

SOUTH AFRICA WEEK 21 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 29 May 2021 (Week 21 of 2021).

HIGHLIGHTS

- In the period 1 March 2020 through 29 May 2021, 11,550,831 tests (10,564,070 PCR) and 986,171 antigen tests) for SARS-CoV-2 have been reported nationally.
- The number of tests reported in week 21 of 2021 (n=233,109) was similar to the previous two weeks.
- The testing rate in week 21 was 391 per 100,000 persons; highest in the Northern Cape (973 per 100,000 persons) and lowest in Limpopo (80 per 100,000 persons).
- In week 21 the percentage testing positive was 11.7%, which was 1.7% higher than the previous week
- The percentage testing positive in week 21 was highest in the Northern Cape (22.5%), Free State (19.7%) and North West (17.1%) provinces. The percentage testing positive was between 10% and 15% in Gauteng, Mpumalanga and Limpopo, and was less than 10% in Western Cape, Eastern Cape and KwaZulu-Natal.
- In week 21, compared to the previous week, the percentage testing positive increased in the Western Cape, Eastern Cape, KwaZulu-Natal, Gauteng, Mpumalanga and Limpopo. The percentage testing positive decreased in the Northern Cape, and was unchanged in the Free State and the North West.
- The number of tests reported is likely underestimated as antigen tests are increasingly being used outside of laboratory settings and 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.

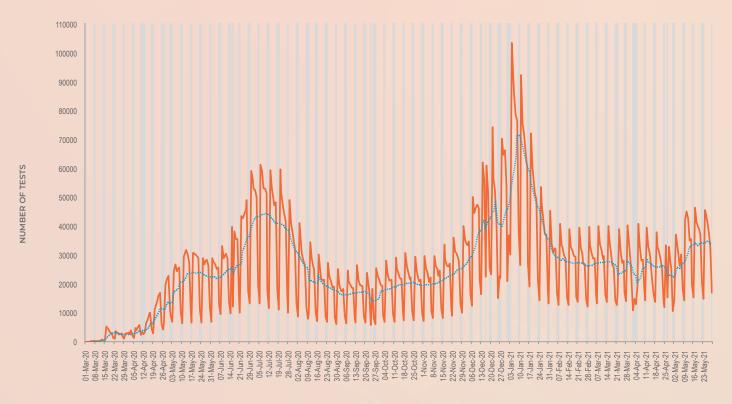
Health district and sub-district (in the metros) level results were mapped based on geo-locatable public and private sector testing facilities. Estimates of overall prevalence were derived using regression techniques. Estimates were adjusted to produce district-specific positive test prevalences based 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 29 May 2021 (week 21 of 2021).

Testing volumes and proportion testing positive

From 1 March 2020 through 29 May 2021, 11,550,831 SARS-CoV-2 tests were reported; 10,564,070 PCR and 986,171 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=307,912), and subsequently decreased. Weekly testing volumes increased again from week 48 (beginning 22 November 2020), with the highest weekly number of tests since the start of the pandemic reported in week 1 of 2021 (n=500,952). In week 21 of 2021, 233,109 tests were reported, similar to the volume of tests reported in the previous two 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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DATE OF SPECIMEN COLLECTION

Figure 1. Number of SARS-CoV-2 tests reported by date of specimen collection, South Africa, 1 March 2020 – 29 May 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 21 of 2021 was 15.2% (Table 1). During the first wave of infections, the percentage testing positive peaked at 29.7% in week 29 of 2020, and subsequently decreased to 8.4% in week 44 of 2020. During the second wave of infections the percentage testing positive started increasing from week 46 of 2020, to a peak of 34.6% in week 53 of 2020. The percentage testing positive in week 21 of 2021 was 11.7%, higher than observed in the previous week (10.0%, P<0.001) and higher than observed since end January 2021 (Figure 2).

Table 1. Weekly number of SARS-CoV-2 tests and positive tests reported, South Africa, 1 March 2020 – 29 May 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 (0.2)	544	3.1
14	29-Mar-20	18248 (0.2)	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 (0.7)	2177	2.7
18	26-Apr-20	93810 (0.8)	3205	3.4
19	03-May-20	142708 (1.2)	6018	4.2
20	10-May-20	165374 (1.4)	8092	4.9
21	17-May-20	166544 (1.4)	11379	6.8
22	24-May-20	156139 (1.4)	12967	8.3
23	31-May-20	153569 (1.3)	15079	9.8
<u></u>	07-Jun-20	173901 (1.5)		12.9
25	14-Jun-20	186081 (1.6)	32649	17.5
26	21-Jun-20	252097 (2.2)	55049	21.8
27	28-Jun-20	302743 (2.6)	75309	24.9
28	05-Jul-20	307912 (2.7)	86038	27.9
	12-Jul-20	285599 (2.5)	84927	29.7
<u></u>	19-Jul-20	270895 (2.3)	78635	29.0
<u></u>	26-Jul-20	216391 (1.9)	58393	27.0
32	02-Aug-20	179573 (1.6)	<u> </u>	22.8
33	09-Aug-20	141103 (1.2)	26265	18.6
<u></u>	16-Aug-20	135013 (1.2)	21377	15.8
35	23-Aug-20	123333 (1.1)	16331	13.2
<u></u>	30-Aug-20	112762 (1.0)	12790	11.3
<u></u>	06-Sep-20	116997 (1.0)	11953	10.2
	13-Sep-20	120714 (1.0)	12011	9.9
<u></u>	20-Sep-20	98818 (0.9)	10098	10.2
<u> </u>	27-Sep-20	123062 (1.1)	11008	8.9
41	04-Oct-20	131043 (1.1)	11778	9.0
42	11-Oct-20	137974 (1.2)	12077	8.8
43	18-Oct-20	142169 (1.2)	12069	8.5
<u> 45</u> 44	25-Oct-20	135847 (1.2)	11478	
45	01-Nov-20	138820 (1.2)	12135	
45 46	08-Nov-20	147007 (1.3)	14845	
<u>46</u> 47	15-Nov-20		18762	
47 48	22-Nov-20	160642 (1.4) 175684 (1.5)	22051	
48 49	22-Nov-20 29-Nov-20		30766	
		203144 (1.8)		
	06-Dec-20	267915 (2.3)	53310	19.9
<u>51</u>	13-Dec-20	294453 (2.5)	68575	23.3
<u>52</u> 53	20-Dec-20	284469 (2.5)	81951	28.8
	27-Dec-20	334375 (2.9)	115729	34.6
1	03-Jan-21	500952 (4.3)	150999	30.1
2	10-Jan-21	417840 (3.6)	104768	25.1

