

COVID-19 TESTING SUMMARY



NATIONAL INSTITUTE FOR
COMMUNICABLE DISEASES

Division of the National Health Laboratory Service

SOUTH AFRICA WEEK 16 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 April 2021 (Week 16 of 2021).

HIGHLIGHTS

- In the period 1 March 2020 through 24 April 2021, 10,444,309 tests (9,718,783 PCR and 725,526 antigen tests) for SARS-CoV-2 have been performed nationally.
- The number of tests performed in week 16 of 2021 (n=170,165) was similar to the previous few weeks.
- The testing rate in week 16 was 285 per 100,000 persons; highest in the Northern Cape (600 per 100,000 persons) and lowest in Limpopo (71 per 100,000 persons).
- In week 16 the percentage testing positive was 5.3%, slightly higher than the previous week.
- The percentage testing positive in week 16 was highest in the Northern Cape Province (16.6%). The percentage testing positive was 14.4%, 11.2%, 6.8% in the Free State, North West and Mpumalanga, respectively, and was <5% in the Western Cape, Eastern Cape, KwaZulu-Natal, Gauteng and Limpopo in week 16.
- In week 16, compared to the previous week, the percentage testing positive increased in the Northern Cape, Free State and Limpopo provinces. It remained unchanged in the Western Cape, Eastern Cape, KwaZulu-Natal, North West, Gauteng and Mpumalanga provinces.
- Mean laboratory turnaround time for PCR tests in week 16 was 1.1 day; 1.6 days in the public sector and 0.7 days in the private sector.

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Methods

Testing for SARS-CoV-2 began on 28 January 2020 at the NICD and after the first case was confirmed on 5th March 2020, testing was expanded to a larger network of private and NHLS laboratories. Laboratory testing was conducted for people meeting the case definition for persons under investigation (PUI). This definition was updated several times over the reporting period but at different times included (i) symptomatic individuals seeking testing, (ii) hospitalised individuals for whom testing was done, (iii) individuals in high-risk occupations, (iv) individuals in outbreak settings, and (v) individuals identified through community screening and testing (CST) programmes which were implemented in April 2020 and was discontinued from the week beginning 17th May. CST was implemented differently in different provinces, and ranged from mass screening approaches (including asymptomatic individuals) to screening of individuals in contact with a confirmed case to targeted testing of clusters of cases. Respiratory specimens were submitted to testing laboratories. Testing was performed using reverse transcriptase real-time PCR, which detects SARS-CoV-2 viral genetic material. Laboratories used any one of several in-house and commercial PCR assays to test for the presence of SARS-CoV-2 RNA. Testing for SARS-CoV-2 using rapid antigen-based tests was implemented towards the end of October 2020. Results of reported rapid antigen-based tests are included in this report, however data are incomplete and efforts are ongoing to improve data completeness.

Test results were automatically fed into a data warehouse after result authorisation. We excluded specimens collected outside South Africa and duplicate entries of the same test for an individual. From week 48 of 2020 onwards, test data were reported from the Notifiable Medical Conditions Surveillance System (NMCCSS). 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 conducted between 1 March 2020 (week 10 of 2020), the week when the first case of COVID-19 was confirmed, and 24 April 2021 (week 16 of 2021).

Testing volumes and proportion testing positive

From 1 March 2020 through 24 April 2021, 10,444,309 for SARS-CoV-2 tests were performed; 9,718,783 PCR and 725,526 antigen tests. The number of tests performed increased weekly from week 10 of 2020, with the highest number of tests performed during the first wave occurring in week 28 of 2020 (n=307,911), 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 performed in week 1 of 2021 (n=498,649). In week 16 of 2021, 170,165 tests were performed. Weekly testing volumes have remained relatively consistent since week 6 of 2021. 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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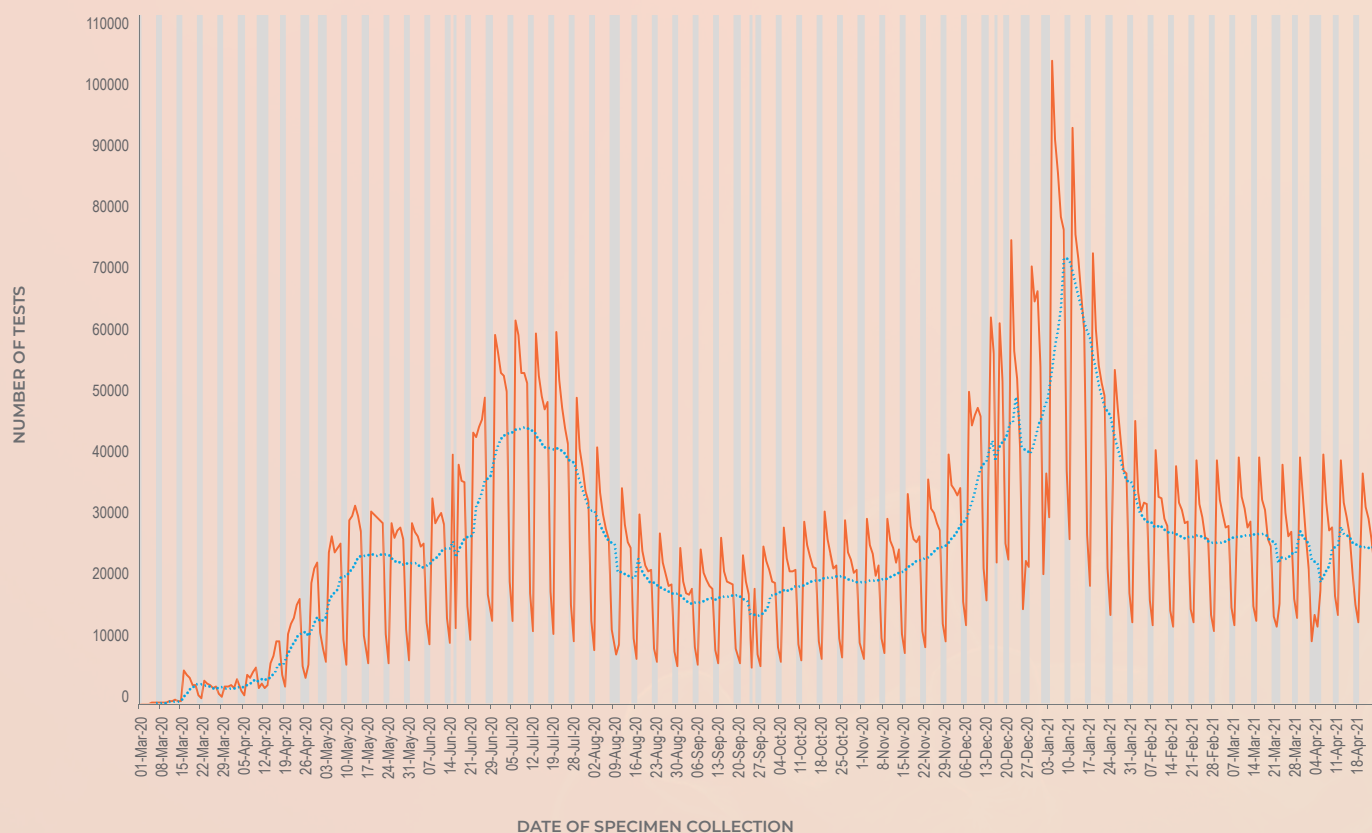


Figure 1. Number of SARS-CoV-2 tests conducted by date of specimen collection, South Africa, 1 March 2020 – 24 April 2021. Blue dotted line shows the 7-day moving average of the number of tests conducted. Grey bars highlight weekend days and public holidays.

The overall percentage testing positive from week 10 of 2020 through week 16 of 2021 was 15.9% (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 34.7% in week 53 of 2020. The percentage testing positive in week 16 of 2021 was 5.3%, slightly higher than observed in the previous week (4.9%, $P < 0.001$) (Figure 2).

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Table 1. Weekly number of SARS-CoV-2 tests conducted and positive tests, South Africa, 1 March 2020 – 24 April 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	26298 (0.3)	796	3.0
16	12-Apr-20	43752 (0.4)	1295	3.0
17	19-Apr-20	79176 (0.8)	2177	2.7
18	26-Apr-20	93810 (0.9)	3205	3.4
19	03-May-20	142707 (1.4)	6018	4.2
20	10-May-20	165374 (1.6)	8092	4.9
21	17-May-20	166542 (1.6)	11379	6.8
22	24-May-20	156136 (1.5)	12967	8.3
23	31-May-20	153568 (1.5)	15079	9.8
24	07-Jun-20	173901 (1.7)	22361	12.9
25	14-Jun-20	186078 (1.8)	32649	17.5
26	21-Jun-20	252093 (2.4)	55049	21.8
27	28-Jun-20	302742 (2.9)	75309	24.9
28	05-Jul-20	307911 (2.9)	86037	27.9
29	12-Jul-20	285599 (2.7)	84927	29.7
30	19-Jul-20	270892 (2.6)	78635	29.0
31	26-Jul-20	216390 (2.1)	58393	27.0
32	02-Aug-20	179571 (1.7)	40996	22.8
33	09-Aug-20	141103 (1.4)	26265	18.6
34	16-Aug-20	135011 (1.3)	21377	15.8
35	23-Aug-20	123333 (1.2)	16331	13.2
36	30-Aug-20	112761 (1.1)	12790	11.3
37	06-Sep-20	116996 (1.1)	11953	10.2
38	13-Sep-20	120712 (1.2)	12011	10.0
39	20-Sep-20	98817 (0.9)	10098	10.2
40	27-Sep-20	123061 (1.2)	11008	8.9
41	04-Oct-20	131042 (1.3)	11778	9.0
42	11-Oct-20	137971 (1.3)	12077	8.8
43	18-Oct-20	142164 (1.4)	12066	8.5
44	25-Oct-20	135844 (1.3)	11478	8.4
45	01-Nov-20	138817 (1.3)	12135	8.7
46	08-Nov-20	147002 (1.4)	14844	10.1
47	15-Nov-20	160641 (1.5)	18762	11.7
48	22-Nov-20	175684 (1.7)	22051	12.6
49	29-Nov-20	203138 (1.9)	30766	15.1
50	06-Dec-20	267887 (2.6)	53310	19.9
51	13-Dec-20	294299 (2.8)	68567	23.3
52	20-Dec-20	284202 (2.7)	81946	28.8
53	27-Dec-20	333467 (3.2)	115680	34.7
1	03-Jan-21	498649 (4.8)	150711	30.2
2	10-Jan-21	416330 (4.0)	104652	25.1

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3	17-Jan-21	326627 (3.1)	63209	19.4
4	24-Jan-21	248837 (2.4)	34607	13.9
5	31-Jan-21	202879 (1.9)	22314	11.0
6	07-Feb-21	191874 (1.8)	16436	8.6
7	14-Feb-21	186320 (1.8)	12118	6.5
8	21-Feb-21	180416 (1.7)	10348	5.7
9	28-Feb-21	185124 (1.8)	8652	4.7
10	07-Mar-21	188645 (1.8)	8297	4.4
11	14-Mar-21	181531 (1.7)	8109	4.5
12	21-Mar-21	167692 (1.6)	7315	4.4
13	28-Mar-21	158476 (1.5)	7016	4.4
14	04-Apr-21	175395 (1.7)	7206	4.1
15	11-Apr-21	178662 (1.7)	8730	4.9
16	18-Apr-21	170165 (1.6)	8942	5.3
Total		10444309 (100.0)	1663397	15.9

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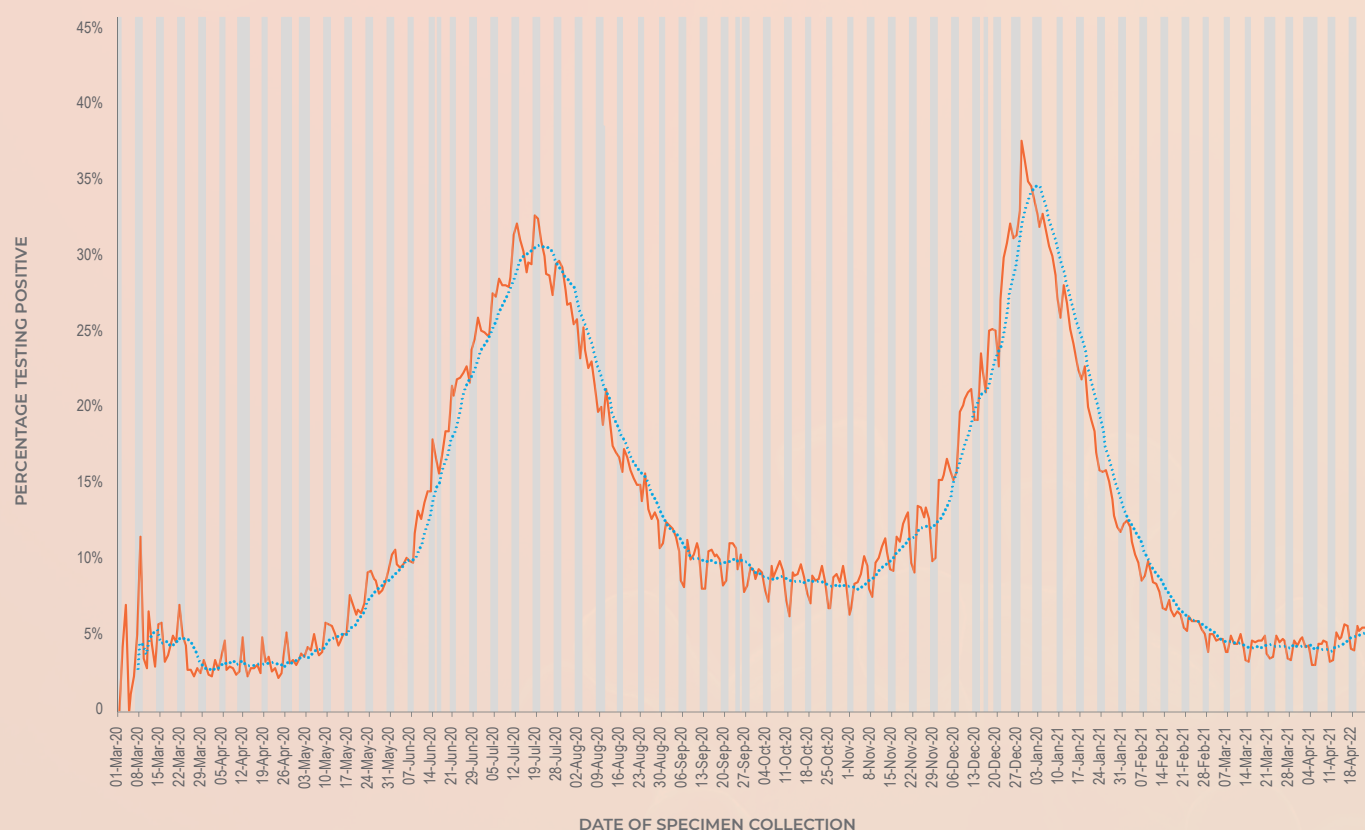


Figure 2. Percentage of tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 1 March 2020 – 24 April 2021. Blue dotted line shows the 7-day moving average of the percentage testing positive. Grey bars highlight weekend days and public holidays.

