

# COVID-19 TESTING SUMMARY



NATIONAL INSTITUTE FOR  
COMMUNICABLE DISEASES

Division of the National Health Laboratory Service

SOUTH AFRICA WEEK 2 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 16 January 2021 (Week 2 of 2021).

## HIGHLIGHTS

- In the period 1 March 2020 through 16 January 2021, 7,589,469 laboratory tests for SARS-CoV-2 have been performed nationally.
- The number of tests performed in week 2 of 2021 (n=346,099) was lower than performed in the previous week.
- KwaZulu-Natal (770 per 100,000 persons), Gauteng (755 per 100,000 persons) and Western Cape (676 per 100,000 persons) provinces had the highest testing rates in week 2 of 2021.
- In week 2 of 2021 the percentage testing positive was 25.0%, lower than has been observed in the previous few weeks.
- Percentage testing positive in week 2 of 2021 was highest in Limpopo (39.5%) and Mpumalanga (30.2%) provinces. Percentage testing positive was 20-29% in the Western Cape, Northern Cape, KwaZulu-Natal, North West, Free State and Gauteng, and was <20% in the Eastern Cape.
- In week 2 of 2021, compared to the previous week, the percentage testing positive decreased in all provinces, except for the Free State where the percentage testing positive did not change.
- Mean laboratory turnaround time in week 2 of 2021 was 1.9 days; 3.1 days in the public sector and 1.0 days in the private sector.
- This week's report presents the test data as number of tests performed, which differs from previous reports which presented the number of people tested.

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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.

Test results were automatically fed into a data warehouse after result authorisation. We excluded specimens collected outside South Africa and duplicate entries of the same test for an individual. From week 48 of 2020 onwards, test data were reported from the Notifiable Medical Conditions Surveillance System (NMCSS). Date of specimen receipt in the laboratory was used when date of specimen collection was missing. Proportion testing positive (PTP) was calculated as the number of positive tests/total number of tests and presented as percentage by multiplying with 100. We used 2020 mid-year population estimates from Statistics South Africa to calculate the testing rate, expressed as tests per 100,000 persons. Patient admission status for public and private sector tests was determined based on the reported patient facility. Laboratory turnaround times were calculated 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 16 January 2021 (week 2 of 2021).

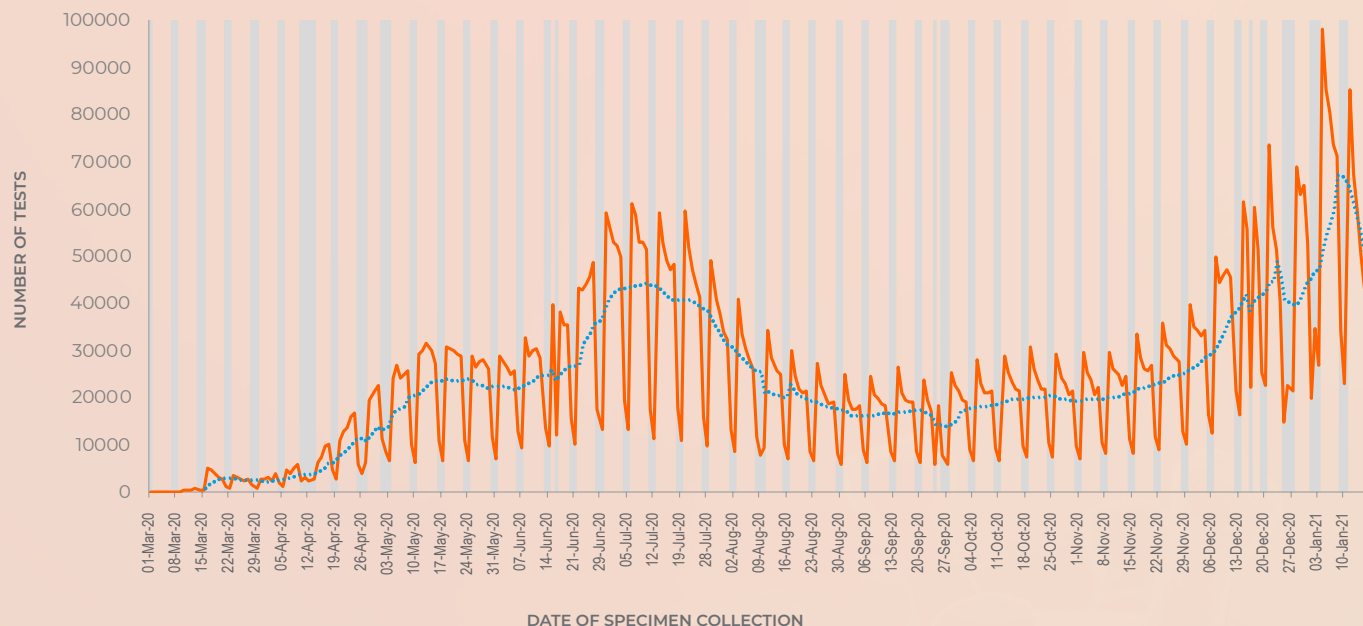
Please note that from this week going forward, the report will present data based on number of tests performed, and therefore numbers will differ from previous reports which described the number of people tested. Retrospective data has been updated. This change was made to account for >1 test being done on the same individual at different points of time and for different illness episodes.