3	17-Jan-21	327282 (2.8)	63236	19.3	
4	24-Jan-21	249372 (2.2)	34616	13.9	
5	31-Jan-21	203382 (1.8)	22322	11.0	
66	07-Feb-21	193070 (1.7)	16439	8.5	
7	14-Feb-21	190198 (1.6)	12128	6.4	
8	21-Feb-21	184241 (1.6)	10355	5.6	
9	28-Feb-21	189152 (1.6)	8660	4.6	
10	07-Mar-21	192453 (1.7)	8304	4.3	
11	14-Mar-21	185013 (1.6)	8125	4.4	
12	21-Mar-21	171447 (1.5)	7320	4.3	
13	28-Mar-21	162893 (1.4)	7033	4.3	
14	04-Apr-21	179012 (1.5)	7250	4.]	
15	11-Apr-21	182248 (1.6)	8786	4.8	
16	18-Apr-21	182731 (1.6)	9414	5.2	
17	25-Apr-21	156389 (1.4)	9127	5.8	
18	02-May-21	189157 (1.6)	13325	7.0	
19	09-May-21	233770 (2.0)	19744	8.4	
20	16-May-21	239018 (2.1)	23942	10.0	
21	23-May-21	233109 (2.0)	27258	11.7	
	Total	11550831 (100.0)	1757953	15.2	

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Figure 2. Percentage of tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 1 March 2020 – 29 May 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 29 May 2021, 5,025,356 tests were reported in the public sector, with 15.8% testing positive. Over this same period, the private sector reported 6,525,475 tests, with 14.8% testing positive (Table 2). Overall, the public sector has reported 43.5% of tests and accounted for 45.0% 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 20 to week 21 of 2021, the percentage testing positive increased in the public sector (9.7% in week 20 to 10.0% in week 21, P=0.032) and to a greater extent in the private sector (10.2% in week 20 to 12.9% in week 21, P<0.001). In week 21 the percentage testing positive in the private sector (12.9%) was 2.9% higher than in the public sector (10.0%, P<0.001).

The mean turnaround time for PCR tests reported in week 21 of 2021 was 1.1 days; 1.9 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 all provinces except the Northern Cape (2.8 days), Free State (2.7 days) and North West (2.2 days) in week 21 (Figure 4). Increases in turnaround time were observed in the Eastern Cape, Northern Cape and North West in the past week. Twenty-one of the 28 (75.0%) NHLS laboratories performing PCR testing for SARS-CoV-2 had turnaround times ≤2 days in week 21 (Figure 5).

Table 2. Weekly number of tests and positive tests reported, by healthcare sector, South Africa, 1 March 2020 – 29 May 2021

		Publi	c sector	Privat	e sector	Public sector	Public sector percentage of	
Week number	Week beginning	Tests	Cases n (%)	Tests	Positive tests n (%)	Tests (%)	Positive tests (%)	of PTP ^a
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)	12380	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)	26341	752 (2.9)	71.9	76.5	1.274
19	03-May-20	94338	4507 (4.8)	48370	1511 (3.1)	66.1	74.9	1.529
20	10-May-20	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)	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)	89624	8453 (9.4)	41.6	43.9	1.099
24	07-Jun-20	64655	8039 (12.4)	109246	14322 (13.1)	37.2	36.0	0.948
25	14-Jun-20	61149	11982 (19.6)	124932	20667 (16.5)	32.9	36.7	1.185
26	21-Jun-20	90454	20425 (22.6)	161643	34624 (21.4)	35.9	37.1	1.054
27	28-Jun-20	106371	27244 (25.6)	196372	48065 (24.5)	35.1	36.2	1.046
28	05-Jul-20	117727	32239 (27.4)	190185	53799 (28.3)	38.2	37.5	0.968
29	12-Jul-20	110664	31383 (28.4)	174935	53544 (30.6)	38.7	37.0	0.927
30	19-Jul-20	105217	30319 (28.8)	165678	48316 (29.2)	38.8	38.6	0.988
31	26-Jul-20	81247	22782 (28.0)	135144	35611 (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)	82442	15093 (18.3)	41.6	42.5	1.040
34	16-Aug-20	56138	9621 (17.1)	78875	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)	65942	5532 (8.4)	43.6	53.7	1.499
38	13-Sep-20	53707	6547 (12.2)	67007	5464 (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)	80609	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)	86046	6024 (7.0)	39.5	50.1	1.539
44	25-Oct-20	51285	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)	93060	8178 (8.8)	42.1	56.4	1.782
48_	22-Nov-20	74572	12199 (16.4)	101112	9852 (9.7)	42.4	55.3	1.679
49	29-Nov-20	81268	15730 (19.4)	121876	15036 (12.3)	40.0	51.1	1.569
50_	06-Dec-20	107909	24715 (22.9)	160006	28595 (17.9)	40.3	46.4	1.282
51_	13-Dec-20	117212	29815 (25.4)	177241	38760 (21.9)	39.8	43.5	1.163
52	20-Dec-20	109838	34124 (31.1)	174631	47827 (27.4)	38.6	41.6	1.134
53	27-Dec-20	151623	52930 (34.9)	182752	62799 (34.4)	45.3	45.7	1.016
	03-Jan-21	236860	71046 (30.0)	264092	79953 (30.3)	47.3	47.1	0.991
2	10-Jan-21	203959	52946 (26.0)	213881	51822 (24.2)	48.8	50.5	1.071
3	17-Jan-21	165611	34448 (20.8)	161671	28788 (17.8)	50.6	54.5	1.168
4	24-Jan-21	123185	18981 (15.4)	126187	15635 (12.4)	49.4	54.8	1.244
5	31-Jan-21	99567	12034 (12.1)	103815	10288 (9.9)	49.0	53.9	1.220
6	07-Feb-21	91173	8486 (9.3)	101897	7953 (7.8)	47.2	51.6	1.193
7	14-Feb-21	86044	6632 (7.7)	104154	5496 (5.3)	45.2	54.7	1.461
8	21-Feb-21	82329	5773 (7.0)	101912	4582 (4.5)	44.7	55.8	1.560
9	28-Feb-21	87728	4661 (5.3)	101424	3999 (3.9)	46.4	53.8	1.348
10	07-Mar-21	92013	4567 (5.0)	100440	3737 (3.7)	47.8	55.0	1.334
() 11	14-Mar-21	89488	4425 (4.9)	95525	3700 (3.9)	48.4	54.5	1.277
12	21-Mar-21	75866	3439 (4.5)	95581	3881 (4.1)	44.3	47.0	1.116
13	28-Mar-21	70497	3440 (4.9)	92396	3593 (3.9)	43.3	48.9	1.255
14	04-Apr-21	77848	3331 (4.3)	101164	3919 (3.9)	43.5	45.9	1.105
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	Total	5025356	791600 (15.8)	6525475	966353 (14.8)	43.5	45.0	1.064
21	23-May-21	95666	9549 (10.0)	137443	17709 (12.9)	41.0	35.0	0.775
20	16-May-21	92683	8978 (9.7)	146335	14964 (10.2)	38.8	37.5	0.947
19	09-May-21	86255	7224 (8.4)	147515	12520 (8.5)	36.9	36.6	0.987
18	02-May-21	76708	5380 (7.0)	112449	7945 (7.1)	40.6	40.4	0.993
17	25-Apr-21	67127	4082 (6.1)	89262	5045 (5.7)	42.9	44.7	1.076
16	18-Apr-21	78581	4669 (5.9)	104150	4745 (4.6)	43.0	49.6	1.304
15	11-Apr-21	83645	4327 (5.2)	98603	4459 (4.5)	45.9	49.2	1.144
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^aRatio of percentage testing positive (PTP) in the public sector to the private sector calculated as (no. of cases/total tests in public sector)/ (no. of cases/total tests in private sector)



