20	151625	52930 (34.9)	182754	62801 (34.4)	45.3	45.7	1.016
1	03-Jan-21	236881	71048 (30.0)	264101	79958 (30.3)	47.3	47.0	0.991
2	10-Jan-21	203973	52948 (26.0)	213892	51824 (24.2)	48.8	50.5	1.071
2	17-Jan-21	165621	34449 (20.8)	161673	28789 (17.8)	50.6	54.5	1.168
4	24-Jan-21	123195	18984 (15.4)	126191	15635 (12.4)	<u></u>	<u>54.3</u>	1.168
5	31-Jan-21	99599	12039 (12.1)	103821	10290 (9.9)	49.0	53.9	1.244
6	07-Feb-21	91194	8490 (9.3)	103821	7955 (7.8)	47.2	51.6	1.193
6 7	14-Feb-21	86089	<u>8490 (9.3)</u> 6639 (7.7)	101906	7955 (7.8) 5498 (5.3)	<u> </u>	<u>51.6</u> 54.7	<u>1.195</u> 1.461
		and the second			<u>5498 (5.3)</u> 4582 (4.5)	<u>45.3</u> 44.7	<u>54.7</u>	<u>1.461</u> 1.560
8	21-Feb-21	82360	5777 (7.0)	101913				
9	28-Feb-21	87760	4663 (5.3)	101434	4003 (3.9)	46.4	53.8	1.346
10	07-Mar-21	92082	4572 (5.0)	100449	3740 (3.7)	47.8	55.0	1.334
11	<u>14-Mar-21</u>	89674	4429 (4.9)	95531	3700 (3.9)	48.4	54.5	1.275
12	21-Mar-21 28-Mar-21	75997 70620	<u> </u>	<u>95589</u> 92409	<u> </u>	<u> </u>	<u> </u>	<u>1.115</u> 1.254
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15	11-Apr-21	84436	4344 (5.1)	98628	4467 (4.5)	46.1	49.3	1.136
16	18-Apr-21	78984	4676 (5.9)	104165	4745 (4.6)	43.1	49.6	1.300
17	25-Apr-21	68728	4101 (6.0)	89308	5049 (5.7)	43.5	44.8	1.055
18	02-May-21	79189	5424 (6.8)	112522	7959 (7.1)	41.3	40.5	0.968
19	09-May-21	88897	7275 (8.2)	147632	12537 (8.5)	37.6	36.7	0.964
20	16-May-21	96660	9047 (9.4)	146834	15006 (10.2)	39.7	37.6	0.916
21	23-May-21	115606	11609 (10.0)	139307	17845 (12.8)	45.4	39.4	0.784
22	30-May-21	101147	11565 (11.4)	156009	24008 (15.4)	39.3	32.5	0.743
23	06-Jun-21	137829	19368 (14.1)	186110	38790 (20.8)	42.5	33.3	0.674
24	13-Jun-21	123859	23138 (18.7)	208642	56231 (27.0)	37.3	29.2	0.693
	Total	5421329	848000 (15.6)	7079029	1085649 (15.3)	43.4	43.9	1.020

a 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)

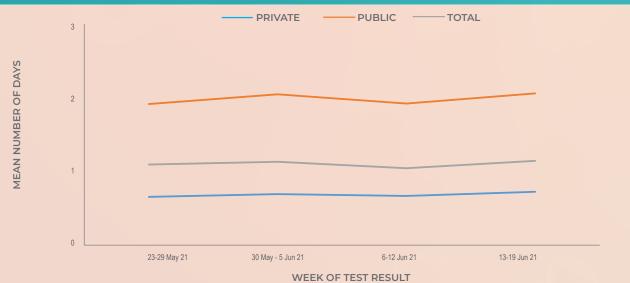


Figure 3. Mean number of days between date of specimen collection and date of test result for PCR tests, by week of test result, South Africa, 23 May – 19 June 2021

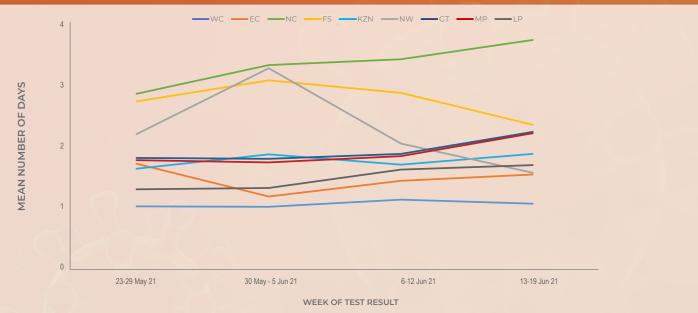
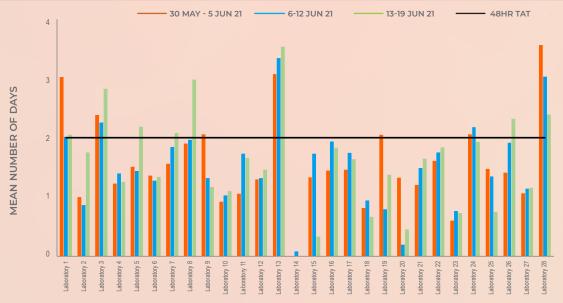


Figure 4. Mean number of days between date of specimen collection and date of test result for PCR tests, by week of test result and province, public sector, South Africa, 23 May – 19 June 2021. WC, Western Cape; EC, Eastern Cape; FS, Free State; KZN, KwaZulu-Natal; GT, Gauteng; NC, Northern Cape; NW, North West; MP, Mpumalanga; LP, Limpopo