## Testing volumes and proportion testing positive

From 1 March 2020 through 16 January 2021, 7,589,469 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=307,900), and subsequently decreased. Weekly testing volumes increased again from week 41 (beginning 4 October 2020), with the highest weekly number of tests performed since the start of the pandemic performed in week 1 of 2021 (n=470,042). In week 2 of 2021, 346,099 tests were performed, lower than the previous week. All tests for samples collected in the previous week may not yet be reflected. Reduced testing volumes were observed over weekends and public holidays (Figure 1).

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**Figure 1.** Number of laboratory tests conducted by date of specimen collection, South Africa, 1 March 2020 – 16 January 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 2 of 2021 was 18.6% (Table 1). During the first wave of infections, the percentage testing positive increased week on week from week 18 to a peak of 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 35.1% in week 53 of 2020. The percentage testing positive in week 2 of 2021 was 25.0%, lower than has been observed in the previous few weeks (Figure 2).

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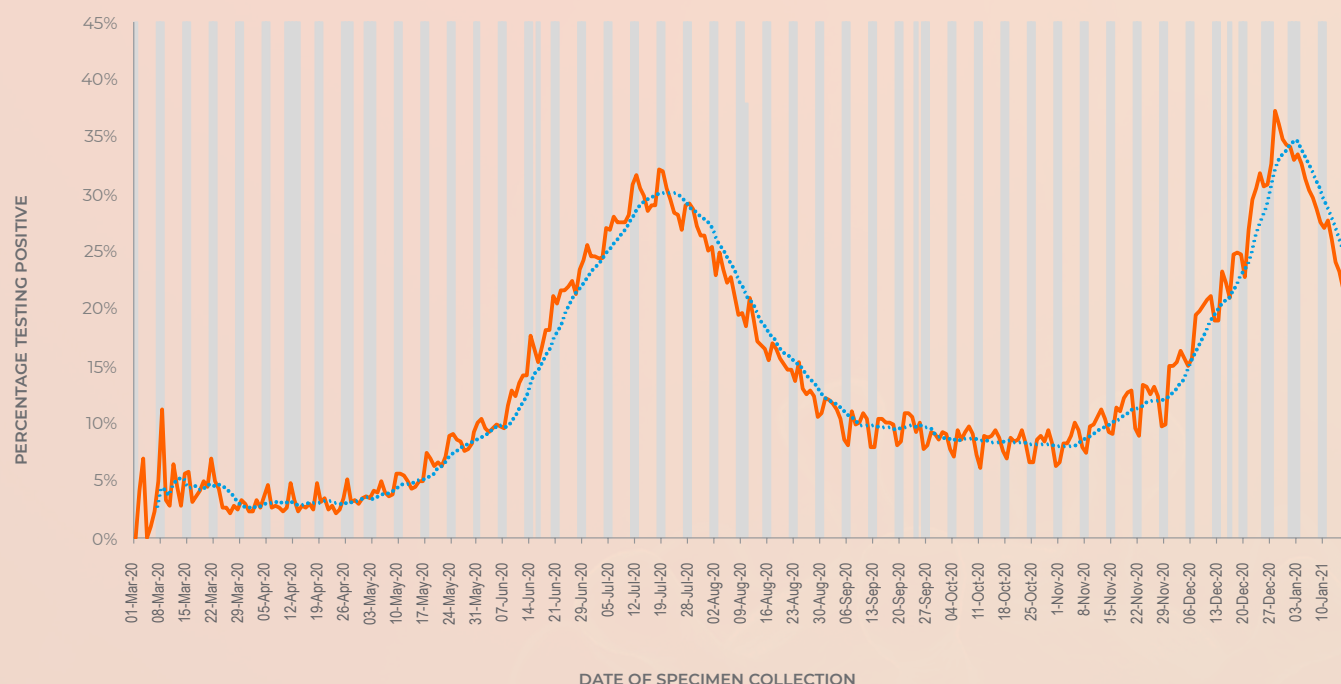
**Table 1.** Weekly number of tests conducted and positive tests, South Africa, 1 March 2020 – 16 January 2021

