

COVID-19 TESTING SUMMARY



NATIONAL INSTITUTE FOR
COMMUNICABLE DISEASES

Division of the National Health Laboratory Service

SOUTH AFRICA WEEK 17 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 1 May 2021 (Week 17 of 2021).

HIGHLIGHTS

- In the period 1 March 2020 through 1 May 2021, 10,608,984 tests (9,842,034 PCR and 766,950 antigen tests) for SARS-CoV-2 have been reported nationally.
- The number of tests reported in week 17 of 2021 (n=142,606) was lower than the weekly volume of tests reported in recent weeks, possibly in part due to under-reporting of antigen tests from some areas.
- The testing rate in week 17 was 239 per 100,000 persons; highest in the Northern Cape (393 per 100,000 persons) and lowest in Limpopo (54 per 100,000 persons).
- In week 17 the percentage testing positive was 6.0%, higher than the previous week.
- The percentage testing positive in week 17 was highest in the Northern Cape (21.9%), Free State (16.9%) and North West (12.3%) provinces. The percentage testing positive was <8% in all other provinces.
- In week 17, compared to the previous week, the percentage testing positive increased in the Northern Cape, Free State, Western Cape, Gauteng and Mpumalanga. The percentage testing positive was unchanged in the Eastern Cape, KwaZulu-Natal, North West and Limpopo provinces.
- Mean laboratory turnaround time for PCR tests reported in week 17 was 1.0 day; 1.6 days in the public sector and 0.6 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 reported between 1 March 2020 (week 10 of 2020), the week when the first case of COVID-19 was confirmed, and 1 May 2021 (week 17 of 2021).

Testing volumes and proportion testing positive

From 1 March 2020 through 1 May 2021, 10,608,984 SARS-CoV-2 tests were reported; 9,842,034 PCR and 766,950 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=307,911), 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 reported in week 1 of 2021 (n=500,940). In week 17 of 2021, 142,606 tests were reported, lower than the weekly testing volumes over recent weeks. All tests for samples collected in the previous week may not yet be reflected. Reduced testing volumes were observed over weekends and public holidays (Figure 1).

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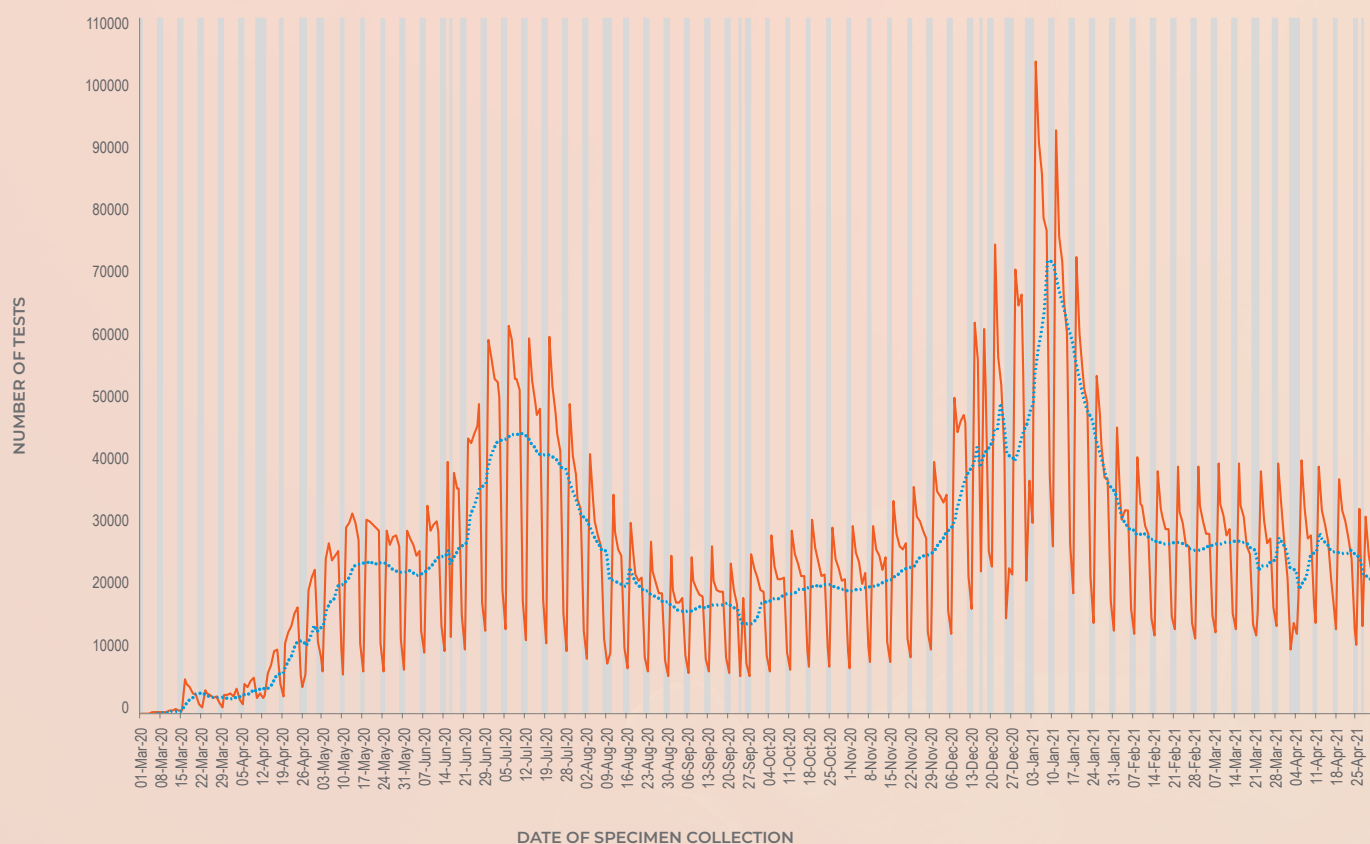


Figure 1. Number of SARS-CoV-2 tests reported by date of specimen collection, South Africa, 1 March 2020 – 1 May 2021. Blue dotted line shows the 7-day moving average of the number of tests reported. Grey bars highlight weekend days and public holidays.

The overall percentage testing positive from week 10 of 2020 through week 17 of 2021 was 15.8% (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 17 of 2021 was 6.0%, higher than observed in the previous week (5.3%, $P < 0.001$) (Figure 2).

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Table 1. Weekly number of SARS-CoV-2 tests reported and positive tests, South Africa, 1 March 2020 – 1 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	26298 (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 (0.9)	3205	3.4
19	03-May-20	142707 (1.3)	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	153569 (1.4)	15079	9.8
24	07-Jun-20	173901 (1.6)	22361	12.9
25	14-Jun-20	186078 (1.8)	32649	17.5
26	21-Jun-20	252094 (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 (2.0)	58393	27.0
32	02-Aug-20	179571 (1.7)	40996	22.8
33	09-Aug-20	141103 (1.3)	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 (1.1)	12011	10.0
39	20-Sep-20	98817 (0.9)	10098	10.2
40	27-Sep-20	123062 (1.2)	11008	8.9
41	04-Oct-20	131042 (1.2)	11778	9.0
42	11-Oct-20	137971 (1.3)	12077	8.8
43	18-Oct-20	142164 (1.3)	12066	8.5
44	25-Oct-20	135847 (1.3)	11478	8.4
45	01-Nov-20	138819 (1.3)	12135	8.7
46	08-Nov-20	147006 (1.4)	14845	10.1
47	15-Nov-20	160642 (1.5)	18762	11.7
48	22-Nov-20	175684 (1.7)	22051	12.6
49	29-Nov-20	203143 (1.9)	30766	15.1
50	06-Dec-20	267913 (2.5)	53310	19.9
51	13-Dec-20	294451 (2.8)	68575	23.3
52	20-Dec-20	284353 (2.7)	81949	28.8
53	27-Dec-20	334298 (3.2)	115726	34.6
1	03-Jan-21	500940 (4.7)	150994	30.1
2	10-Jan-21	417820 (3.9)	104763	25.1
3	17-Jan-21	327251 (3.1)	63231	19.3

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4	24-Jan-21	249336 (2.4)	34612	13.9
5	31-Jan-21	203338 (1.9)	22314	11.0
6	07-Feb-21	192305 (1.8)	16437	8.5
7	14-Feb-21	187315 (1.8)	12123	6.5
8	21-Feb-21	181412 (1.7)	10351	5.7
9	28-Feb-21	186190 (1.8)	8655	4.6
10	07-Mar-21	189599 (1.8)	8299	4.4
11	14-Mar-21	181883 (1.7)	8114	4.5
12	21-Mar-21	168619 (1.6)	7317	4.3
13	28-Mar-21	159244 (1.5)	7024	4.4
14	04-Apr-21	176163 (1.7)	7222	4.1
15	11-Apr-21	179432 (1.7)	8764	4.9
16	18-Apr-21	177666 (1.7)	9361	5.3
17	25-Apr-21	142606 (1.3)	8567	6.0
Total		10608984 (100.0)	1672941	15.8

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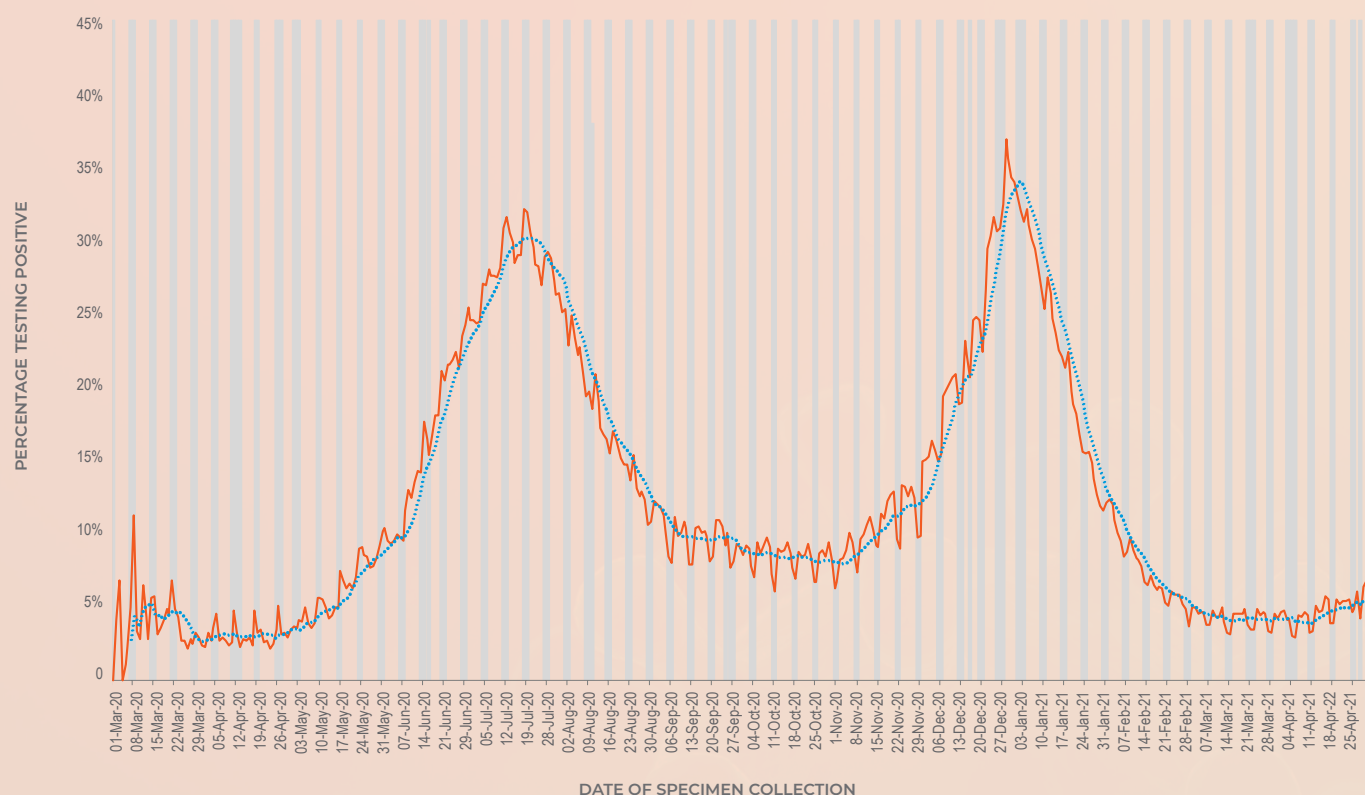


Figure 2. Percentage tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 1 March 2020 – 1 May 2021. Blue dotted line shows the 7-day moving average of the percentage testing positive. Grey bars highlight weekend days and public holidays.

Testing in private and public sectors

From 1 March 2020 through 1 May 2021, 4,659,020 tests were reported in the public sector, with 16.3% testing positive. Over this same period, the private sector reported 5,949,964 tests, with 15.3% testing positive (Table 2). Overall, the public sector has reported 43.9% 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 (34.9%) and private sector (34.4%). From week 16 to week 17 of 2021, the percentage testing positive did not change in the public sector (6.0% in week 16 to 6.2% in week 17, $P=0.117$) and increased by 1.2% in

the private sector (4.7% in week 16 and 5.9% in week 17, $P<0.001$). In week 17 of 2021 the percentage testing positive was slightly higher in the public sector (6.2%) compared to the private sector (5.9%) ($P=0.003$).