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PUBLIC SECTOR LABORATORY

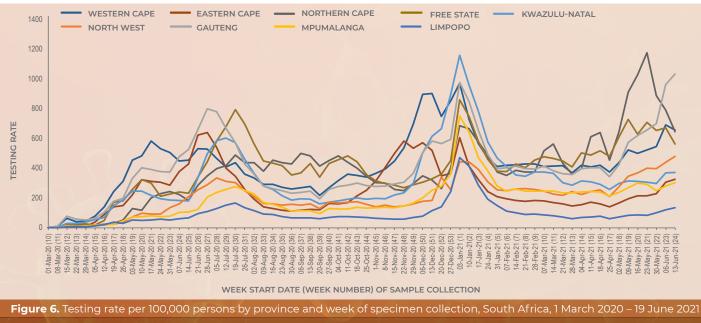
Figure 5. Mean number of days between date of specimen collection and date of test result for PCR tests, by public sector laboratory, 30 May – 19 June 2021. The horizontal black line indicates 48-hour turnaround time (TAT).

Testing by province

Gauteng reported the largest number of tests (47.4%), followed by Western Cape (13.6%) and KwaZulu-Natal (12.7%) provinces in week 24 of 2021 (Table 3). The overall testing rate increased from 543 per 100,000 persons in week 23 to 558 per 100,000 in week 24. The testing rate ranged from 1018 per 100,000 persons in Gauteng to 133 per 100,000 persons in Limpopo (Figure 6). Testing rates have increased in a number of provinces over recent weeks, with a large increase observed in Gauteng. Testing rates have decreased in the Northern Cape and Free State in the past few weeks.

The percentage testing positive in week 24 was highest in Gauteng (32.1%), North West (27.0%), Limpopo (26.9%),

Mpumalanga (22.0%) and Northern Cape (20.6%) provinces. The percentage testing positive was between 10% and 20% in the Western Cape, Eastern Cape and Free State, and was less than 10% in KwaZulu-Natal (Figure 7 and Table 3). Compared to the previous week, the percentage testing positive in week 24 increased in 8 of the 9 provinces (Western Cape (P<0.001), Eastern Cape (P<0.001), KwaZulu-Natal (P<0.001), Gauteng (P<0.001), Free State (P=0.001), North West (P<0.001), Mpumalanga (P<0.001) and Limpopo (P<0.001)), with increases of >5% compared to the previous week in Western Cape, North West, Gauteng, Mpumalanga and Limpopo. The percentage testing positive remained the same in the Northern Cape (P=0.149) province. The percentage testing positive was higher than the national average, not weighted for population size, in the North West, Gauteng and Limpopo provinces (Figure 7).



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Table 3. Weekly number of tests and positive tests reported, by province, South Africa, 30 May – 19 June 2021

		30 May	- 5 Jun 2021	6 - 12	Jun 2021	13 - 19	Jun 2021		
Province	Population ^a	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 ^b
Western Cape	7005741	37686	3025 (8.0)	47634	5399 (11.3)	45290	7691 (17.0)	646	5.6%
Eastern Cape	6734001	15224	940 (6.2)	20185	1504 (7.5)	21563	2471 (11.5)	320	4.0%
Northern Cape	1292786	11291	2313 (20.5)	10080	2161 (21.4)	8223	1691 (20.6)	636	-0.9%
Free State	2928903	18842	3103 (16.5)	19389	3373 (17.4)	16245	3044 (18.7)	555	1.3%
KwaZulu-Natal	11531628	33771	1323 (3.9)	41818	2682 (6.4)	42124	3446 (8.2)	365	1.8%
North West	4108816	16071	3008 (18.7)	17786	3786 (21.3)	19360	5220 (27.0)	471	5.7%
Gauteng	15488137	106596	19380 (18.2)	146855	35930 (24.5)	157601	50572 (32.1)	1018	7.6%
Mpumalanga	4679786	11477	1568 (13.7)	12928	2088 (16.2)	13919	3069 (22.0)	297	5.9%
Limpopo	5852553	5847	837 (14.3)	6925	1182 (17.1)	7765	2085 (26.9)	133	9.8%
Unknown		351	76 (21.7)	339	53 (15.6)	411	80 (19.5)		
Total	59622350	257156	35573 (13.8)	323939	58158 (18.0)	332501	79369 (23.9)	558	5.9 %

a 2020 Mid-year population Statistics SA

^b Current week compared to previous week



PROVINCE

Figure 7. Weekly percentage testing positive, by province, South Africa, 30 May – 19 June 2021. The horizontal blue line shows the national mean for week 24, beginning 13 June 2021

Testing in the public sector

In the public sector, the percentage testing positive continued to increase in the past week (14.1% in week 23 to 18.7% in week 24, P<0.001) (Table 4). The percentage testing positive in week 24 was highest in Gauteng (31.0%), Limpopo (26.9%) and North West

(21.2%) provinces. The percentage testing positive in the public sector remains higher than the national average, not weighted for population size, in the Northern Cape, North West, Gauteng 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, 30 May – 19 June 2021