Week number	Week beginning	No. of tests n (%)	No. of positive tests	Percentage testing positive (%)
10	01-Mar-20	453 (0.0)	13	2.9
11	08-Mar-20	2380 (0.0)	103	4.3
12	15-Mar-20	21567 (0.3)	897	4.2
13	22-Mar-20	17540 (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	43748 (0.6)	1295	3.0
17	19-Apr-20	79174 (1.0)	2177	2.7
18	26-Apr-20	93807 (1.2)	3203	3.4
19	03-May-20	142700 (1.9)	6017	4.2
20	10-May-20	165367 (2.2)	8090	4.9
21	17-May-20	166534 (2.2)	11379	6.8
22	24-May-20	156133 (2.1)	12967	8.3
23	31-May-20	153562 (2.0)	15079	9.8
24	07-Jun-20	173890 (2.3)	22358	12.9
25	14-Jun-20	186044 (2.5)	32638	17.5
26	21-Jun-20	252081 (3.3)	55044	21.8
27	28-Jun-20	302691 (4.0)	75306	24.9
28	05-Jul-20	307900 (4.1)	86032	27.9
29	12-Jul-20	285586 (3.8)	84924	29.7
30	19-Jul-20	270878 (3.6)	78631	29.0
31	26-Jul-20	216373 (2.9)	58391	27.0
32	02-Aug-20	179559 (2.4)	40991	22.8
33	09-Aug-20	141071 (1.9)	26262	18.6
34	16-Aug-20	135003 (1.8)	21374	15.8
35	23-Aug-20	123325 (1.6)	16330	13.2
36	30-Aug-20	112754 (1.5)	12790	11.3
37	06-Sep-20	116989 (1.5)	11951	10.2
38	13-Sep-20	120705 (1.6)	12010	9.9
39	20-Sep-20	98811 (1.3)	10098	10.2
40	27-Sep-20	123044 (1.6)	11006	8.9
41	04-Oct-20	131023 (1.7)	11777	9.0
42	11-Oct-20	137933 (1.8)	12060	8.7
43	18-Oct-20	142136 (1.9)	12062	8.5
44	25-Oct-20	135817 (1.8)	11473	8.4
45	01-Nov-20	138775 (1.8)	12130	8.7
46	08-Nov-20	146938 (1.9)	14835	10.1
47	15-Nov-20	160586 (2.1)	18754	11.7
48	22-Nov-20	175624 (2.3)	22041	12.6
49	29-Nov-20	202859 (2.7)	30745	15.2
50	06-Dec-20	266629 (3.5)	53229	20.0
51	13-Dec-20	292837 (3.9)	68453	23.4
52	20-Dec-20	282021 (3.7)	81684	29.0
53	27-Dec-20	325938 (4.3)	114453	35.1
1	03-Jan-21	470042 (6.2)	144016	30.6
2	10-Jan-21	346099 (4.6)	86539	25.0
<b>Total</b>		<b>7589469 (100.0)</b>	<b>1413466</b>	<b>18.6</b>



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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 – 16 January 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 16 January 2021, 3,208,236 laboratory tests were conducted in public sector laboratories, with 19.2% testing positive. Over this same period, private sector laboratories conducted 4,381,233 tests, with 18.2% testing positive (Table 2). Overall the public sector has conducted 42.3% of tests and accounted for 43.5% 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 (36.1%) and private sector (34.3%). From week 1 to week 2 of 2021, the percentage testing positive

decreased by 5.5% in the public sector (31.1% to 25.6%,  $P<0.001$ ), and decreased by 5.7% (30.3% to 24.6%,  $P<0.001$ ) in the private sector. In week 2 of 2021 the percentage testing positive was higher in the public sector (25.6%) compared to the private sector (24.6%) ( $P<0.001$ ).

