

COVID-19 TESTING SUMMARY



NATIONAL INSTITUTE FOR
COMMUNICABLE DISEASES

Division of the National Health Laboratory Service

SOUTH AFRICA WEEK 9 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 6 March 2021 (Week 9 of 2021).

HIGHLIGHTS

- In the period 1 March 2020 through 6 March 2021, 9,189,882 PCR and antigen tests for SARS-CoV-2 have been performed nationally.
- The number of tests performed in week 9 of 2021 (n=166,493) was similar to the previous few weeks.
- Testing rates in week 9 were highest in the Western Cape (408 per 100,000 persons) and lowest in Limpopo (74 per 100,000 persons).
- In week 9 the percentage testing positive was 4.8%, which had decreased from a peak of 34.7% in week 53 of 2020 and was lower than observed since May 2020.
- The percentage testing positive in week 9 was highest in Mpumalanga (9.5%) and Northern Cape (8.6%) provinces. The percentage testing positive was 5-7% in the Free State, North West and Limpopo, and was <5% in the Western Cape, Eastern Cape, KwaZulu-Natal and Gauteng.
- In week 9, compared to the previous week, the percentage testing positive decreased in the Western Cape, Northern Cape, Free State, KwaZulu-Natal, North West, Gauteng and Limpopo provinces, and was unchanged in the Eastern Cape and Mpumalanga.
- Mean laboratory turnaround time in week 9 was 1.0 day; 1.4 days in the public sector and <1 day 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 for PCR-based tests and 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 6 March 2021 (week 9 of 2021).

Testing volumes and proportion testing positive

From 1 March 2020 through 6 March 2021, 9,189,882 laboratory tests (PCR and antigen tests) for SARS-CoV-2 were performed. 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=307,902), and subsequently decreased. Weekly testing volumes increased again from week 47 (beginning 15 November 2020), with the highest weekly number of tests since the start of the pandemic performed in week 1 of 2021 (n=498,311). In week 9 of 2021, 166,493 tests were performed, lower than the number of weekly tests performed since week 48 (beginning 22 November 2020). Weekly testing volumes have remained relatively consistent since week 5 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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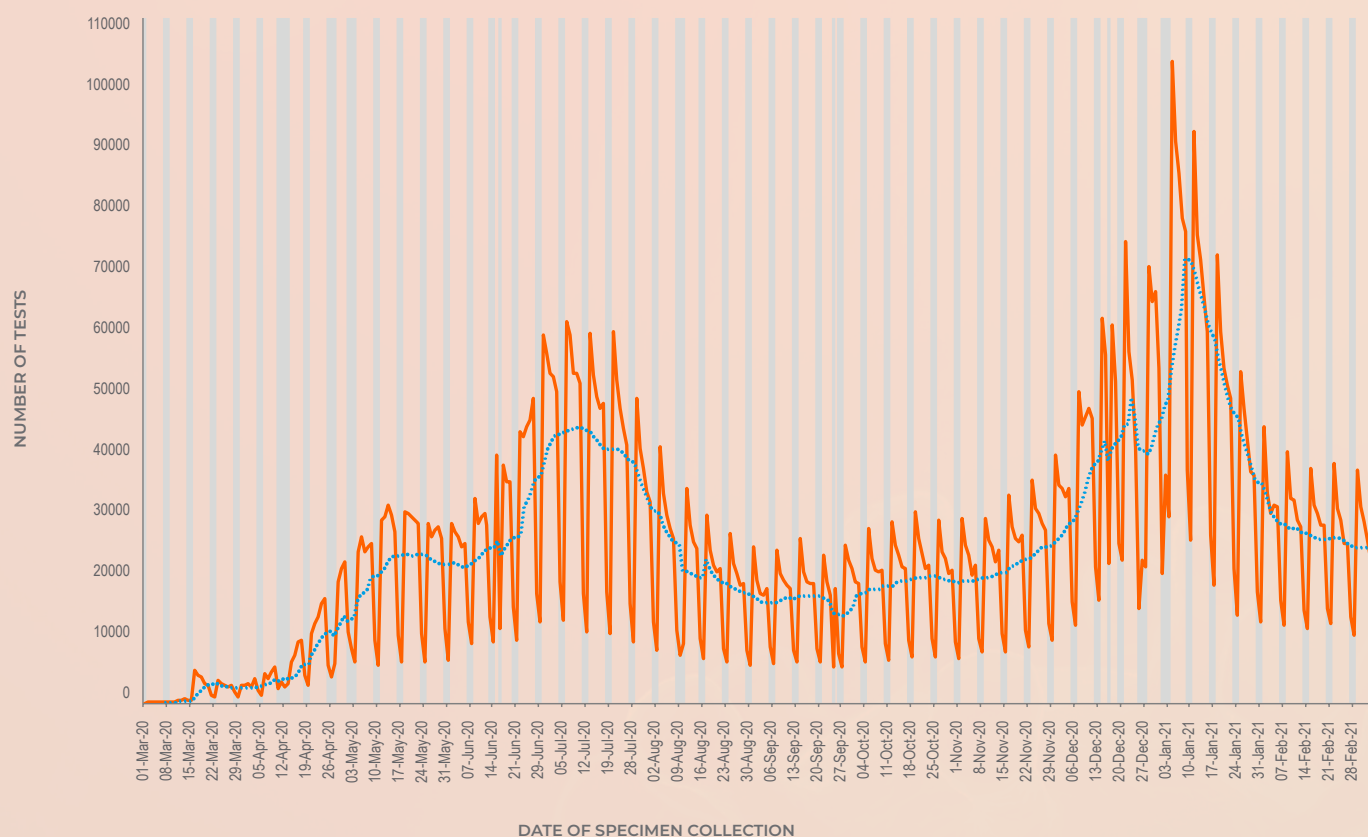


Figure 1. Number of laboratory tests conducted by date of specimen collection, South Africa, 1 March 2020 – 6 March 2021. Blue dotted line shows the 7-day moving average of the number of tests conducted. Grey bars highlight weekend days and public holidays.

The overall percentage testing positive from week 10 of 2020 through week 9 of 2021 was 17.5% (Table 1). During the first wave of infections, the percentage testing positive peaked at 29.7% in week 29 of 2020, and subsequently decreased to 8.4% in week 44 of 2020. During the second wave of infections the percentage testing positive started increasing from week 46 of 2020, to a peak of 34.7% in week 53 of 2020. The percentage testing positive in week 9 of 2021 was 4.8%, 1.0% lower than observed in week 8 and the lowest percentage testing positive since the start of the first wave (May 2020) (Figure 2).

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Table 1. Weekly number of tests conducted and positive tests, South Africa, 1 March 2020 – 6 March 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	17542 (0.2)	543	3.1
14	29-Mar-20	18245 (0.2)	520	2.9
15	05-Apr-20	26298 (0.3)	796	3.0
16	12-Apr-20	43749 (0.5)	1295	3.0
17	19-Apr-20	79174 (0.9)	2177	2.7
18	26-Apr-20	93810 (1.0)	3205	3.4
19	03-May-20	142705 (1.6)	6018	4.2
20	10-May-20	165370 (1.8)	8091	4.9
21	17-May-20	166541 (1.8)	11379	6.8
22	24-May-20	156135 (1.7)	12967	8.3
23	31-May-20	153565 (1.7)	15079	9.8
24	07-Jun-20	173893 (1.9)	22359	12.9
25	14-Jun-20	186074 (2.0)	32649	17.5
26	21-Jun-20	252085 (2.7)	55045	21.8
27	28-Jun-20	302697 (3.3)	75307	24.9
28	05-Jul-20	307902 (3.4)	86032	27.9
29	12-Jul-20	285590 (3.1)	84925	29.7
30	19-Jul-20	270881 (2.9)	78634	29.0
31	26-Jul-20	216377 (2.4)	58393	27.0
32	02-Aug-20	179562 (2.0)	40993	22.8
33	09-Aug-20	141101 (1.5)	26265	18.6
34	16-Aug-20	135007 (1.5)	21377	15.8
35	23-Aug-20	123327 (1.3)	16330	13.2
36	30-Aug-20	112758 (1.2)	12790	11.3
37	06-Sep-20	116992 (1.3)	11952	10.2
38	13-Sep-20	120710 (1.3)	12011	10.0
39	20-Sep-20	98816 (1.1)	10098	10.2
40	27-Sep-20	123056 (1.3)	11008	8.9
41	04-Oct-20	131037 (1.4)	11777	9.0
42	11-Oct-20	137958 (1.5)	12076	8.8
43	18-Oct-20	142156 (1.5)	12066	8.5
44	25-Oct-20	135839 (1.5)	11478	8.4
45	01-Nov-20	138806 (1.5)	12134	8.7
46	08-Nov-20	146992 (1.6)	14844	10.1
47	15-Nov-20	160629 (1.7)	18761	11.7
48	22-Nov-20	175674 (1.9)	22050	12.6
49	29-Nov-20	203051 (2.2)	30764	15.2
50	06-Dec-20	267383 (2.9)	53310	19.9
51	13-Dec-20	293917 (3.2)	68560	23.3
52	20-Dec-20	283794 (3.1)	81923	28.9
53	27-Dec-20	333356 (3.6)	115643	34.7
1	03-Jan-21	498311 (5.4)	150630	30.2
2	10-Jan-21	415536 (4.5)	104503	25.1
3	17-Jan-21	325042 (3.5)	63082	19.4
4	24-Jan-21	247724 (2.7)	34523	13.9
5	31-Jan-21	200858 (2.2)	22235	11.1
6	07-Feb-21	190418 (2.1)	16378	8.6
7	14-Feb-21	183946 (2.0)	12065	6.6
8	21-Feb-21	176597 (1.9)	10242	5.8
9	28-Feb-21	166493 (1.8)	7960	4.8
Total		9189882 (100.0)	1606255	17.5

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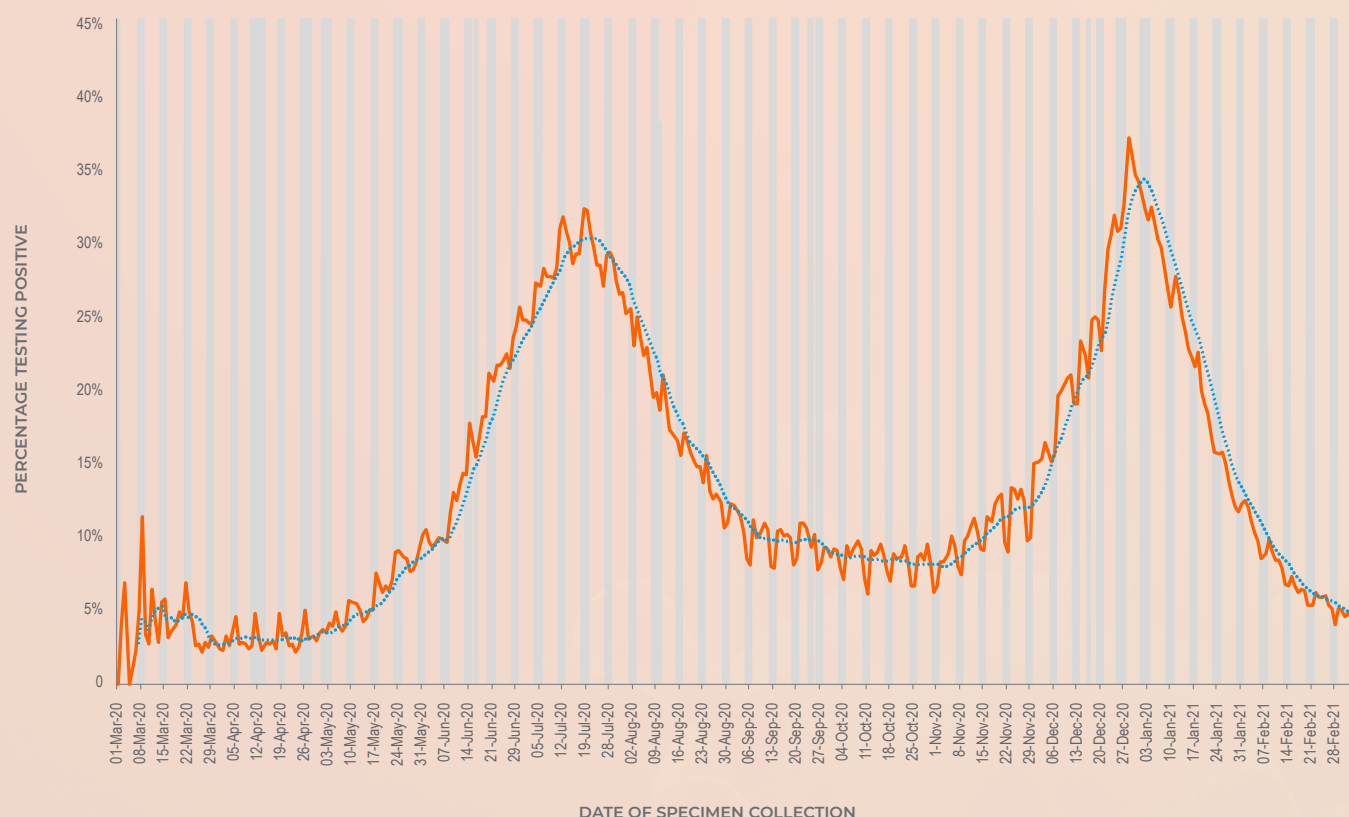


Figure 2. Percentage of laboratory tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 1 March 2020 –6 March 2021. Blue dotted line shows the 7-day moving average of the percentage testing positive. Grey bars highlight weekend days and public holidays.

Testing in private and public sectors

From 1 March 2020 through 6 March 2021, 4,008,645 laboratory tests were conducted in public sector laboratories, with 18.1% testing positive. Over this same period, private sector laboratories conducted 5,181,237 tests, with 17.0% testing positive (Table 2). Overall the public sector has conducted 43.6% of tests and accounted for 45.3% 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 8 to week 9 of 2021, the percentage testing positive decreased by 1.7% in the public sector (7.2% to 5.5%, $P<0.001$),

and decreased by 0.6% (4.7% to 4.1%, $P<0.001$) in the private sector. In week 9 of 2021 the percentage testing positive was higher in the public sector (5.5%) compared to the private sector (4.1%) ($P<0.001$).