	30 May - 5 Jun 2021		6 - 12 J	un 2021	13 - 19 Jun 2021		
Province	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	
Western Cape	13099	873 (6.7)	17939	1729 (9.6)	16087	2607 (16.2)	
Eastern Cape	8840	395 (4.5)	12746	595 (4.7)	13511	968 (7.2)	
Northern Cape	7497	1452 (19.4)	6728	1380 (20.5)	5534	1096 (19.8)	
Free State	10147	1377 (13.6)	10516	1457 (13.9)	7764	1203 (15.5)	
KwaZulu-Natal	19737	534 (2.7)	25261	1033 (4.1)	24106	1340 (5.6)	
North West	6968	1116 (16.0)	8437	1518 (18.0)	8942	1895 (21.2)	
Gauteng	28983	5139 (17.7)	49146	10717 (21.8)	40726	12644 (31.0)	
Mpumalanga	4184	437 (10.4)	5079	627 (12.3)	4987	791 (15.9)	
Limpopo	1692	242 (14.3)	1976	312 (15.8)	2201	593 (26.9)	
Unknown	0	0 (0.0)	1	0 (0.0)		1 (100.0)	
Total	101147	11565 (11.4)	137829	19368 (14.1)	123859	23138 (18.7)	

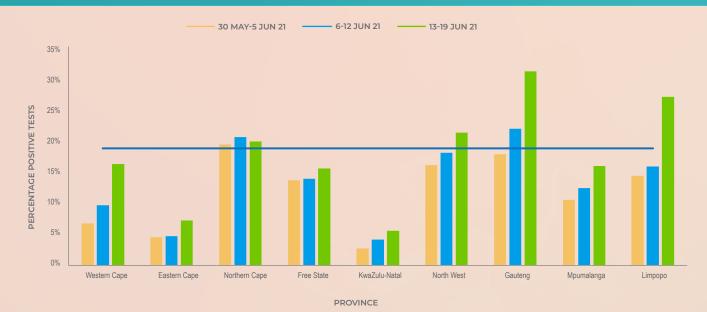


Figure 8. Weekly percentage testing positive in the public sector, by province, South Africa, 30 May – 19 June 2021. The horizontal blue line shows the national mean for week 24 of 2021, beginning 13 June 2021.

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 13-19 June 2021. Twenty of the 25 public facilities showing the highest PTP are in Gauteng, with two in the Western Cape, and one each in KwaZulu-Natal, North West, and Limpopo.

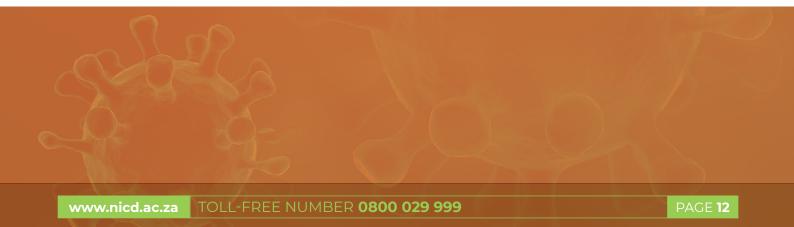
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Table 5.1 Public sector healthcare facilities with a high proportion testing positive, 13-19 June 2021

Facility Name	Province	Tests	PTP (95% CI)
Facility 1	Western Cape	36	0.861 (0.748;0.974)
Facility 2	Gauteng	43	0.767 (0.641;0.894)
Facility 3	Gauteng	25	0.760 (0.593;0.927)
Facility 4	Western Cape	95	0.747 (0.660;0.835)
Facility 5	Gauteng	42	0.738 (0.605;0.871)
Facility 6	KwaZulu-Natal	49	0.673 (0.542;0.805)
Facility 7	Limpopo	50	0.660 (0.529;0.791)
Facility 8	Gauteng	37	0.649 (0.495;0.802)
Facility 9	Gauteng	25	0.640 (0.452;0.828)
Facility 10	Gauteng	57	0.632 (0.506;0.757)
Facility 11	Gauteng	51	0.627 (0.495;0.760)
Facility 12	Gauteng	42	0.619 (0.472;0.766)
Facility 13	North West	47	0.617 (0.478;0.756)
Facility 14	Gauteng	90	0.611 (0.510;0.712)
Facility 15	Gauteng	35	0.600 (0.438;0.762)
Facility 16	Gauteng	88	0.580 (0.476;0.683)
Facility 17	Gauteng	123	0.577 (0.490;0.665)
Facility 18	Gauteng	52	0.577 (0.443;0.711)
Facility 19	Gauteng	35	0.571 (0.407;0.735)
Facility 20	Gauteng	58	0.569 (0.442;0.696)
Facility 21	Gauteng	46	0.565 (0.422;0.708)
Facility 22	Gauteng	62	0.565 (0.441;0.688)
Facility 23	Gauteng	32	0.563 (0.391;0.734)
Facility 24	Gauteng	41	0.561 (0.409;0.713)
Facility 25	Gauteng	75	0.560 (0.448;0.672)

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 13-19 June 2021, with the highest proportion testing positive nationally. The private-sector facilities with the 25 highest proportions testing positive are concentrated almost exclusively in Gauteng (24).