The mean turnaround time for PCR tests conducted in week 2 of 2021 was 1.9 days. Turnaround time increased slightly in the public sector (3.1 days) and remained consistent in the private sector (1.0 days) (Figure 3). Turnaround times for public sector tests were  $>2$  days in all provinces and were highest in the North West (4.4 days), Mpumalanga (4.3 days), Limpopo (4.0 days) and KwaZulu-Natal (4.0 days) (Figure 4). Five of the 28 (17.9%) NHLS laboratories performing PCR testing for SARS-CoV-2 had turnaround times  $\leq 2$  days (Figure 5).

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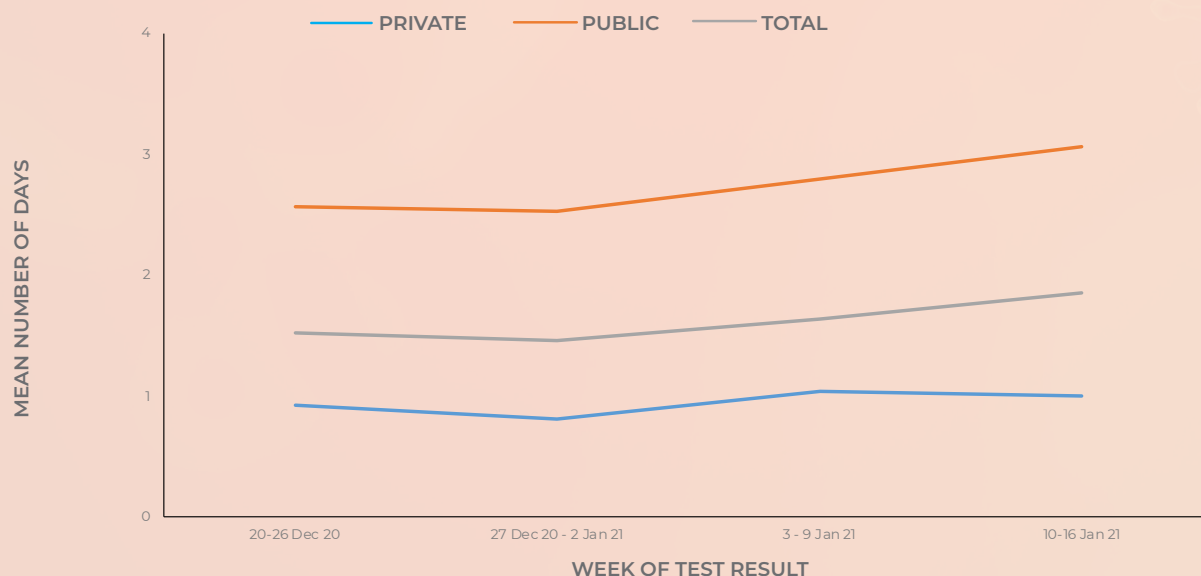
**Table 2.** Weekly number of tests conducted and positive tests, by healthcare sector, South Africa, 1 March 2020 – 16 January 2021