The mean turnaround time for PCR tests performed in week 9 of 2021 was 1.0 day; 1.4 days in the public sector and 0.7 days in the private sector (Figure 3). Turnaround times for public sector tests were ≤ 2 days in all provinces, except Mpumalanga, in week 9 (Figure 4). Twenty-six of the 28 (92.9%) NHLS laboratories performing PCR testing for SARS-CoV-2 had turnaround times ≤ 2 days in week 9 (Figure 5).

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Table 2. Weekly number of tests conducted and positive tests, by healthcare sector, South Africa, 1 March 2020 – 6 March 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)	14064	394 (2.8)	19.8	27.4	1.529
14	29-Mar-20	5868	194 (3.3)	12377	326 (2.6)	32.2	37.3	1.255
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)	19582	623 (3.2)	55.2	51.9	0.874
17	19-Apr-20	55110	1595 (2.9)	24064	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)	48367	1511 (3.1)	66.1	74.9	1.529
20	10-May-20	107997	5443 (5.0)	57373	2648 (4.6)	65.3	67.3	1.092
21	17-May-20	98647	7031 (7.1)	67894	4348 (6.4)	59.2	61.8	1.113
22	24-May-20	77596	6411 (8.3)	78539	6556 (8.3)	49.7	49.4	0.990
23	31-May-20	63943	6626 (10.4)	89622	8453 (9.4)	41.6	43.9	1.099
24	07-Jun-20	64653	8038 (12.4)	109240	14321 (13.1)	37.2	35.9	0.948
25	14-Jun-20	61147	11982 (19.6)	124927	20667 (16.5)	32.9	36.7	1.184
26	21-Jun-20	90452	20425 (22.6)	161633	34620 (21.4)	35.9	37.1	1.054
27	28-Jun-20	106366	27244 (25.6)	196331	48063 (24.5)	35.1	36.2	1.046
28	05-Jul-20	117723	32238 (27.4)	190179	53794 (28.3)	38.2	37.5	0.968
29	12-Jul-20	110659	31383 (28.4)	174931	53542 (30.6)	38.7	37.0	0.927
30	19-Jul-20	105206	30319 (28.8)	165675	48315 (29.2)	38.8	38.6	0.988
31	26-Jul-20	81234	22782 (28.0)	135143	35611 (26.4)	37.5	39.0	1.064
32	02-Aug-20	70566	16996 (24.1)	108996	23997 (22.0)	39.3	41.5	1.094
33	09-Aug-20	58660	11172 (19.0)	82441	15093 (18.3)	41.6	42.5	1.040
34	16-Aug-20	56136	9621 (17.1)	78871	11756 (14.9)	41.6	45.0	1.150
35	23-Aug-20	50317	7790 (15.5)	73010	8540 (11.7)	40.8	47.7	1.324
36	30-Aug-20	45420	6096 (13.4)	67338	6694 (9.9)	40.3	47.7	1.350
37	06-Sep-20	51054	6421 (12.6)	65938	5531 (8.4)	43.6	53.7	1.499
38	13-Sep-20	53705	6547 (12.2)	67005	5464 (8.2)	44.5	54.5	1.495
39	20-Sep-20	44840	5530 (12.3)	53976	4568 (8.5)	45.4	54.8	1.457
40	27-Sep-20	48627	5568 (11.5)	74429	5440 (7.3)	39.5	50.6	1.567
41	04-Oct-20	50430	5688 (11.3)	80607	6089 (7.6)	38.5	48.3	1.493
42	11-Oct-20	53445	5702 (10.7)	84513	6374 (7.5)	38.7	47.2	1.415
43	18-Oct-20	56120	6044 (10.8)	86036	6022 (7.0)	39.5	50.1	1.539
44	25-Oct-20	51281	5721 (11.2)	84558	5757 (6.8)	37.8	49.8	1.639
45	01-Nov-20	52988	6061 (11.4)	85818	6073 (7.1)	38.2	50.0	1.616
46	08-Nov-20	58907	8097 (13.7)	88085	6747 (7.7)	40.1	54.5	1.795
47	15-Nov-20	67576	10584 (15.7)	93053	8177 (8.8)	42.1	56.4	1.782
48	22-Nov-20	74570	12199 (16.4)	101104	9851 (9.7)	42.4	55.3	1.679
49	29-Nov-20	81188	15730 (19.4)	121863	15034 (12.3)	40.0	51.1	1.570
50	06-Dec-20	107396	24715 (23.0)	159987	28595 (17.9)	40.2	46.4	1.288
51	13-Dec-20	116704	29804 (25.5)	177213	38756 (21.9)	39.7	43.5	1.168
52	20-Dec-20	109332	34118 (31.2)	174462	47805 (27.4)	38.5	41.6	1.139
53	27-Dec-20	150707	52872 (35.1)	182649	62771 (34.4)	45.2	45.7	1.021
1	03-Jan-21	234367	70742 (30.2)	263944	79888 (30.3)	47.0	47.0	0.997
2	10-Jan-21	202133	52820 (26.1)	213403	51683 (24.2)	48.6	50.5	1.079
3	17-Jan-21	164479	34393 (20.9)	160563	28689 (17.9)	50.6	54.5	1.170
4	24-Jan-21	122350	18951 (15.5)	125374	15572 (12.4)	49.4	54.9	1.247
5	31-Jan-21	98319	11995 (12.2)	102539	10240 (10.0)	48.9	53.9	1.222
6	07-Feb-21	89590	8444 (9.4)	100828	7934 (7.9)	47.0	51.6	1.198
7	14-Feb-21	82962	6576 (7.9)	100984	5489 (5.4)	45.1	54.5	1.458
8	21-Feb-21	78141	5648 (7.2)	98456	4594 (4.7)	44.2	55.1	1.549
9	28-Feb-21	76410	4231 (5.5)	90083	3729 (4.1)	45.9	53.2	1.338
Total		4008645	726903 (18.1)	5181237	879352 (17.0)	43.6	45.3	1.068

^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)

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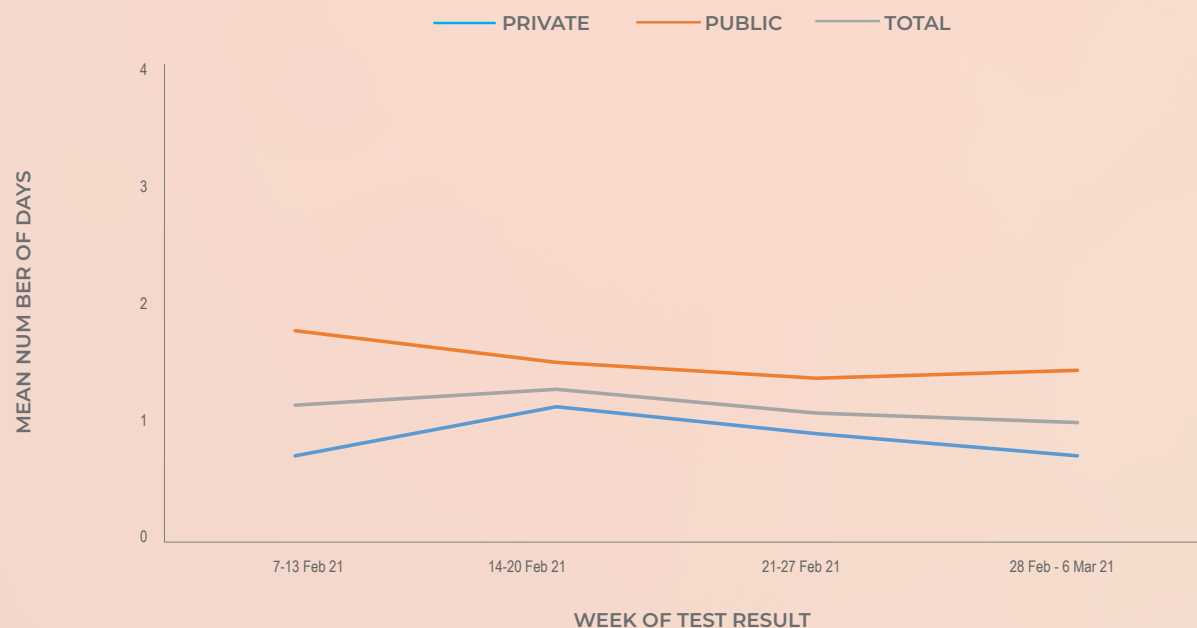


Figure 3. Mean number of days between date of specimen collection and date of test result, by week of test result, South Africa, 7 February – 6 March 2021

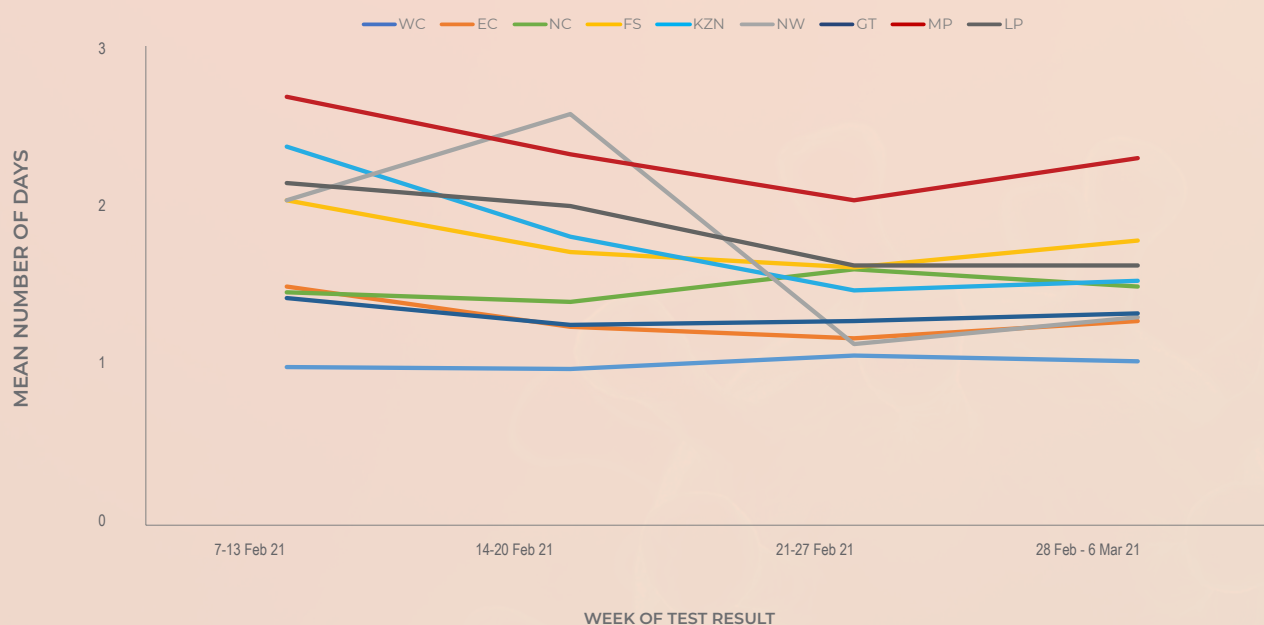


Figure 4. Mean number of days between date of specimen collection and date of test result, by week of test result and province, public sector, South Africa, 7 February – 6 March 2021. WC, Western Cape; EC, Eastern Cape; FS, Free State; KZN, KwaZulu-Natal; GT, Gauteng; NC, Northern Cape; NW, North West; MP, Mpumalanga; LP, Limpopo

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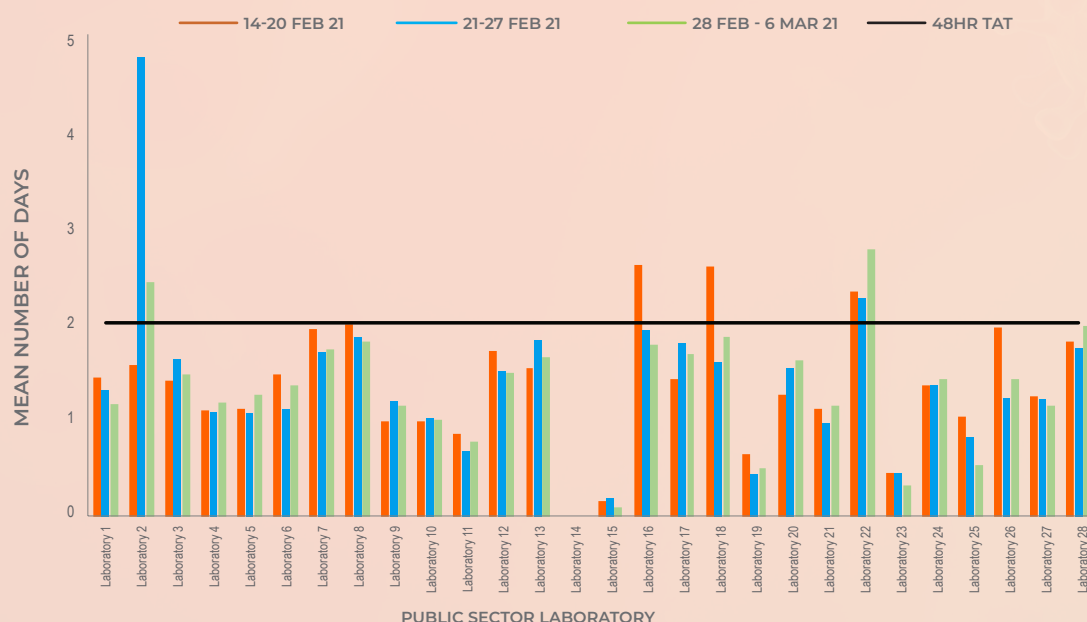


Figure 5. Mean number of days between date of specimen collection and date of test result, by public sector laboratory, 14 February – 6 March 2021. The horizontal black line indicates 48-hour turnaround time (TAT).