Testing in private and public sectors

From 1 March 2020 through 24 April 2021, 4,579,479 tests were conducted in the public sector, with 16.5% testing positive. Over this same period, the private sector conducted 5,864,830 tests, with 15.5% testing positive (Table 2). Overall, the public sector has conducted 43.8% of tests and accounted for 45.4% 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 (35.1%) and private sector (34.4%). From week 15 to week 16 of 2021, the percentage testing positive increased in the public sector (5.2% in week 15 to 6.0% in week 16, $P < 0.001$) and stayed the same

in the private sector (4.6% in week 15 and 4.7% in week 16, $P < 0.369$). In week 16 of 2021 the percentage testing positive was higher in the public sector (6.0%) compared to the private sector (4.7%) ($P < 0.001$).

The mean turnaround time for PCR tests performed in week 16 of 2021 was 1.1 days; 1.6 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 Free State Province in week 16 (Figure 4). Twenty-three of the 28 (82.1%) NHLS laboratories performing PCR testing for SARS-CoV-2 had turnaround times ≤ 2 days in week 16 (Figure 5).

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

Week number	Week beginning	Public sector		Private sector		Public sector percentage of		Ratio of PTP ^a
		Tests	Cases n (%)	Tests	Positive tests n (%)	Tests (%)	Positive tests (%)	
10	01-Mar-20	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)	14563	379 (2.6)	44.6	52.4	1.365
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)	48369	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)	67894	4348 (6.4)	59.2	61.8	1.113
22	24-May-20	77597	6411 (8.3)	78539	6556 (8.3)	49.7	49.4	0.990
23	31-May-20	63944	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)	124929	20667 (16.5)	32.9	36.7	1.184
26	21-Jun-20	90454	20425 (22.6)	161639	34624 (21.4)	35.9	37.1	1.054
27	28-Jun-20	106370	27244 (25.6)	196372	48065 (24.5)	35.1	36.2	1.046
28	05-Jul-20	117727	32239 (27.4)	190184	53798 (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	105215	30319 (28.8)	165677	48316 (29.2)	38.8	38.6	0.988
31	26-Jul-20	81246	22782 (28.0)	135144	35611 (26.4)	37.5	39.0	1.064
32	02-Aug-20	70566	16996 (24.1)	109005	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)	78873	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	45421	6096 (13.4)	67340	6694 (9.9)	40.3	47.7	1.350
37	06-Sep-20	51055	6421 (12.6)	65941	5532 (8.4)	43.6	53.7	1.499
38	13-Sep-20	53706	6547 (12.2)	67006	5464 (8.2)	44.5	54.5	1.495
39	20-Sep-20	44841	5530 (12.3)	53976	4568 (8.5)	45.4	54.8	1.457
40	27-Sep-20	48628	5568 (11.5)	74433	5440 (7.3)	39.5	50.6	1.567
41	04-Oct-20	50434	5689 (11.3)	80608	6089 (7.6)	38.5	48.3	1.493
42	11-Oct-20	53451	5702 (10.7)	84520	6375 (7.5)	38.7	47.2	1.414
43	18-Oct-20	56121	6044 (10.8)	86043	6022 (7.0)	39.5	50.1	1.539
44	25-Oct-20	51284	5721 (11.2)	84560	5757 (6.8)	37.8	49.8	1.639
45	01-Nov-20	52996	6061 (11.4)	85821	6074 (7.1)	38.2	49.9	1.616
46	08-Nov-20	58911	8097 (13.7)	88091	6747 (7.7)	40.1	54.5	1.795
47	15-Nov-20	67581	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	81263	15730 (19.4)	121875	15036 (12.3)	40.0	51.1	1.569
50	06-Dec-20	107883	24715 (22.9)	160004	28595 (17.9)	40.3	46.4	1.282
51	13-Dec-20	117059	29807 (25.5)	177240	38760 (21.9)	39.8	43.5	1.164
52	20-Dec-20	109688	34122 (31.1)	174514	47824 (27.4)	38.6	41.6	1.135
53	27-Dec-20	150793	52885 (35.1)	182674	62795 (34.4)	45.2	45.7	1.020
1	03-Jan-21	234572	70764 (30.2)	264077	79947 (30.3)	47.0	47.0	0.996
2	10-Jan-21	202466	52836 (26.1)	213864	51816 (24.2)	48.6	50.5	1.077
3	17-Jan-21	164969	34425 (20.9)	161658	28784 (17.8)	50.5	54.5	1.172
4	24-Jan-21	122666	18974 (15.5)	126171	15633 (12.4)	49.3	54.8	1.248
5	31-Jan-21	99072	12027 (12.1)	103807	10287 (9.9)	48.8	53.9	1.225
6	07-Feb-21	90707	8483 (9.4)	101167	7953 (7.9)	47.3	51.6	1.190
7	14-Feb-21	85024	6623 (7.8)	101296	5495 (5.4)	45.6	54.7	1.436
8	21-Feb-21	81238	5766 (7.1)	99178	4582 (4.6)	45.0	55.7	1.536
9	28-Feb-21	86567	4654 (5.4)	98557	3998 (4.1)	46.8	53.8	1.325
10	07-Mar-21	90974	4564 (5.0)	97671	3733 (3.8)	48.2	55.0	1.313
11	14-Mar-21	89093	4410 (4.9)	92438	3699 (4.0)	49.1	54.4	1.237
12	21-Mar-21	74714	3436 (4.6)	92978	3879 (4.2)	44.6	47.0	1.102

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13	28-Mar-21	68877	3429 (5.0)	89599	3587 (4.0)	43.5	48.9	1.244
14	04-Apr-21	75478	3298 (4.4)	99917	3908 (3.9)	43.0	45.8	1.117
15	11-Apr-21	82336	4276 (5.2)	96326	4454 (4.6)	46.1	49.0	1.123
16	18-Apr-21	69384	4196 (6.0)	100781	4746 (4.7)	40.8	46.9	1.284
Total		4579479	755287 (16.5)	5864830	908110 (15.5)	43.8	45.4	1.065

^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)

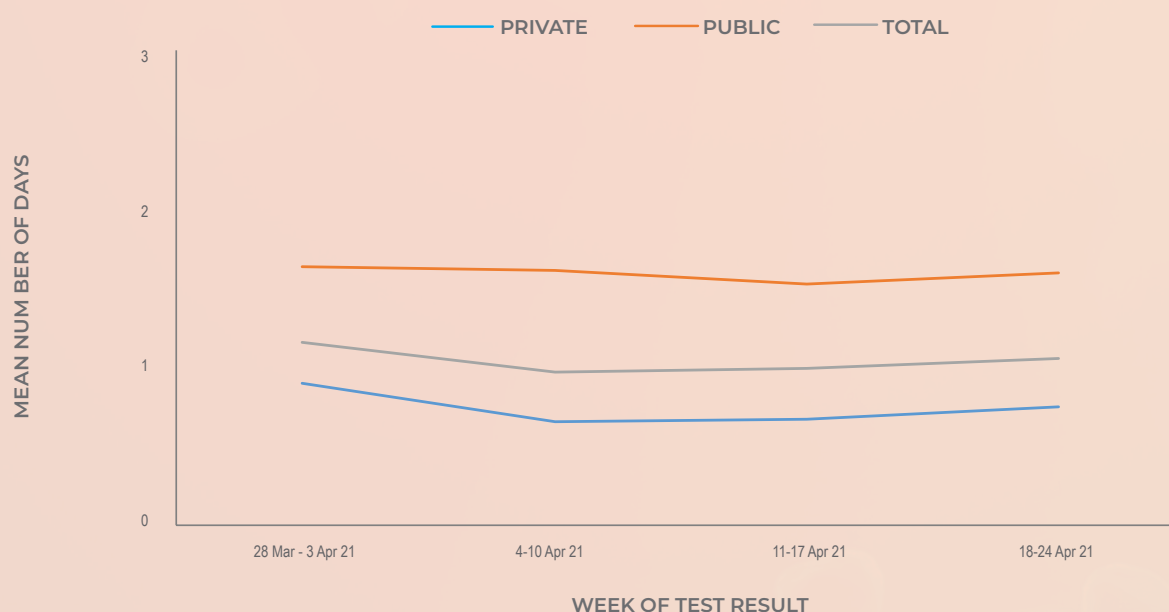


Figure 3. Mean number of days between date of specimen collection and date of test result for PCR tests, by week of test result, South Africa, 28 March – 24 April 2021

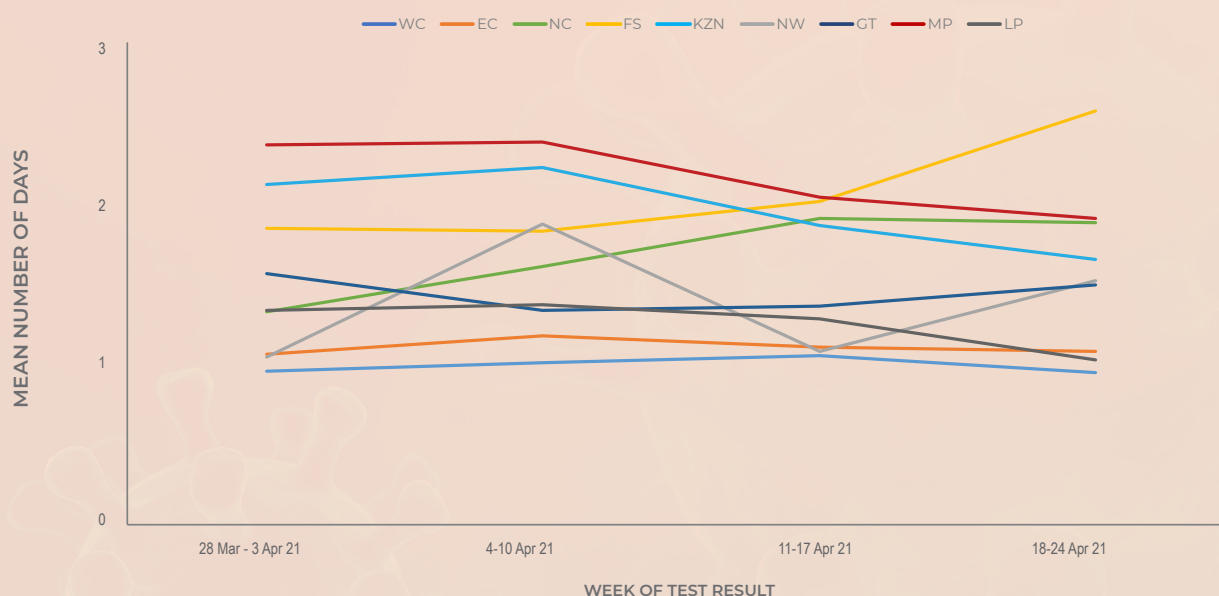


Figure 4. Mean number of days between date of specimen collection and date of test result for PCR tests, by week of test result and province, public sector, South Africa, 28 March – 24 April 2021. WC, Western Cape; EC, Eastern Cape; FS, Free State; KZN, KwaZulu-Natal; GT, Gauteng; NC, Northern Cape; NW, North West; MP, Mpumalanga; LP, Limpopo

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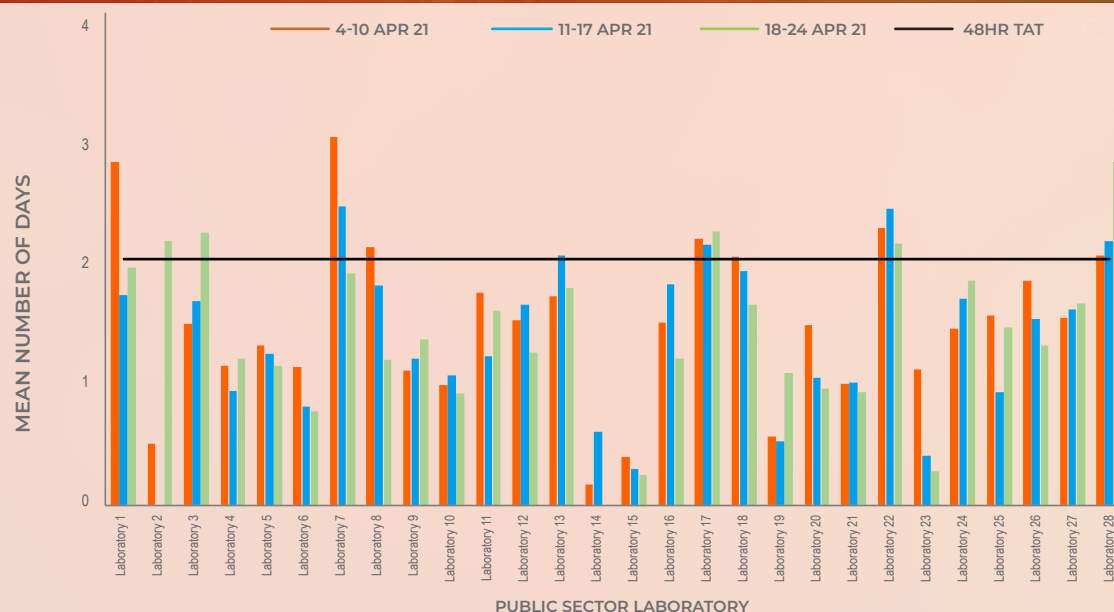


Figure 5. Mean number of days between date of specimen collection and date of test result for PCR tests, by public sector laboratory, 4 April - 24 April 2021. The horizontal black line indicates 48-hour turnaround time (TAT).

Testing by province

The majority of tests were performed in Gauteng (34.2%), KwaZulu-Natal (18.2%) and Western Cape (16.5%) provinces in week 16 of 2021 (Table 3). The overall testing rate decreased from 300 per 100,000 persons in week 15 to 285 per 100,000 in week 16. The testing rate ranged from 600 per 100,000 persons in the Northern Cape to 71 per 100,000 persons in Limpopo (Figure 6). Increases in testing rates were observed in the Western Cape, Gauteng and Limpopo provinces in the past week.