The mean turnaround time for PCR tests reported in week 17 of 2021 was 1.0 day; 1.6 days in the public sector and 0.6 days in the private sector (Figure 3). Turnaround times for public sector PCR tests were ≤ 2 days in all provinces except the Free State (2.4 days) and Mpumalanga (2.1 days) in week 17 (Figure 4). Increases in turnaround time were observed in Limpopo and KwaZulu-Natal 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 17 (Figure 5).

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Table 2. Weekly number of tests and positive tests reported , by healthcare sector, South Africa, 1 March 2020 – 1 May 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	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)	124929	20667 (16.5)	32.9	36.7	1.184
26	21-Jun-20	90454	20425 (22.6)	161640	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	48629	5568 (11.4)	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	51285	5721 (11.2)	84562	5757 (6.8)	37.8	49.8	1.639
45	01-Nov-20	52998	6061 (11.4)	85821	6074 (7.1)	38.2	49.9	1.616
46	08-Nov-20	58913	8097 (13.7)	88093	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)	121875	15036 (12.3)	40.0	51.1	1.569
50	06-Dec-20	107909	24715 (22.9)	160004	28595 (17.9)	40.3	46.4	1.282
51	13-Dec-20	117211	29815 (25.4)	177240	38760 (21.9)	39.8	43.5	1.163
52	20-Dec-20	109838	34124 (31.1)	174515	47825 (27.4)	38.6	41.6	1.134
53	27-Dec-20	151620	52930 (34.9)	182678	62796 (34.4)	45.4	45.7	1.016
1	03-Jan-21	236856	71045 (30.0)	264084	79949 (30.3)	47.3	47.1	0.991
2	10-Jan-21	203954	52946 (26.0)	213866	51817 (24.2)	48.8	50.5	1.071
3	17-Jan-21	165590	34446 (20.8)	161661	28785 (17.8)	50.6	54.5	1.168
4	24-Jan-21	123161	18979 (15.4)	126175	15633 (12.4)	49.4	54.8	1.244
5	31-Jan-21	99529	12027 (12.1)	103809	10287 (9.9)	48.9	53.9	1.219
6	07-Feb-21	91136	8484 (9.3)	101169	7953 (7.9)	47.4	51.6	1.184
7	14-Feb-21	86016	6628 (7.7)	101299	5495 (5.4)	45.9	54.7	1.420
8	21-Feb-21	82218	5769 (7.0)	99194	4582 (4.6)	45.3	55.7	1.519
9	28-Feb-21	87619	4657 (5.3)	98571	3998 (4.1)	47.1	53.8	1.310
10	07-Mar-21	91909	4565 (5.0)	97690	3734 (3.8)	48.5	55.0	1.299
11	14-Mar-21	89418	4415 (4.9)	92465	3699 (4.0)	49.2	54.4	1.234
12	21-Mar-21	75617	3437 (4.5)	93002	3880 (4.2)	44.8	47.0	1.089

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13	28-Mar-21	69611	3435 (4.9)	89633	3589 (4.0)	43.7	48.9	1.232
14	04-Apr-21	76159	3313 (4.4)	100004	3909 (3.9)	43.2	45.9	1.113
15	11-Apr-21	82923	4311 (5.2)	96509	4453 (4.6)	46.2	49.2	1.127
16	18-Apr-21	76768	4628 (6.0)	100898	4733 (4.7)	43.2	49.4	1.285
17	25-Apr-21	58026	3618 (6.2)	84580	4949 (5.9)	40.7	42.2	1.066
Total		4659020	759884 (16.3)	5949964	913057 (15.3)	43.9	45.4	1.063

^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)

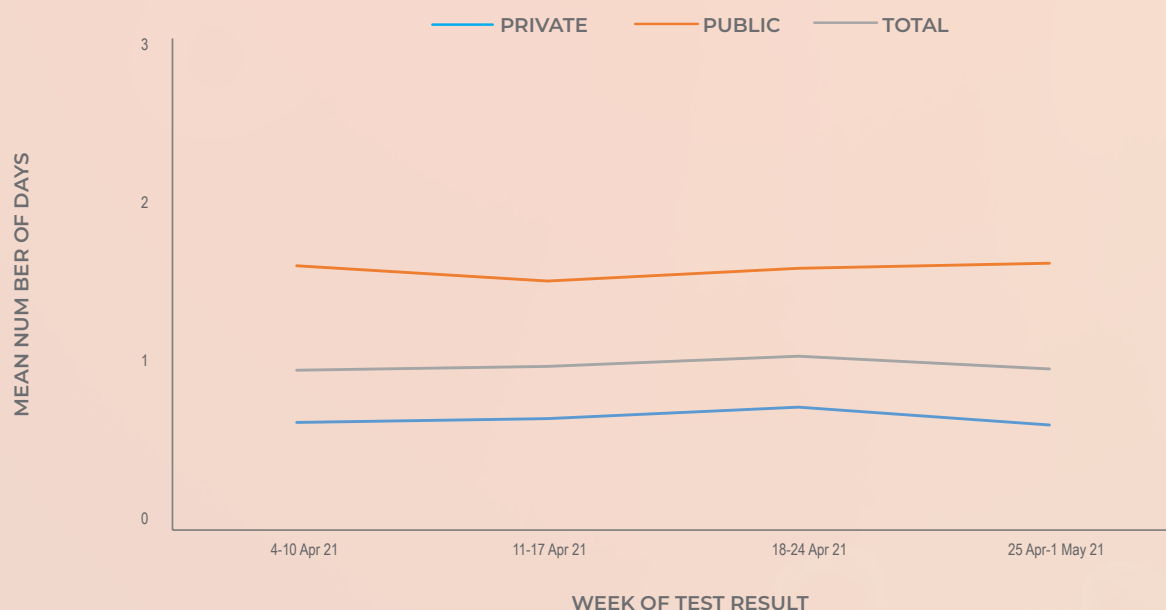


Figure 3. Mean number of days between date of specimen collection and date of test result for PCR tests, by week of test result, South Africa, 4 April – 1 May 2021

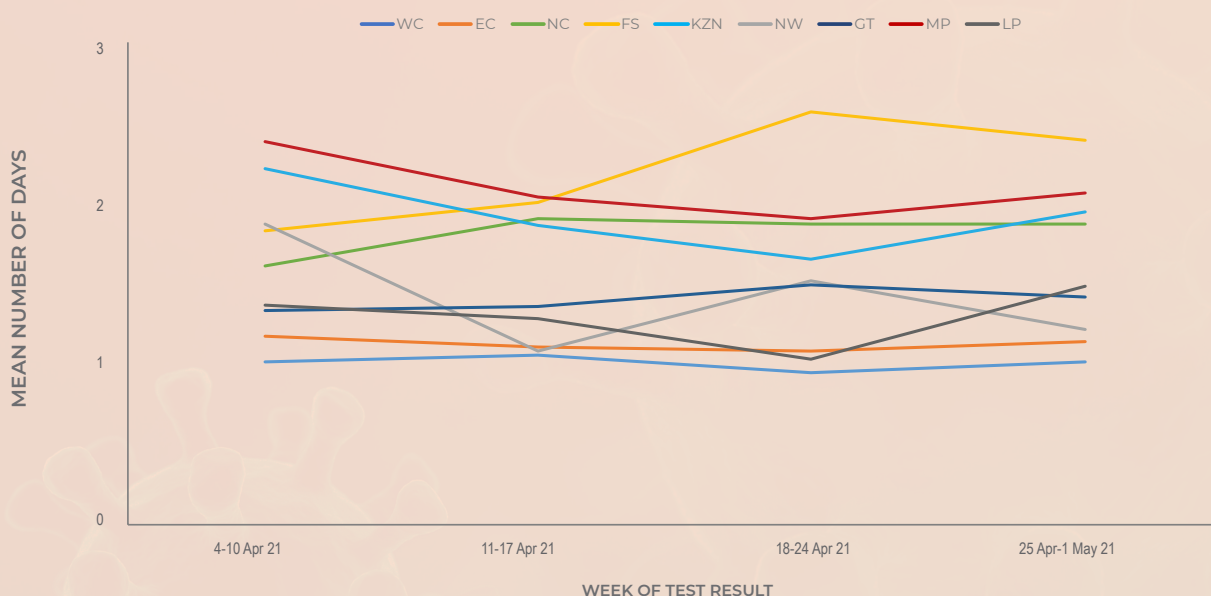


Figure 4. Mean number of days between date of specimen collection and date of test result for PCR tests, by week of test result and province, public sector, South Africa, 4 April – 1 May 2021. WC, Western Cape; EC, Eastern Cape; FS, Free State; KZN, KwaZulu-Natal; GT, Gauteng; NC, Northern Cape; NW, North West; MP, Mpumalanga; LP, Limpopo

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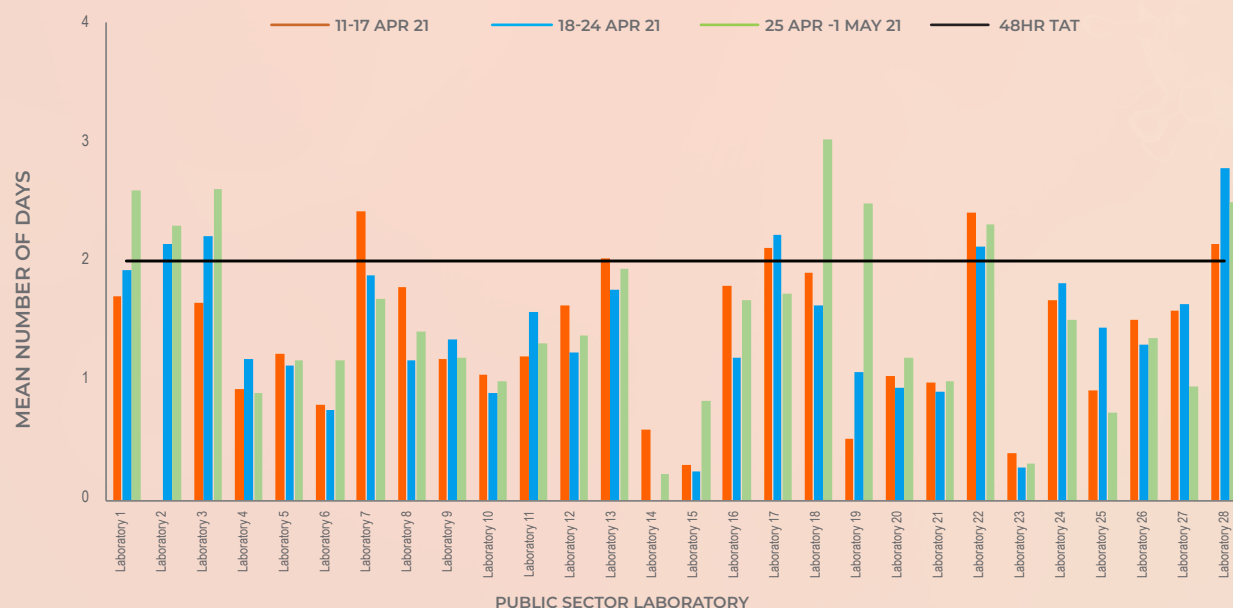


Figure 5. Mean number of days between date of specimen collection and date of test result for PCR tests, by public sector laboratory, 11 April - 1 May 2021. The horizontal black line indicates 48-hour turnaround time (TAT).

Testing by province

Although weekly testing volumes decreased in all provinces, the majority of tests continued to be reported in Gauteng (34.3%), KwaZulu-Natal (19.0%) and Western Cape (17.1%) provinces in week 17 of 2021 (Table 3). The overall testing rate decreased from 298 per 100,000 persons in week 16 to 239 per 100,000 in week 17. The testing rate ranged from 393 per 100,000 persons in the Northern Cape to 54 per 100,000 persons in Limpopo (Figure 6). Testing rates decreased in all provinces in the past week.

The percentage testing positive in week 17 was highest in the Northern Cape (21.9%), Free State (16.9%) and

North West (12.3%) provinces (Figure 7 and Table 3). The percentage testing positive was <8% in all other provinces in week 17. Compared to the previous week, the percentage testing positive in week 17 increased in the Northern Cape (by 5.3%, $P<0.001$), Free State (by 3.7%, $P<0.001$), Western Cape ($P=0.006$), Gauteng ($P<0.001$) and Mpumalanga ($P=0.004$). The percentage testing positive was unchanged in the Eastern Cape ($P=0.339$), KwaZulu-Natal ($P=0.586$), North West ($P=0.068$) and Limpopo ($P=0.641$) 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).