Testing by province

The majority of tests continued to be performed in Gauteng (31.6%), KwaZulu-Natal (22.8%) and Western Cape (17.2%) provinces in week 9 of 2021 (Table 3). The overall testing rate in week 9 was 279 per 100,000 persons; ranging from 408 per 100,000 persons in the Western Cape to 74 per 100,000 persons in Limpopo (Figure 6). Testing rates have decreased in all provinces since week 1 of 2021, but have remained relatively consistent since week 4 of 2021.

The percentage testing positive in week 9 of 2021 was highest in Mpumalanga (9.5%) and Northern Cape (8.6%)

provinces (Figure 7 and Table 3). The percentage testing positive was 5-7% in the Free State, North West and Limpopo, and was <5% in the Western Cape, Eastern Cape, KwaZulu-Natal and Gauteng in week 9. Compared to the previous week, the percentage testing positive decreased in week 9 in the Western Cape ($P<0.001$), Northern Cape ($P=0.001$), Free State ($P=0.044$), KwaZulu-Natal ($P<0.001$), North West ($P<0.001$), Gauteng ($P<0.001$) and Limpopo ($P=0.015$), and remained unchanged in the Eastern Cape ($P=0.291$) and Mpumalanga ($P=0.921$). The percentage testing positive was higher than the national average, not weighted for population size, in the Northern Cape, Free State, North West, Mpumalanga and Limpopo (Figure 7).

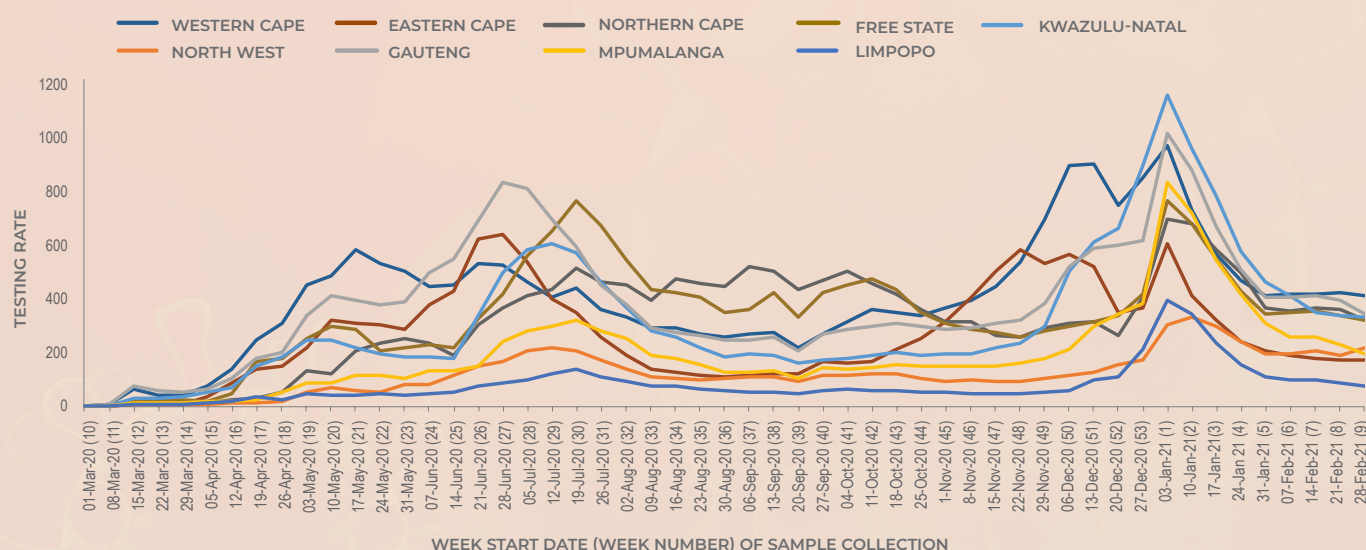


Figure 6. Testing rate per 100,000 persons by province and week of specimen collection, South Africa, 1 March 2020 – 6 March 2021

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Table 3. Weekly number of tests performed and positive tests, by province, South Africa, 14 February – 6 March 2021

Province	Population ^a	14 - 20 Feb 21		21 - 27 Feb 21		28 Feb - 6 Mar 21		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	28743	1860 (6.5)	29061	1567 (5.4)	28590	1357 (4.7)	408	-0.6%
Eastern Cape	6734001	11945	328 (2.7)	11407	237 (2.1)	11626	219 (1.9)	173	-0.2%
Northern Cape	1292786	4679	537 (11.5)	4589	492 (10.7)	4096	353 (8.6)	317	-2.1%
Free State	2928903	10300	786 (7.6)	9699	720 (7.4)	9245	617 (6.7)	316	-0.7%
KwaZulu-Natal	11531628	39619	2262 (5.7)	38382	2242 (5.8)	38015	1443 (3.8)	330	-2.0%
North West	4108816	8326	752 (9.0)	7721	663 (8.6)	8813	600 (6.8)	214	-1.8%
Gauteng	15488137	62652	3770 (6.0)	59887	2939 (4.9)	52593	2240 (4.3)	340	-0.6%
Mpumalanga	4679786	11783	1190 (10.1)	10682	1006 (9.4)	8986	850 (9.5)	192	0.0%
Limpopo	5852553	5570	578 (10.4)	4875	376 (7.7)	4320	277 (6.4)	74	-1.3%
Unknown		329	2 (0.6)	294	0 (0.0)	209	4 (1.9)		
Total	59622350	183946	12065 (6.6)	176597	10242 (5.8)	166493	7960 (4.8)	279	-1.0%

^a 2020 Mid-year population Statistics SA

^b Current week compared to previous week

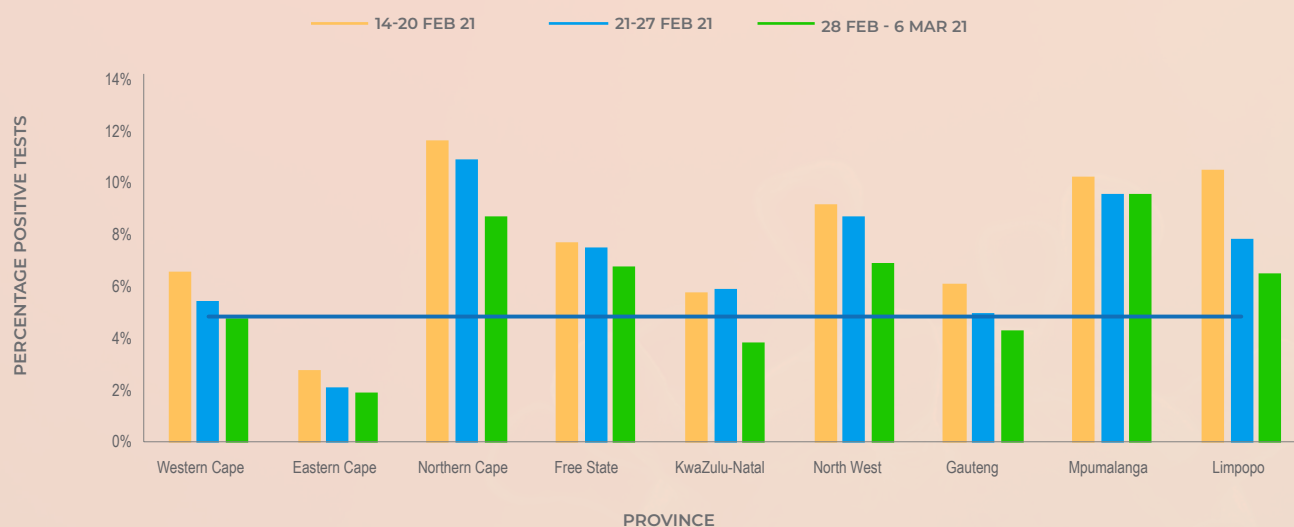


Figure 7. Weekly percentage testing positive, by province, South Africa, 14 February – 6 March 2021. The horizontal blue line shows the national mean for week 9, beginning 28 February 2021

Testing in the public sector

In the public sector, the percentage testing positive decreased in the past week (7.2% in week 8 to 5.5% in week 9 of 2021, $P < 0.001$) (Table 4). The percentage testing positive in week 9 of 2021 was highest in

Mpumalanga (11.8%) and Northern Cape (10.0%) provinces. The percentage testing positive in the public sector remains higher than the national average, not weighted for population size, in the Western Cape, Northern Cape, Free State, North West, Gauteng, Mpumalanga and Limpopo 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, 14 February – 6 March 2021

Province	14 - 20 Feb 2021		21 - 27 Feb 2021		28 Feb - 6 Mar 2021	
	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)
Western Cape	9717	907 (9.3)	10143	706 (7.0)	9940	592 (6.0)
Eastern Cape	7434	188 (2.5)	6825	126 (1.8)	7099	107 (1.5)
Northern Cape	2888	382 (13.2)	2694	302 (11.2)	2344	234 (10.0)
Free State	4680	434 (9.3)	4457	386 (8.7)	3834	292 (7.6)
KwaZulu-Natal	26166	1633 (6.2)	25196	1699 (6.7)	26220	1109 (4.2)
North West	3792	393 (10.4)	3434	384 (11.2)	3390	252 (7.4)
Gauteng	20360	1709 (8.4)	18858	1344 (7.1)	18127	1069 (5.9)
Mpumalanga	5905	668 (11.3)	4912	562 (11.4)	3893	460 (11.8)
Limpopo	1731	261 (15.1)	1403	139 (9.9)	1389	113 (8.1)
Unknown	289	1 (0.3)	219	0 (0.0)	174	3 (1.7)
Total	82962	6576 (7.9)	78141	5648 (7.2)	76410	4231 (5.5)

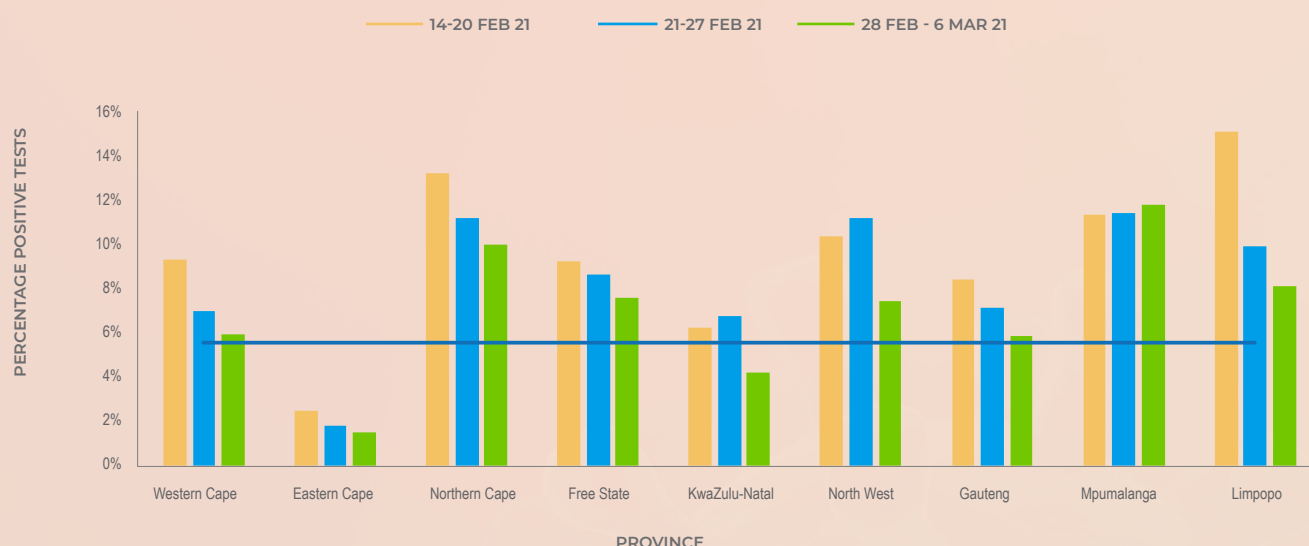


Figure 8. Weekly percentage testing positive in the public sector, by province, South Africa, 14 February – 6 March 2021. The horizontal blue line shows the national mean for week 9 of 2021, beginning 28 February 2021.

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 28 February – 6 March 2021, with the highest proportion testing positive nationally. The distribution of public sector facilities in the table below remains spatially diffuse. Five are in each of the Free State and KwaZulu-Natal, and four in each of Mpumalanga and the Northern Cape.

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Table 5.1 Public sector healthcare facilities with a high proportion testing positive, 28 February – 6 March 2021

Facility Name	Province	Tests	PTP (95% CI)
Facility 1	Northern Cape	99	0.394 (0.298;0.490)
Facility 2	Free State	27	0.370 (0.188;0.553)
Facility 3	KwaZulu-Natal	77	0.351 (0.244;0.457)
Facility 4	North West	27	0.333 (0.156;0.511)
Facility 5	Western Cape	35	0.314 (0.160;0.468)
Facility 6	Free State	30	0.300 (0.136;0.464)
Facility 7	Mpumalanga	75	0.280 (0.178;0.382)
Facility 8	KwaZulu-Natal	239	0.272 (0.216;0.328)
Facility 9	North West	105	0.267 (0.182;0.351)
Facility 10	Northern Cape	30	0.267 (0.108;0.425)
Facility 11	Free State	34	0.265 (0.116;0.413)
Facility 12	Mpumalanga	81	0.259 (0.164;0.355)
Facility 13	North West	90	0.256 (0.165;0.346)
Facility 14	Mpumalanga	57	0.246 (0.134;0.357)
Facility 15	Limpopo	41	0.244 (0.112;0.375)
Facility 16	Free State	26	0.231 (0.069;0.393)
Facility 17	KwaZulu-Natal	248	0.226 (0.174;0.278)
Facility 18	Western Cape	27	0.222 (0.065;0.379)
Facility 19	KwaZulu-Natal	197	0.218 (0.161;0.276)
Facility 20	Mpumalanga	42	0.214 (0.090;0.338)
Facility 21	Free State	29	0.207 (0.059;0.354)
Facility 22	Western Cape	25	0.200 (0.043;0.357)
Facility 23	Northern Cape	46	0.196 (0.081;0.310)
Facility 24	KwaZulu-Natal	31	0.194 (0.054;0.333)
Facility 25	Northern Cape	57	0.193 (0.091;0.295)

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 28 February – 6 March 2021, with the highest proportion testing positive nationally. Private-sector facilities with high proportions testing positive are concentrated in Gauteng (8), Mpumalanga and the Free State (4 each), and North West and Western Cape (3 each).