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Table 5.2 Private sector healthcare facilities with a high proportion testing positive, 13-19 June 2021

Facility Name	Province	Tests	РТР (95% СІ)
Facility 1	Gauteng	62	0.645 (0.526;0.764)
Facility 2	Gauteng	33	0.606 (0.439;0.773)
Facility 3	Gauteng	104	0.596 (0.502;0.690)
Facility 4	Gauteng	66	0.591 (0.472;0.710)
Facility 5	Mpumalanga	60	0.567 (0.441;0.692)
Facility 6	Gauteng	69	0.565 (0.448;0.682)
Facility 7	Gauteng	39	0.564 (0.408;0.720)
Facility 8	Gauteng	108	0.556 (0.462;0.649)
Facility 9	Gauteng	77	0.545 (0.434;0.657)
Facility 10	Gauteng	326	0.534 (0.480;0.588)
Facility 11	Gauteng	257	0.533 (0.472;0.594)
Facility 12	Gauteng	184	0.533 (0.461;0.605)
Facility 13	Gauteng	213	0.531 (0.463;0.598)
Facility 14	Gauteng	66	0.530 (0.410;0.651)
Facility 15	Gauteng	613	0.529 (0.489;0.568)
Facility 16	Gauteng	865	0.527 (0.494;0.560)
Facility 17	Gauteng]44	0.521 (0.439;0.602)
Facility 18	Gauteng	140	0.507 (0.424;0.590)
Facility 19	Gauteng	156	0.506 (0.428;0.585)
Facility 20	Gauteng	481	0.505 (0.461;0.550)
Facility 21	Gauteng	333	0.505 (0.451;0.558)
Facility 22	Gauteng	410	0.500 (0.452;0.548)
Facility 23	Gauteng	34	0.500 (0.332;0.668)
Facility 24	Gauteng	26	0.500 (0.308;0.692)
Facility 25	Gauteng	800	0.499 (0.464;0.533)

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 82% of private testing facilities) in the week from 13-19 June 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. Fourteen of the 25 districts are in Gauteng, with nine in Limpopo. All 25 districts with the highest PTP showed a PTP in the current week in excess of 30%, compared to ten in the preceding week. PTP exceeded 30% in a further 20 districts. Significant increases were observed in 22 of the 25 districts with the highest PTP (13 in Gauteng, seven in Limpopo, and one each in Mpumalanga and the Western Cape).

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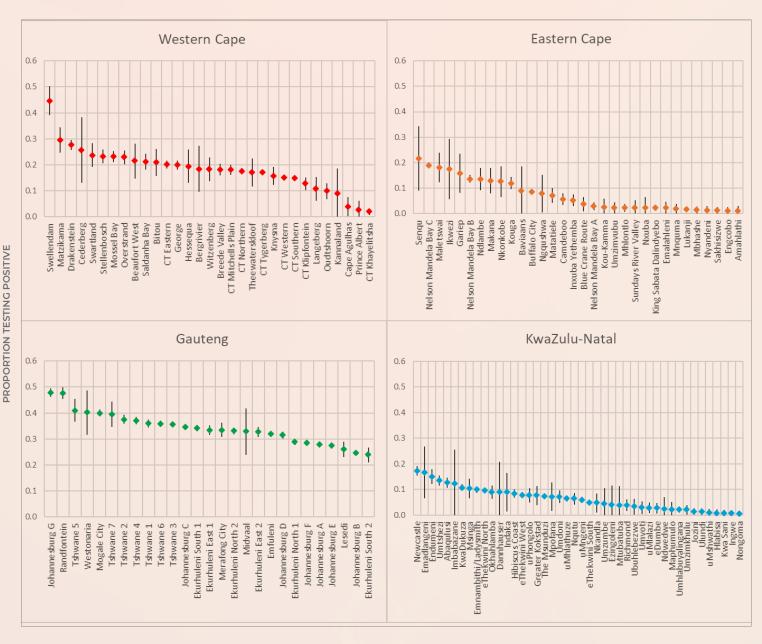
Table 6. Health sub-districts with the highest proportion testing positive based on public and private sector data for the week of13-19 June 2021

Health district or sub-district	Province	PTP (95% CI)	Previous week
Makhuduthamaga	Limpopo	0.583 (0.470-0.696)	0.296 (0.163-0.428)
Mookgopong	Limpopo	0.498 (0.370-0.626)	0.212 (0.100-0.323)
Johannesburg G	Gauteng	0.478 (0.461-0.494)	0.396 (0.378-0.414)
Randfontein	Gauteng	0.476 (0.455-0.498)	0.404 (0.379-0.429)
Swellendam	Western Cape	0.447 (0.391-0.503)	0.149 (0.100-0.197)
Bela-Bela	Limpopo	0.438 (0.339-0.536)	0.254 (0.167-0.341)
Tshwane 5	Gauteng	0.410 (0.367-0.453)	0.227 (0.187-0.268)
Westonaria	Gauteng	0.402 (0.316-0.487)	0.347 (0.271-0.423)
Mogale City	Gauteng	0.400 (0.387-0.412)	0.339 (0.325-0.353)
Tshwane 7	Gauteng	0.395 (0.346-0.444)	0.257 (0.212-0.302)
Dr JS Moroka	Mpumalanga	0.376 (0.311-0.440)	0.215 (0.155-0.274)
Tshwane 2	Gauteng	0.375 (0.358-0.393)	0.284 (0.268-0.301)
Tshwane 4	Gauteng	0.370 (0.356-0.384)	0.289 (0.275-0.302)
Thabazimbi	Limpopo	0.370 (0.337-0.404)	0.336 (0.303-0.370)
Tshwane 1	Gauteng	0.359 (0.345-0.374)	0.239 (0.225-0.253)
Tshwane 6	Gauteng	0.358 (0.346-0.370)	0.293 (0.282-0.304)
Modimolle	Limpopo	0.356 (0.263-0.448)	0.170 (0.117-0.223)
Tshwane 3	Gauteng	0.354 (0.346-0.363)	0.275 (0.266-0.283)
Makhado	Limpopo	0.353 (0.307-0.400)	0.131 (0.093-0.170)
Johannesburg C	Gauteng	0.347 (0.338-0.356)	0.273 (0.264-0.282)
Thulamela	Limpopo	0.346 (0.289-0.403)	0.126 (0.077-0.174)
Ba-Phalaborwa	Limpopo	0.342 (0.272-0.412)	0.174 (0.113-0.235)
Ekurhuleni South 1	Gauteng	0.341 (0.330-0.353)	0.252 (0.241-0.264)
Lepele-Nkumpi	Limpopo	0.335 (0.284-0.385)	0.226 (0.175-0.277)
Ekurhuleni East 1	Gauteng	0.335 (0.316-0.353)	0.229 (0.210-0.247)