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, 2 – 29 May 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, 2 – 29 May 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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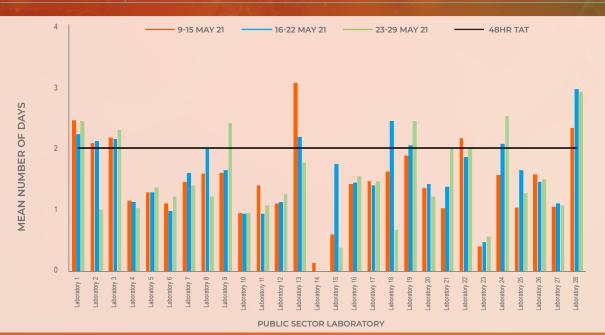


Figure 5. Mean number of days between date of specimen collection and date of test result for PCR tests, by public sector laboratory, 9-29 May 2021. The horizontal black line indicates 48-hour turnaround time (TAT).

Testing by province

Gauteng reported the largest number of tests (40.2%), followed by Western Cape (14.9%) and KwaZulu-Natal (13.7%) provinces in week 21 of 2021 (Table 3). The overall testing rate decreased slightly from 401 per 100,000 persons in week 20 to 391 per 100,000 in week 21. The testing rate ranged from 973 per 100,000 persons in the Northern Cape to 80 per 100,000 persons in Limpopo (Figure 6). Testing rates in all provinces were similar to or slightly lower than the previous week.

The percentage testing positive in week 21 was highest in the Northern Cape (22.5%), Free State (19.7%) and North

West (17.1%) provinces. The percentage testing positive was between 10 and 15% in Gauteng, Mpumalanga and Limpopo, and was less than 10% in Western Cape, Eastern Cape and KwaZulu-Natal (Figure 7 and Table 3). Compared to the previous week, the percentage testing positive in week 21 increased the Western Cape (P<0.001), Eastern Cape (P<0.001), KwaZulu-Natal (P=0.021), Gauteng (P<0.001), Mpumalanga (P<0.001) and Limpopo (P<0.001). The percentage testing positive decreased in the Northern Cape (P<0.001) and was unchanged in the Free State (P=0.100) and the North West (P=0.636). The percentage testing positive was higher than the national average, not weighted for population size, in the Northern Cape, Free State, North West, Mpumalanga and Gauteng (Figure 7).

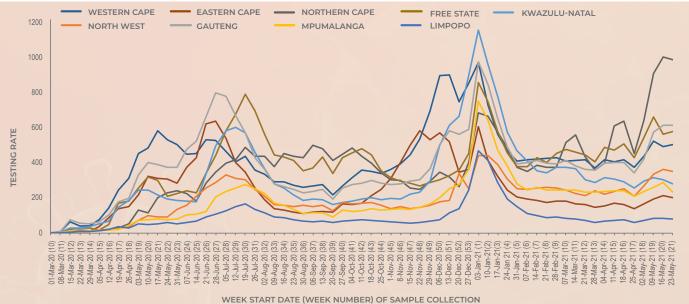


Figure 6. Testing rate per 100,000 persons by province and week of specimen collection, South Africa, 1 March 2020 – 29 May 2021

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Table 3. Weekly number of tests and positive tests reported, by province, South Africa, 9 - 29 May 2021

		9-15	May 2021	16-22	May 2021	23-29	May 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	36059	1858 (5.2)	34088	1866 (5.5)	34744	2239 (6.4)	496	1.0%
Eastern Cape	6734001	12940	378 (2.9)	14198	484 (3.4)	13487	663 (4.9)	200	1.5%
Northern Cape	1292786	11580	2766 (23.9)	12798	3200 (25.0)	12582	2832 (22.5)	973	-2.5%
Free State	2928903	19114	3177 (16.6)	16279	3091 (19.0)	16687	3288 (19.7)	570	0.7%
KwaZulu-Natal	11531628	35760	763 (2.1)	34675	918 (2.6)	31961	940 (2.9)	277	0.3%
North West	4108816	13636	2118 (15.5)	14629	2477 (16.9)	14176	2430 (17.1)	345	0.2%
Gauteng	15488137	87539	7420 (8.5)	93879	10258 (10.9)	93770	13030 (13.9)	605	3.0%
Mpumalanga	4679786	12096	1003 (8.3)	13313	1247 (9.4)	10764	1303 (12.1)	230	2.7%
Limpopo	5852553	4794	241 (5.0)	4900	364 (7.4)	4654	499 (10.7)	80	3.3%
Unknown		252	20 (7.9)	259	37 (14.3)	284	34 (12.0)		
Total	59622350	233770	19744 (8.4)	239018	23942 (10.0)	233109	27258 (11.7)	391	1.7%

a 2020 Mid-year population Statistics SA

b Current week compared to previous week

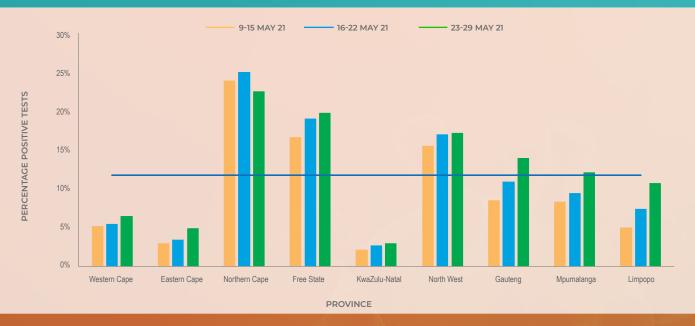


Figure 7. Weekly percentage testing positive, by province, South Africa, 9 - 29 May 2021. The horizontal blue line shows the national mean for week 21, beginning 23 May 2021