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Table 5.2 Private sector healthcare facilities with a high proportion testing positive, 28 February – 6 March 2021

Facility Name	Province	Tests	PTP (95% CI)
Facility 1	Free State	118	0.237 (0.161;0.314)
Facility 2	Gauteng	44	0.205 (0.085;0.324)
Facility 3	Western Cape	120	0.167 (0.100;0.233)
Facility 4	North West	39	0.154 (0.041;0.267)
Facility 5	Western Cape	104	0.154 (0.085;0.223)
Facility 6	Free State	59	0.153 (0.061;0.244)
Facility 7	Gauteng	33	0.152 (0.029;0.274)
Facility 8	KwaZulu-Natal	40	0.150 (0.039;0.261)
Facility 9	Gauteng	48	0.146 (0.046;0.246)
Facility 10	Gauteng	68	0.132 (0.052;0.213)
Facility 11	Free State	64	0.125 (0.044;0.206)
Facility 12	Mpumalanga	40	0.125 (0.023;0.227)
Facility 13	North West	49	0.122 (0.031;0.214)
Facility 14	Gauteng	83	0.120 (0.050;0.191)
Facility 15	Gauteng	444	0.119 (0.089;0.150)
Facility 16	Gauteng	421	0.116 (0.086;0.147)
Facility 17	Western Cape	346	0.113 (0.079;0.146)
Facility 18	North West	144	0.111 (0.060;0.162)
Facility 19	Free State	46	0.109 (0.019;0.199)
Facility 20	Mpumalanga	129	0.109 (0.055;0.162)
Facility 21	Mpumalanga	203	0.108 (0.066;0.151)
Facility 22	Mpumalanga	954	0.107 (0.087;0.127)
Facility 23	Gauteng	95	0.105 (0.044;0.167)
Facility 24	Limpopo	152	0.105 (0.056;0.154)
Facility 25	Limpopo	164	0.104 (0.057;0.150)

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

Health district-level results

The data from geo-locatable public testing (almost every public sector facility in the country) and private testing (approximately 83% of private testing facilities) in the week from 28 February – 6 March 2021 have been located within the spatial framework of the health districts and health sub-districts (in the metros). Districts with fewer than 20 tests 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 diffuse. Northern Cape (7), Mpumalanga (5) and KwaZulu-Natal and Western Cape (4 each) account for 20 of the 25 districts. No district showed a PTP in excess of 30% and only one – Hantam in the Northern Cape, in which the increase was also statistically significant – exceeded 20%.

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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 28 February – 6 March 2021

Health district or sub-district	Province	PTP (95% CI)	Previous week
Hantam	Northern Cape	0.289 (0.212-0.367)	0.077 (0.025-0.128)
Bergrivier	Western Cape	0.195 (0.080-0.310)	0.166 (0.089-0.243)
Umjindi	Mpumalanga	0.189 (0.096-0.283)	0.333 (0.211-0.455)
Albert Luthuli	Mpumalanga	0.188 (0.129-0.248)	0.154 (0.107-0.201)
Letsemeng	Free State	0.181 (0.073-0.289)	0.119 (0.000-0.245)
Impendle	KwaZulu-Natal	0.178 (0.142-0.214)	0.138 (0.094-0.182)
Kamiesberg	Northern Cape	0.175 (0.088-0.262)	0.094 (0.043-0.145)
Ca-Segonyana	Northern Cape	0.172 (0.099-0.245)	0.156 (0.105-0.207)
Maluti a Phofung	Free State	0.172 (0.136-0.208)	0.176 (0.142-0.211)
Cederberg	Western Cape	0.164 (0.070-0.257)	0.132 (0.041-0.223)
Richtersveld	Northern Cape	0.163 (0.065-0.261)	0.209 (0.103-0.315)
Pixley Ka Seme	Mpumalanga	0.160 (0.123-0.198)	0.114 (0.051-0.178)
Mafube	Free State	0.156 (0.029-0.283)	0.137 (0.025-0.249)
Dipaleseng	Mpumalanga	0.149 (0.038-0.259)	0.223 (0.100-0.346)
Umsobomvu	Northern Cape	0.146 (0.013-0.279)	0.081 (0.005-0.157)
Matzikama	Western Cape	0.144 (0.096-0.192)	0.134 (0.082-0.187)
Umzimkhulu	KwaZulu-Natal	0.144 (0.086-0.201)	0.138 (0.085-0.192)
Thaba Chweu	Mpumalanga	0.137 (0.097-0.176)	0.146 (0.105-0.187)
Tsantsabane	Northern Cape	0.132 (0.046-0.217)	0.137 (0.068-0.206)
!Kheis	Northern Cape	0.129 (0.000-0.266)	0.069 (0.023-0.115)
Langeberg	Western Cape	0.129 (0.050-0.208)	0.056 (0.016-0.097)
Blouberg	Limpopo	0.127 (0.010-0.244)	...
Greater Taung	North West	0.126 (0.000-0.260)	...
Nongoma	KwaZulu-Natal	0.116 (0.088-0.144)	0.087 (0.061-0.114)
Ubuhlebezwe	KwaZulu-Natal	0.113 (0.066-0.160)	0.120 (0.065-0.176)

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 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) for the current week is presented graphically below.

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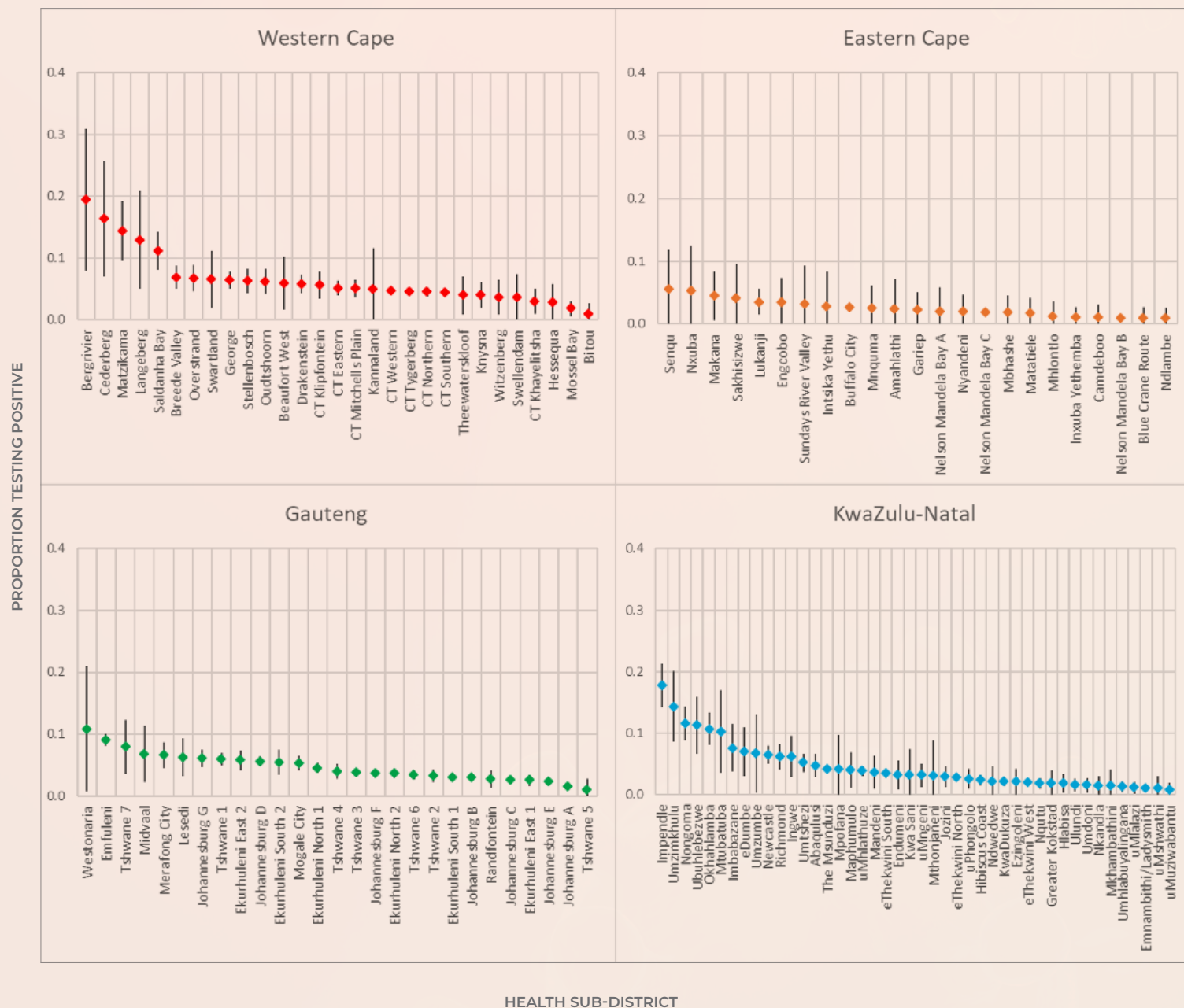


Figure 9.1 Proportions testing positive by health sub-district in the Western Cape, Eastern Cape, Gauteng and KwaZulu-Natal provinces based on public and private sector data for the week of 28 February – 6 March 2021.

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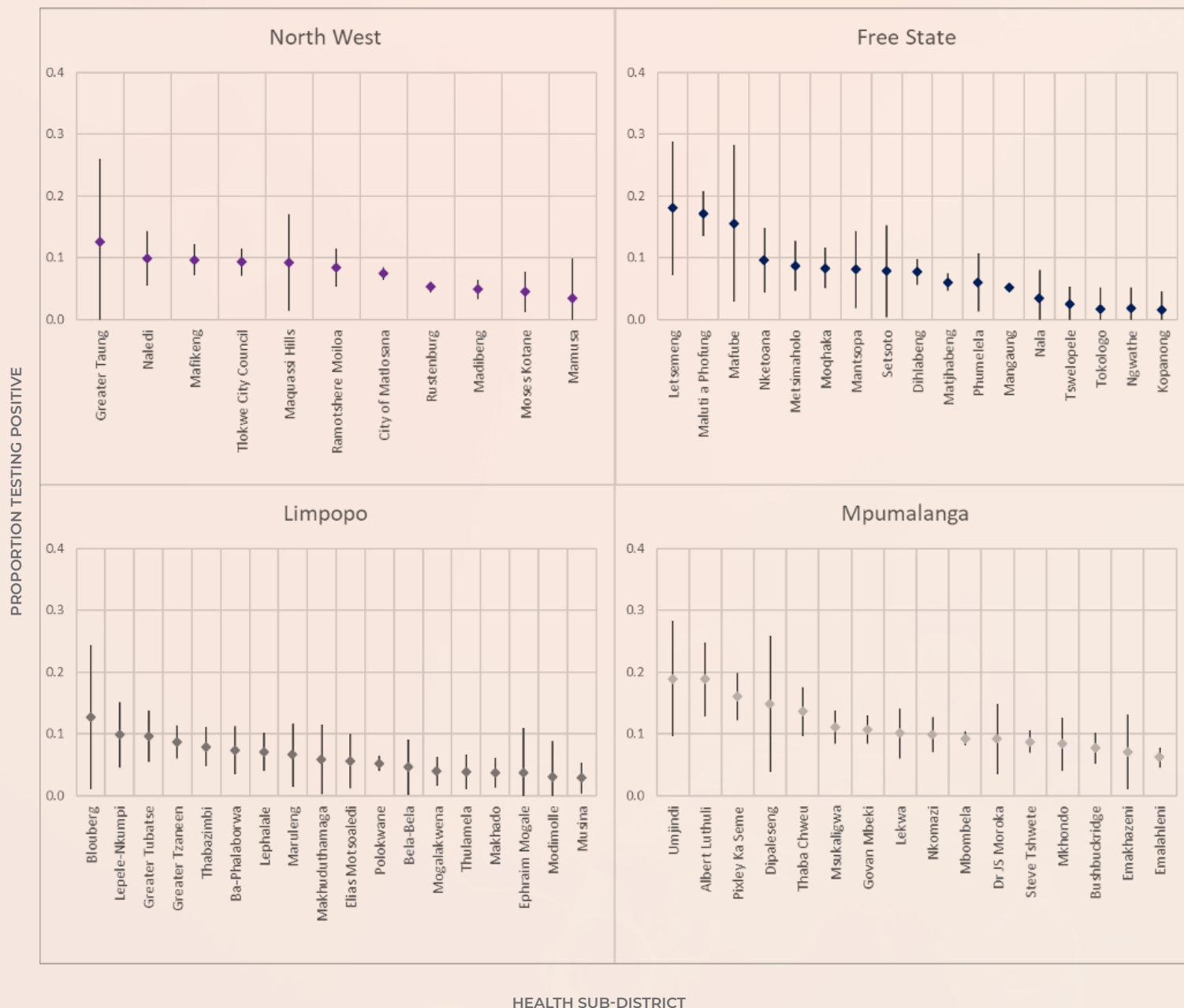


Figure 9.2 Proportions testing positive by health sub-district in the North West, Free State, Limpopo and Mpumalanga provinces based on public and private sector data for the week of 28 February – 6 March 2021.