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 **New** have current week proportions testing positive that are **hower** than, and CIs that do not overlap with, the previous week proportions and CIs.

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.

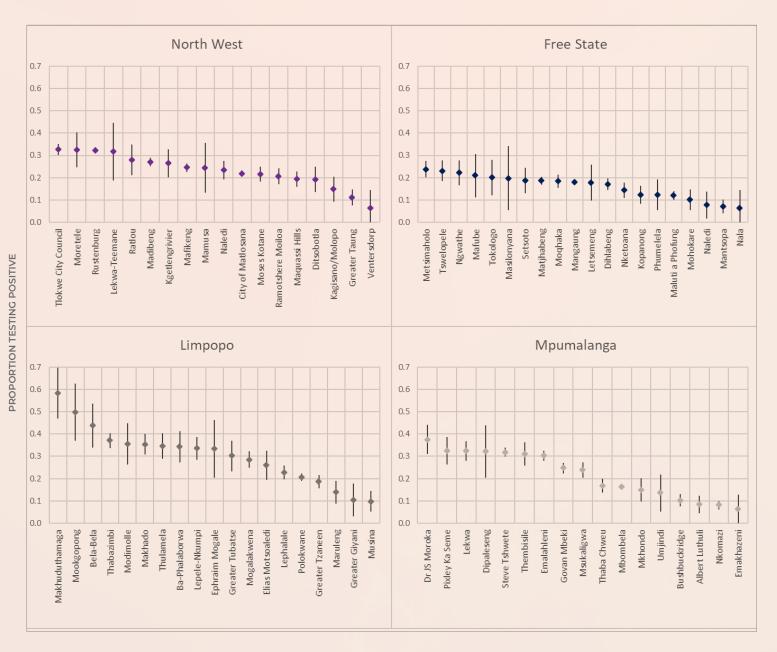
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HEALTH SUB-DISTRICT

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 13-19 June 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 13-19 June 2021.



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PROPORTION TESTING POSITIVE

Northern Cape 0.7 0.6 0.5 0.4 0.3 0.2 0.1 0.0 !Kheis Kareeberg /Khara Hais Hantam Mier Ga-Segonyana Tsantsabane Magareng Richtersveld Ubuntu Joe Morolong Emthanjeni Kamiesberg Kai !Garib Sol Plaatjie Karoo Hoogland **Renosterberg** Phokwane Thembelihle Siyathemba Nama Khoi Um sobomvu

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 13-19 June 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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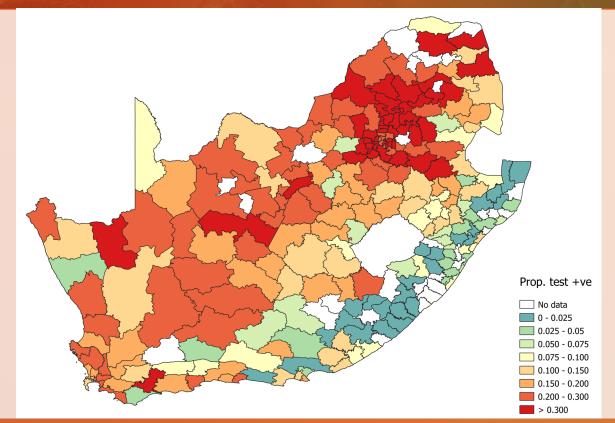


Figure 10. Proportion testing positive by health sub-district in South Africa for the week of 13-19 June 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

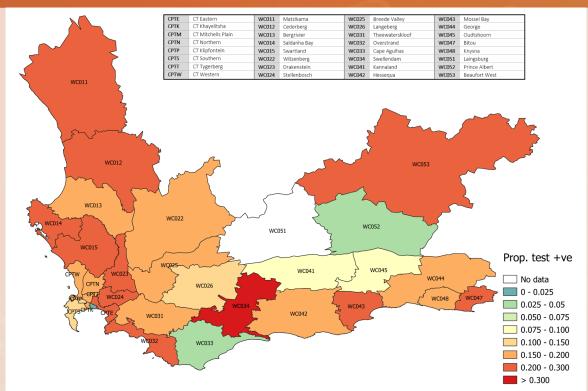


Figure 11. Proportion testing positive by health sub-district in the Western Cape Province for the week of 13-19 June 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%