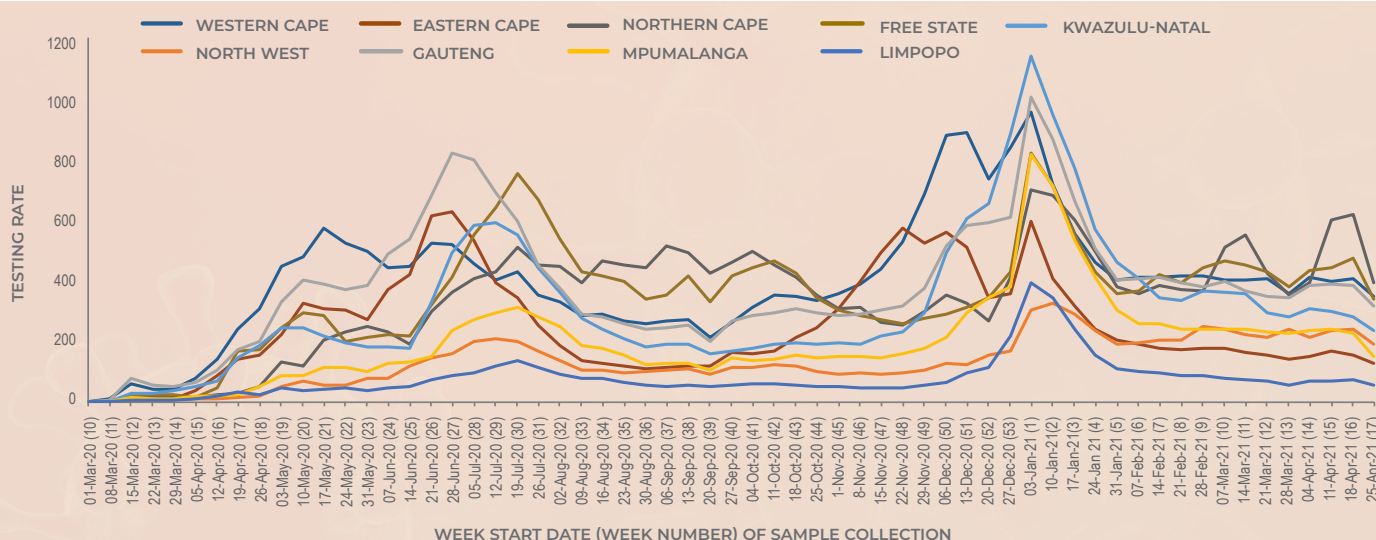


Figure 6. Testing rate per 100,000 persons by province and week of specimen collection, South Africa, 1 March 2020 – 1 May 2021

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Table 3. Weekly number of tests and positive tests reported, by province, South Africa, 11 April – 1 May 2021

Province	Population ^a	11-17 Apr 2021		18-24 Apr 2021		25 Apr – 1 May 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	27935	1041 (3.7)	28414	993 (3.5)	24411	963 (3.9)	348	0.5%
Eastern Cape	6734001	11161	160 (1.4)	10465	146 (1.4)	8707	136 (1.6)	129	0.2%
Northern Cape	1292786	7775	1047 (13.5)	7990	1329 (16.6)	5082	1115 (21.9)	393	5.3%
Free State	2928903	12993	1444 (11.1)	13886	1833 (13.2)	9993	1687 (16.9)	341	3.7%
KwaZulu-Natal	11531628	34655	666 (1.9)	32373	589 (1.8)	27048	476 (1.8)	235	-0.1%
North West	4108816	9606	1048 (10.9)	9854	1125 (11.4)	7750	954 (12.3)	189	0.9%
Gauteng	15488137	59947	2392 (4.0)	59650	2440 (4.1)	48981	2501 (5.1)	316	1.0%
Mpumalanga	4679786	11188	816 (7.3)	10588	708 (6.7)	7079	554 (7.8)	151	1.1%
Limpopo	5852553	3994	143 (3.6)	4229	192 (4.5)	3144	150 (4.8)	54	0.2%
Unknown		178	7 (3.9)	217	6 (2.8)	411	31 (7.5)		
Total	59622350	179432	8764 (4.9)	177666	9361 (5.3)	142606	8567 (6.0)	239	0.7%

^a 2020 Mid-year population Statistics SA

^b Current week compared to previous week

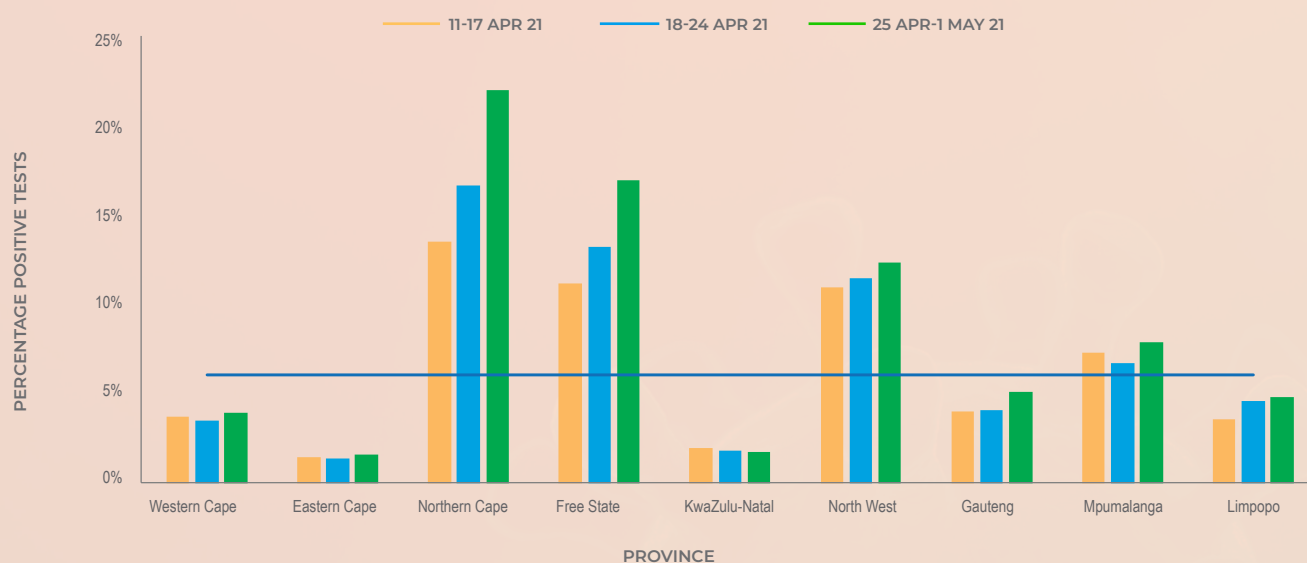


Figure 7. Weekly percentage testing positive, by province, South Africa, 11 April – 1 May 2021. The horizontal blue line shows the national mean for week 17, beginning 25 April 2021

Testing in the public sector

In the public sector, the percentage testing positive was unchanged in the past week (6.0% in week 16 to 6.2% in week 17, $P=0.117$) (Table 4). The percentage testing positive in week 17 was highest in the

Northern Cape (21.6%), Free State (15.9%) and North West (14.7%) 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 and positive tests reported in the public sector, by province, South Africa, 11 April – 1 May 2021

Province	11-17 Apr 2021		18-24 Apr 2021		25 Apr – 1 May 2021	
	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)
Western Cape	9756	353 (3.6)	8757	338 (3.9)	7010	247 (3.5)
Eastern Cape	7036	65 (0.9)	6308	58 (0.9)	5160	62 (1.2)
Northern Cape	5359	641 (12.0)	5465	833 (15.2)	3082	665 (21.6)
Free State	7652	827 (10.8)	7920	1038 (13.1)	4896	777 (15.9)
KwaZulu-Natal	23227	414 (1.8)	21047	396 (1.9)	17313	255 (1.5)
North West	4369	640 (14.6)	4259	613 (14.4)	3333	490 (14.7)
Gauteng	18784	947 (5.0)	16859	924 (5.5)	13477	807 (6.0)
Mpumalanga	5538	377 (6.8)	5027	354 (7.0)	2597	238 (9.2)
Limpopo	1197	47 (3.9)	1118	73 (6.5)	887	53 (6.0)
Unknown	5	0 (0.0)	8	1 (0.0)	271	24 (8.9)
Total	82923	4311 (5.2)	76768	4628 (6.0)	58026	3618 (6.2)

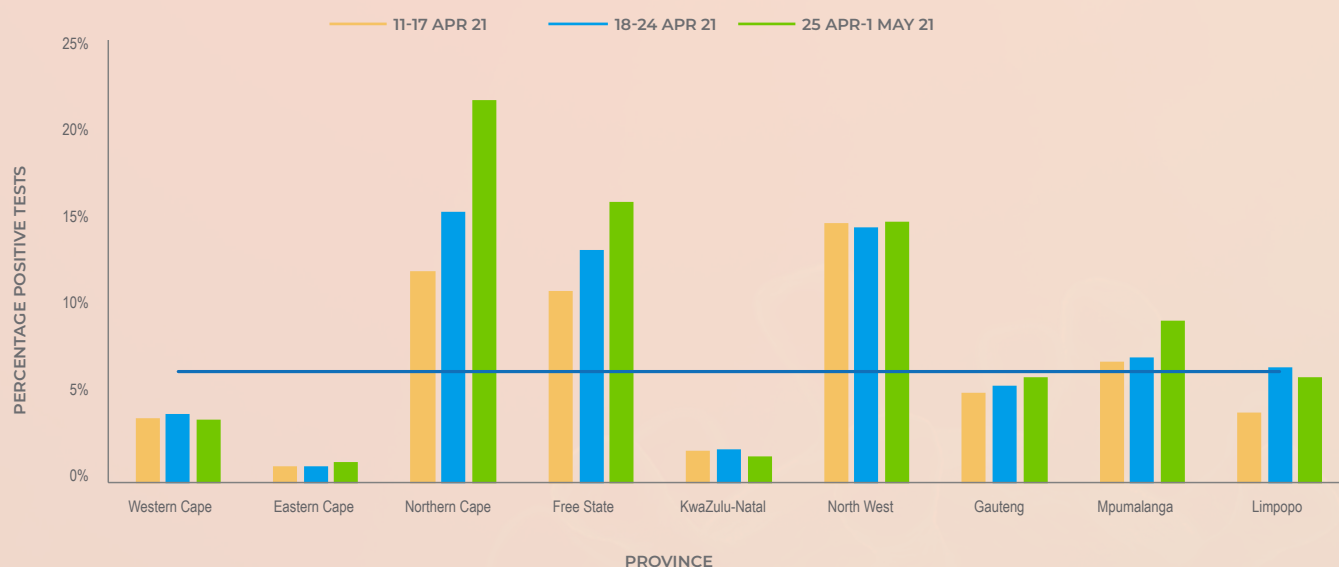


Figure 8. Weekly percentage testing positive in the public sector, by province, South Africa, 11 April – 1 May 2021. The horizontal blue line shows the national mean for week 17 of 2021, beginning 25 April 2021.

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 25 April – 1 May 2021, with the highest

proportion testing positive nationally.

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

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Table 5.1 Public sector healthcare facilities with a high proportion testing positive, 25 April – 1 May 2021

Facility Name	Province	Tests	PTP (95% CI)
Facility 1	Free State	36	0.556 (0.393;0.718)
Facility 2	Northern Cape	41	0.463 (0.311;0.616)
Facility 3	Free State	28	0.429 (0.245;0.612)
Facility 4	Northern Cape	72	0.417 (0.303;0.531)
Facility 5	Northern Cape	30	0.400 (0.225;0.575)
Facility 6	North West	112	0.375 (0.285;0.465)
Facility 7	Northern Cape	83	0.373 (0.269;0.478)
Facility 8	Free State	27	0.370 (0.188;0.553)
Facility 9	Free State	69	0.362 (0.249;0.476)
Facility 10	North West	181	0.359 (0.289;0.429)
Facility 11	North West	148	0.351 (0.274;0.428)
Facility 12	Free State	29	0.345 (0.172;0.518)
Facility 13	Northern Cape	117	0.325 (0.240;0.410)
Facility 14	Western Cape	34	0.324 (0.166;0.481)
Facility 15	Gauteng	79	0.316 (0.214;0.419)
Facility 16	Northern Cape	70	0.314 (0.206;0.423)
Facility 17	Northern Cape	26	0.308 (0.130;0.485)
Facility 18	Northern Cape	46	0.304 (0.171;0.437)
Facility 19	North West	79	0.304 (0.202;0.405)
Facility 20	Free State	30	0.300 (0.136;0.464)
Facility 21	Free State	158	0.297 (0.226;0.369)
Facility 22	North West	27	0.296 (0.124;0.469)
Facility 23	Gauteng	104	0.288 (0.201;0.376)
Facility 24	Free State	59	0.288 (0.173;0.404)
Facility 25	Northern Cape	85	0.282 (0.187;0.378)

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 25 April – 1 May 2021, with the highest proportion testing positive nationally. Private-sector facilities with high proportions testing positive are concentrated in the Free State (10), with six 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, 25 April – 1 May 2021

Facility Name	Province	Tests	PTP (95% CI)
Facility 1	Free State	52	0.423 (0.289;0.557)
Facility 2	Northern Cape	38	0.368 (0.215;0.522)
Facility 3	North West	26	0.346 (0.163;0.529)
Facility 4	Free State	57	0.333 (0.211;0.456)
Facility 5	Free State	51	0.314 (0.186;0.441)
Facility 6	North West	115	0.296 (0.212;0.379)
Facility 7	North West	75	0.293 (0.190;0.396)
Facility 8	Northern Cape	691	0.274 (0.240;0.307)
Facility 9	Northern Cape	528	0.261 (0.224;0.299)
Facility 10	Gauteng	70	0.257 (0.155;0.360)
Facility 11	Free State	38	0.237 (0.102;0.372)
Facility 12	North West	90	0.233 (0.146;0.321)
Facility 13	Gauteng	99	0.232 (0.149;0.316)
Facility 14	Free State	49	0.224 (0.108;0.341)
Facility 15	Free State	50	0.220 (0.105;0.335)
Facility 16	Free State	699	0.219 (0.188;0.250)
Facility 17	Northern Cape	74	0.216 (0.122;0.310)
Facility 18	Gauteng	48	0.208 (0.093;0.323)
Facility 19	Gauteng	467	0.201 (0.165;0.238)
Facility 20	Free State	219	0.201 (0.148;0.254)
Facility 21	Gauteng	25	0.200 (0.043;0.357)
Facility 22	Free State	25	0.200 (0.043;0.357)
Facility 23	Free State	424	0.196 (0.158;0.234)
Facility 24	Mpumalanga	582	0.194 (0.162;0.226)
Facility 25	Gauteng	114	0.193 (0.121;0.265)

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 25 April – 1 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. Districts showing the highest PTP remain largely as in previous recent weeks: Northern Cape (10), Free State (9) and North West (5) account for 24 of the 25 districts.