Testing in the public sector

In the public sector, the percentage testing positive increased in the past week (9.7% in week 20 to 10.0% in week 21, P=0.032) (Table 4). The percentage testing positive in week 21 was highest in the Northern

Cape (21.0%), Free State (17.8%) and North West (16.3%) provinces. The percentage testing positive in the public sector remains higher than the national average, not weighted for population size, in the Northern Cape, Free State, North West, Gauteng 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, 9 - 29 May 2021

	9-15 M	ay 2021	16-22 May 2021		23-29 May 2021	
Province	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)
Western Cape	9113	477 (5.2)	9814	503 (5.1)	12354	623 (5.0)
Eastern Cape	7644	157 (2.1)	8409	149 (1.8)	8145	249 (3.1)
Northern Cape	6426	1595 (24.8)	8364	2057 (24.6)	8587	1799 (21.0)
Free State	9550	1423 (14.9)	7507	1343 (17.9)	8528	1517 (17.8)
KwaZulu-Natal	22334	428 (1.9)	20467	467 (2.3)	18907	376 (2.0)
North West	5552	1022 (18.4)	6312	1138 (18.0)	6438	1050 (16.3)
Gauteng	19115	1686 (8.8)	24467	2842 (11.6)	27405	3408 (12.4)
Mpumalanga	5286	362 (6.8)	5676	379 (6.7)	4107	404 (9.8)
Limpopo	1231	74 (6.0)	1629	99 (6.1)	1168	118 (10.1)
Unknown	4	0 (0.0)	38	1 (2.6)	27	5 (18.5)
Total	86255	7224 (8.4)	92683	8978 (9.7)	95666	9549 (10.0)

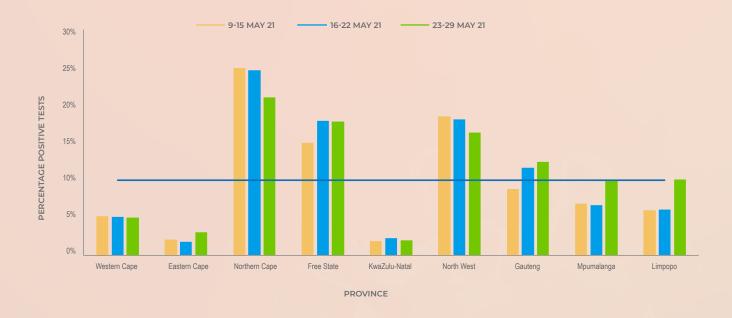


Figure 8. Weekly percentage testing positive in the public sector, by province, South Africa, 9 - 29 May 2021. The horizontal blue line shows the national mean for week 21 of 2021, beginning 23 May 2021.

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 23-29 May 2021. Nine of the 25 facilities showing the highest PTP are in the Northern Cape, six in the Free State, four in the North West, and three in Gauteng.

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Table 5.1 Public sector healthcare facilities with a high proportion testing positive, 23 - 29 May 2021

Facility Name	Province	Tests	PTP (95% CI)
Facility 1	Northern Cape	56	0.571 (0.442;0.701)
Facility 2	North West	41	0.561 (0.409;0.713)
Facility 3	North West	50	0.540 (0.402;0.678)
Facility 4	Northern Cape	58	0.534 (0.406;0.663)
Facility 5	North West	100	0.520 (0.422;0.618)
Facility 6	Northern Cape	39	0.513 (0.356;0.670)
Facility 7	Free State	83	0.494 (0.386;0.602)
Facility 8	Gauteng	194	0.464 (0.394;0.534)
Facility 9	Free State	37	0.459 (0.299;0.620)
Facility 10	Northern Cape	25	0.440 (0.245;0.635)
Facility 11	Free State	41	0.439 (0.287;0.591)
Facility 12	Western Cape	71	0.437 (0.321;0.552)
Facility 13	Northern Cape	49	0.429 (0.290;0.567)
Facility 14	North West	33	0.424 (0.256;0.593)
Facility 15	Northern Cape	59	0.424 (0.298;0.550)
Facility 16	Free State	59	0.424 (0.298;0.550)
Facility 17	Free State	27	0.407 (0.222;0.593)
Facility 18	Northern Cape	72	0.403 (0.289;0.516)
Facility 19	Limpopo	30	0.400 (0.225;0.575)
Facility 20	Gauteng	31	0.387 (0.216;0.559)
Facility 21	Free State	26	0.385 (0.198;0.572)
Facility 22	Northern Cape	145	0.372 (0.294;0.451)
Facility 23	Northern Cape	121	0.372 (0.286;0.458)
Facility 24	Gauteng	186	0.371 (0.302;0.440)
Facility 25	Limpopo	33	0.364 (0.200;0.528)

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 23 - 29 May 2021, with the highest proportion testing positive nationally. Private-sector facilities with high proportions testing positive are concentrated in Gauteng (17), and the North West (5).

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Table 5.2 Private sector healthcare facilities with a high proportion testing positive, 23 - 29 May 2021

Facility Name	Province	Tests	PTP (95% CI)
Facility 1	North West	25	0.400 (0.208;0.592)
Facility 2	Gauteng	89	0.393 (0.292;0.495)
Facility 3	Gauteng	83	0.373 (0.269;0.478)
Facility 4	Gauteng	149	0.369 (0.292;0.447)
Facility 5	Gauteng	144	0.354 (0.276;0.432)
Facility 6	Northern Cape	40	0.350 (0.202;0.498)
Facility 7	Gauteng	176	0.341 (0.271;0.411)
Facility 8	Gauteng	121	0.339 (0.255;0.423)
Facility 9	North West	276	0.333 (0.278;0.389)
Facility 10	Gauteng	127	0.331 (0.249;0.413)
Facility 11	Gauteng	40	0.325 (0.180;0.470)
Facility 12	Mpumalanga	170	0.324 (0.253;0.394)
Facility 13	Gauteng	31	0.323 (0.158;0.487)
Facility 14	North West	64	0.313 (0.199;0.426)
Facility 15	North West	229	0.310 (0.250;0.370)
Facility 16	Gauteng	175	0.309 (0.240;0.377)
Facility 17	Gauteng	326	0.307 (0.257;0.357)
Facility 18	Gauteng	43	0.302 (0.165;0.440)
Facility 19	Gauteng	86	0.302 (0.205;0.399)
Facility 20	Gauteng	192	0.302 (0.237;0.367)
Facility 21	Gauteng	493	0.296 (0.256;0.336)
Facility 22	Northern Cape	1106	0.294 (0.267;0.321)
Facility 23	Gauteng	927	0.288 (0.259;0.317)
Facility 24	Gauteng	462	0.286 (0.245;0.327)
Facility 25	North West	211	0.284 (0.223;0.345)