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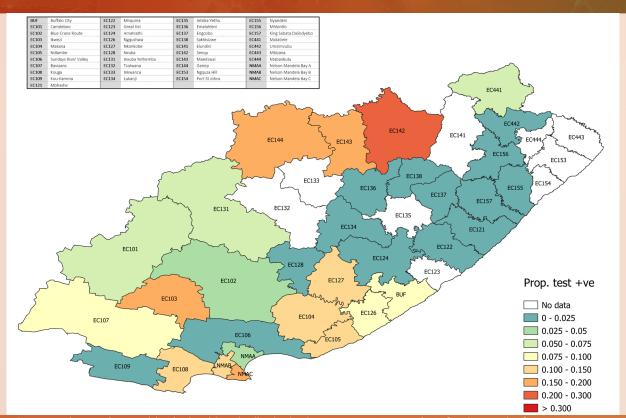


Figure 12. Proportion testing positive by health sub-district in the Eastern Cape Province for the week of 13-19 June 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

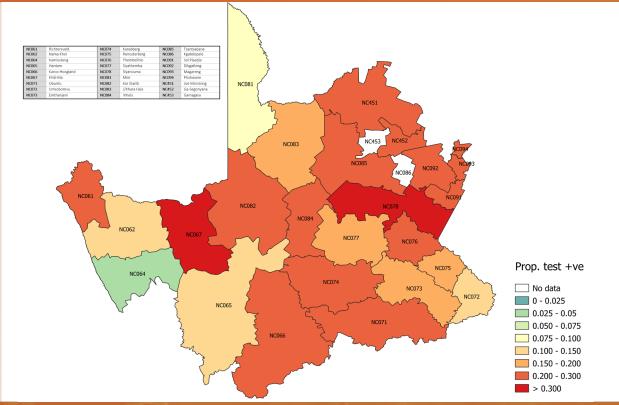


Figure 13. Proportion testing positive by health sub-district in Northern Cape Province for the week of 13-19 June 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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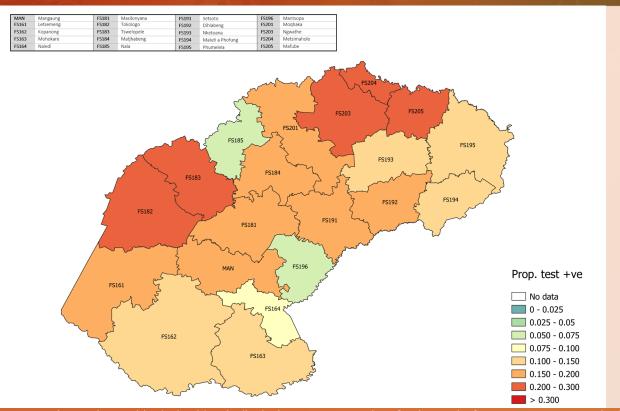


Figure 14. Proportion testing positive by health sub-district in Free State Province for the week of 13-19 June 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%

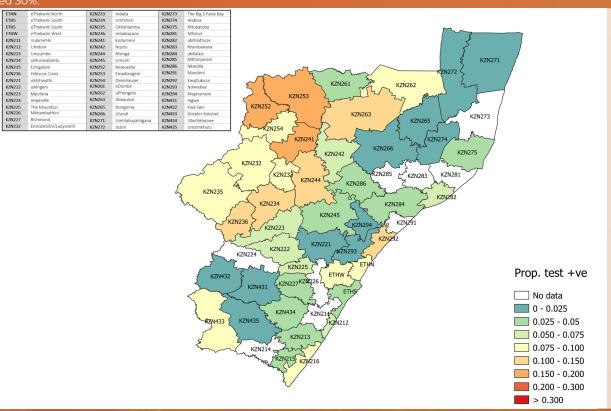


Figure 15. Proportion testing positive by health sub-district in KwaZulu-Natal Province for the week of 13-19 June 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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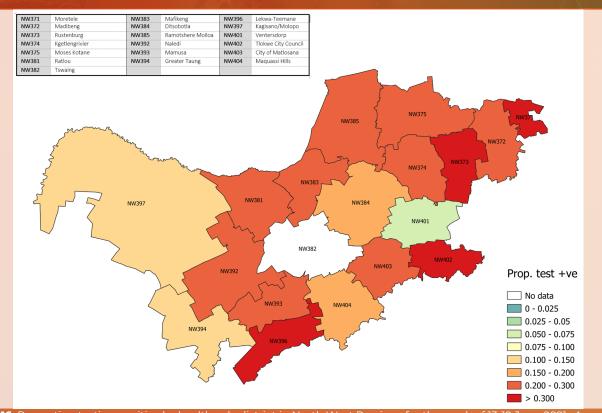


Figure 16. Proportion testing positive by health sub-district in North West Province for the week of 13-19 June 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