COVID-19 TESTING SUMMARY

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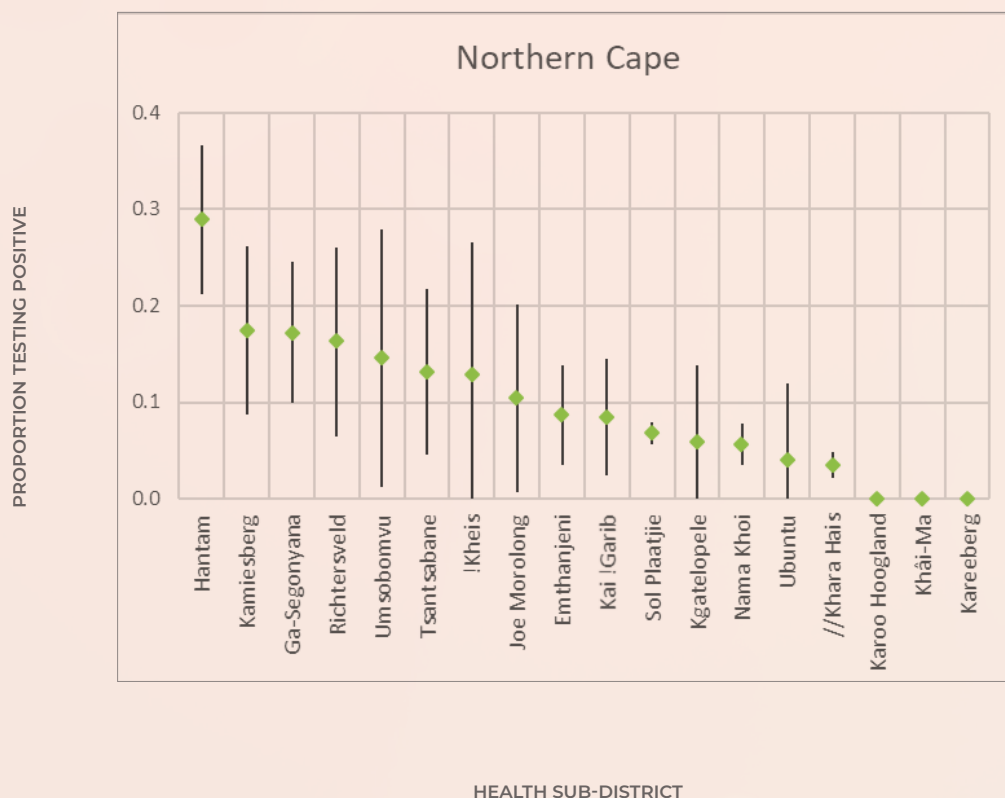


Figure 9.3 Proportions testing positive by health sub-districts in the Northern Cape Province based on public and private sector data for the week of 28 February – 6 March 2021.

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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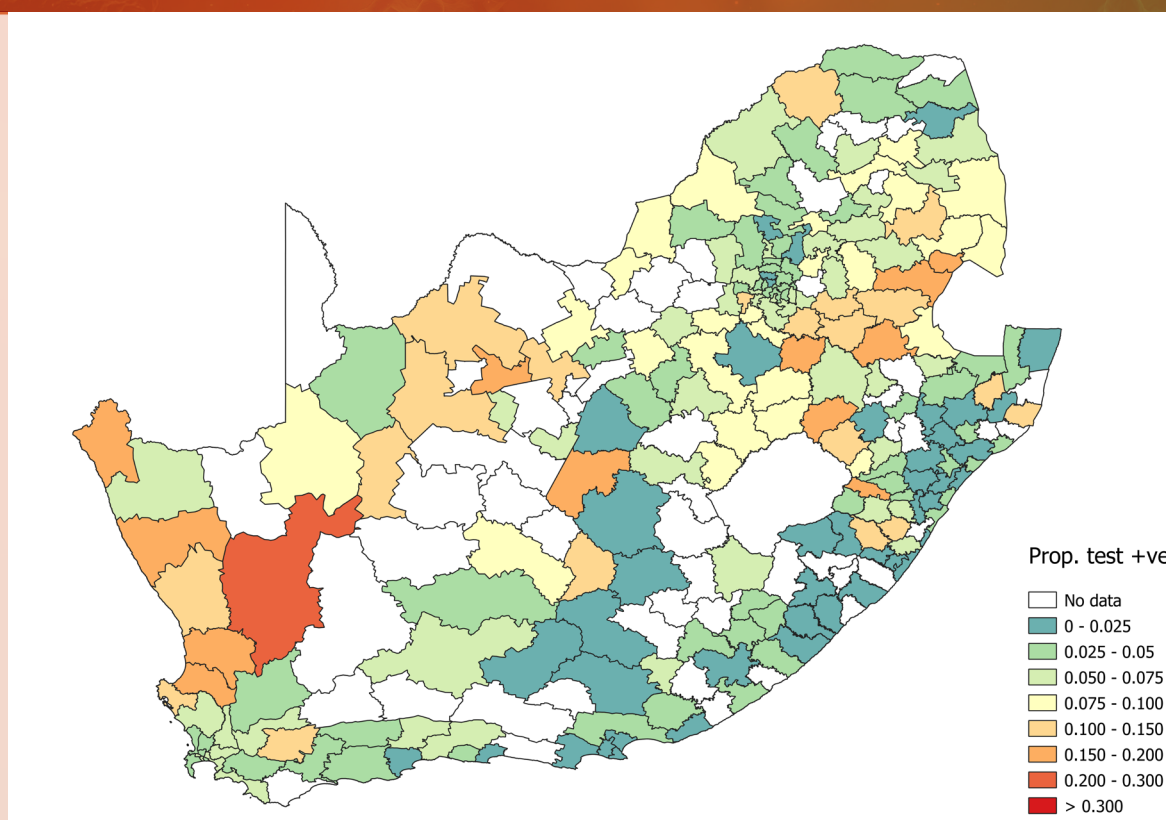


Figure 10. Proportion testing positive by health sub-district in South Africa for the week of 28 February – 6 March 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

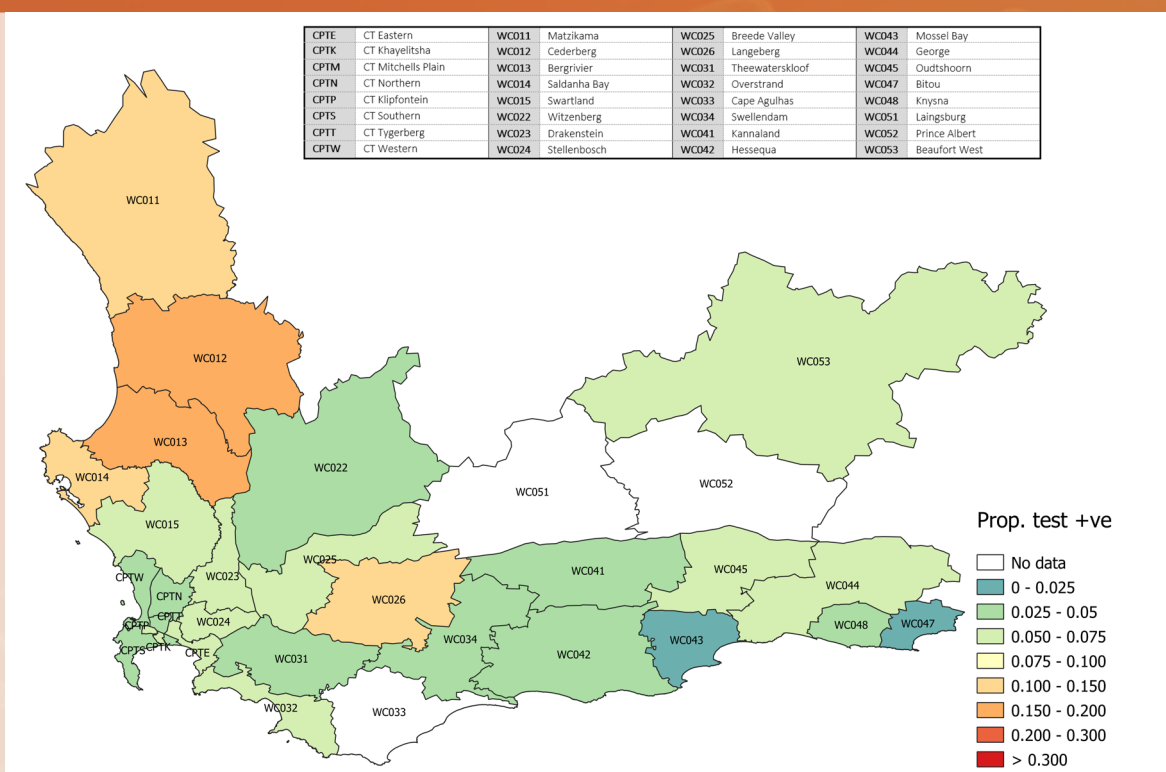


Figure 11. Proportion testing positive by health sub-district in the Western Cape province for the week of 28 February – 6 March 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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BUF	Buffalo City	EC122	Mquma	EC135	Intsika Yethu	EC155	Nyandeni
EC101	Camdeboo	EC123	Great Kei	EC136	Emalahleni	EC156	Mhlontlo
EC102	Blue Crane Route	EC124	Amahlathi	EC137	Engcobo	EC157	King Sabata Dalindyebo
EC103	Ikwezi	EC126	Ngqushwa	EC138	Sakhisizwe	EC441	Matatiele
EC104	Makana	EC127	Nkonkobe	EC141	Elundini	EC442	Umtzimvubu
EC105	Ndlambe	EC128	Nouba	EC142	Senqu	EC443	Mbizana
EC106	Sundays River Valley	EC131	Inyuba Yethemba	EC143	Maletswai	EC444	Ntabankulu
EC107	Baviaans	EC132	Tsolwana	EC144	Gariep	NMAA	Nelson Mandela Bay A
EC108	Kouga	EC133	Inkwanca	EC153	Nqunza Hill	NMAB	Nelson Mandela Bay B
EC109	Kou-Kamma	EC134	Lukanji	EC154	Port St Johns	NMAC	Nelson Mandela Bay C
EC121	Mbashe						

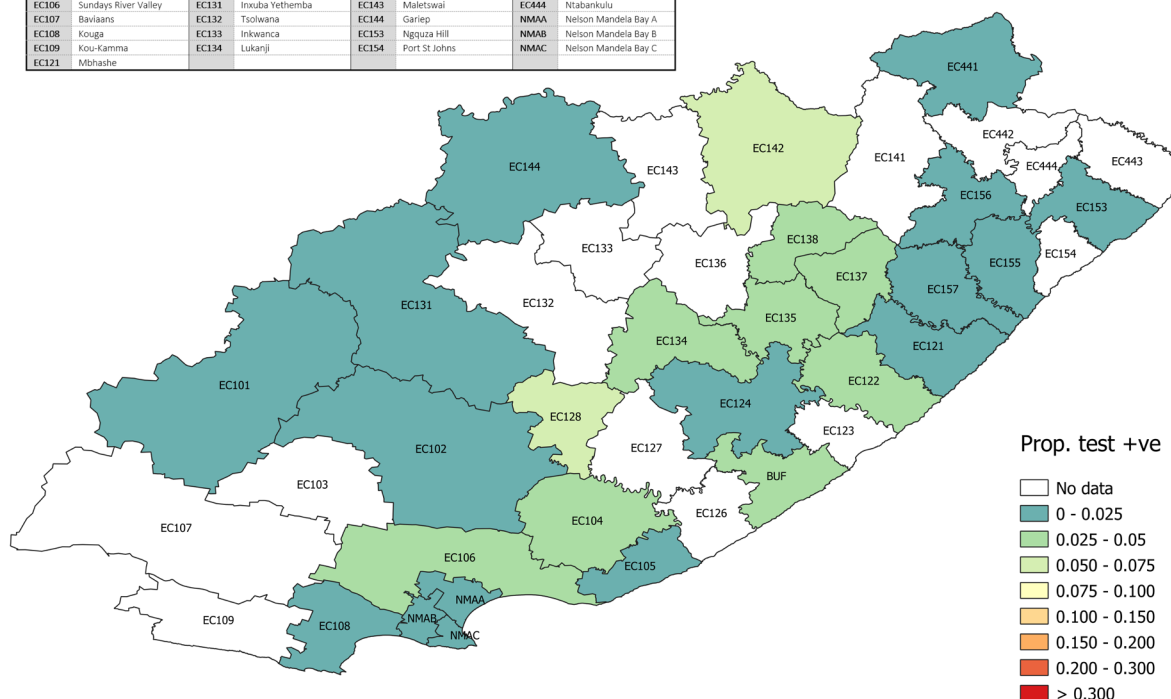


Figure 12. Proportion testing positive by health sub-district in the Eastern Cape province for the week of 28 February – 6 March 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

NC061	Richtersveld	NC074	Kareeberg	NC085	Tzamtzabane
NC062	Nama Khoi	NC075	Renosterberg	NC086	Kgatelopele
NC064	Kamiesberg	NC076	Thembelitha	NC091	Sol Plaatje
NC065	Hantam	NC077	Siyambila	NC092	Okagolong
NC066	Karoo Hoogland	NC078	Siyancuma	NC093	Magareng
NC067	Khâ-Ma	NC081	Mier	NC094	Phokwane
NC071	Uburko	NC082	Kal /Gatib	NC095	Sao Morolong
NC072	Umsobomvu	NC083	/Khara Hais	NC096	Ga-Segonyana
NC073	Emthanjeni	NC084	Itheis	NC097	Gamagara