The percentage testing positive in week 16 was highest in the Northern Cape province (16.6%) (Figure 7 and Table 3). The percentage testing positive was

14.4%, 11.2%, 6.8% in the Free State, North West and Mpumalanga, respectively, and was <5% in the Western Cape, Eastern Cape, KwaZulu-Natal, Gauteng and Limpopo in week 16. Compared to the previous week, the percentage testing positive in week 16 increased in the Northern Cape ($P<0.001$), Free State ($P<0.001$) and Limpopo ($P=0.020$) provinces. The percentage testing positive was unchanged in the Western Cape ($P=0.139$), Eastern Cape ($P=0.776$), KwaZulu-Natal ($P=0.415$), North West ($P=0.469$), Gauteng ($P=0.733$) and Mpumalanga ($P=0.402$) provinces. The percentage testing positive was higher than the national average, not weighted for population size, in the Northern Cape, Free State, North West and Mpumalanga (Figure 7).

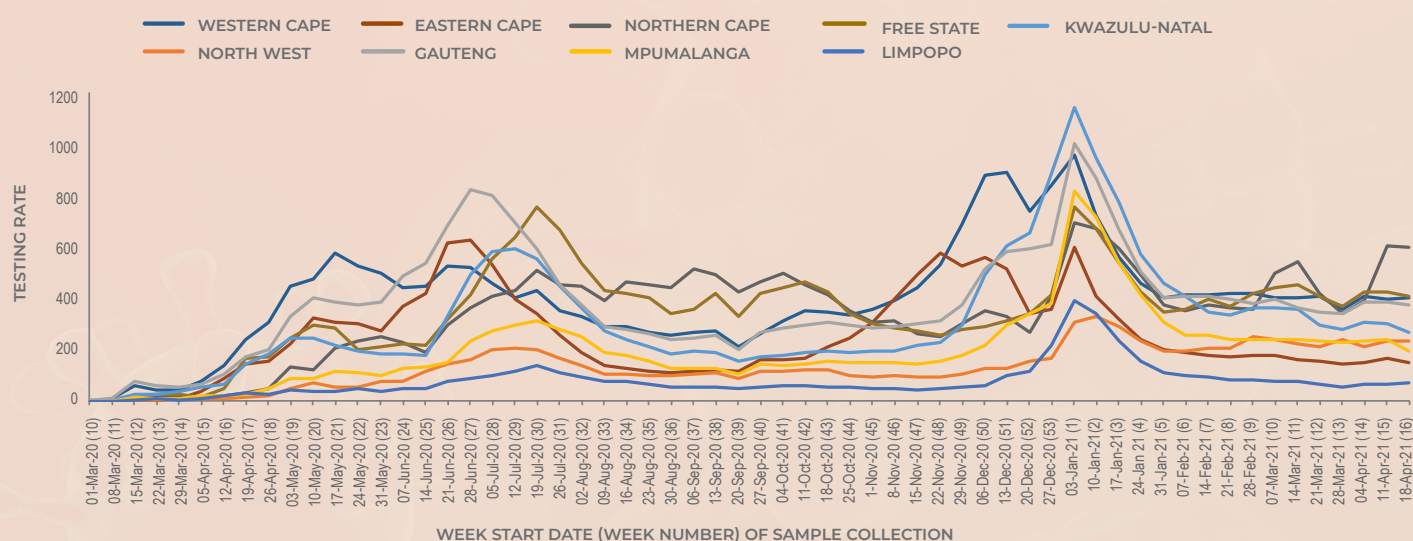


Figure 6. Testing rate per 100,000 persons by province and week of specimen collection, South Africa, 1 March 2020 – 24 April 2021

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Table 3. Weekly number of tests performed and positive tests, by province, South Africa, 4 April – 24 April 2021

Province	Population ^a	4-10 Apr 2021		11-17 Apr 2021		18-24 Apr 2021		Tests per 100,000 persons	Change in percentage positive ^b
		No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)		
Western Cape	7005741	28701	1009 (3.5)	27926	1041 (3.7)	28075	981 (3.5)	401	-0.2%
Eastern Cape	6734001	10202	188 (1.8)	11137	160 (1.4)	10211	142 (1.4)	152	0.0%
Northern Cape	1292786	5029	548 (10.9)	7771	1047 (13.5)	7760	1287 (16.6)	600	3.1%
Free State	2928903	12350	997 (8.1)	12502	1440 (11.5)	11920	1721 (14.4)	407	2.9%
KwaZulu-Natal	11531628	35512	623 (1.8)	34638	664 (1.9)	30922	566 (1.8)	268	-0.1%
North West	4108816	8789	791 (9.0)	9587	1039 (10.8)	9656	1078 (11.2)	235	0.3%
Gauteng	15488137	59707	2092 (3.5)	59767	2391 (4.0)	58199	2351 (4.0)	376	0.0%
Mpumalanga	4679786	10975	800 (7.3)	11166	798 (7.1)	9059	620 (6.8)	194	-0.3%
Limpopo	5852553	3873	143 (3.7)	3990	143 (3.6)	4149	191 (4.6)	71	1.0%
Unknown		257	15 (5.8)	178	7 (3.9)	214	5 (2.3)		
Total	59622350	175395	7206 (4.1)	178662	8730 (4.9)	170165	8942 (5.3)	285	0.4%

^a 2020 Mid-year population Statistics SA

^b Current week compared to previous week

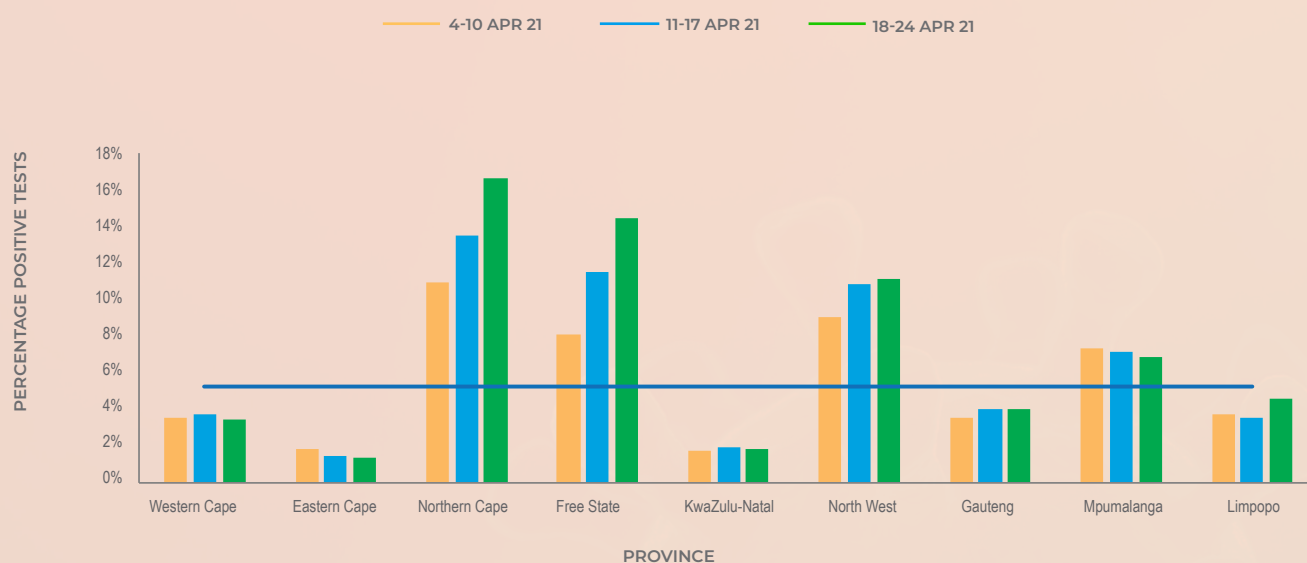


Figure 7. Weekly percentage testing positive, by province, South Africa, 4 April – 24 April 2021. The horizontal blue line shows the national mean for week 16, beginning 18 April 2021

Testing in the public sector

In the public sector, the percentage testing positive increased in the past week (5.2% in week 15 to 6.0% in week 16, $P < 0.001$) (Table 4). The percentage testing positive in week 16 was highest in the Free State

(15.4%), Northern Cape (15.1%) and North West (13.9%) 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 and Mpumalanga provinces (Figure 8).

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Table 4. Weekly number of tests conducted and positive tests in the public sector, by province, South Africa, 4 April – 24 April 2021

Province	4-10 Apr 2021		11-17 Apr 2021		18-24 Apr 2021	
	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)
Western Cape	9015	333 (3.7)	9754	353 (3.6)	7988	316 (4.0)
Eastern Cape	5902	65 (1.1)	7015	65 (0.9)	6022	54 (0.9)
Northern Cape	3103	319 (10.3)	5356	641 (12.0)	5267	796 (15.1)
Free State	7100	579 (8.2)	7148	821 (11.5)	5697	877 (15.4)
KwaZulu-Natal	23202	442 (1.9)	23220	412 (1.8)	19632	374 (1.9)
North West	3845	397 (10.3)	4352	631 (14.5)	4091	569 (13.9)
Gauteng	16417	711 (4.3)	18776	947 (5.0)	16072	868 (5.4)
Mpumalanga	5794	414 (7.1)	5516	359 (6.5)	3552	269 (7.6)
Limpopo	1100	38 (3.5)	1194	47 (3.9)	1057	73 (6.9)
Unknown	0	0 (0.0)	5	0 (0.0)	6	0 (0.0)
Total	75478	3298 (4.4)	82336	4276 (5.2)	69384	4196 (6.0)

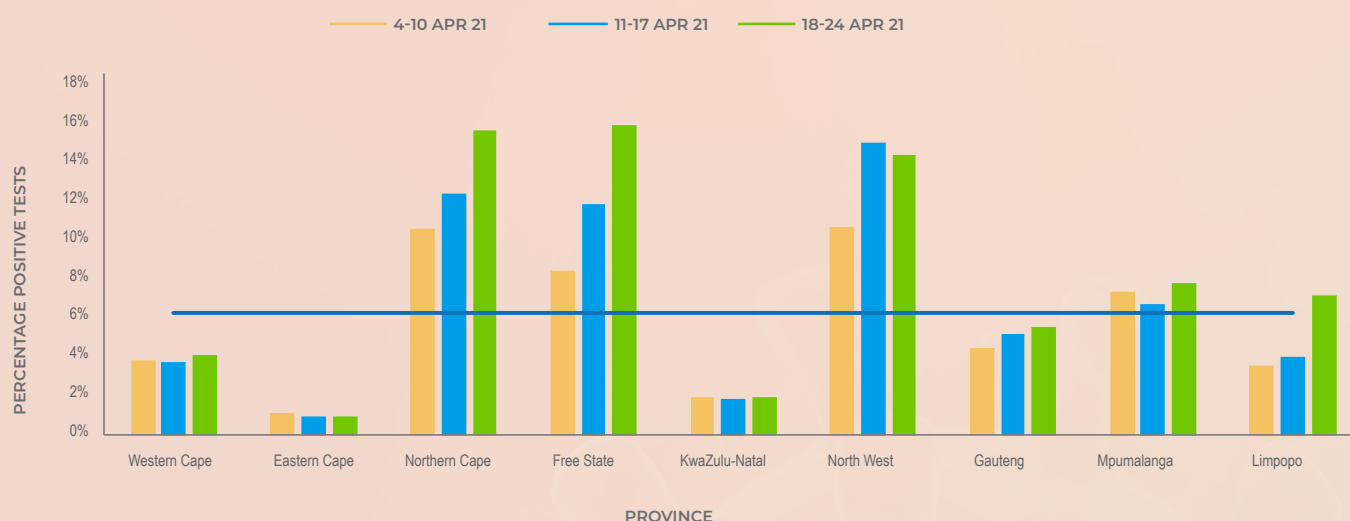


Figure 8. Weekly percentage testing positive in the public sector, by province, South Africa, 4 April – 24 April 2021. The horizontal blue line shows the national mean for week 16 of 2021, beginning 18 April 2021.

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 18-24 April 2021, with the highest

proportion testing positive nationally.

The distribution of public sector facilities in Table 5.1 follows the pattern from previous recent weeks. Nine of the 25 facilities showing the highest PTP are in the Free State, eight in the Northern Cape, and five in the North West.

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

Facility Name	Province	Tests	PTP (95% CI)
Facility 1	Free State	40	0.525 (0.370;0.680)
Facility 2	Mpumalanga	48	0.438 (0.297;0.578)
Facility 3	Free State	28	0.429 (0.245;0.612)
Facility 4	Northern Cape	45	0.422 (0.278;0.567)
Facility 5	Free State	43	0.372 (0.228;0.517)
Facility 6	North West	148	0.372 (0.294;0.449)
Facility 7	North West	48	0.354 (0.219;0.489)
Facility 8	North West	53	0.340 (0.212;0.467)
Facility 9	Northern Cape	25	0.320 (0.137;0.503)
Facility 10	Northern Cape	126	0.317 (0.236;0.399)
Facility 11	Northern Cape	38	0.316 (0.168;0.464)
Facility 12	Northern Cape	38	0.316 (0.168;0.464)
Facility 13	Free State	269	0.301 (0.246;0.356)
Facility 14	Northern Cape	37	0.297 (0.150;0.445)
Facility 15	Western Cape	27	0.296 (0.124;0.469)
Facility 16	Northern Cape	113	0.292 (0.208;0.376)
Facility 17	North West	172	0.291 (0.223;0.359)
Facility 18	Free State	31	0.290 (0.131;0.450)
Facility 19	Gauteng	35	0.286 (0.136;0.435)
Facility 20	Free State	42	0.286 (0.149;0.422)
Facility 21	Northern Cape	56	0.286 (0.167;0.404)
Facility 22	Free State	32	0.281 (0.125;0.437)
Facility 23	Free State	137	0.277 (0.202;0.352)
Facility 24	North West	40	0.275 (0.137;0.413)
Facility 25	Free State	51	0.275 (0.152;0.397)

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 18-24 April 2021, with the highest proportion testing positive nationally. Private-sector facilities with high proportions testing positive are concentrated in the Free State (8), with five in Gauteng and four each in the North West and Northern Cape.