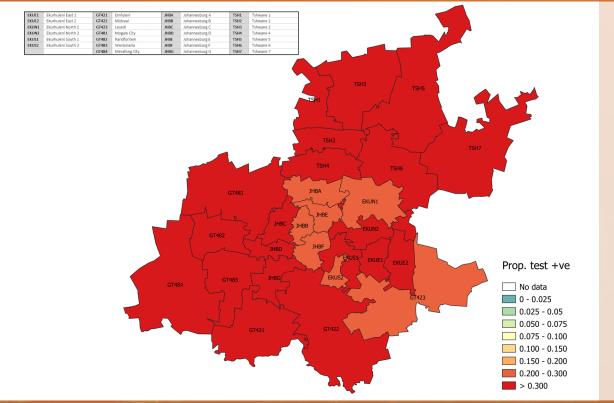


Figure 17. Proportion testing positive by health sub-district in Gauteng Province for the week of 13-19 June 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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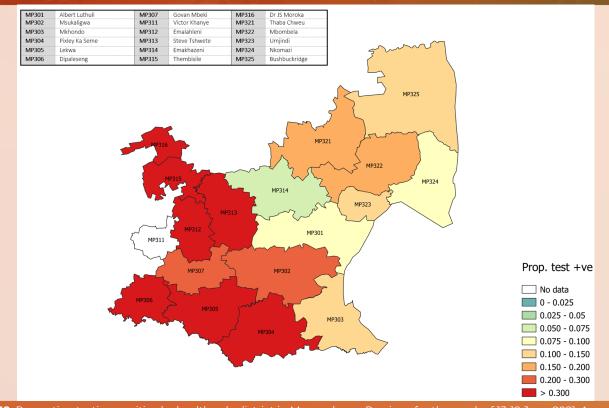


Figure 18. Proportion testing positive by health sub-district in Mpumalanga Province for the week of 13-19 June 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

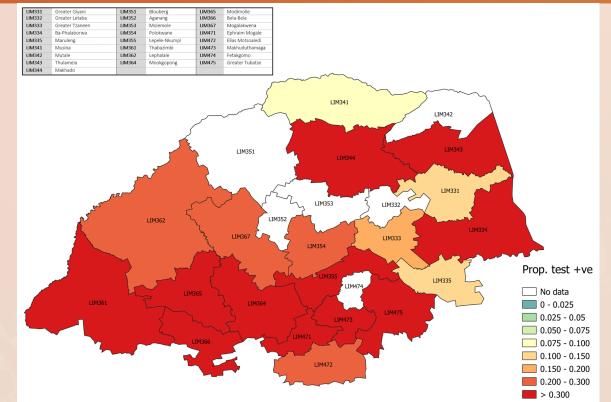


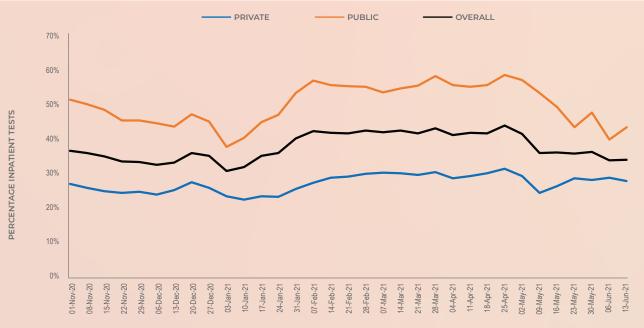
Figure 19. Proportion testing positive by health sub-district in Limpopo Province for the week of 13-19 June 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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Testing by patient admission status

In week 24 of 2021, 33.7% of reported tests were for hospitalised patients; 43.0% in the public sector and 27.7% in the private sector (Figure 20). The percentage testing positive in week 24 was higher among outpatients (25.9%) compared to inpatients (19.3%), with increases continuing to be observed in both groups (Figure 21). In week 24 the mean laboratory turnaround time for PCR tests in the public sector was higher amongst outpatients (2.4 days) than inpatients (1.6 days) (Figure 22).



WEEK START DATE OF SPECIMEN COLLECTION

Figure 20. Percentage of inpatient tests reported by health sector, 1 November 2020 – 19 June 2021



Figure 21. Percentage testing positive by patient admission status, 25 April – 19 June 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, 23 May – 19 June 2021

Testing by age and sex

The mean age of individuals tested in week 24 of 2021 was 38.1 years, and was similar for males (38.1 years) and females (38.3 years). The majority of reported tests (57.2%) were in individuals in the 20-49 years' age group although the distribution of tests was slightly skewed towards younger age groups in females compared to males (Figure 23). In week 24, the testing rate was higher in females (572 per 100,000 persons) than in males (524

per 100,000 persons) (Figure 24). Testing rates in week 24 were highest in the 50-54 year (949 per 100,000 persons) and 80+ years (948 per 100,000 persons) age groups. The percentage testing positive was highest in individuals aged 65-69 (28.3%), 50-54 (28.2%) and 70-74 years (28.0%). In males, the percentage testing positive was highest in individuals aged 70-74 years (28.7%). In females, the highest percentage testing positive was observed in individuals aged 50-54 years (29.2%).



Figure 23. Proportion of tests by age group and sex, South Africa, week 24, 13-19 June 2021

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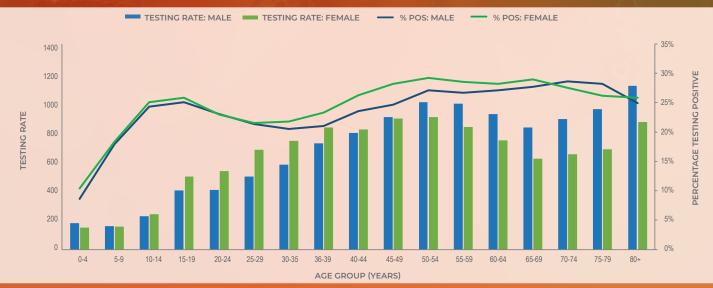


Figure 24. Testing rates per 100,000 persons and percentage testing positive by age group and sex, South Africa, week 24, 13-19 June 2021