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 85% of private testing facilities) in the week from 23 - 29 May 2021 have been located within the spatial framework of the health districts and health sub-districts (in the metros). Estimates of overall prevalence were derived using regression techniques. These estimates were then 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. 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. Ten of the 25 districts are in the Northern Cape, with seven in the North West and three in the Free State. Seven districts (three in the Northern Cape; and two each in the Free State and North West) showed a PTP in the current week in excess of 30%, compared to four in the preceding week. PTP exceeded 20% in all 25 districts (25 in the previous week). Significant increases were observed in five districts (Naledi in the North West, Letsemeng and Tokologo in the Free State, Makhuduthamaga in Limpopo and Lekwa in Mpumalanga).

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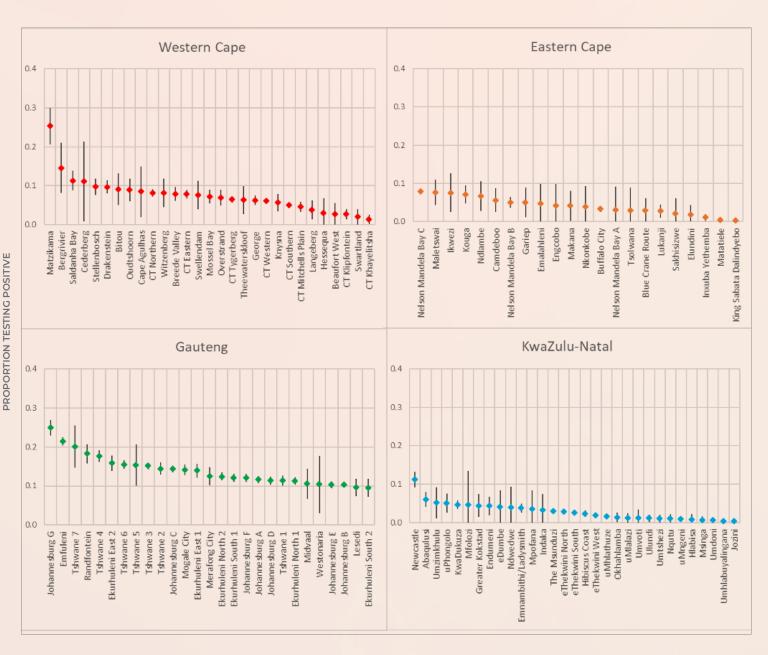
Table 6. Health sub-districts with the highest proportion testing positive based on public and private sector data for the week of

Health district or sub-district	Province	PTP (95% CI)	Previous week
Joe Morolong	Northern Cape	0.397 (0.286-0.507)	0.291 (0.213-0.370)
Naledi	North West	0.359 (0.314-0.405)	0.115 (0.008-0.221)
Letsemeng	Free State	0.343 (0.275-0.411)	0.219 (0.164-0.274)
Hantam	Northern Cape	0.328 (0.240-0.415)	0.290 (0.169-0.410)
Tokologo	Free State	0.315 (0.231-0.399)	0.135 (0.057-0.214)
Ratlou	North West	0.313 (0.262-0.365)	0.275 (0.217-0.333)
Dikgatlong	Northern Cape	0.302 (0.223-0.382)	0.344 (0.262-0.427)
Ga-Segonyana	Northern Cape	0.298 (0.240-0.357)	0.347 (0.298-0.396)
Maquassi Hills	North West	0.274 (0.216-0.331)	0.205 (0.158-0.253)
Makhuduthamaga	Limpopo	0.268 (0.146-0.390)	0.045 (0.006-0.084)
Kareeberg	Northern Cape	0.268 (0.224-0.313)	0.245 (0.190-0.301)
Greater Taung	North West	0.268 (0.197-0.339)	0.280 (0.137-0.424)
Sol Plaatjie	Northern Cape	0.262 (0.249-0.276)	0.282 (0.269-0.295)
Matzikama	Western Cape	0.253 (0.206-0.300)	0.230 (0.186-0.273)
Phokwane	Northern Cape	0.250 (0.203-0.297)	0.235 (0.190-0.279)
Tswelopele	Free State	0.249 (0.204-0.295)	0.164 (0.120-0.209)
Johannesburg G	Gauteng	0.249 (0.230-0.268)	0.225 (0.207-0.243)
Siyathemba	Northern Cape	0.248 (0.208-0.287)	0.228 (0.195-0.260)
Lekwa	Mpumalanga	0.245 (0.196-0.293)	0.151 (0.114-0.189)
Kheis	Northern Cape	0.241 (0.141-0.342)	0.283 (0.191-0.376)
Thembelihle	Northern Cape	0.226 (0.166-0.286)	0.310 (0.246-0.373)
Mafikeng	North West	0.225 (0.203-0.247)	0.259 (0.238-0.280)
Lekwa-Teemane	North West	0.224 (0.127-0.321)	0.230 (0.119-0.340)
Tlokwe City Council	North West	0.223 (0.200-0.246)	0.208 (0.186-0.229)
Dipaleseng	Mpumalanga	0.217 (0.107-0.327)	0.255 (0.152-0.358)

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.