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

Facility Name	Province	Tests	PTP (95% CI)
Facility 1	Northern Cape	850	0.279 (0.249;0.309)
Facility 2	KwaZulu-Natal	29	0.276 (0.113;0.439)
Facility 3	Northern Cape	88	0.261 (0.170;0.353)
Facility 4	Gauteng	143	0.238 (0.168;0.308)
Facility 5	North West	30	0.233 (0.082;0.385)
Facility 6	Northern Cape	608	0.229 (0.195;0.262)
Facility 7	North West	79	0.228 (0.135;0.320)
Facility 8	Northern Cape	62	0.226 (0.122;0.330)
Facility 9	North West	41	0.220 (0.093;0.346)
Facility 10	Free State	33	0.212 (0.073;0.352)
Facility 11	Free State	93	0.204 (0.122;0.286)
Facility 12	Gauteng	100	0.200 (0.122;0.278)
Facility 13	Free State	223	0.188 (0.137;0.240)
Facility 14	Gauteng	463	0.181 (0.146;0.217)
Facility 15	Mpumalanga	116	0.181 (0.111;0.251)
Facility 16	KwaZulu-Natal	40	0.175 (0.057;0.293)
Facility 17	Gauteng	197	0.173 (0.120;0.225)
Facility 18	Free State	362	0.171 (0.132;0.210)
Facility 19	Free State	358	0.170 (0.131;0.209)
Facility 20	Free State	83	0.169 (0.088;0.249)
Facility 21	Western Cape	66	0.167 (0.077;0.257)
Facility 22	North West	201	0.164 (0.113;0.215)
Facility 23	Free State	99	0.162 (0.089;0.234)
Facility 24	Gauteng	45	0.156 (0.050;0.261)
Facility 25	Free State	59	0.153 (0.061;0.244)

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 81% of private testing facilities) in the week from 18-24 April 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 conducted 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 Table 6. As proportions testing positive continue to decline, districts showing high PTP remain largely as in previous recent weeks: Northern Cape (12), Free State (6) and North West (5) account for 23 of the 25 districts.

One district (Phokwane in the Northern Cape) showed a PTP in the current week in excess of 30%. PTP exceeded 20% in a further 8 districts (11 in the previous week). Significant increases were observed in two districts in the Northern Cape (Phokwane, and Sol Plaatjie).

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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 18 - 24 April 2021

Health district or sub-district	Province	PTP (95% CI)	Previous week
Phokwane	Northern Cape	0.316 (0.224-0.408)	0.116 (0.062-0.170)
!Kheis	Northern Cape	0.277 (0.144-0.411)	0.123 (0.051-0.195)
Hantam	Northern Cape	0.269 (0.198-0.340)	0.248 (0.197-0.299)
Camagara	Northern Cape	0.261 (0.190-0.332)	...
Ditsobotla	North West	0.255 (0.146-0.364)	0.221 (0.141-0.302)
Maquassi Hills	North West	0.254 (0.208-0.300)	0.233 (0.200-0.265)
Dikgatlong	Northern Cape	0.234 (0.156-0.312)	0.205 (0.114-0.296)
Sol Plaatjie	Northern Cape	0.233 (0.217-0.249)	0.154 (0.137-0.170)
Dihlabeng	Free State	0.208 (0.182-0.235)	0.210 (0.182-0.239)
Ngwathe	Free State	0.199 (0.092-0.305)	0.159 (0.097-0.221)
Metsimaholo	Free State	0.195 (0.153-0.238)	0.217 (0.168-0.266)
Joe Morolong	Northern Cape	0.194 (0.107-0.282)	0.181 (0.125-0.237)
Maluti a Phofung	Free State	0.192 (0.156-0.228)	0.196 (0.169-0.222)
Ga-Segonyana	Northern Cape	0.189 (0.139-0.239)	0.238 (0.192-0.285)
Siyathemba	Northern Cape	0.189 (0.154-0.224)	0.179 (0.148-0.209)
Mafikeng	North West	0.172 (0.149-0.195)	0.188 (0.168-0.209)
Mohokare	Free State	0.170 (0.100-0.239)	0.091 (0.053-0.130)
Lekwa	Mpumalanga	0.170 (0.126-0.213)	0.232 (0.186-0.278)
Ramotshere Moiloa	North West	0.164 (0.132-0.197)	0.176 (0.152-0.200)
Nala	Free State	0.163 (0.106-0.220)	0.210 (0.166-0.255)
Emthanjeni	Northern Cape	0.163 (0.091-0.234)	0.079 (0.042-0.116)
Thembelihle	Northern Cape	0.162 (0.074-0.250)	0.226 (0.151-0.300)
Naledi	North West	0.161 (0.119-0.204)	0.199 (0.097-0.301)
Makhuduthamaga	Limpopo	0.159 (0.030-0.287)	0.047 (0.000-0.112)
Mier	Northern Cape	0.159 (0.087-0.230)	0.128 (0.060-0.196)

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

The data for 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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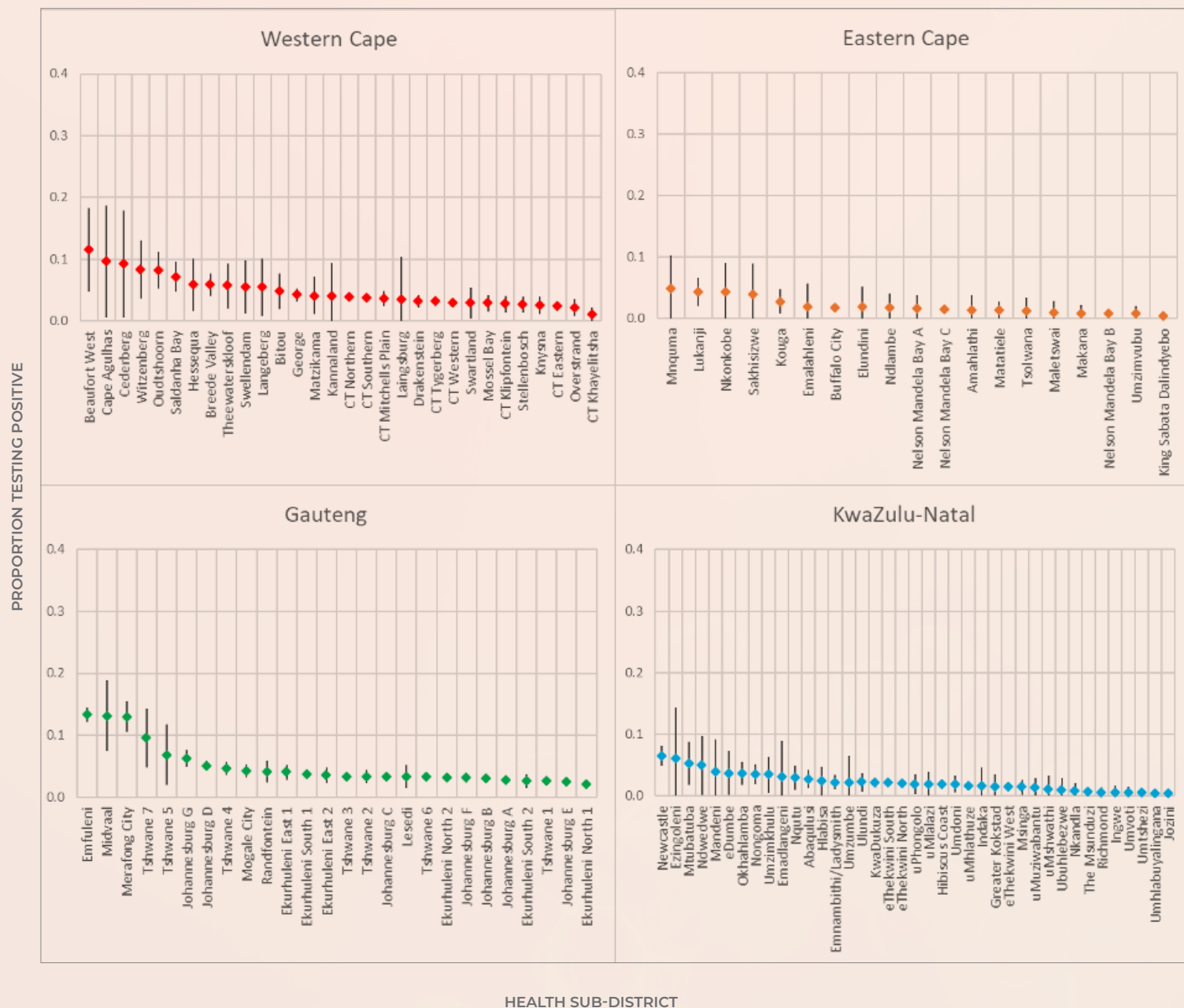


Figure 9.1 Proportions testing positive by health sub-district in the Western Cape, Eastern Cape, Gauteng and KwaZulu-Natal provinces based on public and private sector data for the week of 18 - 24 April 2021.

COVID-19 TESTING SUMMARY

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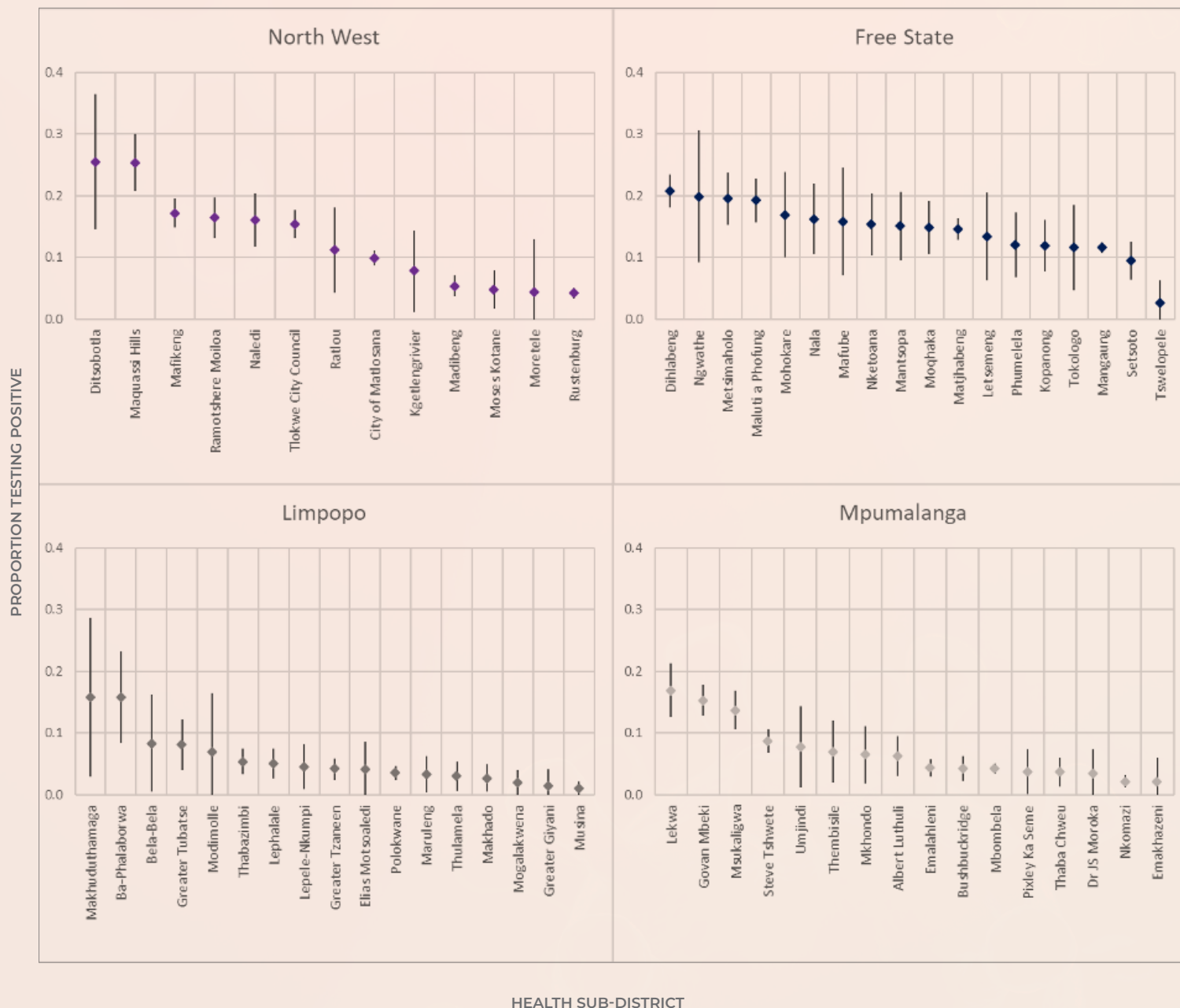


Figure 9.2 Proportions testing positive by health sub-district in the North West, Free State, Limpopo and Mpumalanga provinces based on public and private sector data for the week of 18 - 24 April 2021.

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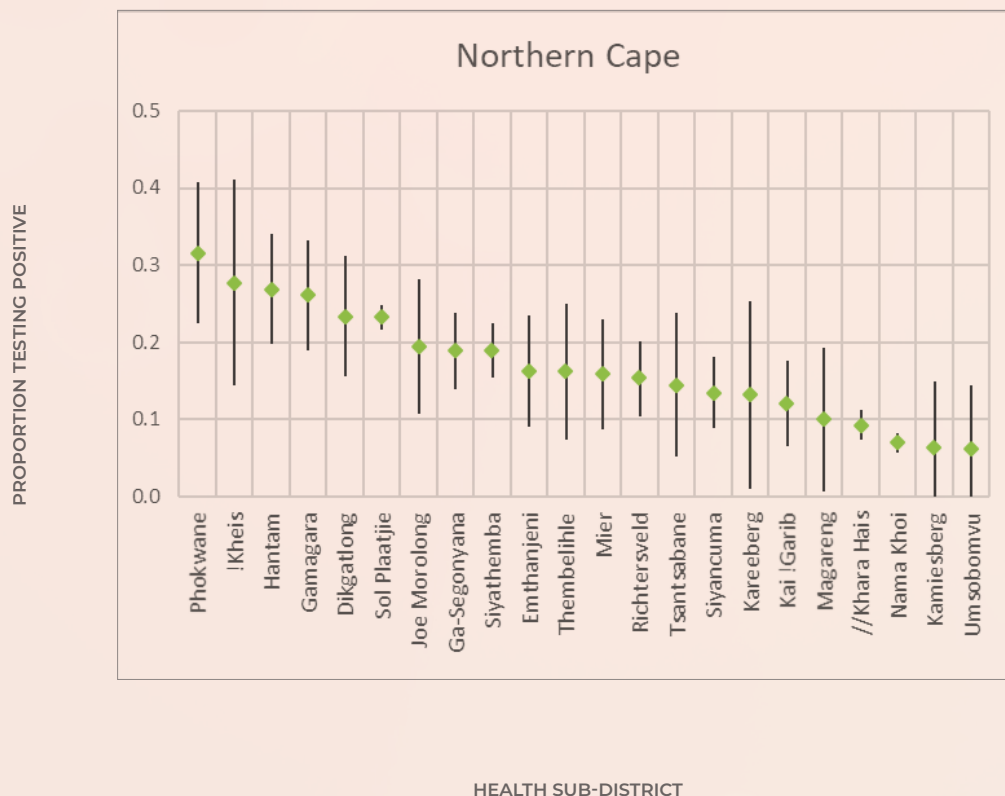


Figure 9.3 Proportions testing positive by health sub-districts in the Northern Cape Province based on public and private sector data for the week of 18 - 24 April 2021.