Four districts (Dikgatlong in the Northern Cape; Tokologo and Setsotso in the Free State; and Ditsobotla in North West) showed a PTP in the current week in excess of 30%. PTP exceeded 20% in a further 14 districts (8 in the previous week). Significant increases were observed in three districts: Naledi and Mafikeng in the North West, and Setsoto in the Free State.

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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 25 April – 1 May 2021

Health district or sub-district	Province	PTP (95% CI)	Previous week
Dikgatlong	Northern Cape	0.377 (0.272-0.481)	0.233 (0.155-0.311)
Tokologo	Free State	0.360 (0.239-0.482)	0.208 (0.129-0.286)
Ditsobotla	North West	0.323 (0.198-0.449)	0.273 (0.167-0.380)
Setsoto	Free State	0.316 (0.237-0.395)	0.078 (0.053-0.103)
Hantam	Northern Cape	0.299 (0.181-0.417)	0.280 (0.211-0.349)
Masilonyana	Free State	0.285 (0.153-0.418)	...
Naledi	North West	0.278 (0.216-0.339)	0.086 (0.000-0.200)
Kheis	Northern Cape	0.258 (0.110-0.405)	0.242 (0.135-0.349)
Maquassi Hills	North West	0.249 (0.193-0.305)	0.253 (0.207-0.300)
Sol Plaatjie	Northern Cape	0.244 (0.226-0.262)	0.232 (0.216-0.248)
Siyathemba	Northern Cape	0.241 (0.198-0.285)	0.188 (0.153-0.223)
Phokwane	Northern Cape	0.234 (0.157-0.311)	0.313 (0.222-0.404)
Ga-Segonyana	Northern Cape	0.233 (0.176-0.289)	0.188 (0.139-0.237)
Mafube	Free State	0.232 (0.114-0.349)	0.163 (0.077-0.249)
Richtersveld	Northern Cape	0.230 (0.088-0.373)	0.152 (0.104-0.200)
Mafikeng	North West	0.228 (0.199-0.258)	0.175 (0.152-0.198)
Dihlabeng	Free State	0.207 (0.179-0.236)	0.209 (0.183-0.235)
Metsimaholo	Free State	0.203 (0.153-0.253)	0.193 (0.151-0.236)
Kagisano/Molopo	North West	0.197 (0.108-0.286)	...
Letsemeng	Free State	0.195 (0.130-0.261)	0.115 (0.056-0.175)
Kai Garib	Northern Cape	0.194 (0.130-0.258)	0.124 (0.068-0.179)
Govan Mbeki	Mpumalanga	0.186 (0.159-0.213)	0.165 (0.140-0.190)
Moqhaka	Free State	0.183 (0.136-0.230)	0.159 (0.117-0.201)
Camagara	Northern Cape	0.181 (0.092-0.271)	0.261 (0.190-0.332)
Nala	Free State	0.176 (0.055-0.298)	0.172 (0.116-0.228)

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 reported in the present week, is presented graphically below.

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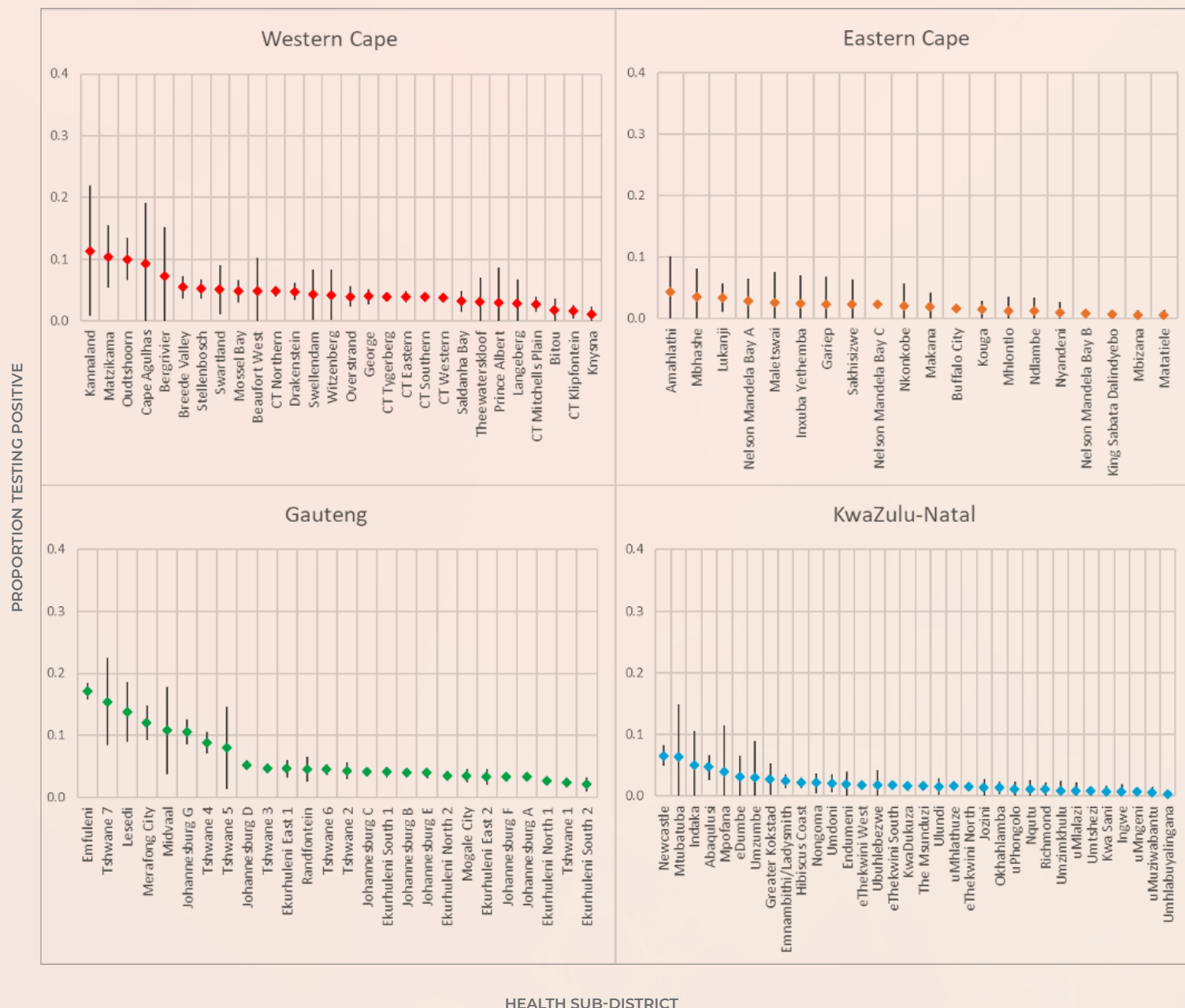


Figure 9.1 Proportions testing positive by health sub-district in the Western Cape, Eastern Cape, Gauteng and KwaZulu-Natal provinces based on public and private sector data for the week of 25 April – 1 May 2021.

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Figure 9.2 Proportions testing positive by health sub-district in the North West, Free State, Limpopo and Mpumalanga provinces based on public and private sector data for the week of 25 April – 1 May 2021.

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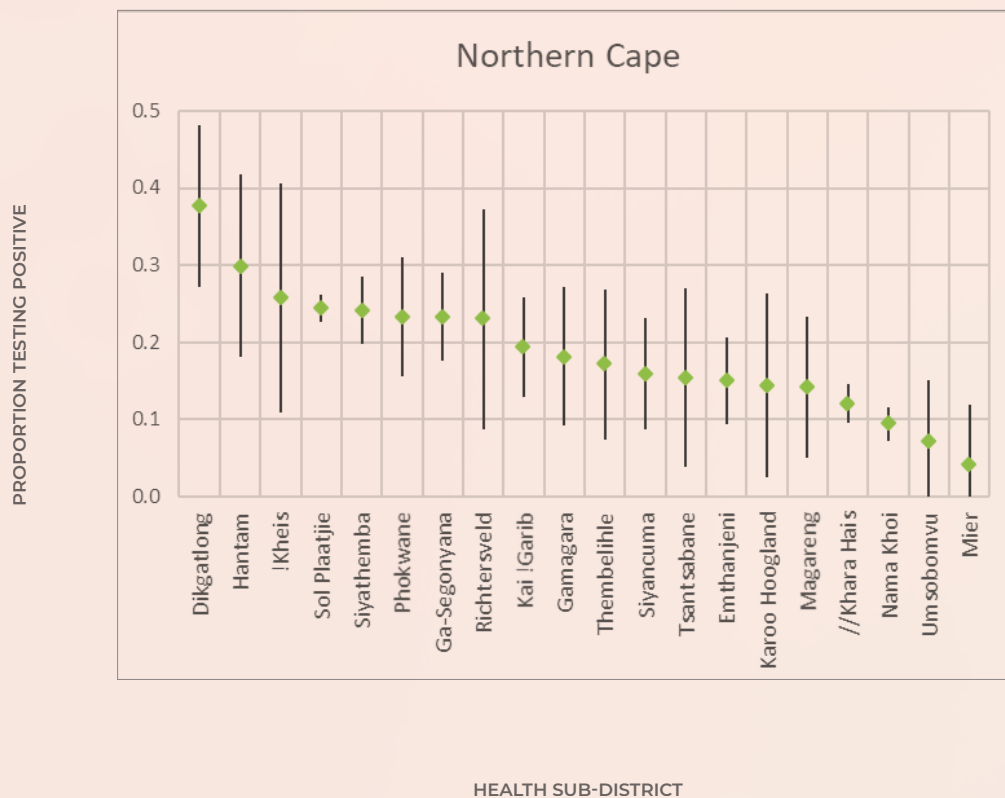


Figure 9.3 Proportions testing positive by health sub-districts in the Northern Cape Province based on public and private sector data for the week of 25 April – 1 May 2021.

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).

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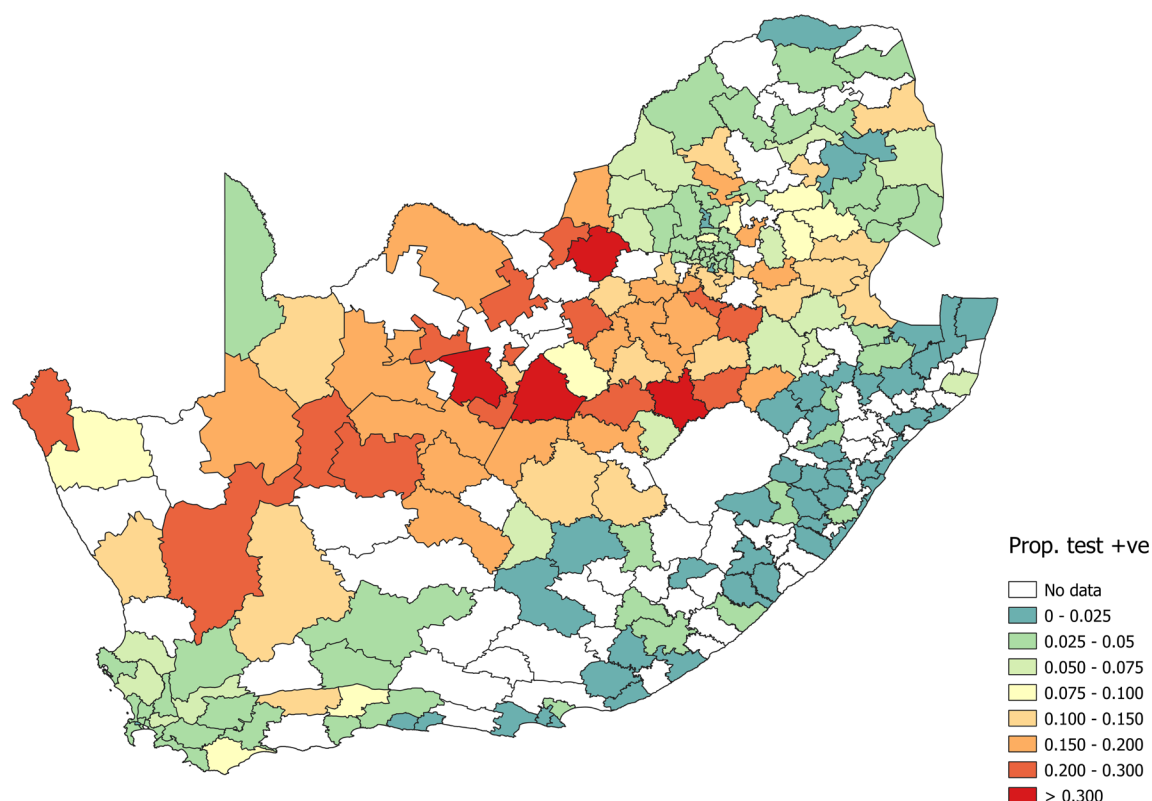