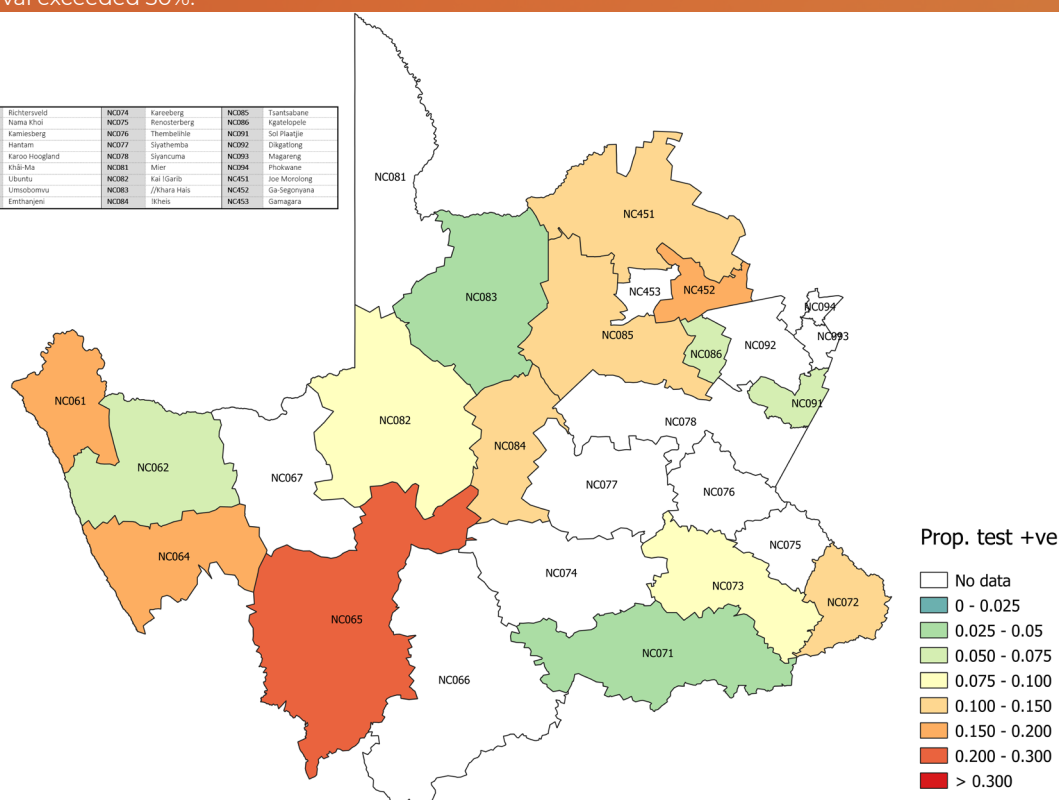


Figure 13. Proportion testing positive by health sub-district in Northern Cape Province for the week of 28 February – 6 March 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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MAN	Mangaung	FS181	Masilonyana	FS191	Setsotho	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	Mafube

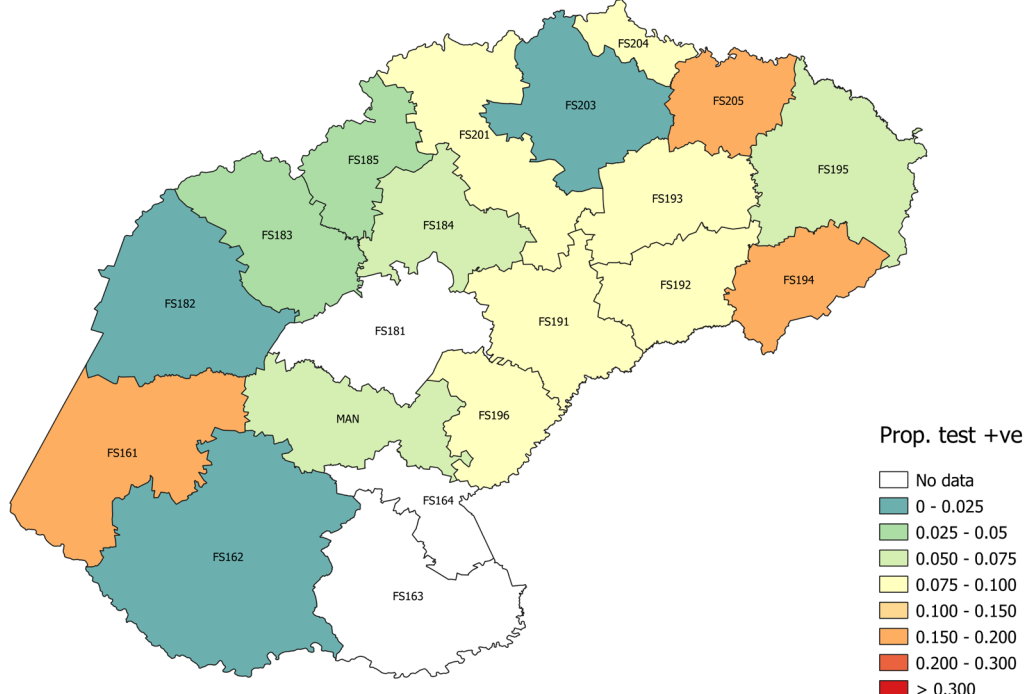


Figure 14. Proportion testing positive by health sub-district in Free State Province for the week of 28 February – 6 March 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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

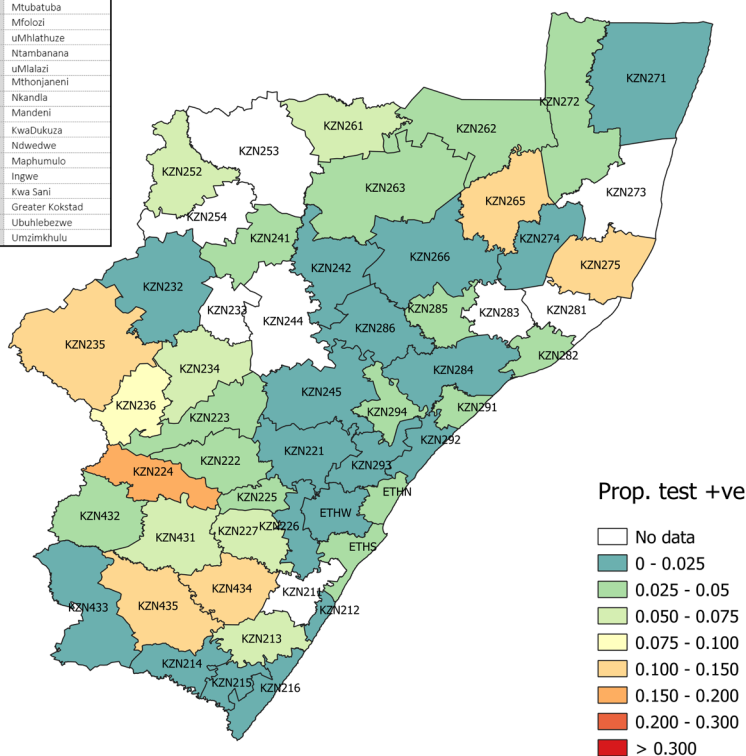


Figure 15. Proportion testing positive by health sub-district in KwaZulu-Natal Province for the week of 28 February – 6 March 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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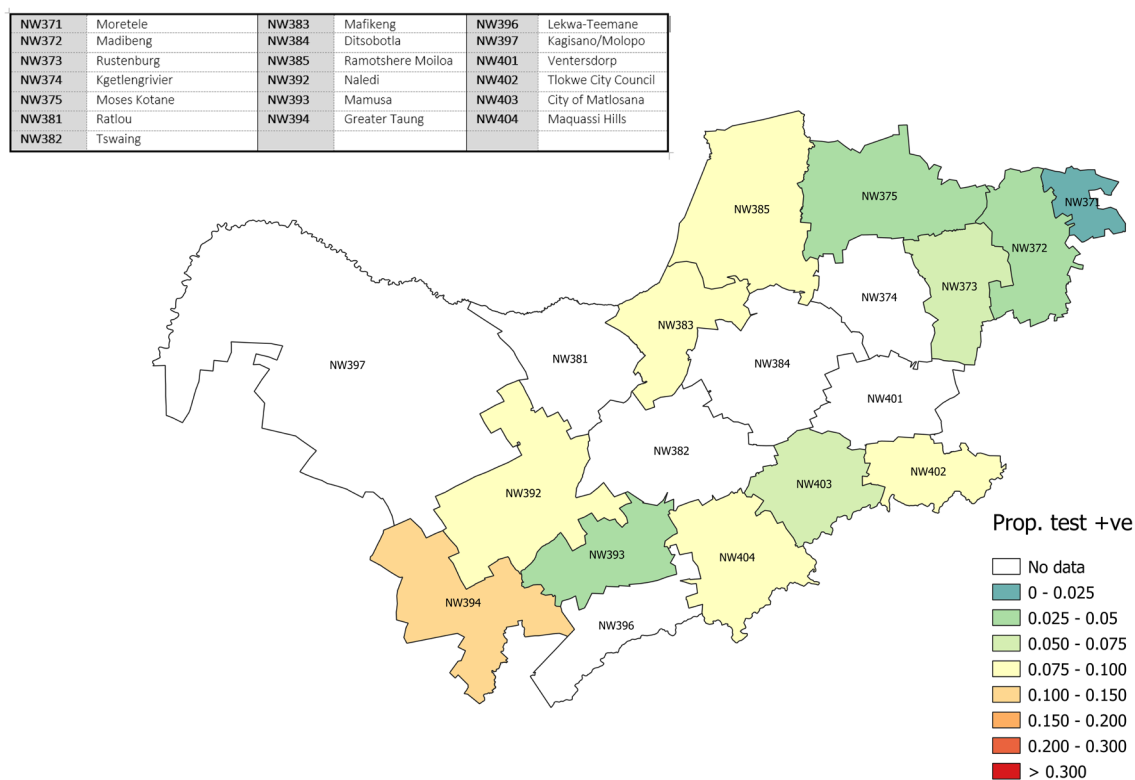


Figure 16. Proportion testing positive by health sub-district in North West Province for the week of 28 February – 6 March 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

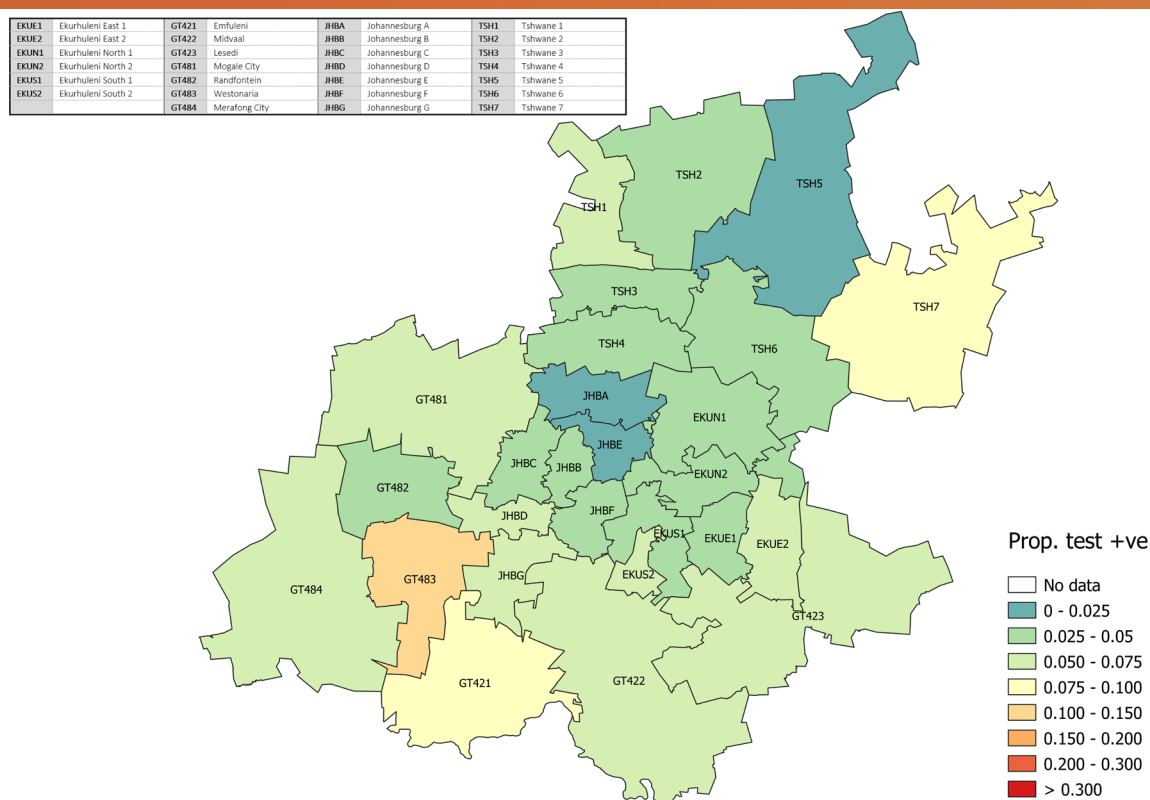


Figure 17. Proportion testing positive by health sub-district in Gauteng Province for the week of 28 February – 6 March 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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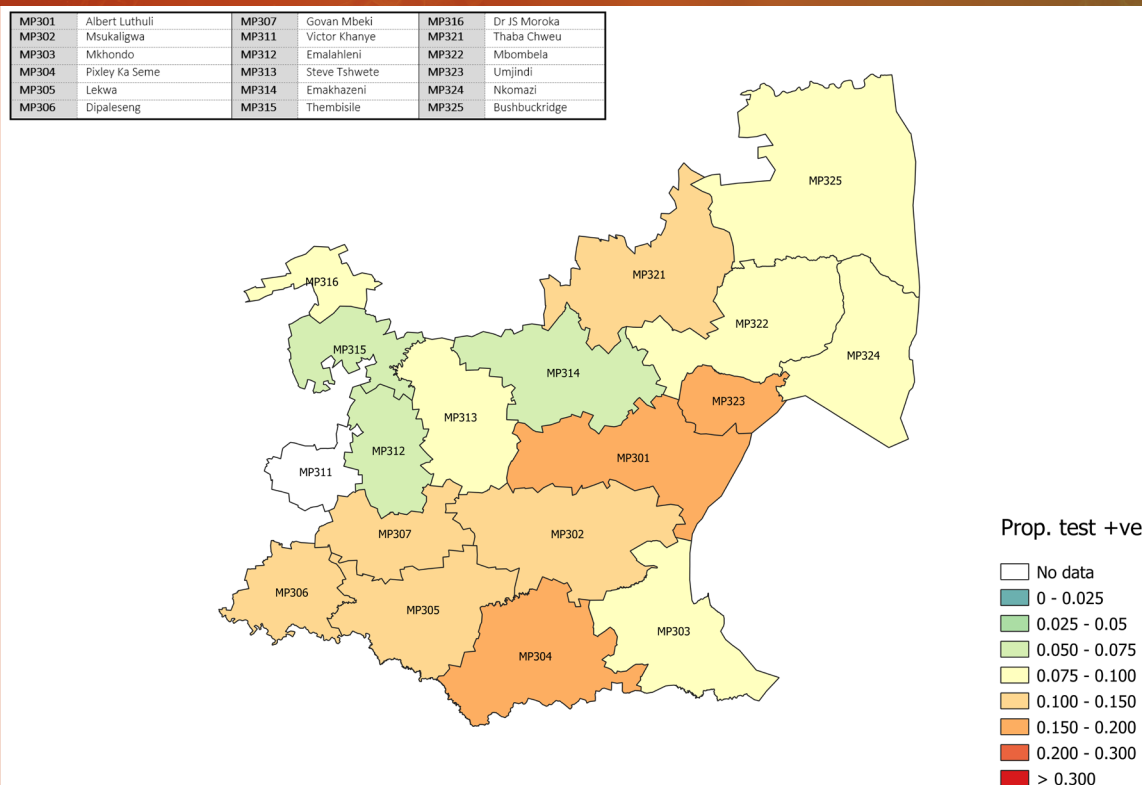