Testing by test type

Up to the end of week 24 of 2021, 9.4% (1,172,099/12,500,358) of all reported tests were antigen tests. In week 24, 16.3% (54,323/332,501) of reported tests were antigen tests (Figure 25). Overall, 79.8% of antigen tests have been performed in the public sector, and in week 24 the public sector accounted for 79.0% (42,916/54,323) of antigen tests. Since antigen testing began in November 2020, the majority of antigen tests have been reported from KwaZulu-Natal (38.7%), Gauteng (15.9%) and Eastern Cape

(11.8%) provinces. In the past few weeks, KwaZulu-Natal and Gauteng have performed the highest weekly number of antigen tests. The percentage testing positive was higher for PCR tests compared to antigen tests, and in week 24 it was 26.1% for PCR tests and 12.5% for antigen tests (Figure 26). The mean turnaround time for antigen tests reported in week 24 was 4.6 days in the public sector and remained at 0.1 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.

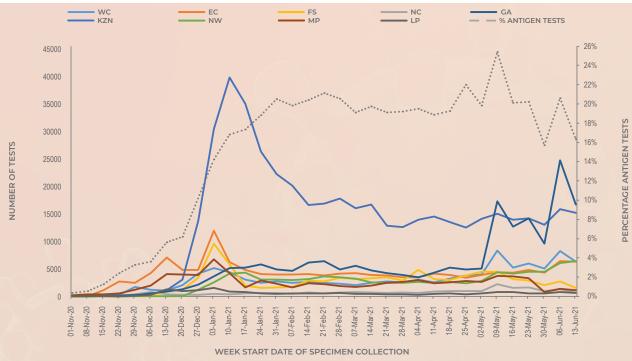
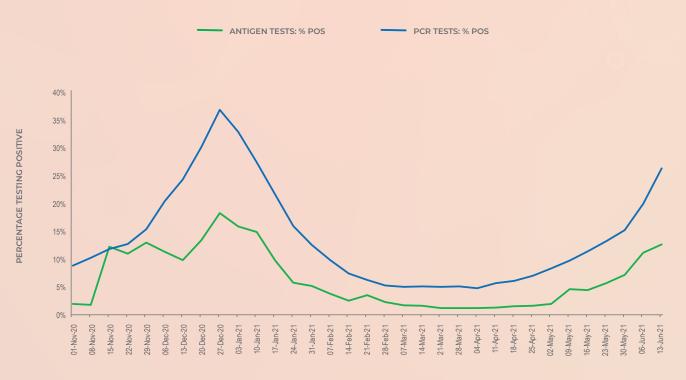


Figure 25. Number of antigen tests by province, and overall percentage antigen tests, South Africa, 1 November 2020 – 19 June 2021. WC, Western Cape; EC, Eastern Cape; FS, Free State; KZN, KwaZulu-Natal; GT, Gauteng; NC, Northern Cape; NW, North West; MP, Mpumalanga; LP, Limpopo

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WEEK START DATE OF SPECIMEN COLLECTION

Figure 26. Percentage of laboratory tests positive for SARS-CoV-2 by test type and date of specimen collection, South Africa, 1 November 2020 – 19 June 2021

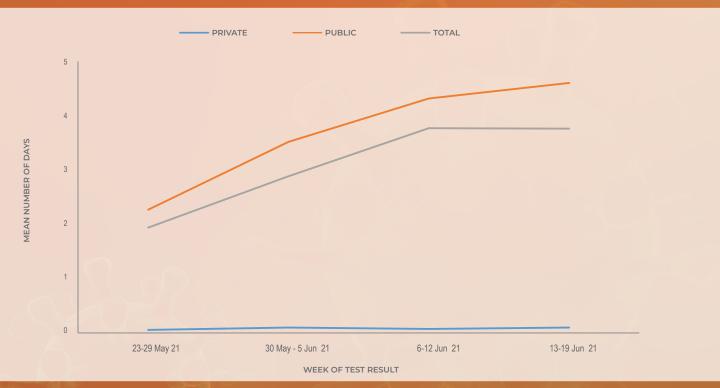


Figure 27. Mean number of days between date of specimen collection and date of test result for antigen tests, by week of test result, South Africa, 23 May- 19 June 2021

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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 24 (n=332,501) was higher than the weekly number of tests reported since mid-January 2021. Gauteng (47.4%), Western Cape (13.6%) and KwaZulu-Natal (12.7%) provinces reported the largest number of tests in week 24. The overall testing rate in week 24 was 558 per 100,000 persons; highest in Gauteng (1018 per 100,000 persons) and lowest in Limpopo (133 per 100,000 persons). Testing rates have increased in Gauteng and decreased in the Northern Cape over recent weeks. Antigen tests accounted for 16.3% (54,323/332,501) of all tests reported in week 24, 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 24; 2.1 days in the public sector and 0.7 days in the private sector.

The percentage testing positive continued to increase and in week 24 of 2021, the percentage testing positive was 23.9%, which increased by 5.9% compared to the previous week. The percentage testing positive in week 24 was highest in Gauteng (32.1%), North West (27.0%), Limpopo (26.9%), Mpumalanga (22.0%) and Northern Cape (20.6%) provinces. The percentage testing positive was between 10% and 20% in the Western Cape, Eastern Cape and Free State, and was less than 10% in KwaZulu-Natal. Compared to the previous week, the percentage testing positive in week 24 remained the same in the Northern Cape, but increased significantly in all other provinces.