Figure 10. Proportion testing positive by health sub-district in South Africa for the week of 25 April – 1 May 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

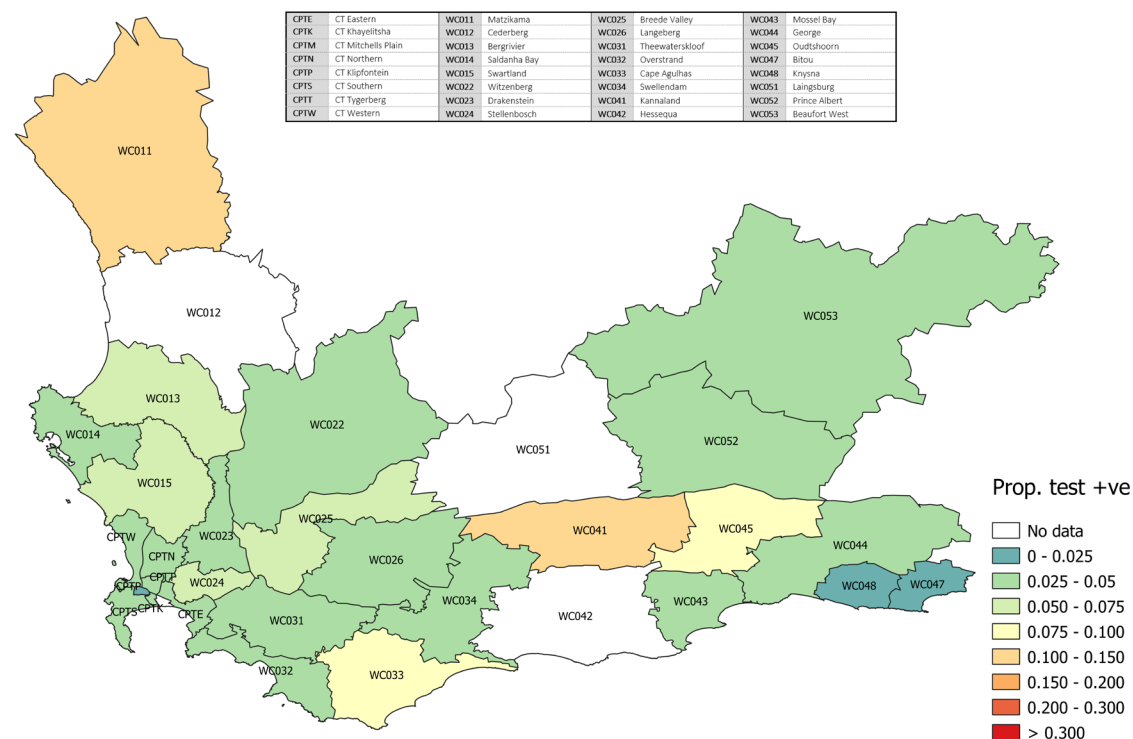


Figure 11. Proportion testing positive by health sub-district in the Western Cape Province for the week of 25 April – 1 May 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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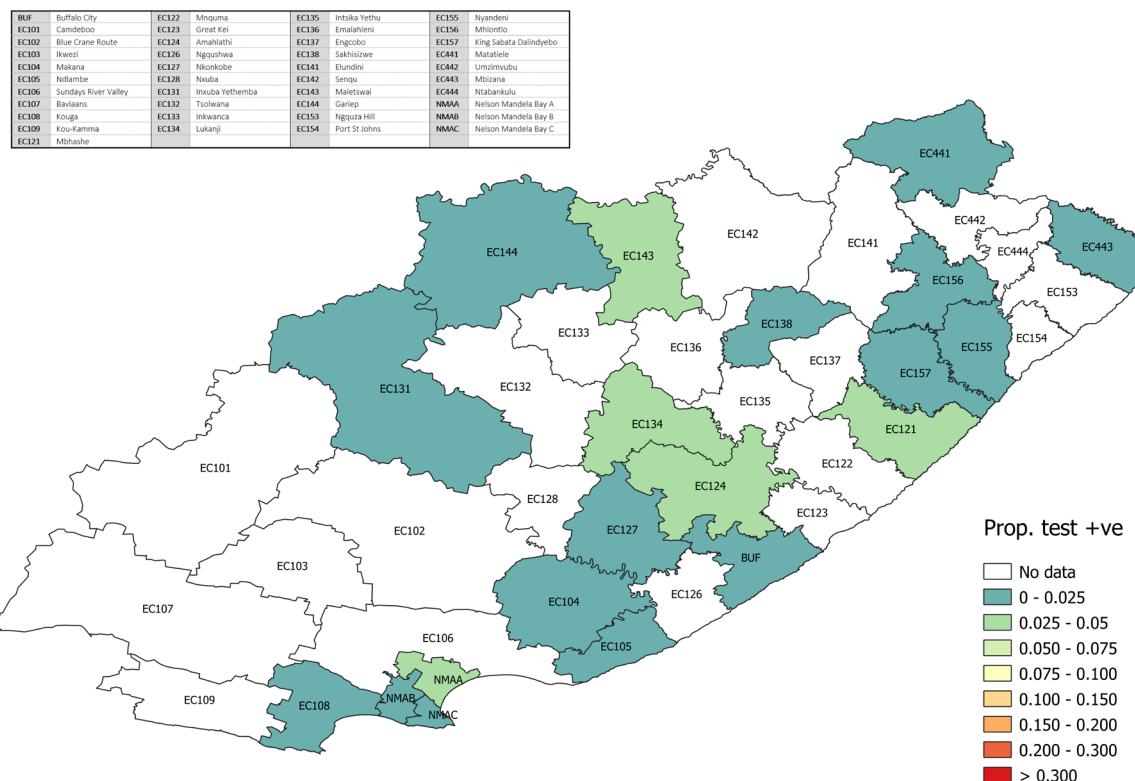


Figure 12. Proportion testing positive by health sub-district in the Eastern Cape Province for the week of 25 April – 1 May 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

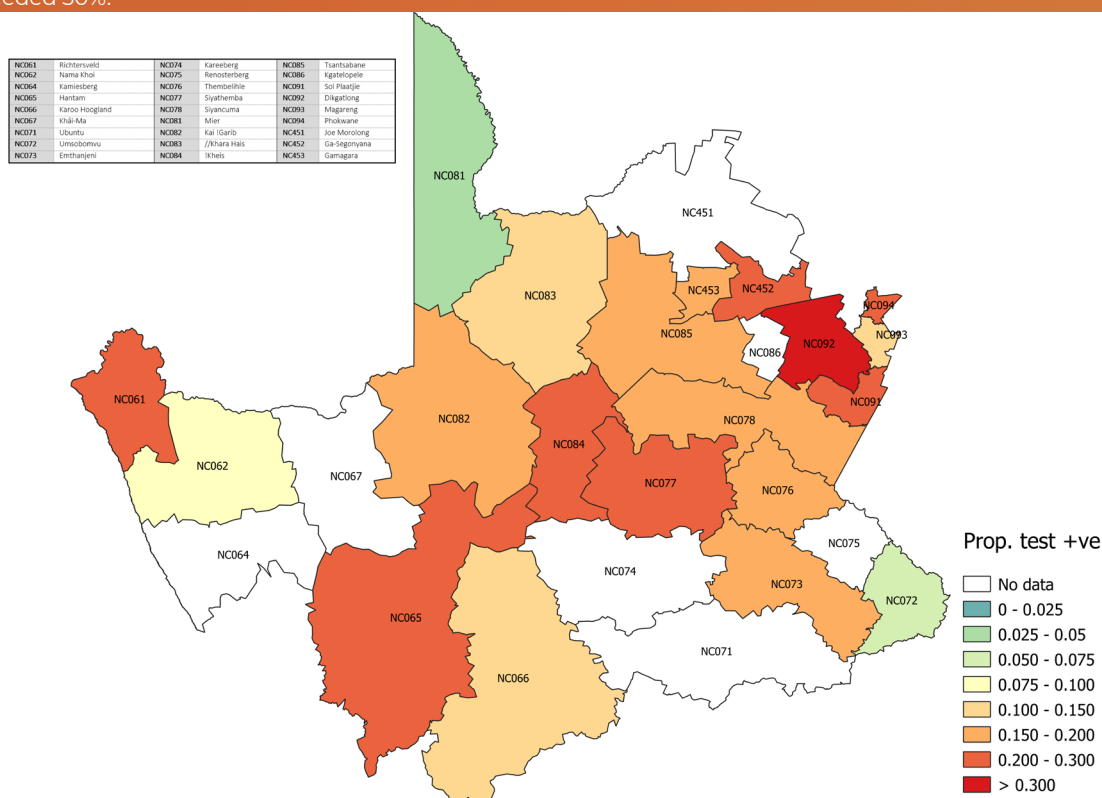


Figure 13. Proportion testing positive by health sub-district in Northern Cape Province for the week of 25 April – 1 May 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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MAN	Mangaung	FS181	Masilanyana	FS191	Setsoto	FS196	Mantsope
FS161	Letsemeng	FS182	Tokologo	FS192	Dihlabeng	FS201	Moghaka
FS162	Kopanong	FS183	Tswelopele	FS193	Nketoana	FS203	Ngwathe
FS163	Mohokare	FS184	Matjhabeng	FS194	Maluti a Phofung	FS204	Metsimaholo
FS164	Naledi	FS185	Nala	FS195	Phumelela	FS205	Mafoke

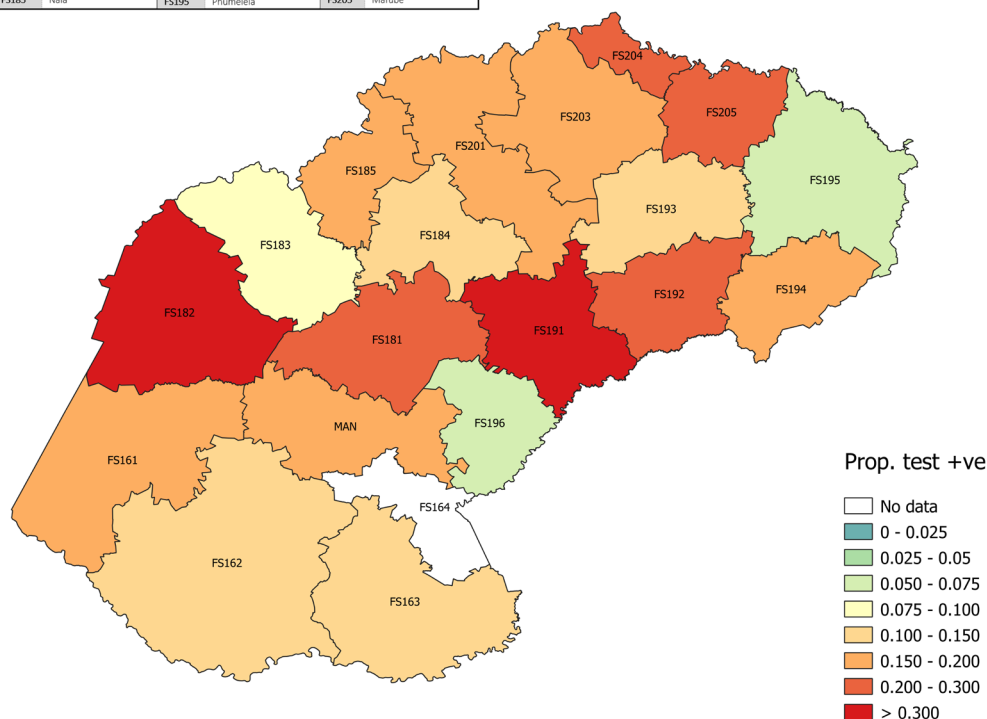


Figure 14. Proportion testing positive by health sub-district in Free State Province for the week of 25 April – 1 May 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