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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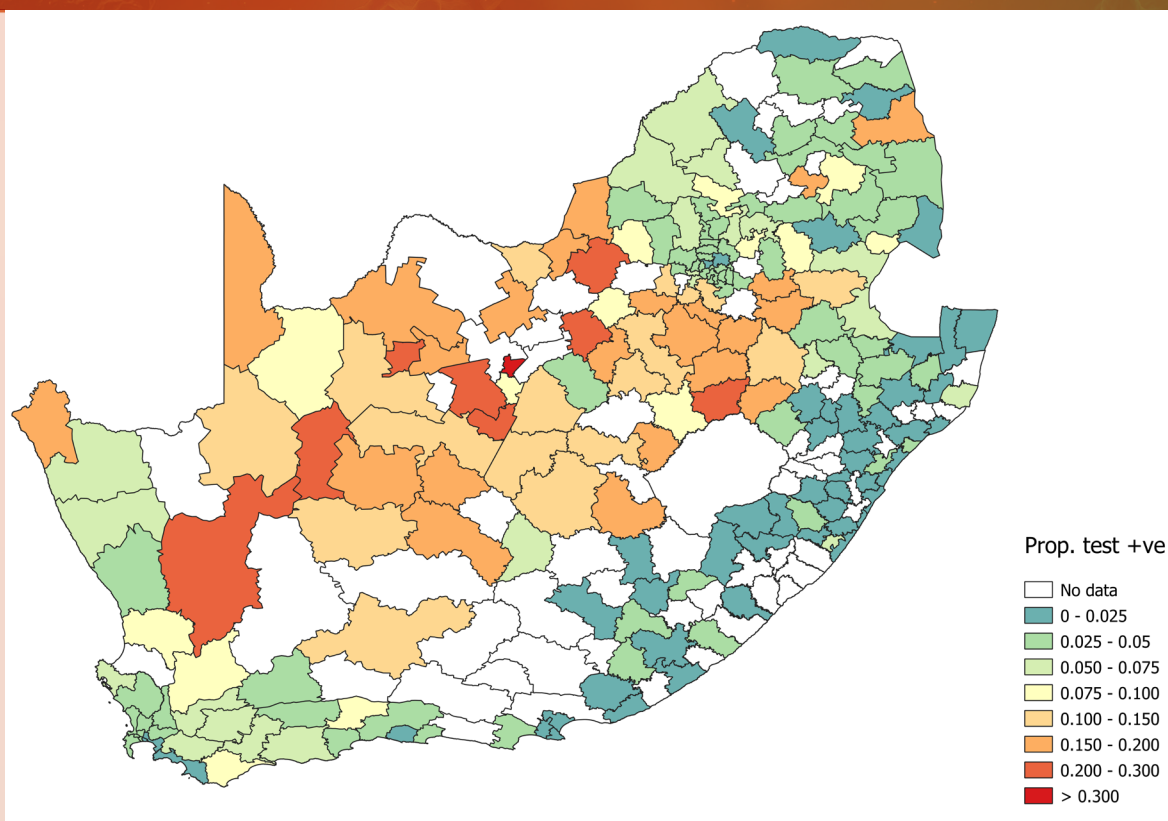


Figure 10. Proportion testing positive by health sub-district in South Africa for the week of 18 - 24 April 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

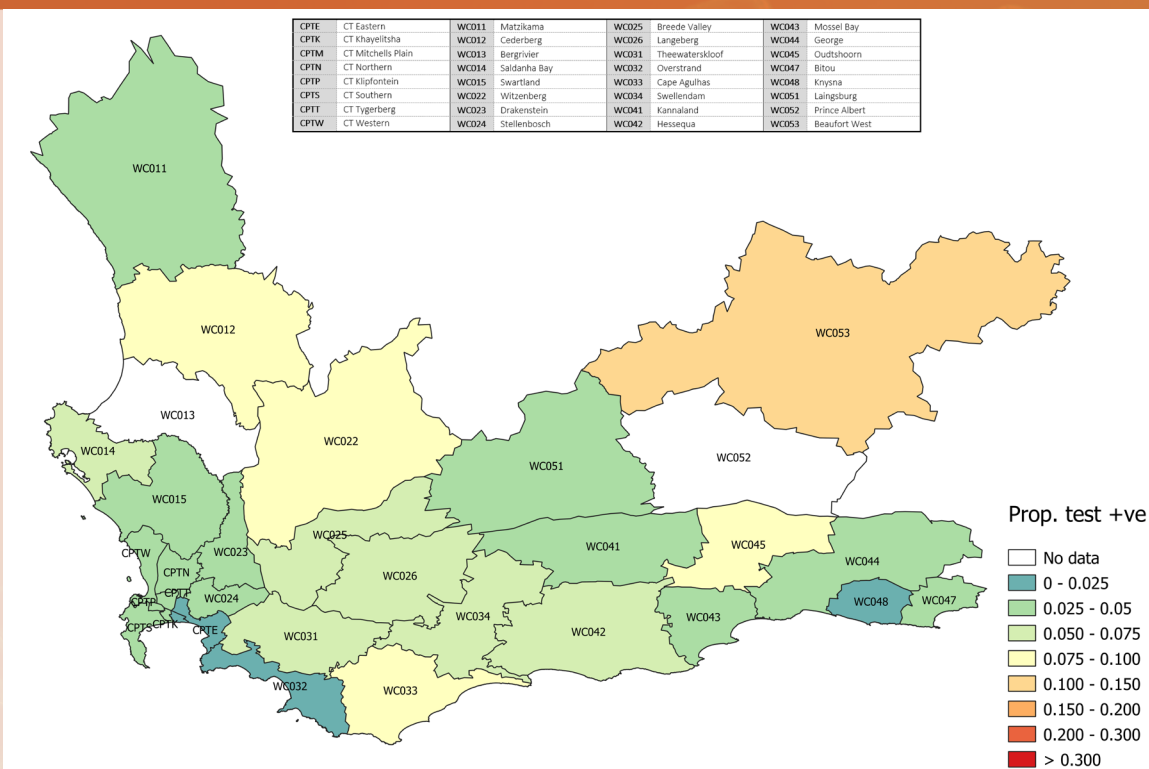


Figure 11. Proportion testing positive by health sub-district in the Western Cape Province for the week of 18 - 24 April 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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BUF	Buffalo City	EC122	Minquma	EC135	Intsika Yethu	EC155	Nyandeni
EC101	Camdeboo	EC133	Great Kell	EC136	Emalahleni	EC156	Mhlontlo
EC102	Blue Crane Route	EC134	Amahlathi	EC137	Engobo	EC157	King Sabata Dalindyebo
EC103	Ikweri	EC136	Ngqushwa	EC138	Sakhisizwe	EC441	Matatiele
EC104	Makana	EC127	Nkomkobe	EC141	Elundini	EC442	Umtzimvubu
EC105	Ndlambe	EC128	Nxuba	EC142	Senqu	EC443	Mbizana
EC106	Sundays River Valley	EC131	Imvuba Yethemba	EC143	Maletswai	EC444	Ntabankulu
EC107	Barlams	EC132	Tsoelwa	EC144	Ganep	NMAA	Nelson Mandela Bay A
EC108	Kouga	EC133	Inkwanca	EC153	Nqunza Hill	NMAB	Nelson Mandela Bay B
EC109	Kou-Kamma	EC134	Lukani	EC154	Port St Johns	NMAC	Nelson Mandela Bay C
EC121	Mthashe						

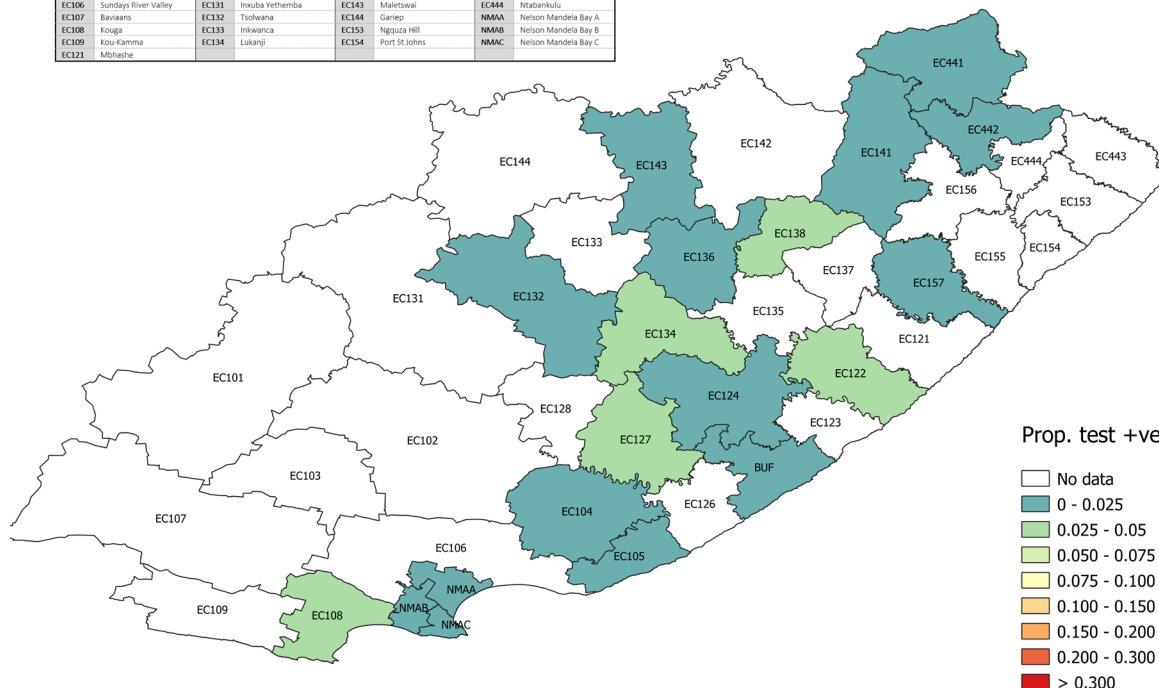


Figure 12. Proportion testing positive by health sub-district in the Eastern Cape Province for the week of 18 - 24 April 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

NC001	Richtersveld	NC074	Kareeberg	NC085	Tsantabane
NC002	Nama Khoi	NC075	Rensselaersburg	NC086	Kgalagadi
NC004	Kamiesberg	NC076	Thembelille	NC091	Sol Plaatje
NC005	Hantam	NC077	Siyathemba	NC092	Dikgatong
NC006	Karoo Hoogland	NC078	Siyancuma	NC093	Magareng
NC007	Khâ-Ma	NC081	Mier	NC094	Phokwane
NC071	Ubuntu	NC082	Kai Iqarib	NC451	Joe Morolong
NC072	Umsobomvu	NC083	//Kharas Hais	NC452	Ga Segonyana
NC073	Emtharong	NC084	Mheis	NC453	Gamagara

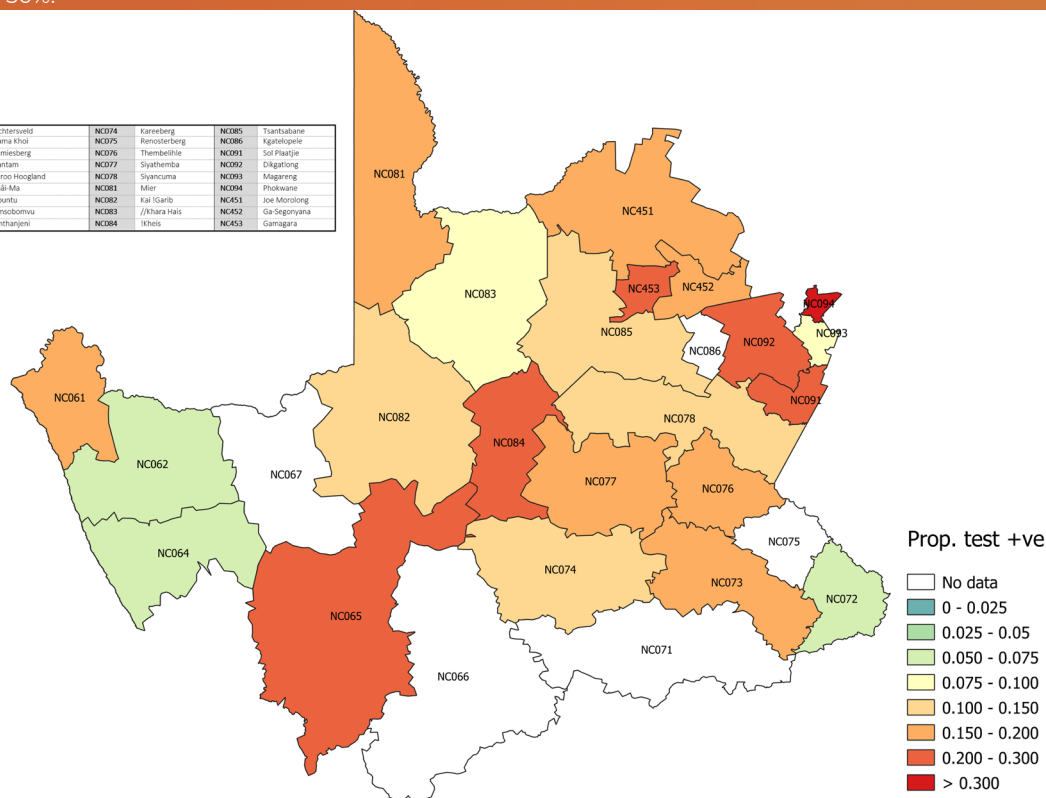


Figure 13. Proportion testing positive by health sub-district in Northern Cape Province for the week of 18 - 24 April 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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MAN	Mangaung	FS181	Masibong	FS191	Setsof	FS196	Mantsoa
FS161	Letsemeng	FS182	Tokologo	FS192	Dihlabeng	FS201	Mogaka
FS162	Kopanong	FS183	Tswelopele	FS193	Nketoana	FS203	Ngwathe
FS163	Mohokare	FS184	Matjhabeng	FS194	Maluti a Phofung	FS204	Metsimholo
FS164	Naledi	FS185	Nala	FS195	Phumelela	FS205	Mafube