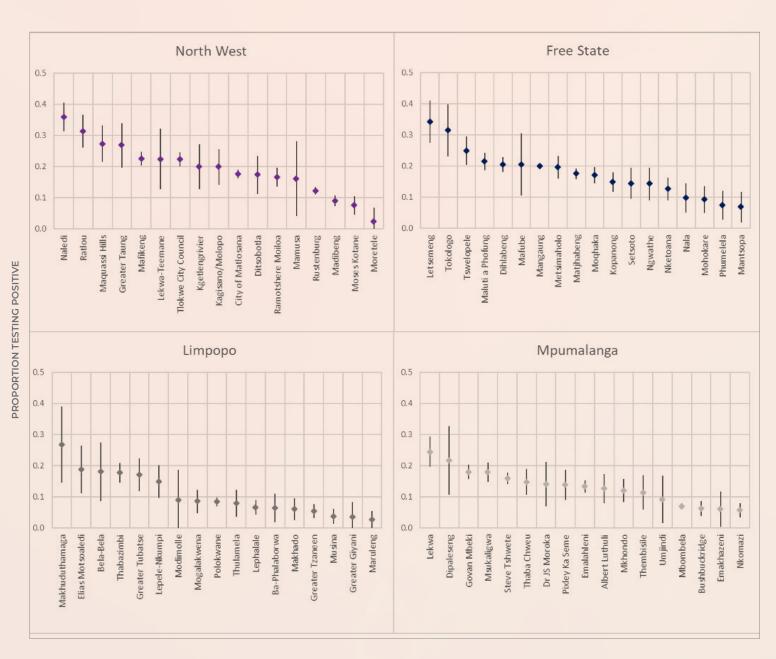
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HEALTH SUB-DISTRICT

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 23 - 29 May 2021.

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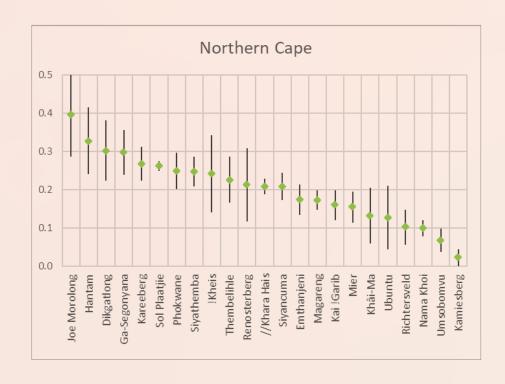


HEALTH SUB-DISTRICT

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 23 - 29 May 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 23 - 29 May 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).

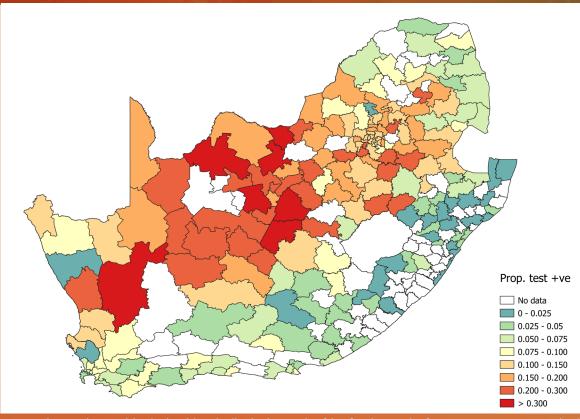


Figure 10. Proportion testing positive by health sub-district in South Africa for the week of 23 - 29 May 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

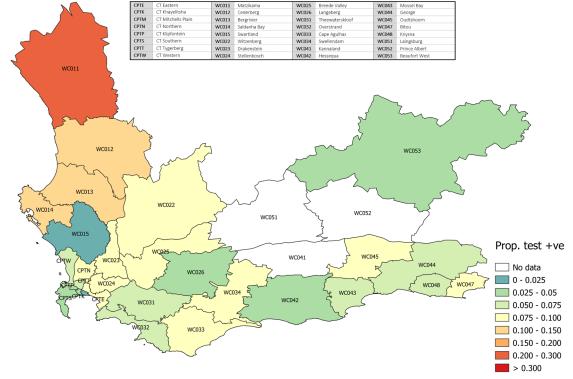


Figure 11. Proportion testing positive by health sub-district in the Western Cape Province for the week of 23 - 29 May 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%

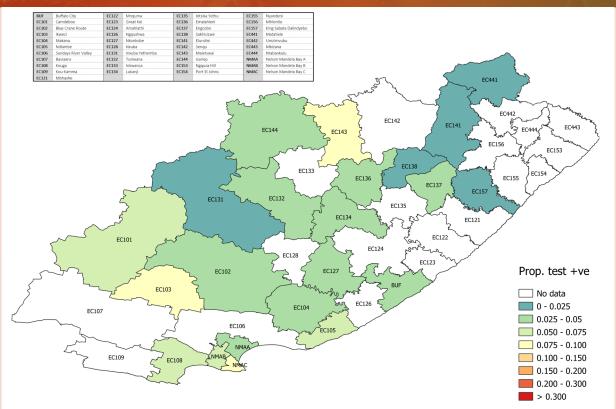


Figure 12. Proportion testing positive by health sub-district in the Eastern Cape Province for the week of 23 - 29 May 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

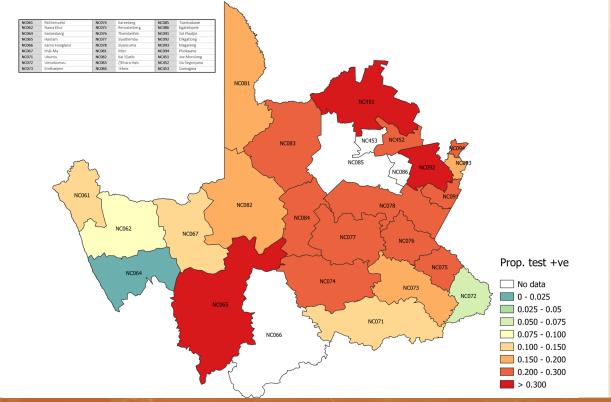


Figure 13. Proportion testing positive by health sub-district in Northern Cape Province for the week of 23 - 29 May 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

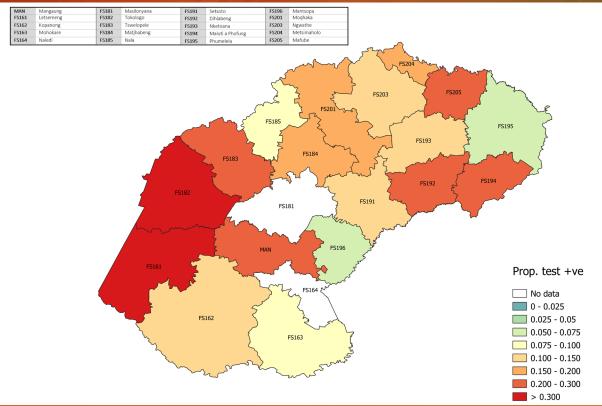


Figure 14. Proportion testing positive by health sub-district in Free State Province for the week of 23 - 29 May 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