ETHN	eThekweni North	KZN233	Indaka	KZN273	The Big 5 False Bay
ETHS	eThekweni South	KZN234	Umtshezi	KZN274	Hlabisa
ETHW	eThekweni West	KZN235	Okhahlamba	KZN275	Mtubatuba
KZN211	Vulamehlo	KZN236	Imbabazane	KZN281	Mfolosi
KZN212	Umdoni	KZN241	Endumeni	KZN282	uMlathuze
KZN213	Umkomo	KZN242	Nqutu	KZN283	Ntambanana
KZN214	uMuziwabantu	KZN244	Mzinga	KZN284	uMlalazi
KZN215	Ezingweni	KZN245	Umvoti	KZN285	Mthonjaneni
KZN216	Hibiscus Coast	KZN252	Newcastle	KZN286	Nkandla
KZN221	uMshwathi	KZN253	Emadlangeni	KZN291	Mandeni
KZN222	uMngeni	KZN254	Dannhauser	KZN292	KwaDukuza
KZN223	Mjofana	KZN261	eDumile	KZN293	Ndwedwe
KZN224	Impendle	KZN262	uPhongolo	KZN294	Maphumulo
KZN225	The Msunduzi	KZN263	Alaqualusi	KZN431	Ingwe
KZN226	Mkhambathini	KZN265	Nongoma	KZN432	Kwa Sani
KZN227	Richmond	KZN266	Ulundi	KZN433	Greater Kokstad
KZN232	Emnambithi/Ladysmith	KZN271	Umhlabyalingana	KZN434	Ubuhlebezwe
		KZN272	Jozini	KZN435	Umqomkhulu

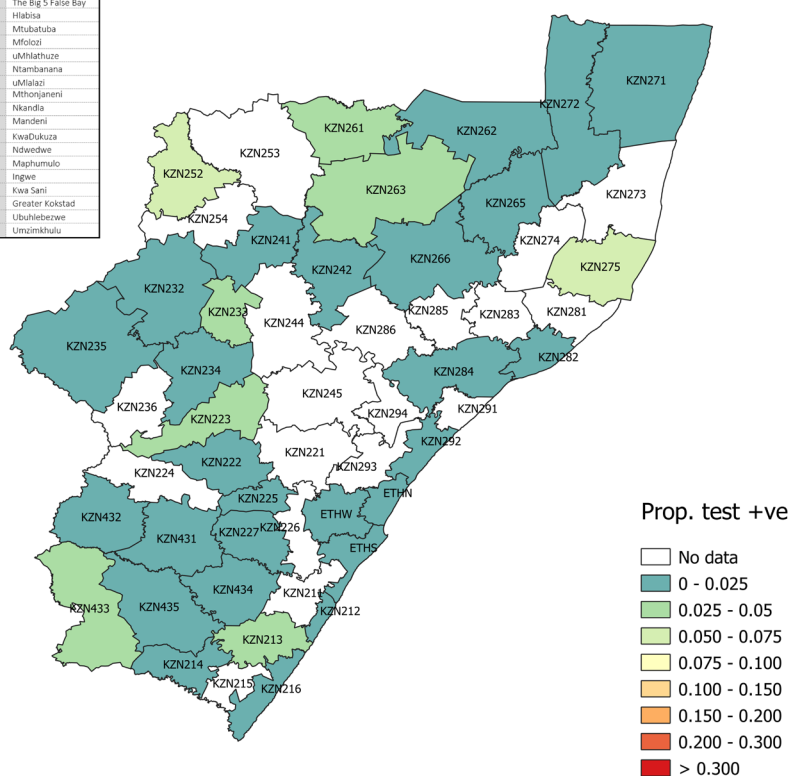


Figure 15. Proportion testing positive by health sub-district in KwaZulu-Natal Province for the week of 25 April – 1 May 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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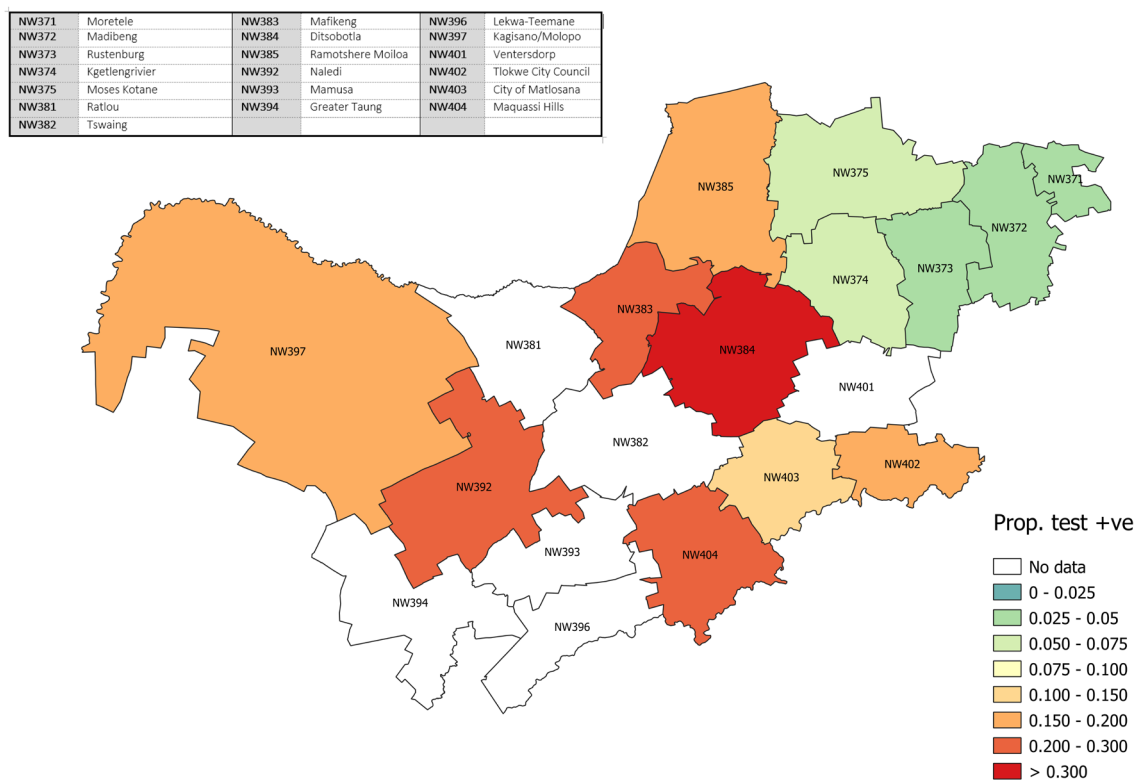


Figure 16. Proportion testing positive by health sub-district in North West Province for the week of 25 April – 1 May 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

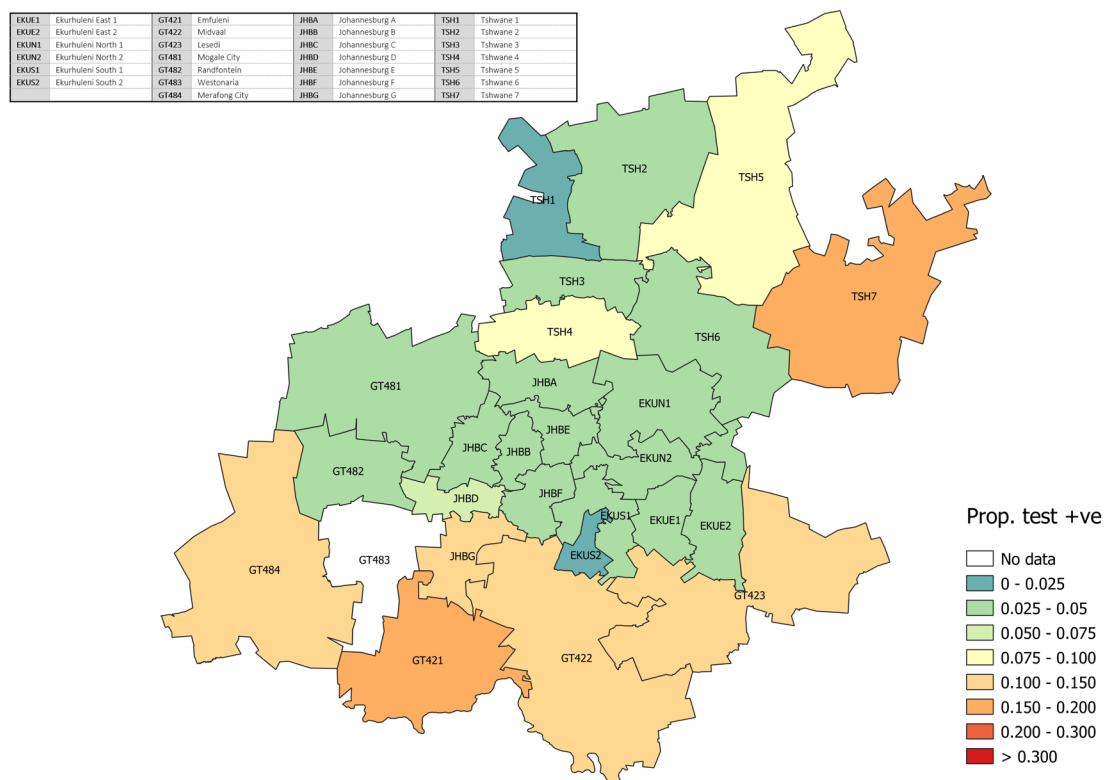


Figure 17. Proportion testing positive by health sub-district in Gauteng Province for the week of 25 April – 1 May 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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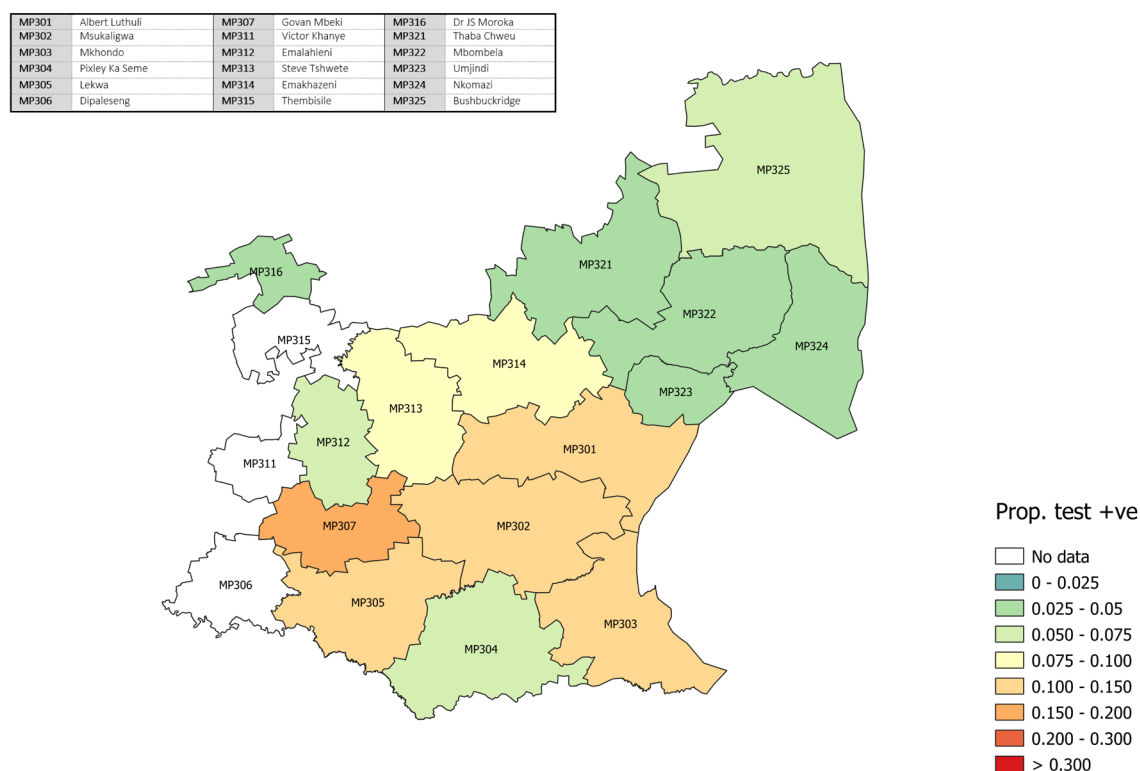


Figure 18. Proportion testing positive by health sub-district in Mpumalanga Province for the week of 25 April – 1 May 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