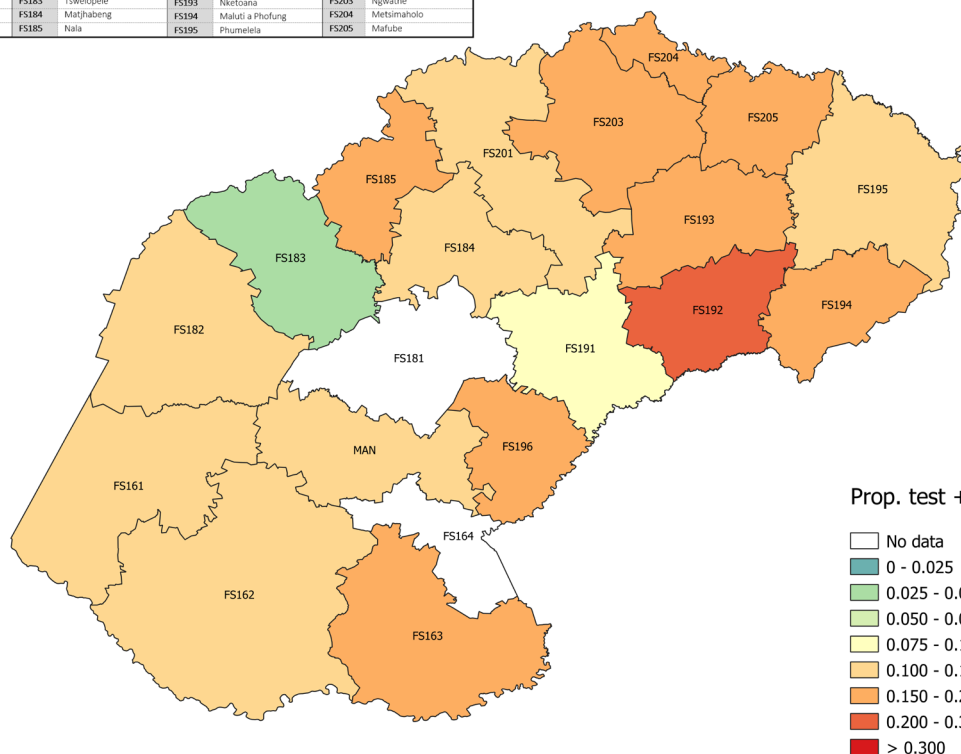


Figure 14. Proportion testing positive by health sub-district in Free State Province for the week of 18 - 24 April 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

ETHN	eThekweni North	KZN233	Indaka	KZN273	The Big 5 False Bay
ETHS	eThekweni South	KZN234	Umtshezi	KZN274	Hiabisa
ETHW	eThekweni West	KZN235	Okhahlamba	KZN275	Mtubatuba
KZN211	Valamethlo	KZN236	Imbabazane	KZN281	Imfolosi
KZN212	Umdoni	KZN241	Endumeni	KZN282	uMkhathuzi
KZN213	Umtzombe	KZN242	Nqutu	KZN283	Ntambanana
KZN214	uMuziwabantu	KZN244	Msinga	KZN284	uMlalazi
KZN215	Ezingoleni	KZN245	Umvoti	KZN285	Mthonjaneni
KZN216	Hlabisa Coast	KZN252	Newcastle	KZN286	Nkandla
KZN221	uMshwathi	KZN253	Emadlangeni	KZN291	Mandeni
KZN222	uMngeni	KZN254	Dannhauser	KZN292	KwaDukuza
KZN223	Mpofana	KZN261	eDumbe	KZN293	Nodwede
KZN224	Impendle	KZN262	uPhongolo	KZN294	Maphumulo
KZN225	The Mounts	KZN263	Abaqulusi	KZN431	Ingwe
KZN226	Mkhambathini	KZN265	Nongoma	KZN432	Kwa Sanj
KZN227	Richmond	KZN266	Ulundi	KZN433	Greater Kokstad
KZN232	Emnambithi/Ladysmith	KZN271	Umhlabuyalingana	KZN434	Ubuhlebezwe
		KZN272	Jozini	KZN435	Umkhulu

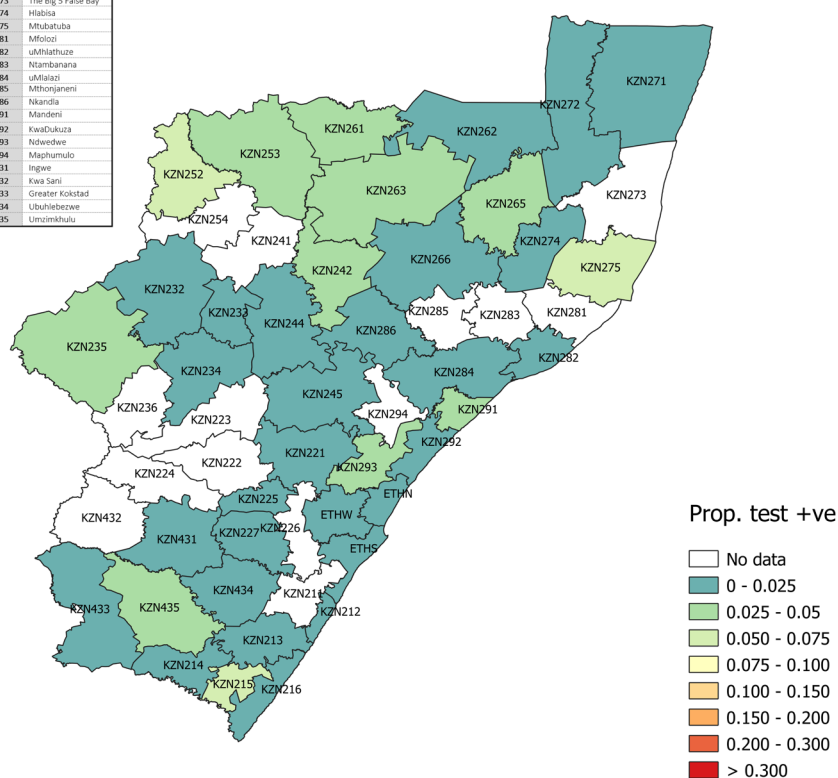


Figure 15. Proportion testing positive by health sub-district in KwaZulu-Natal Province for the week of 18 - 24 April 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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NW371	Moretele	NW383	Mafikeng	NW396	Lekwa-Teemane
NW372	Madibeng	NW384	Ditsobotla	NW397	Kagisano/Molopo
NW373	Rustenburg	NW385	Ramotshere Moiloa	NW401	Ventersdorp
NW374	Kgetlengrivier	NW392	Naledi	NW402	Tlokwe City Council
NW375	Moses Kotane	NW393	Mamusa	NW403	City of Matlosana
NW381	Ratlou	NW394	Greater Taung	NW404	Maquassi Hills
NW382	Tswaing				

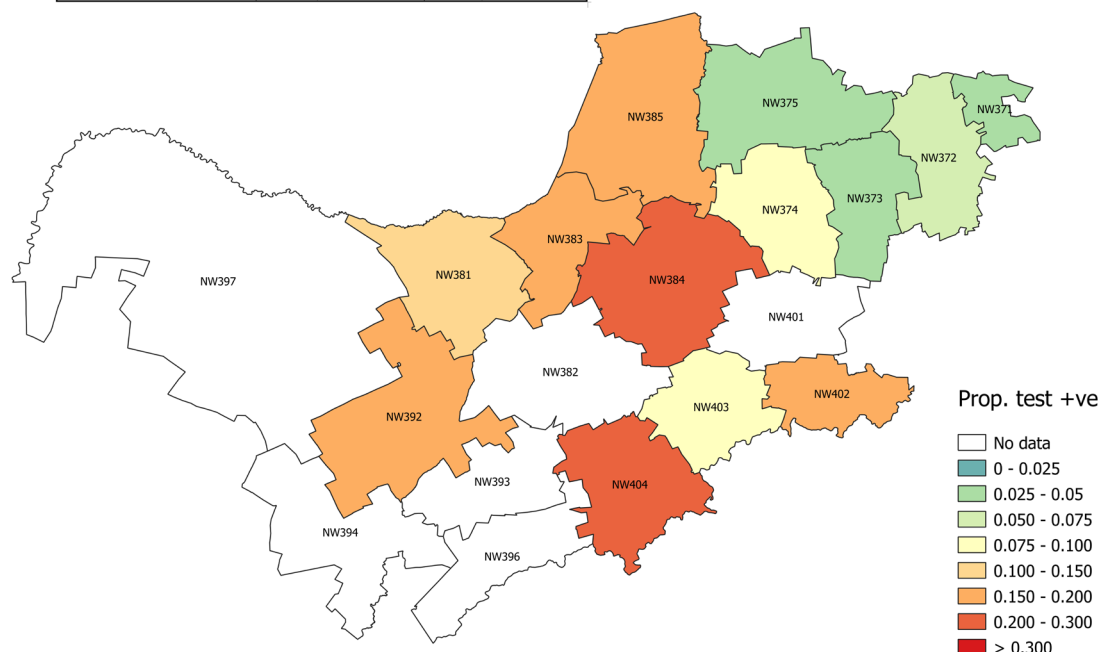


Figure 16. Proportion testing positive by health sub-district in North West Province for the week of 18 - 24 April 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

EKUE1	Ekurhuleni East 1	GT421	Emfuleni	JHBA	Johannesburg A	TSH1	Tshwane 1
EKUE2	Ekurhuleni East 2	GT422	Midvaal	JHBB	Johannesburg B	TSH2	Tshwane 2
EKUN1	Ekurhuleni North 1	GT423	Lesedi	JHBC	Johannesburg C	TSH3	Tshwane 3
EKUN2	Ekurhuleni North 2	GT481	Mogale City	JHBD	Johannesburg D	TSH4	Tshwane 4
EKUS1	Ekurhuleni South 1	GT482	Randfontein	JHBE	Johannesburg E	TSH5	Tshwane 5
EKUS2	Ekurhuleni South 2	GT483	Westonaria	JHBF	Johannesburg F	TSH6	Tshwane 6
		GT484	Mentak City	JHBG	Johannesburg G	TSH7	Tshwane 7

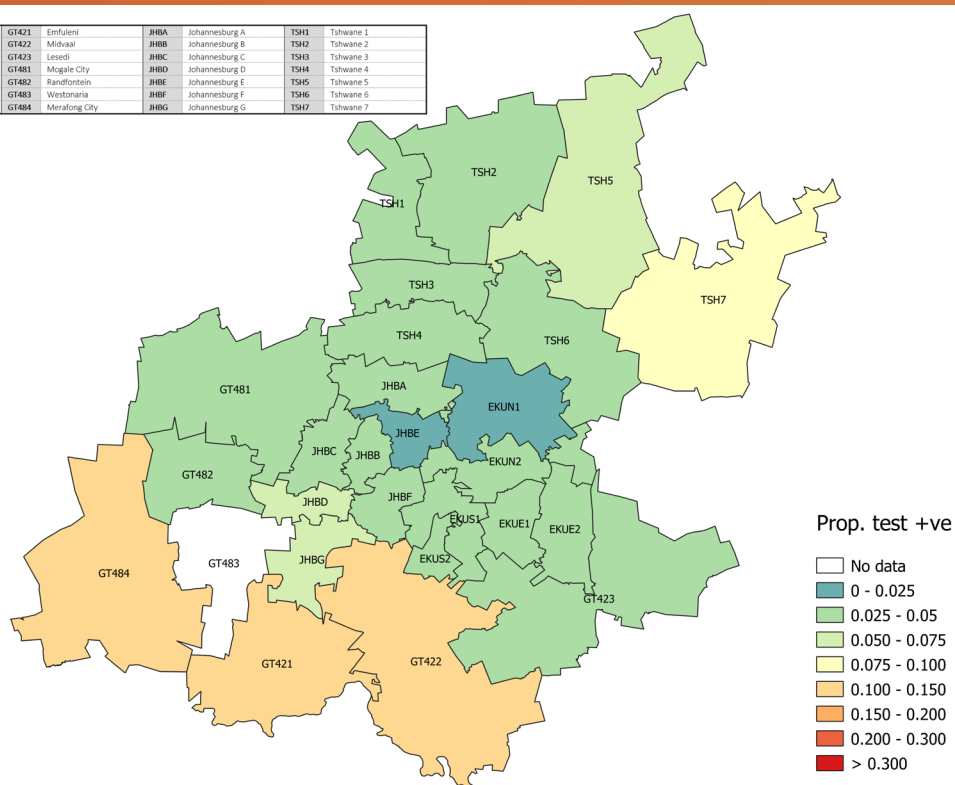


Figure 17. Proportion testing positive by health sub-district in Gauteng Province for the week of 18 - 24 April 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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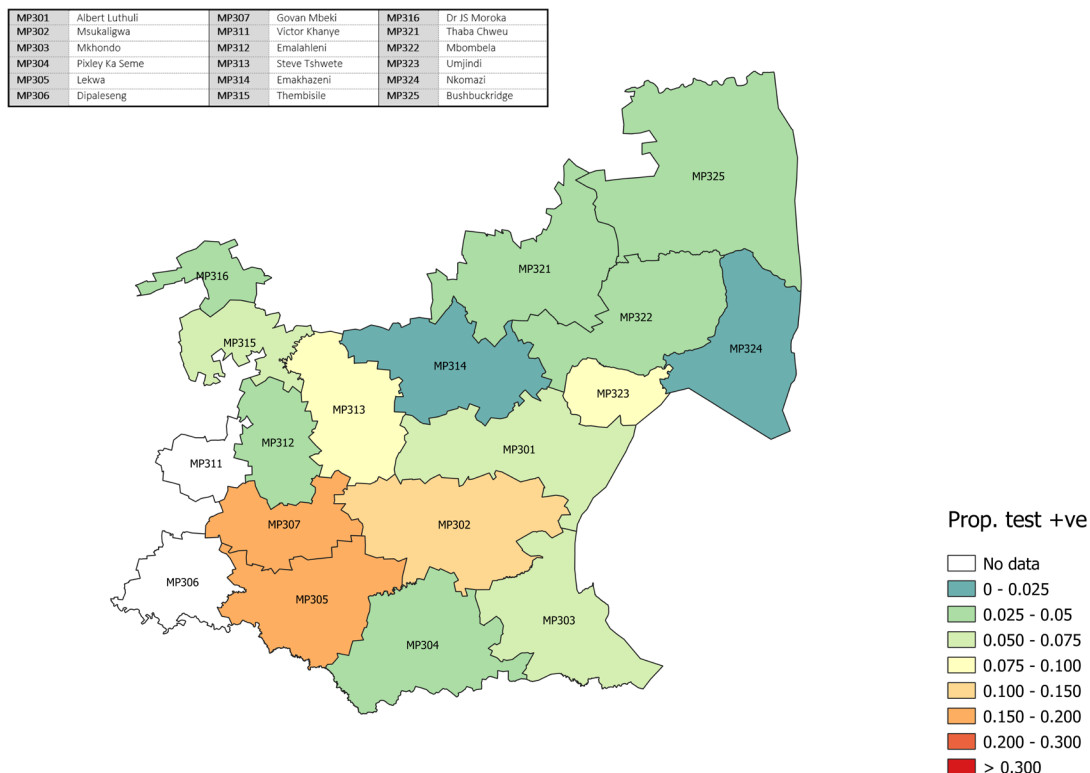