Figure 18. Proportion testing positive by health sub-district in Mpumalanga Province for the week of 28 February – 6 March 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

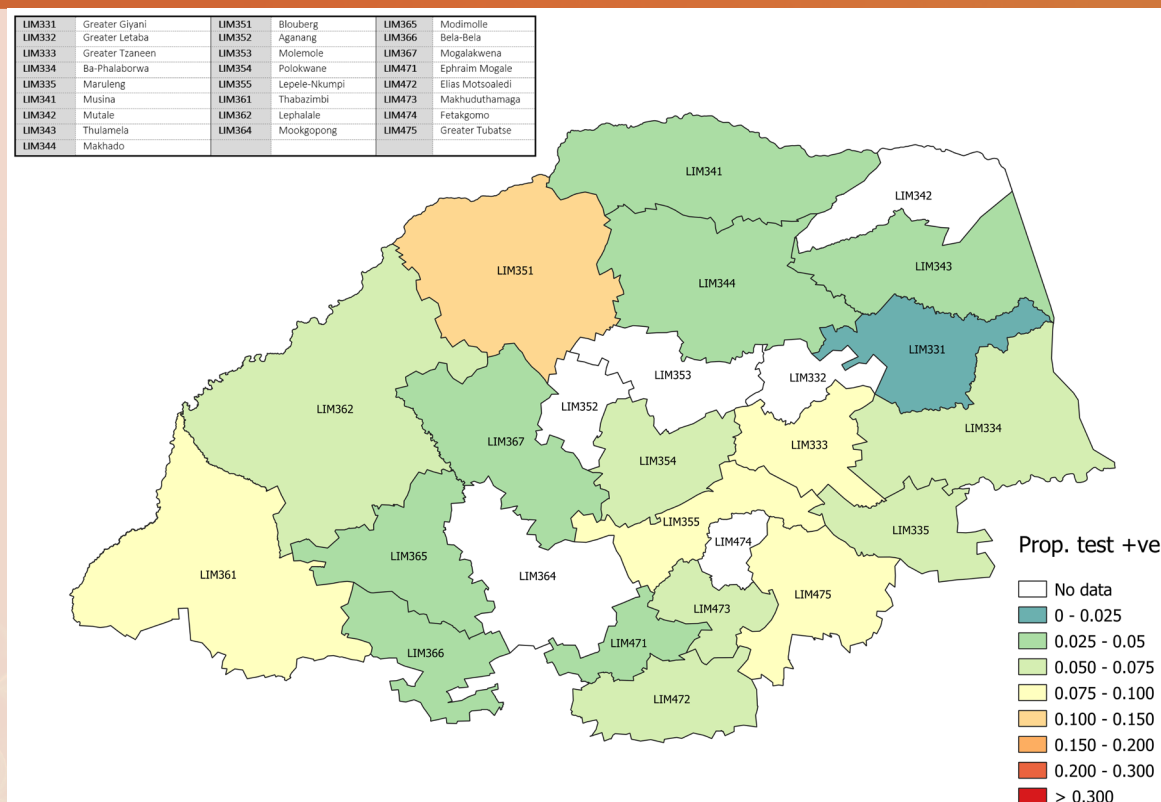


Figure 19. Proportion testing positive by health sub-district in Limpopo Province for the week of 28 February – 6 March 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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Testing by patient admission status

In week 9 of 2021, 36.0% of tests were performed for hospitalised patients; 51.6% in the public sector and 26.1% in the private sector (Figure 20). The percentage testing positive continued to decrease among both inpatients and outpatients in the past week, and in

week 9 was similar among outpatients (5.3%) and inpatients (4.7%) (Figure 21). In week 9 of 2021 the mean laboratory turnaround time in the public sector continued to be lower for inpatients (1.3 days) compared to outpatients (1.8 days)(Figure 22).

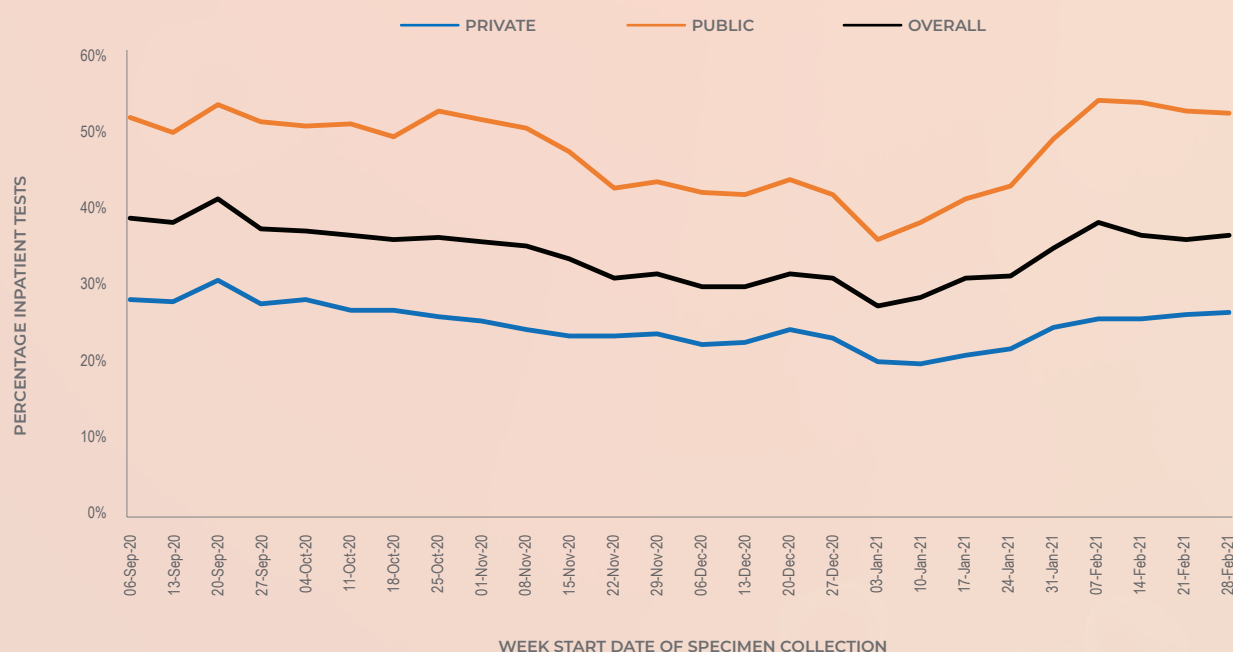


Figure 20. Percentage of inpatient tests performed by health sector, 6 September 2020 – 6 March 2021

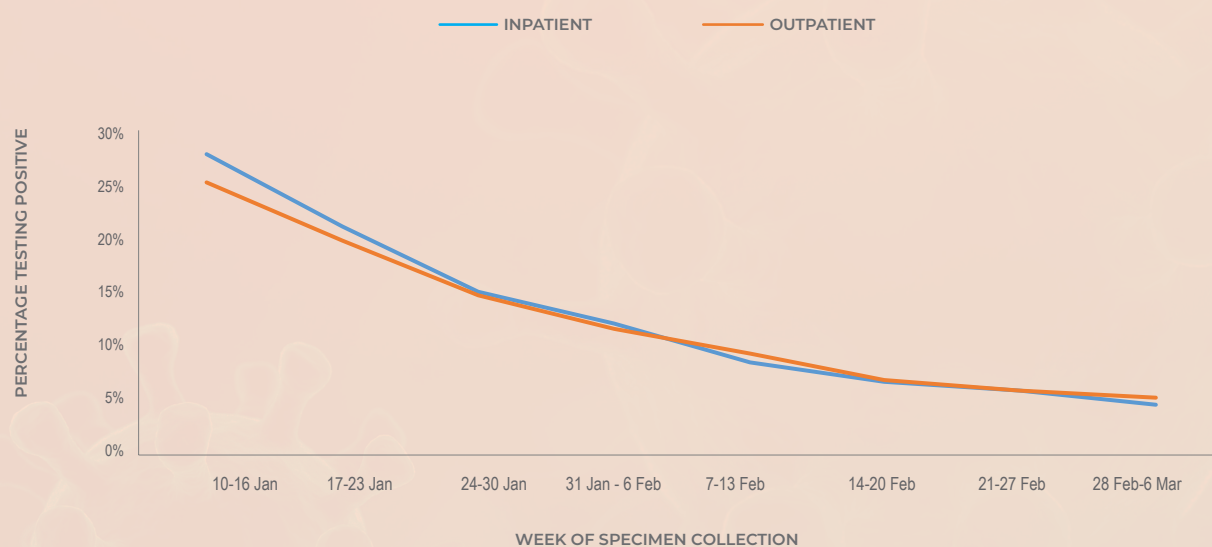


Figure 21. Percentage testing positive by patient admission status in the public sector, 10 January – 6 March 2021

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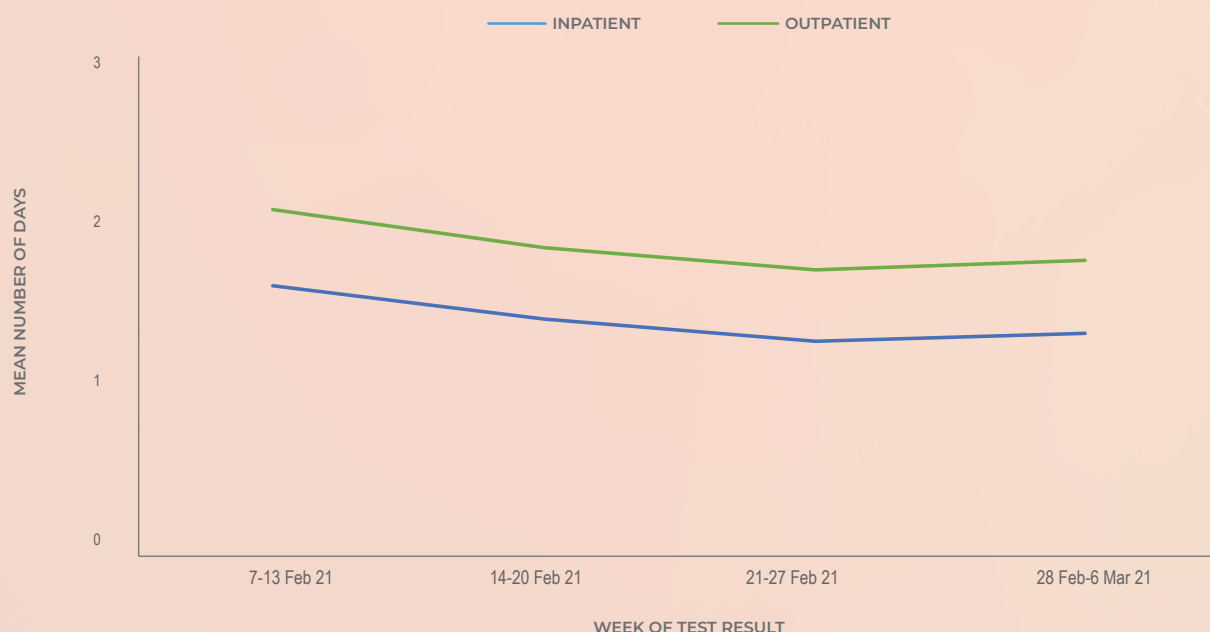


Figure 22. Mean number of days between date of specimen collection and date of test result in the public sector by patient admission status, 7 February – 6 March 2021

Testing by age and sex

The mean age of individuals tested in week 9 of 2021 was 38.5 years, and was similar among males (38.8 years) and females (38.4 years). As in the previous few weeks, the majority of tests (42.1%) were performed in individuals in the 25-44 years' age groups although the distribution of tests was slightly skewed towards younger age groups in females compared to males

(Figure 23). In week 9, the testing rate remained slightly higher in females (278 per 100,000 persons) compared to males (266 per 100,000 persons) (Figure 24). The highest testing rates were observed in individuals ≥ 80 years of age (565 per 100,000 persons) in week 9. The percentage testing positive was highest in individuals aged 15-19 years (6.2%); in males the highest percentage testing positive was in the 15-19 year age group (6.1%), and in females was in the 55-59 year (6.8%) and 50-54 year (6.6%) age groups (Figure 24).