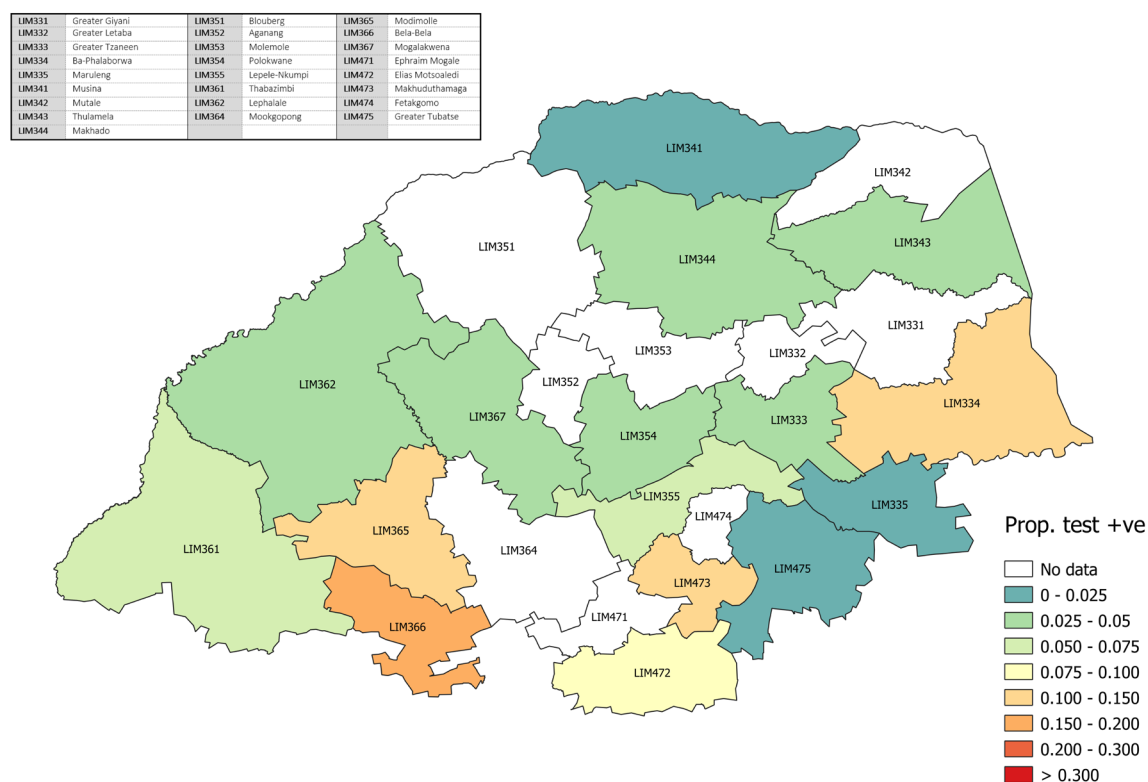


Figure 19. Proportion testing positive by health sub-district in Limpopo Province for the week of 25 April – 1 May 2021. Areas shaded white represent districts in which either (i) no tests were reported, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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Testing by patient admission status

In week 17 of 2021, 44.0% of reported tests were for hospitalised patients; 64.6% in the public sector and 28.5% in the private sector (Figure 20). The percentage testing positive in week 17 was higher among outpatients (7.1%) compared to inpatients (5.2%),

with increases observed in both groups (Figure 21). In week 17 the mean laboratory turnaround time for PCR tests in the public sector continued to be lower for inpatients (1.4 days) compared to outpatients (2.0 days) (Figure 22).

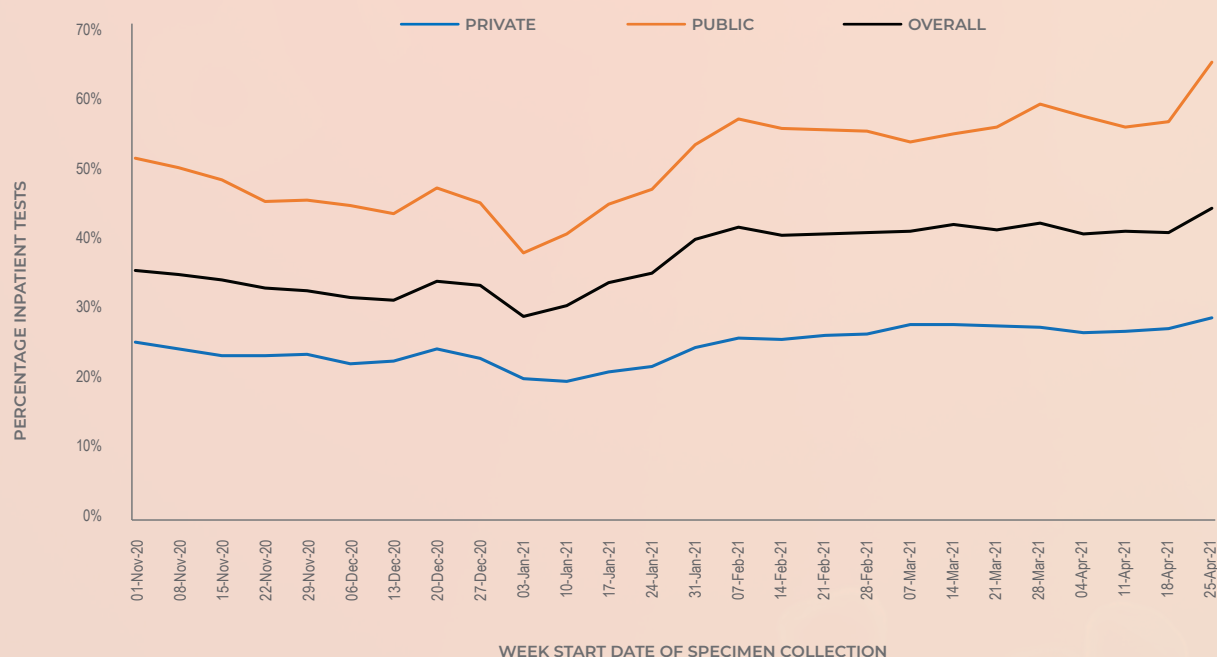


Figure 20. Percentage of inpatient tests reported by health sector, 1 November 2020 – 1 May 2021

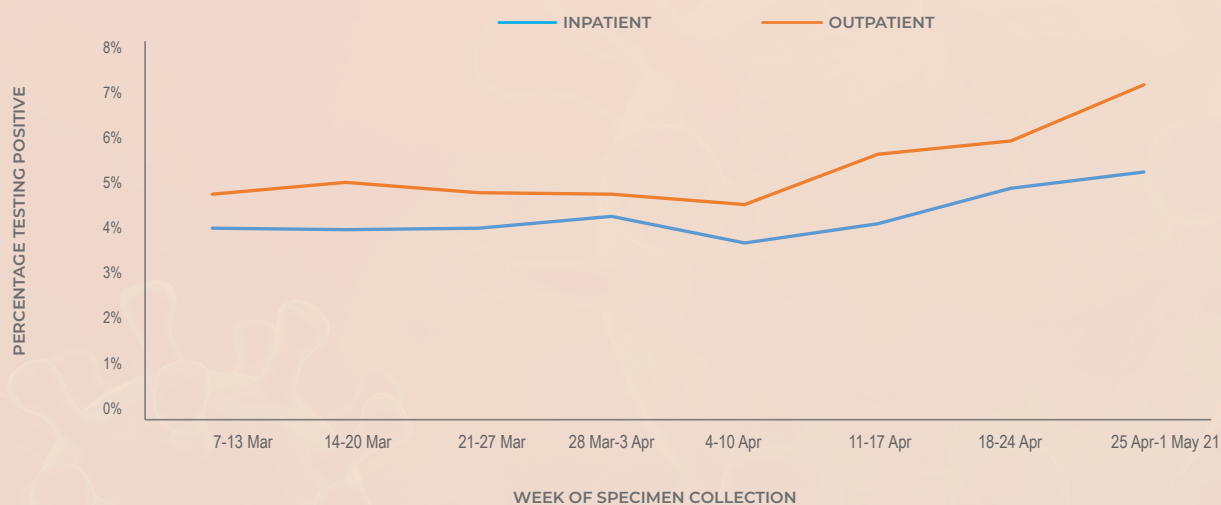


Figure 21. Percentage testing positive by patient admission status, 7 March – 1 May 2021

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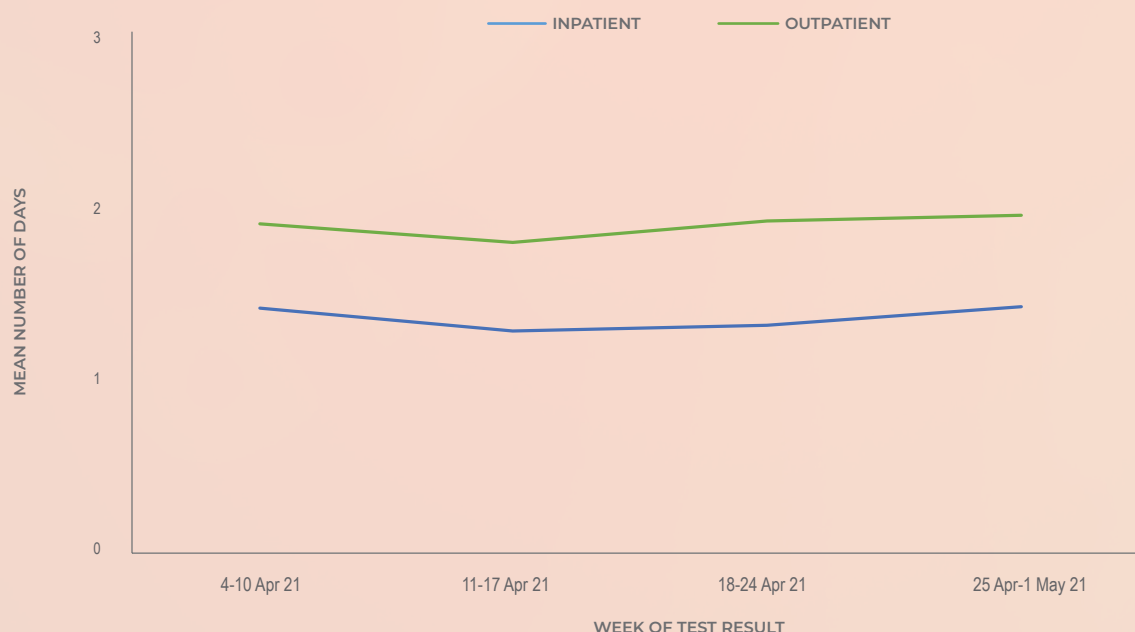


Figure 22. Mean number of days between date of specimen collection and date of test result for PCR tests in the public sector by patient admission status, 4 April – 1 May 2021

Testing by age and sex

The mean age of individuals tested in week 17 of 2021 was 39.8 years, and was slightly higher among males (40.1 years) compared to females (39.6 years) ($P < 0.001$). The majority of reported tests (56.6%) were 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 17, the testing rate was similar in males (228 per 100,000 persons) and females (238 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 (571 per 100,000 persons) in week 17. The percentage testing positive was highest in individuals aged 60-64 years (8.6%) and 65-69 years (8.5%); in males (8.0%) and females (9.4%) the highest percentage testing positive was in the 60-64 years age group (Figure 24).

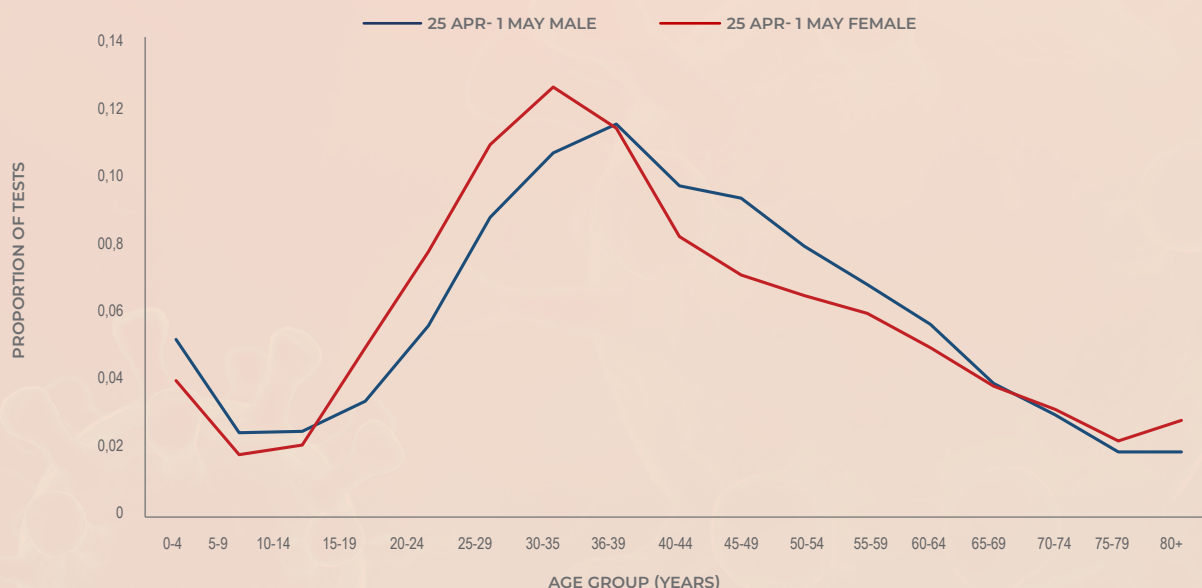


Figure 23. Proportion of tests by age group and sex, South Africa, week 17, 25 April – 1 May 2021