Figure 18. Proportion testing positive by health sub-district in Mpumalanga Province for the week of 18 - 24 April 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

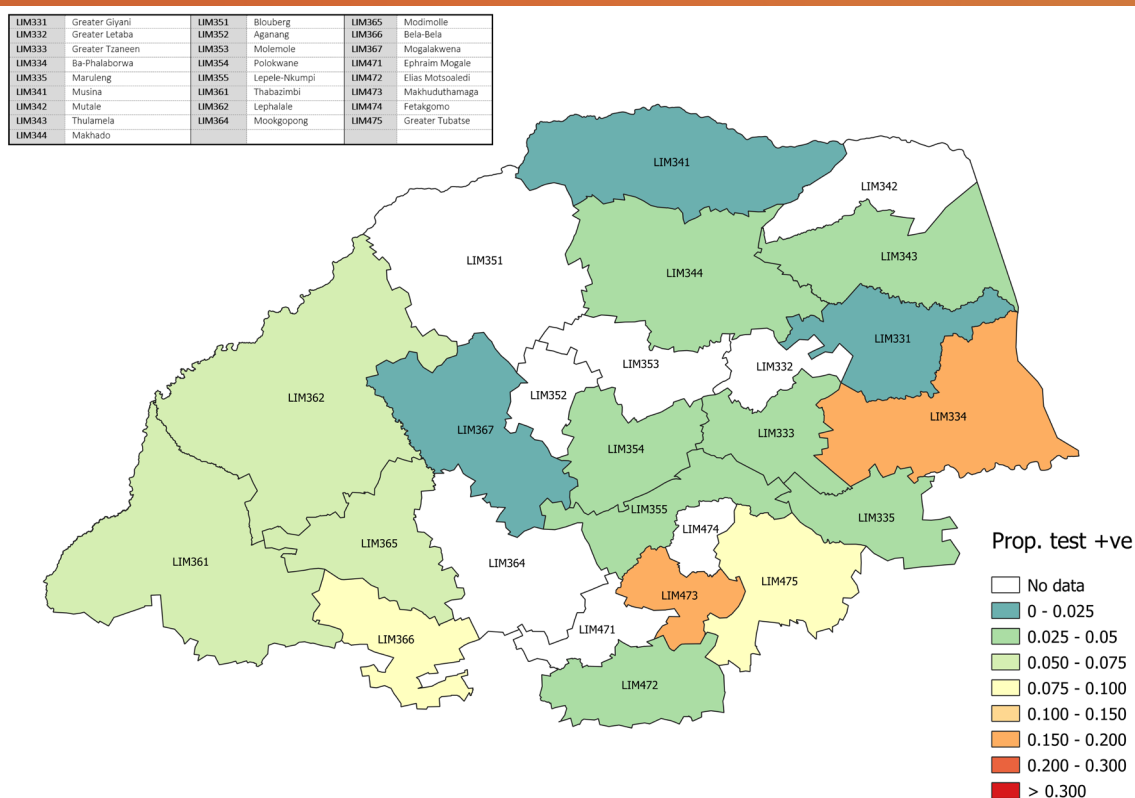


Figure 19. Proportion testing positive by health sub-district in Limpopo Province for the week of 18 - 24 April 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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Testing by patient admission status

In week 16 of 2021, 40.9% of tests were performed for hospitalised patients; 55.7% in the public sector and 26.7% in the private sector (Figure 20). The percentage testing positive in week 16 was higher

among outpatients (5.9%) compared to inpatients (4.8%) (Figure 21). In week 16 the mean laboratory turnaround time for PCR tests in the public sector continued to be lower for inpatients (1.3 days) compared to outpatients (1.9 days) (Figure 22).

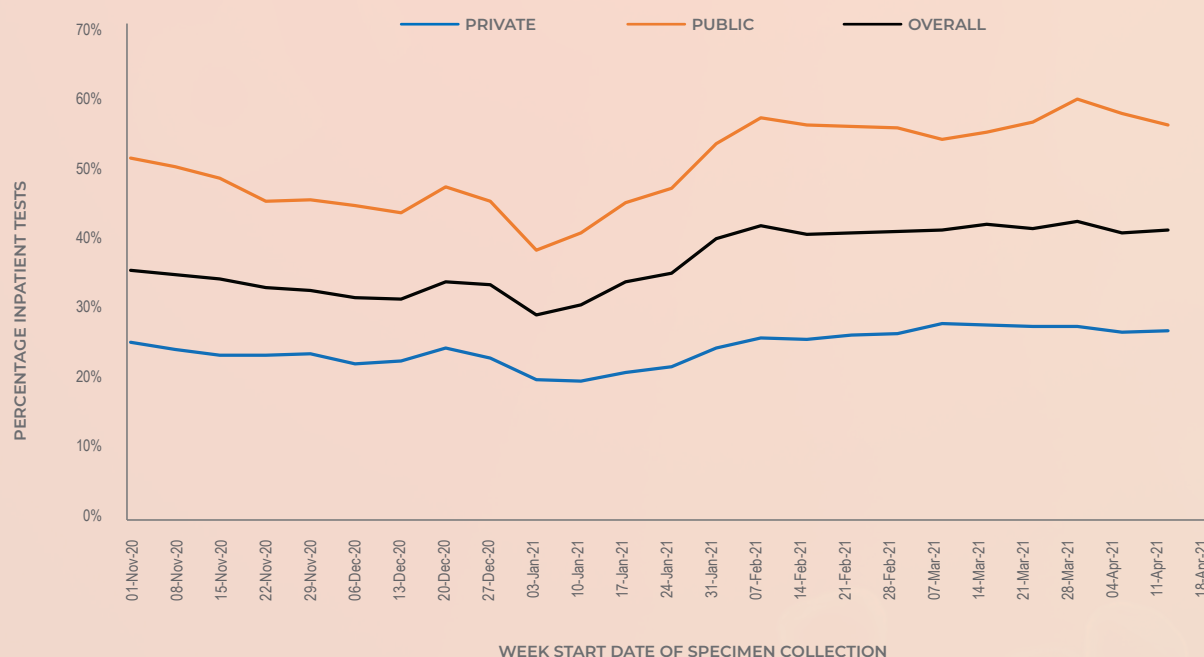


Figure 20. Percentage of inpatient tests performed by health sector, 1 November 2020 – 24 April 2021

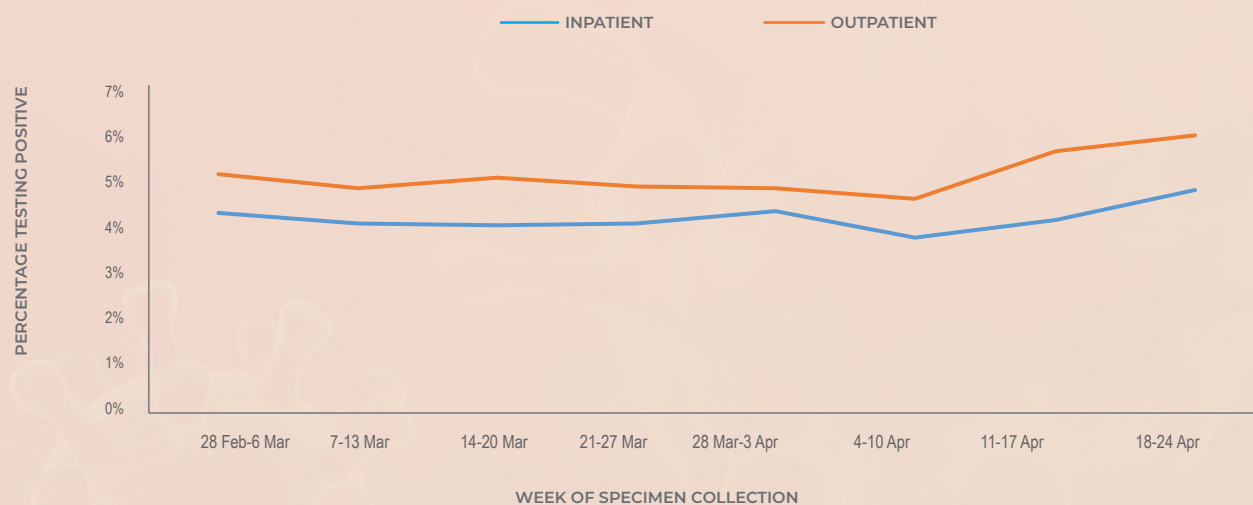


Figure 21. Percentage testing positive by patient admission status in the public sector, 28 February – 24 April 2021

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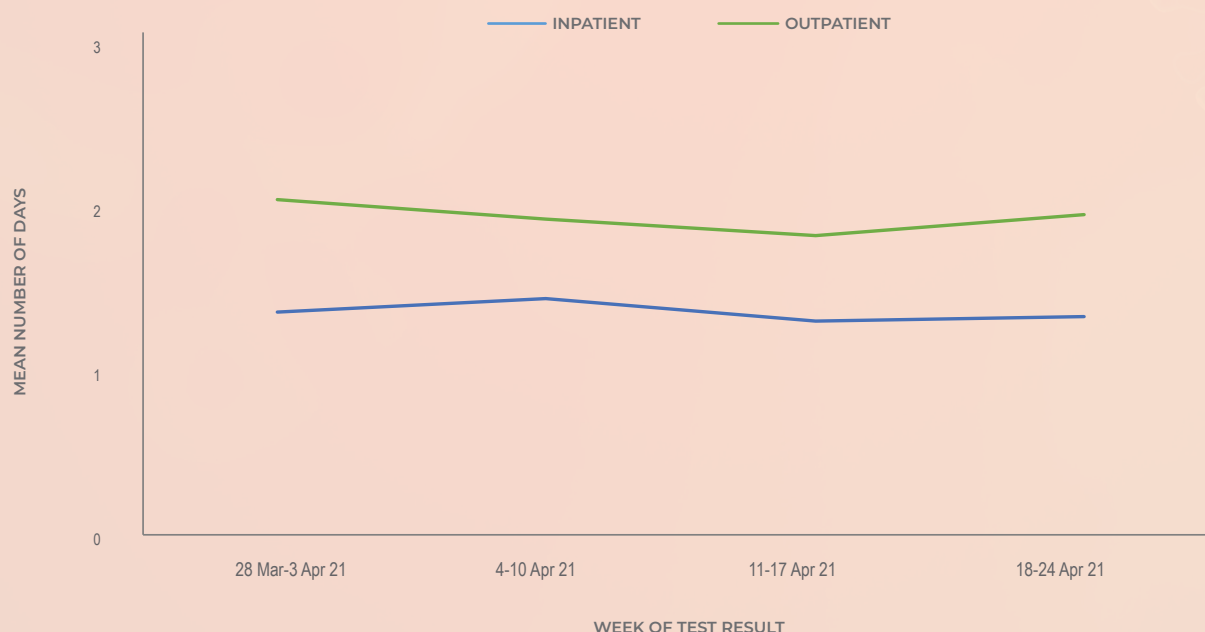


Figure 22. Mean number of days between date of specimen collection and date of test result for PCR tests in the public sector by patient admission status, 28 March – 24 April 2021

Testing by age and sex

The mean age of individuals tested in week 16 of 2021 was 39.0 years, and was similar among males (39.3 years) and females (38.3 years). The majority of tests (56.0%) were performed in individuals in the 20-49 years' age groups although the distribution of tests remained slightly skewed towards younger age groups in females compared to males (Figure 23). In

week 16, the testing rate was similar in males (272 per 100,000 persons) and females (284 per 100,000 persons) (Figure 24). Apart from the 0-4 year age group, testing rates increased with increasing age and were highest in individuals ≥ 80 years of age (580 per 100,000 persons) in week 16. The percentage testing positive was highest in individuals aged 65-59 years (7.1%); in males the highest percentage testing positive was in the 15-19 year age group (6.5%), and in females was in the 60-64 year (8.1%) age groups (Figure 24).

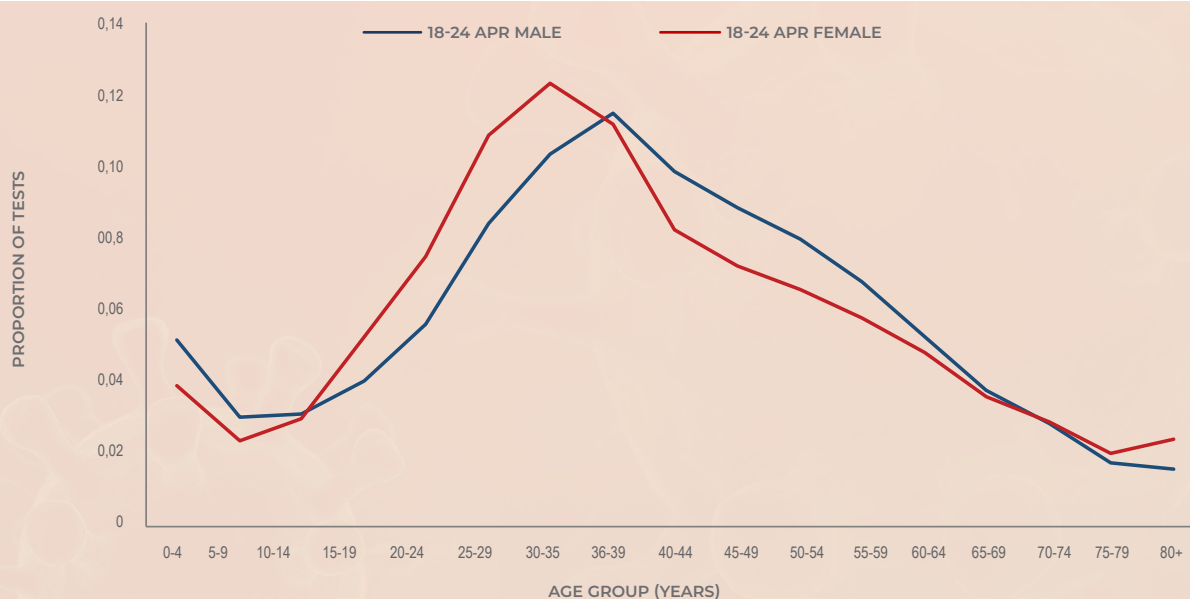


Figure 23. Proportion of tests by age group and sex, South Africa, week 16, 18 - 24 April 2021