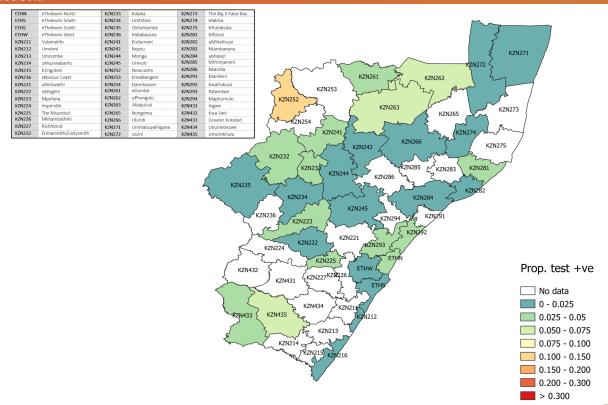


Figure 15. Proportion testing positive by health sub-district in KwaZulu-Natal Province for the week of 23 - 29 May 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

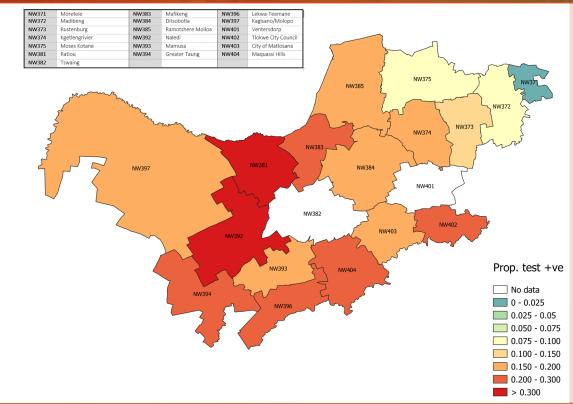


Figure 16. Proportion testing positive by health sub-district in North West Province for the week of 23 - 29 May 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

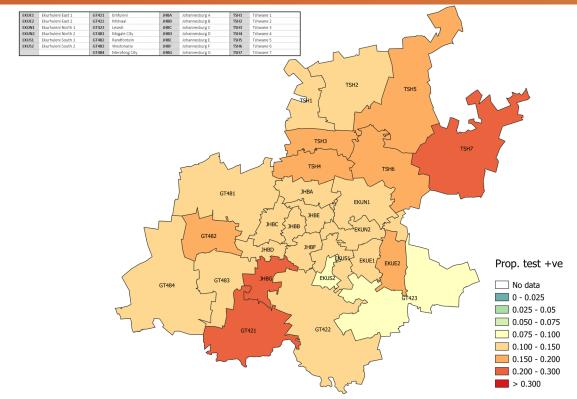


Figure 17. Proportion testing positive by health sub-district in Gauteng Province for the week of 23 - 29 May 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

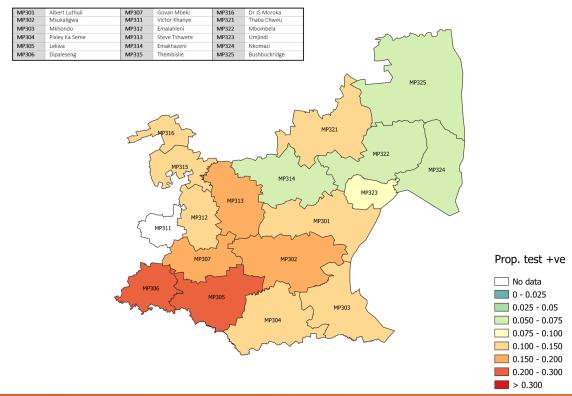


Figure 18. Proportion testing positive by health sub-district in Mpumalanga Province for the week of 23 - 29 May 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

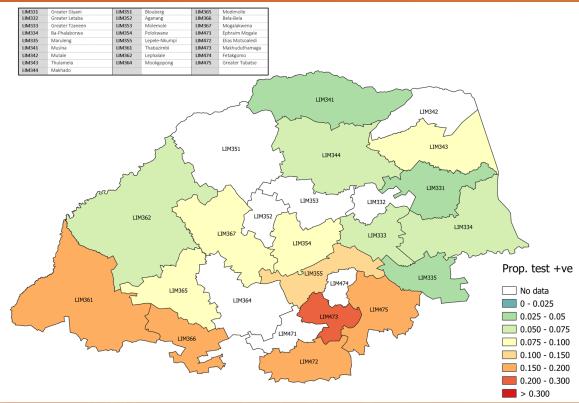


Figure 19. Proportion testing positive by health sub-district in Limpopo Province for the week of 23 - 29 May 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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Testing by patient admission status

In week 21 of 2021, 36.4% of reported tests were for hospitalised patients; 47.0% in the public sector and 28.5% in the private sector (Figure 20). The percentage testing positive in week 21 was higher among outpatients (13.4%) compared to inpatients (9.1%),

with increases observed in both groups (Figure 21). In week 21 the mean laboratory turnaround time for PCR tests in the public sector increased for outpatients (2.4 days), but remained lower for inpatients (1.4 days) (Figure 22).

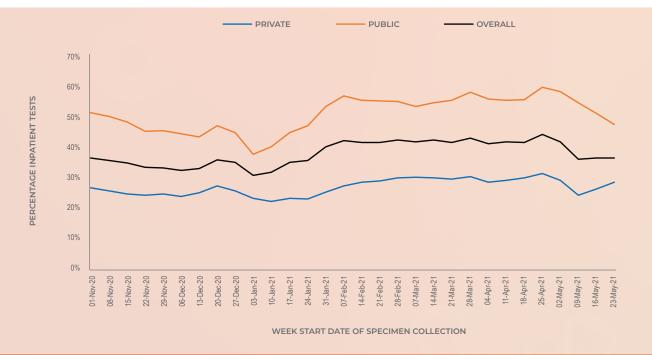


Figure 20. Percentage of inpatient tests reported by health sector, 1 November 2020 – 29 May 2021



Figure 21. Percentage testing positive by patient admission status, 4 April – 29 May 2021

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Figure 22. Mean number of days between date of specimen collection and date of test result for PCR tests by patient admission status, 2 – 29 May 2021

Testing by age and sex

The mean age of individuals tested in week 21 of 2021 was 38.9 years, and was similar among males (39.2 years) and females (38.8 years). The majority of reported tests (53.7%) were in individuals in the 20-49 years' age group, with an additional peak in the 50-54 year age group (Figure 23). In week 21, the testing rate was higher in females (399 per 100,000 persons) than in males (367 per 100,000 persons) (Figure

24). Testing rates in week 21 were highest in the 50-54 year age group (844 per 100,000 persons). The percentage testing positive was highest in individuals aged 60-64 (15.5%) and 65-69 years (15.3%). Among younger individuals a high percentage testing positive was observed in the 15-19 year age group (14.0%). In males, the percentage testing positive was highest in individuals aged 75-79 years (15.2%). In females, the highest percentage testing positive was observed in individuals aged 60-64 years (16.4%).