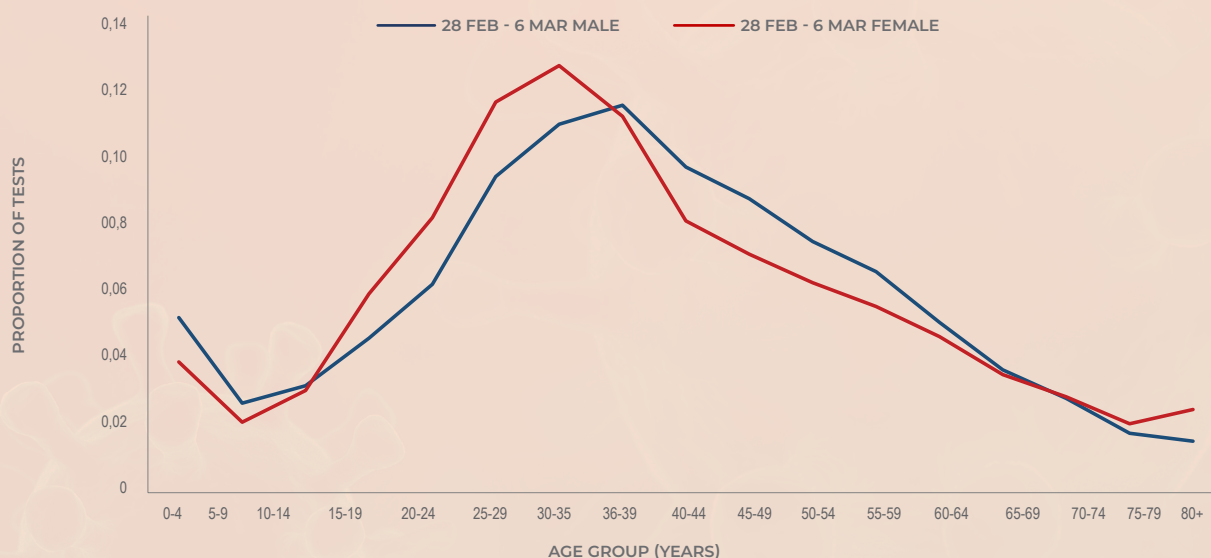


Figure 23. Proportion of tests by age group and sex, South Africa, week 9, 28 February – 6 March 2021

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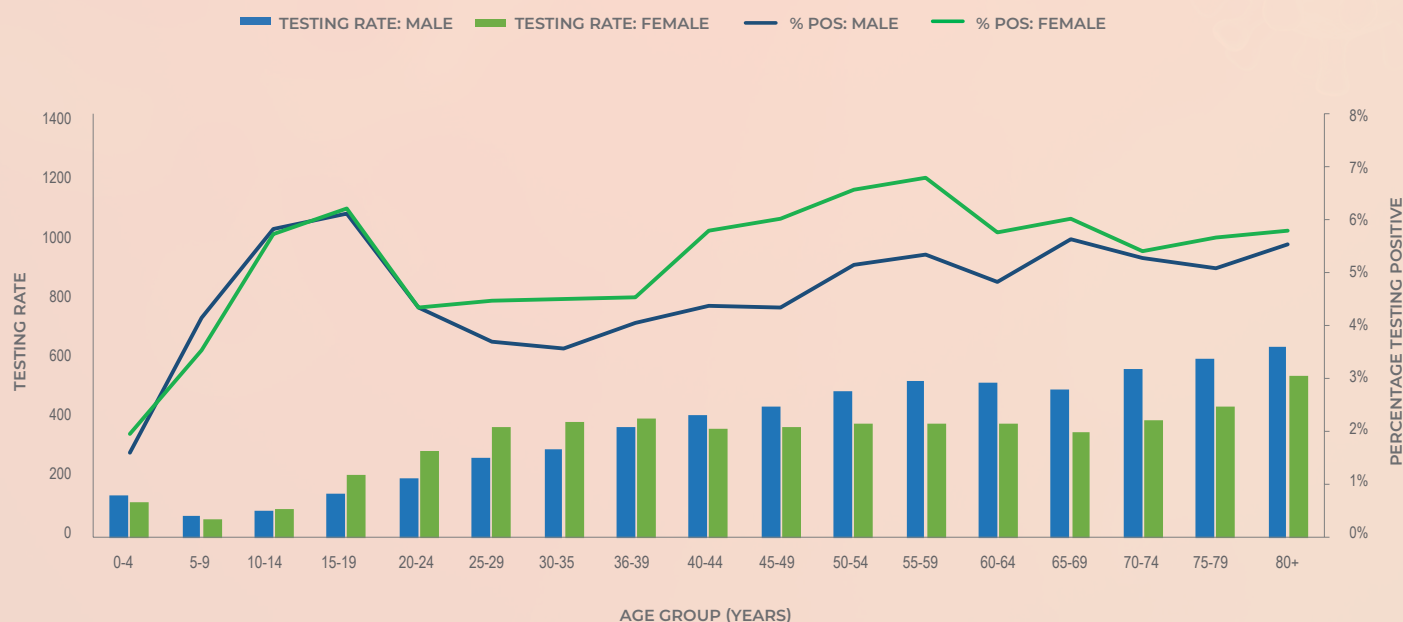


Figure 24. Testing rates per 100,000 persons and percentage testing positive by age group and sex, South Africa, week 9, 28 February – 6 March 2021

Testing by test type

Up to the end of week 9 of 2021, 5.4% of all tests performed were antigen tests. The percentage of antigen tests was highest (20.1%) in week 5 and has subsequently declined to 16.5% of all tests in week 9 (Figure 25). In week 9, 27,661 antigen tests were performed, of which 83.0% were performed in the public sector. The majority of antigen tests have been performed in KwaZulu-Natal (47.3%) and

Eastern Cape (14.3%) provinces. The percentage testing positive was higher for PCR tests compared to antigen tests, although smaller differences have been observed as the overall percentage testing positive has decreased over recent weeks (Figure 26). Not all antigen tests are included in this report, efforts are ongoing to improve completeness.

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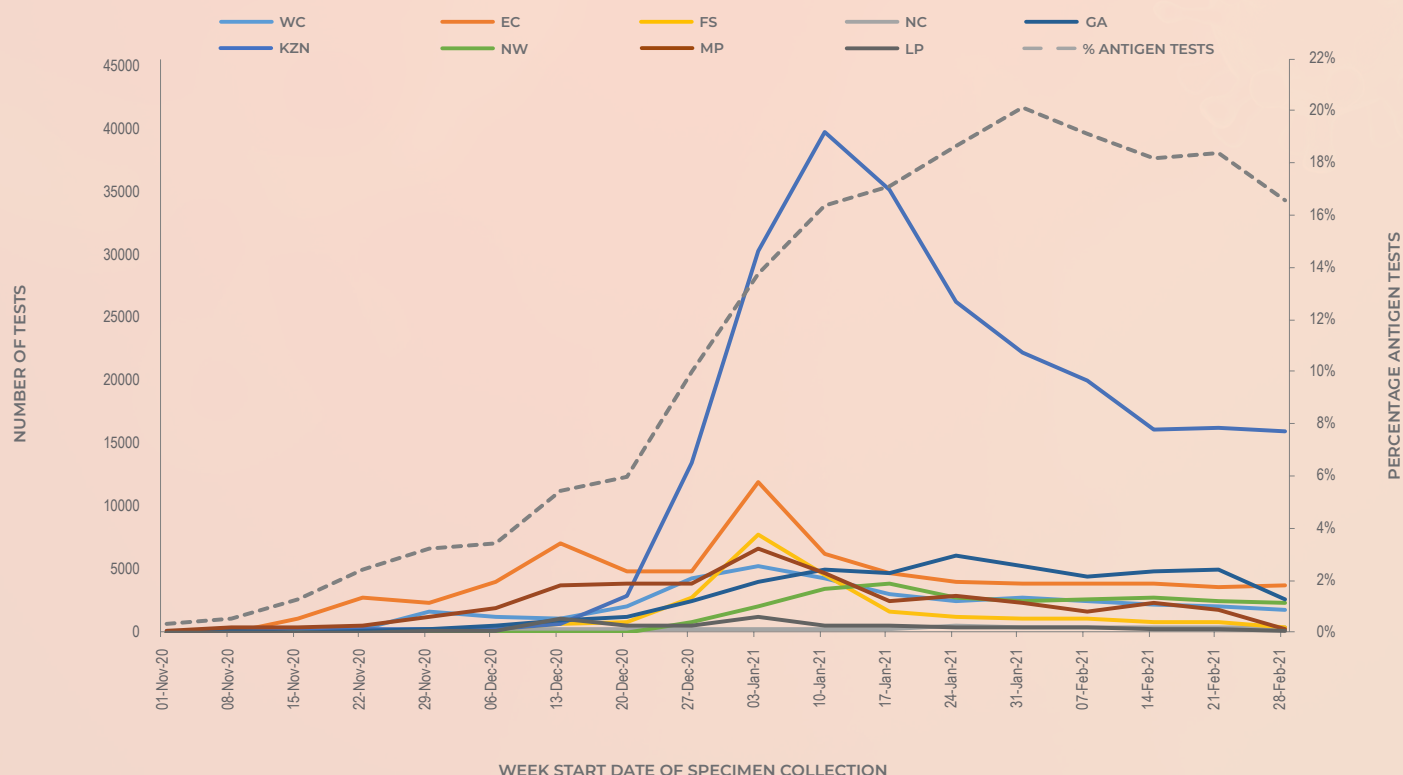


Figure 25. Number of antigen tests by province, and overall percentage antigen tests, South Africa, 1 November 2020 – 6 March 2021. WC, Western Cape; EC, Eastern Cape; FS, Free State; KZN, KwaZulu-Natal; GT, Gauteng; NC, Northern Cape; NW, North West; MP, Mpumalanga; LP, Limpopo

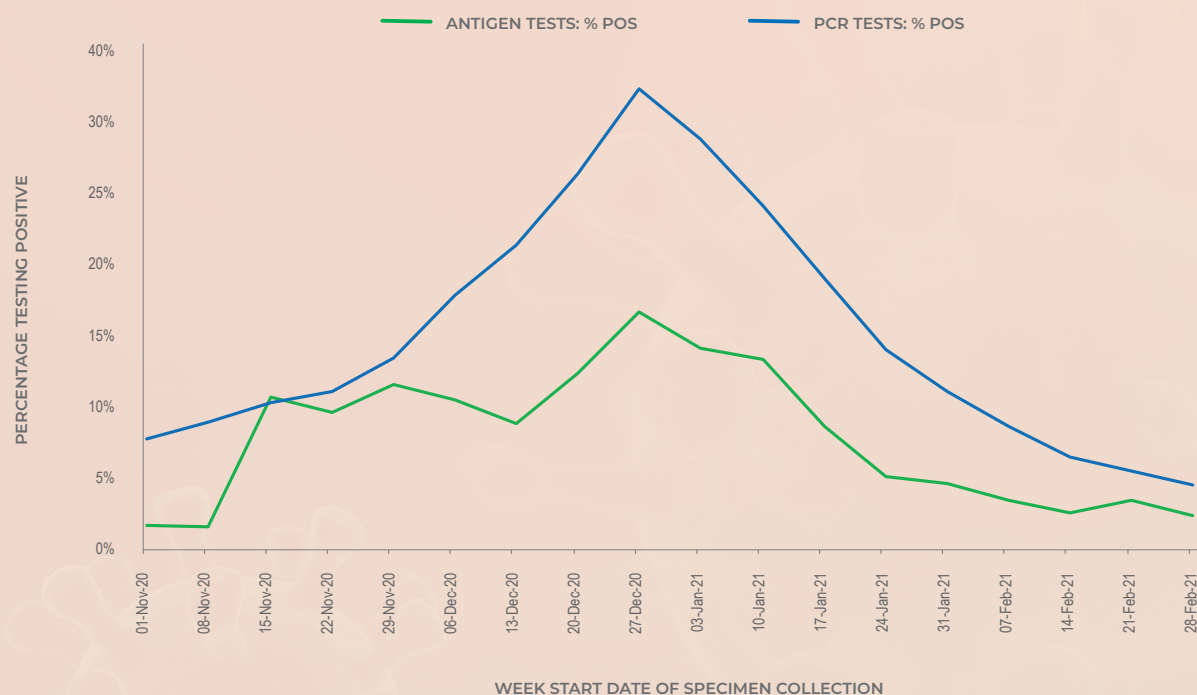


Figure 26. Percentage of laboratory tests positive for SARS-CoV-2 by test type and date of specimen collection, South Africa, 1 November 2020 – 6 March 2021

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SOUTH AFRICA WEEK 9 2021

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

Weekly testing volumes have decreased since week 1 of 2021 (n=498,311), with the number of tests performed in week 9 of 2021 (n=166,493) similar to the previous few weeks. Gauteng (31.6%), KwaZulu-Natal (22.8%) and Western Cape (17.2%) provinces performed the largest number of tests in week 9. The overall testing rate in week 9 was 279 per 100,000 persons; highest in the Western Cape (408 per 100,000 persons) and lowest in Limpopo (74 per 100,000 persons). Antigen tests accounted for 16.5% of all tests performed in week 9. The overall mean laboratory turnaround time for PCR tests was 1.0 day in week 9; 1.4 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 9 of 2021 the percentage testing positive decreased to 4.8%, the lowest observed since May 2020. The percentage testing positive in week 9 was highest in Mpumalanga (9.5%) and Northern Cape (8.6%) provinces. The percentage testing positive was 5-7% in the Free State, North West and Limpopo, and was <5% in the Western Cape, Eastern Cape, KwaZulu-Natal and Gauteng in week 9. Compared to the previous week, the percentage testing positive decreased in week 9 in the Western Cape, Northern Cape, Free State, KwaZulu-Natal, North West, Gauteng and Limpopo, and remained unchanged in the Eastern Cape and Mpumalanga.