COVID-19 TESTING SUMMARY

SOUTH AFRICA WEEK 16 2021

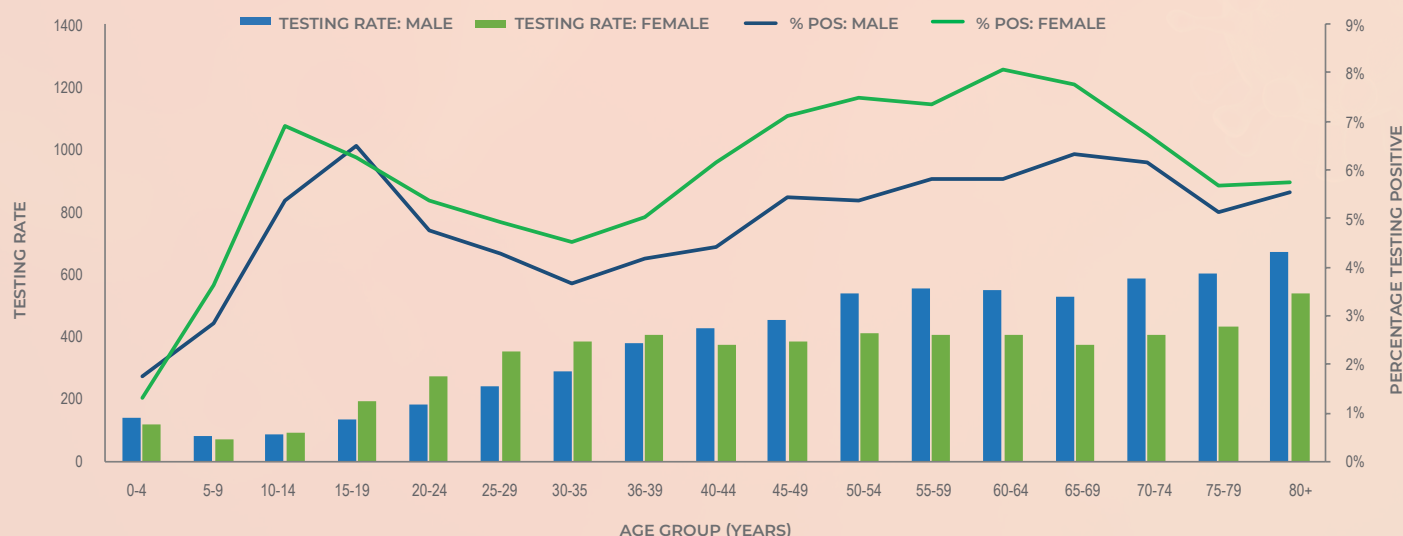


Figure 24. Testing rates per 100,000 persons and percentage testing positive by age group and sex, South Africa, week 16, 18-24 April 2021

Testing by test type

Up to the end of week 16 of 2021, 6.9% (725,526/10,444,309) of all tests performed were antigen tests. The percentage of antigen tests was highest (20.3%) in week 5 and has subsequently declined to 15.3% of all tests in week 16 (Figure 25). In week 16, 25,984 antigen tests were performed, of which 86.0% were performed in the public sector. The majority of antigen tests

have been performed in KwaZulu-Natal (46.1%) and Eastern Cape (13.6%) provinces. The percentage testing positive was higher for PCR tests compared to antigen tests, and in week 16 was 5.9% for PCR tests and 1.8% for antigen tests (Figure 26). The mean turnaround time for antigen tests performed in week 16 was 7.1 days in the public sector and 0.1 days in the private sector (Figure 27). Not all antigen tests are included in this report, efforts are ongoing to improve completeness.

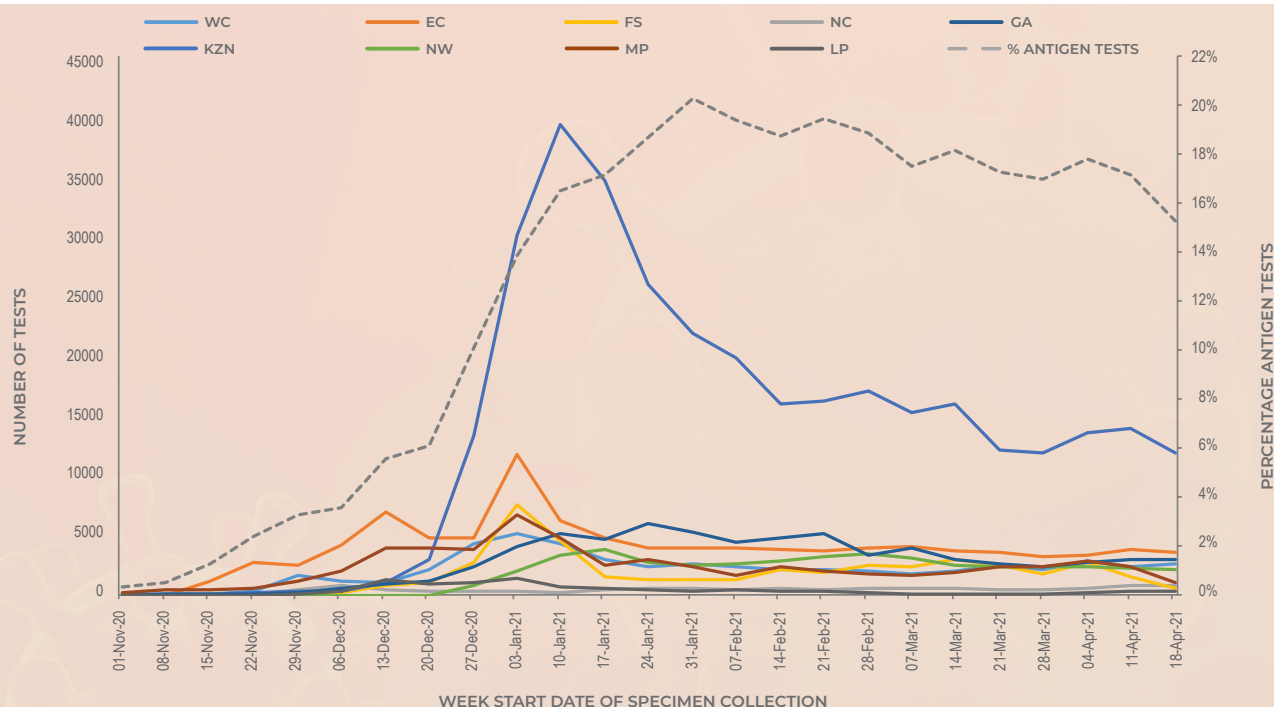


Figure 25. Number of antigen tests by province, and overall percentage antigen tests, South Africa, 1 November 2020 – 24 April 2021. WC, Western Cape; EC, Eastern Cape; FS, Free State; KZN, KwaZulu-Natal; GT, Gauteng; NC, Northern Cape; NW, North West; MP, Mpumalanga; LP, Limpopo

COVID-19 TESTING SUMMARY

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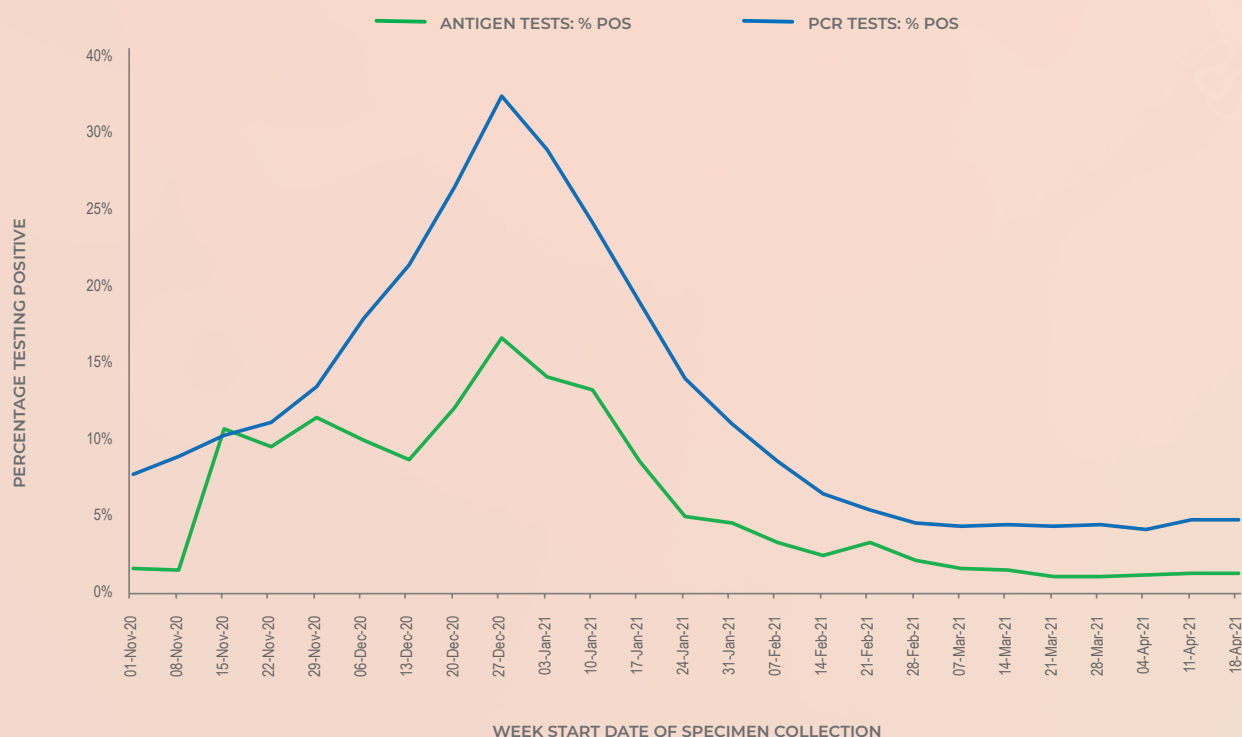


Figure 26. Percentage of laboratory tests positive for SARS-CoV-2 by test type and date of specimen collection, South Africa, 1 November 2020 – 24 April 2021

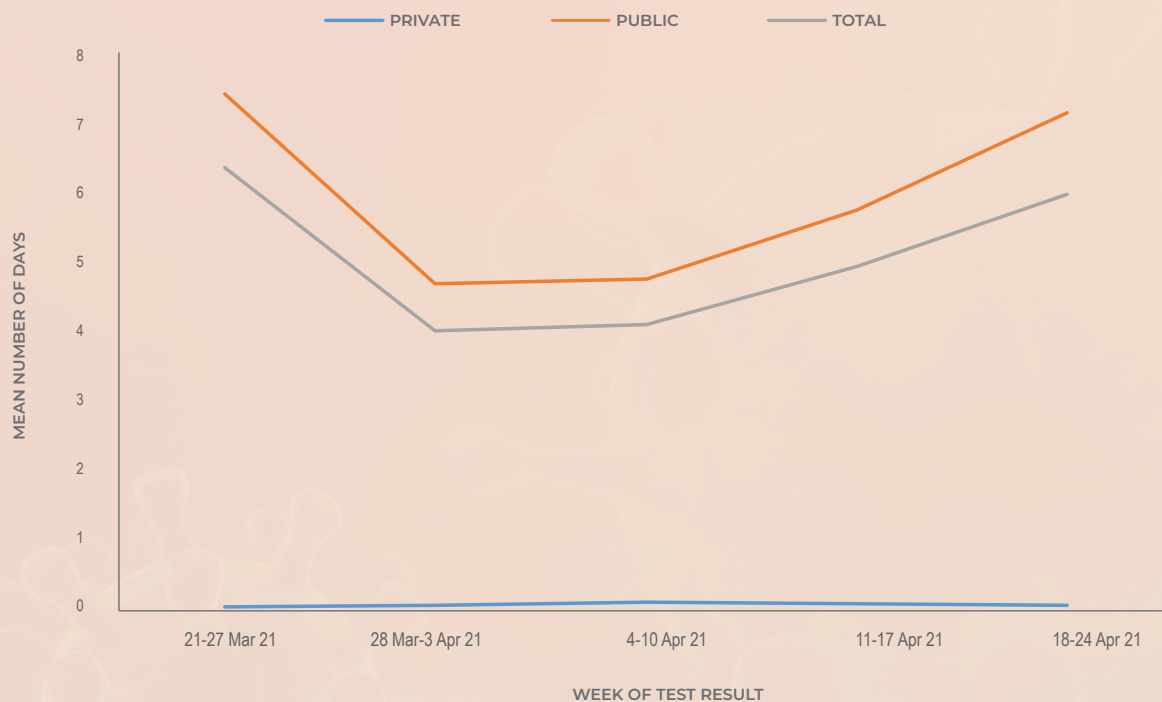


Figure 27. Mean number of days between date of specimen collection and date of test result for antigen tests, by week of test result, South Africa, 21 March – 24 April 2021

COVID-19 TESTING SUMMARY

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Limitations

- A backlog in testing of samples by laboratories affects the reported numbers of tests performed. As a result, numbers tested during this period may change in subsequent reports.
- If higher-priority specimens were tested preferentially, this would likely result in an inflated proportion testing positive.
- Different and changing testing strategies (targeted vs. mass testing and PCR vs. antigen-based tests) used by different provinces makes percentage testing positive difficult to interpret and compare.
- Health district and sub-district level were mapped based on the testing facility and not place of residence.
- Patient admission status was categorised based on the reported patient facility and may not reflect whether the patient was actually admitted to hospital.
- Antigen tests may be underestimated as they are used in a number of different settings and results may not be reported.

CONCLUSIONS

The number of tests performed in week 16 (n=170,165) was similar to the previous few weeks. Gauteng (34.2%), KwaZulu-Natal (18.2%) and Western Cape (16.5%) provinces performed the largest number of tests in week 16. The overall testing rate in week 16 was 285 per 100,000 persons; highest in the Northern Cape (600 per 100,000 persons) and lowest in Limpopo (71 per 100,000 persons). Testing rates increased in the past week in the Western Cape, North West and Limpopo provinces. Antigen tests accounted for 15.3% (n=25,984) of all tests performed in week 16. The overall mean laboratory turnaround time for PCR tests was 1.1 day in week 16; 1.6 days in the public sector and 0.7 days in the private sector.

In the second wave of infections the percentage testing positive peaked at 34.7% in week 53 of 2020, and has subsequently decreased. In week 16 of 2021 the percentage testing positive was 5.3%, which increased by 0.4% compared the previous week. The percentage testing positive in week 16 was highest in the Northern Cape (16.6%) province. The percentage testing positive was 14.4%, 11.2% and 6.8% in the Free State, North West and Mpumalanga, respectively, and was <5% in the Western Cape, Eastern Cape, KwaZulu-Natal, Gauteng and Limpopo in week 16. Compared to the previous week, the percentage testing positive in week 16 increased in the Northern Cape, Free State and Limpopo provinces. The percentage testing positive was unchanged in the Western Cape, Eastern Cape, KwaZulu-Natal, North West, Gauteng and Mpumalanga provinces.