Figure 23. Proportion of tests by age group and sex, South Africa, week 21, 23 - 29 May 2021

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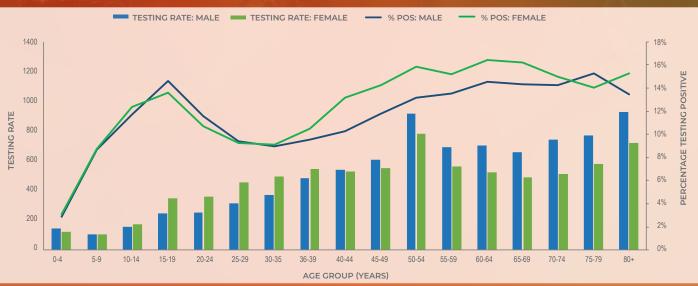


Figure 24. Testing rates per 100,000 persons and percentage testing positive by age group and sex, South Africa, week 21, 23 - 29 May 2021

Testing by test type

Up to the end of week 21 of 2021, 8.5% (986,761/11,550,831) of all reported tests were antigen tests. In week 21, 17.2% (40,172/233,109) of reported tests were antigen tests (Figure 25). Overall, 79.0% of antigen tests have been performed in the public sector and in week 21 the public sector accounted for 80.9% (32,490/40,172) of antigen tests. Since antigen testing began in November 2020, the majority of antigen tests have been reported from KwaZulu-Natal (41.3%), Gauteng (13.4%) and Eastern

Cape (12.2%) 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 21 it was 12.9% for PCR tests and 5.8% for antigen tests (Figure 26). The mean turnaround time for antigen tests reported in week 21 was 2.6 days in the public sector and 0.1 day 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.

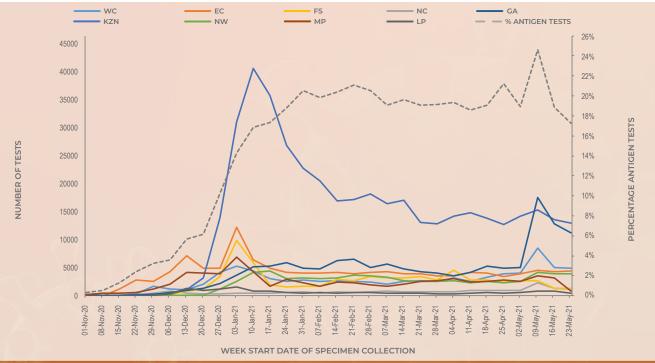


Figure 25. Number of antigen tests by province, and overall percentage antigen tests, South Africa, 1 November 2020 – 29 May 2021. WC, Western Cape; EC, Eastern Cape; FS, Free State; KZN, KwaZulu-Natal; GT, Gauteng; NC, Northern Cape; NW, North West; MP, Mpumalanga; LP, Limpopo

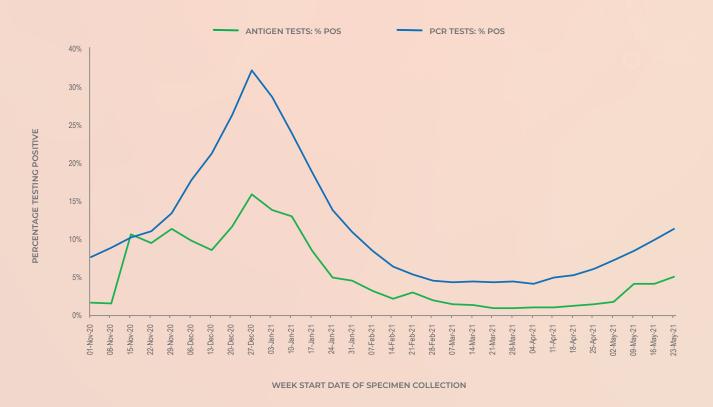


Figure 26. Percentage of laboratory tests positive for SARS-CoV-2 by test type and date of specimen collection, South Africa, 1 November 2020 – 29 May 2021

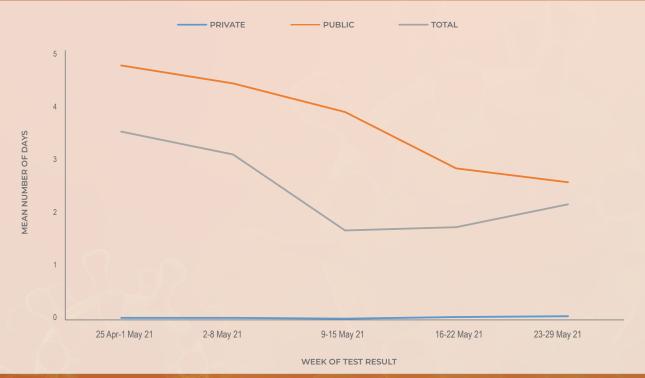


Figure 27. Mean number of days between date of specimen collection and date of test result for antigen tests, by week of test result. South Africa. 25 Apr – 29 May 2021

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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. antigenbased 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 21 (n=233,109) was similar to the previous two weeks. Gauteng (40.2%), Western Cape (14.9%) and KwaZulu-Natal (13.7%) provinces reported the largest number of tests in week 21. The overall testing rate in week 21 was 391 per 100,000 persons; highest in the Northern Cape (973 per 100,000 persons) and lowest in Limpopo (80 per 100,000 persons). Testing rates were similar to the previous week in all provinces. Antigen tests accounted for 17.2% (40,172/233,109) of all tests reported in week 21, 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 21; 1.9 days in the public sector and 0.7 days in the private sector.

The percentage testing positive has increased in recent weeks and in week 21 of 2021 the percentage testing positive was 11.7%, which increased by 1.7% compared to the previous week. The percentage testing positive in week 21 was highest in the Northern Cape (22.5%), Free State (19.7%) and North West (17.1%) provinces. The percentage testing positive was between 10% and 15% in Gauteng, Mpumalanga and Limpopo, and was less than 10% in Western Cape, Eastern Cape and KwaZulu-Natal. Compared to the previous week, the percentage testing positive in week 21 increased in the Western Cape, Eastern Cape, KwaZulu-Natal, Gauteng, Mpumalanga and Limpopo. The percentage testing positive decreased in the Northern Cape, and was unchanged in the Free State and the North West.