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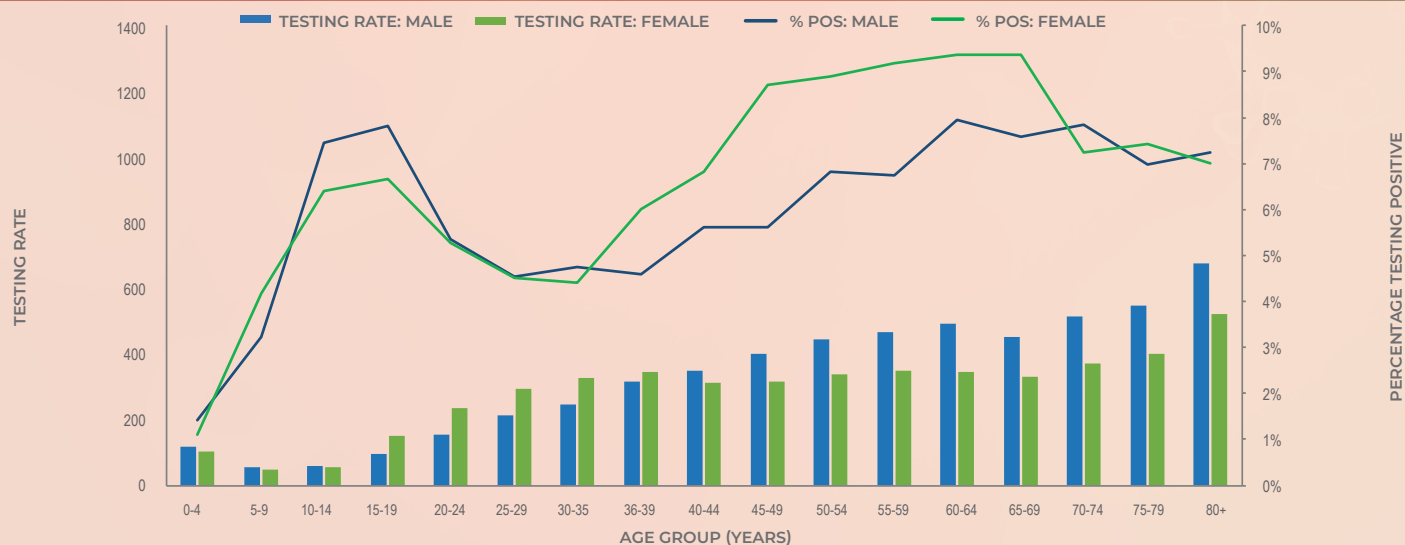


Figure 24. Testing rates per 100,000 persons and percentage testing positive by age group and sex, South Africa, week 17, 25 April – 1 May 2021

Testing by test type

Up to the end of week 17 of 2021, 7.2% (766,950/10,608,984) of all reported tests were antigen tests. The percentage of antigen tests was highest (20.5%) in week 5 and has subsequently declined to 16.3% of all tests reported in week 17 (Figure 25). In week 17, 23,275 antigen tests were reported, of which 78.4% were in the public sector. The majority of antigen tests have been reported in KwaZulu-

Natal (45.2%) and Eastern Cape (13.3%) provinces. The percentage testing positive was higher for PCR tests compared to antigen tests, and in week 17 was 6.8% for PCR tests and 2.0% for antigen tests (Figure 26). The mean turnaround time for antigen tests reported in week 17 was 4.7 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.

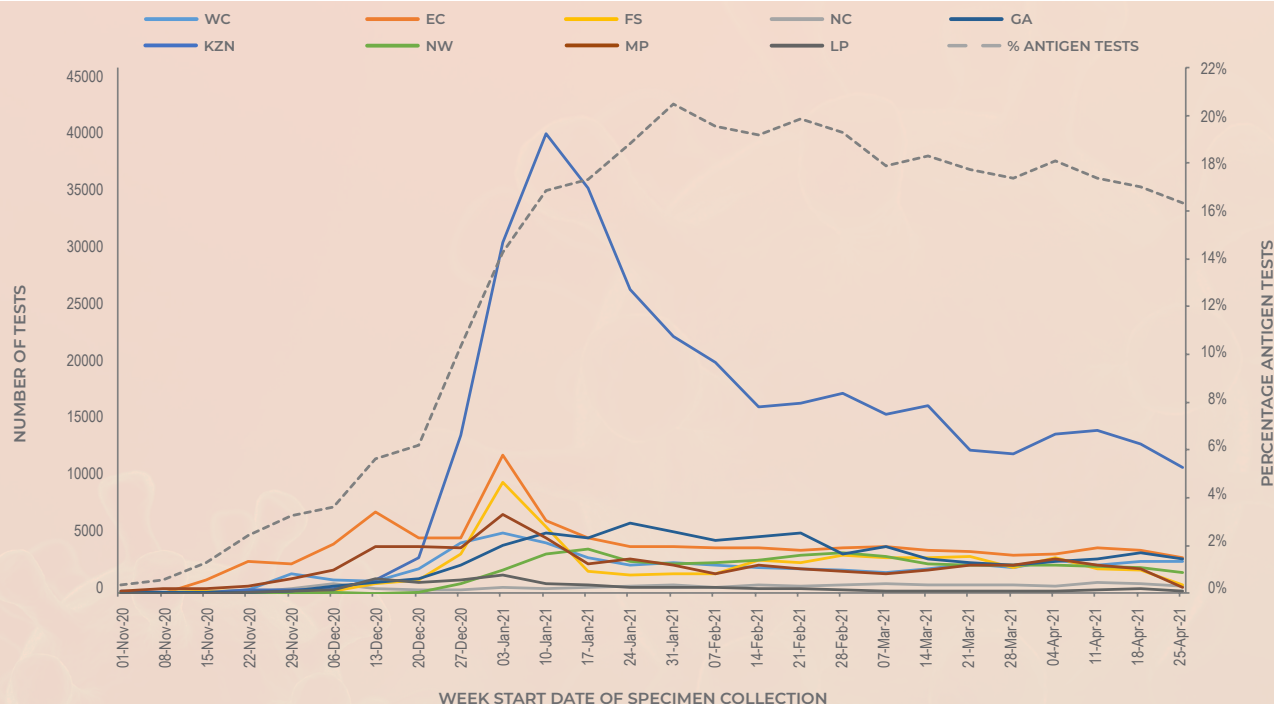


Figure 25. Number of antigen tests by province, and overall percentage antigen tests, South Africa, 1 November 2020 – 1 May 2021. WC, Western Cape; EC, Eastern Cape; FS, Free State; KZN, KwaZulu-Natal; GT, Gauteng; NC, Northern Cape; NW, North West; MP, Mpumalanga; LP, Limpopo

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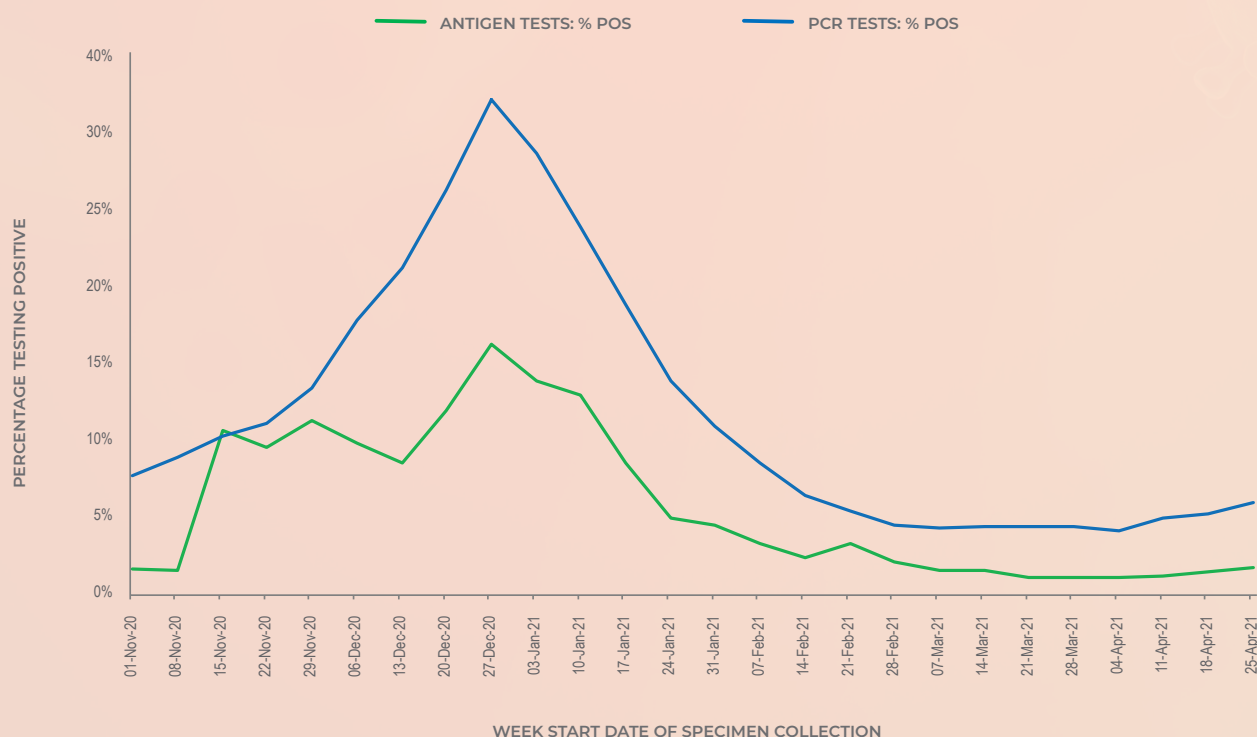


Figure 26. Percentage of laboratory tests positive for SARS-CoV-2 by test type and date of specimen collection, South Africa, 1 November 2020 – 1 May 2021

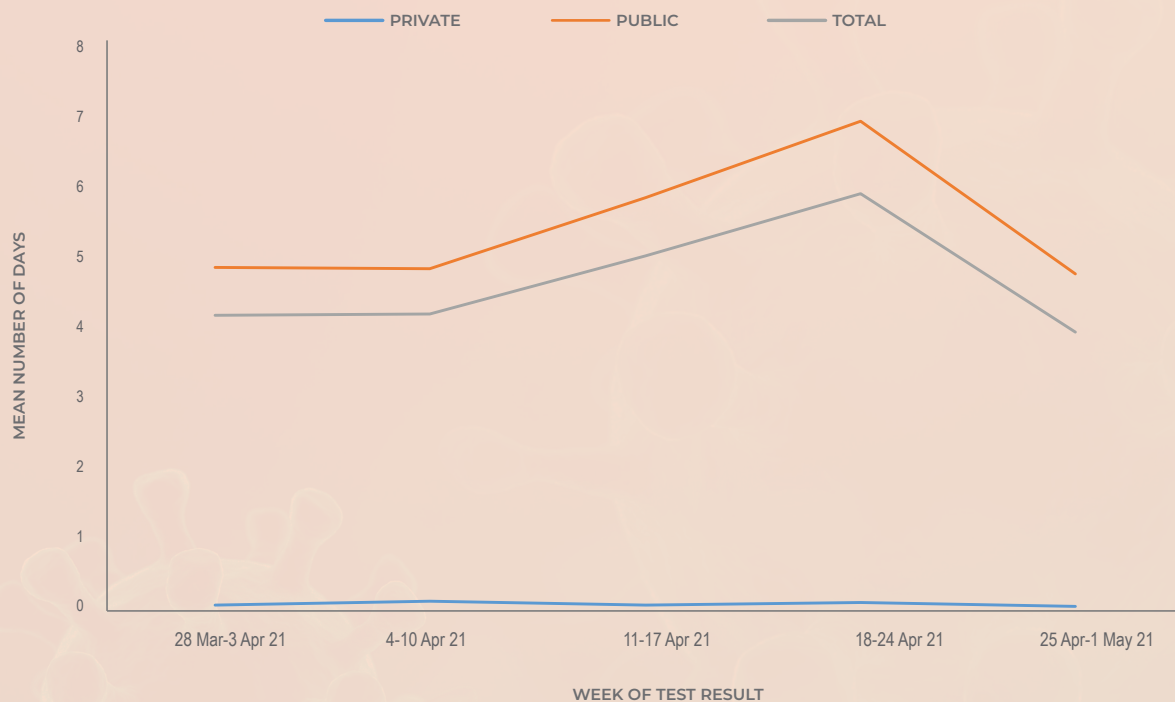


Figure 27. Mean number of days between date of specimen collection and date of test result for antigen tests, by week of test result, South Africa, 28 March – 1 May 2021

COVID-19 TESTING SUMMARY

SOUTH AFRICA | WEEK 17 2021

Limitations

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

CONCLUSIONS

The number of tests reported in week 17 (n=142,606) was lower than the weekly number of tests reported in recent weeks, possibly in part related to under-reporting of antigen tests. Gauteng (34.3%), KwaZulu-Natal (19.0%) and Western Cape (17.1%) provinces reported the largest number of tests in week 17. The overall testing rate in week 17 was 239 per 100,000 persons; highest in the Northern Cape (393 per 100,000 persons) and lowest in Limpopo (54 per 100,000 persons). Testing rates decreased in all provinces in the past week, most notably in the Northern Cape (from 618 per 100,000 in week 16 to 393 per 100,000 in week 17). Antigen tests accounted for 16.3% (n=23,275) of all tests reported in week 17. The overall mean laboratory turnaround time for PCR tests was 1.0 day in week 17; 1.6 days in the public sector and 0.6 days in the private sector.

In the second wave of infections the percentage testing positive peaked at 34.6% in week 53 of 2020, and has subsequently decreased. In week 17 of 2021 the percentage testing positive was 6.0%, which increased by 0.7% compared the previous week. The percentage testing positive in week 17 was highest in the Northern Cape (21.9%), Free State (16.9%) and North West (12.3%) provinces. The percentage testing positive was <8% in all other provinces in week 17. Compared to the previous week, the percentage testing positive in week 17 increased in the Northern Cape, Free State, Western Cape, Gauteng and Mpumalanga. The percentage testing positive was unchanged in the Eastern Cape, KwaZulu-Natal, North West and Limpopo provinces.