Week number	Week beginning	Public sector		Private sector		Public sector percentage of		Ratio of PTP <sup>a</sup>
		Tests	Cases n (%)	Tests	Positive tests n (%)	Tests (%)	Positive tests (%)	
10	01-Mar-20	293	10 (3.4)	160	3 (1.9)	64.7	76.9	1.820
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	3476	149 (4.3)	14064	394 (2.8)	19.8	27.4	1.530
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	24166	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	67468	2453 (3.6)	26339	750 (2.8)	71.9	76.6	1.277
19	03-May-20	94336	4506 (4.8)	48364	1511 (3.1)	66.1	74.9	1.529
20	10-May-20	107996	5443 (5.0)	57371	2647 (4.6)	65.3	67.3	1.092
21	17-May-20	98647	7031 (7.1)	67887	4348 (6.4)	59.2	61.8	1.113
22	24-May-20	77596	6411 (8.3)	78537	6556 (8.3)	49.7	49.4	0.990
23	31-May-20	63943	6626 (10.4)	89619	8453 (9.4)	41.6	43.9	1.099
24	07-Jun-20	64653	8038 (12.4)	109237	14320 (13.1)	37.2	36.0	0.948
25	14-Jun-20	61147	11982 (19.6)	124897	20656 (16.5)	32.9	36.7	1.185
26	21-Jun-20	90452	20425 (22.6)	161629	34619 (21.4)	35.9	37.1	1.054
27	28-Jun-20	106365	27244 (25.6)	196326	48062 (24.5)	35.1	36.2	1.046
28	05-Jul-20	117722	32238 (27.4)	190178	53794 (28.3)	38.2	37.5	0.968
29	12-Jul-20	110658	31383 (28.4)	174928	53541 (30.6)	38.7	37.0	0.927
30	19-Jul-20	105206	30319 (28.8)	165672	48312 (29.2)	38.8	38.6	0.988
31	26-Jul-20	81234	22782 (28.0)	135139	35609 (26.3)	37.5	39.0	1.064
32	02-Aug-20	70566	16996 (24.1)	108993	23995 (22.0)	39.3	41.5	1.094
33	09-Aug-20	58660	11172 (19.0)	82411	15090 (18.3)	41.6	42.5	1.040
34	16-Aug-20	56136	9621 (17.1)	78867	11753 (14.9)	41.6	45.0	1.150
35	23-Aug-20	50315	7790 (15.5)	73010	8540 (11.7)	40.8	47.7	1.324
36	30-Aug-20	45418	6096 (13.4)	67336	6694 (9.9)	40.3	47.7	1.350
37	06-Sep-20	51053	6421 (12.6)	65936	5530 (8.4)	43.6	53.7	1.500
38	13-Sep-20	53703	6546 (12.2)	67002	5464 (8.2)	44.5	54.5	1.495
39	20-Sep-20	44839	5530 (12.3)	53972	4568 (8.5)	45.4	54.8	1.457
40	27-Sep-20	48624	5567 (11.4)	74420	5439 (7.3)	39.5	50.6	1.567
41	04-Oct-20	50428	5688 (11.3)	80595	6089 (7.6)	38.5	48.3	1.493
42	11-Oct-20	53429	5691 (10.7)	84504	6369 (7.5)	38.7	47.2	1.413
43	18-Oct-20	56116	6040 (10.8)	86020	6022 (7.0)	39.5	50.1	1.537
44	25-Oct-20	51277	5717 (11.1)	84540	5756 (6.8)	37.8	49.8	1.638
45	01-Nov-20	52986	6060 (11.4)	85789	6070 (7.1)	38.2	50.0	1.616
46	08-Nov-20	58904	8096 (13.7)	88034	6739 (7.7)	40.1	54.6	1.795
47	15-Nov-20	67565	10580 (15.7)	93021	8174 (8.8)	42.1	56.4	1.782
48	22-Nov-20	74560	12198 (16.4)	101064	9843 (9.7)	42.5	55.3	1.680
49	29-Nov-20	81074	15719 (19.4)	121785	15026 (12.3)	40.0	51.1	1.571
50	06-Dec-20	106826	24670 (23.1)	159803	28559 (17.9)	40.1	46.3	1.292
51	13-Dec-20	115988	29793 (25.7)	176849	38660 (21.9)	39.6	43.5	1.175
52	20-Dec-20	108213	34098 (31.5)	173808	47586 (27.4)	38.4	41.7	1.151
53	27-Dec-20	144743	52217 (36.1)	181195	62236 (34.3)	44.4	45.6	1.050
1	03-Jan-21	209575	65091 (31.1)	260467	78925 (30.3)	44.6	45.2	1.025
2	10-Jan-21	147324	37714 (25.6)	198775	48825 (24.6)	42.6	43.6	1.042
<b>Total</b>		<b>3208236</b>	<b>615137 (19.2)</b>	<b>4381233</b>	<b>798329 (18.2)</b>	<b>42.3</b>	<b>43.5</b>	<b>1.052</b>

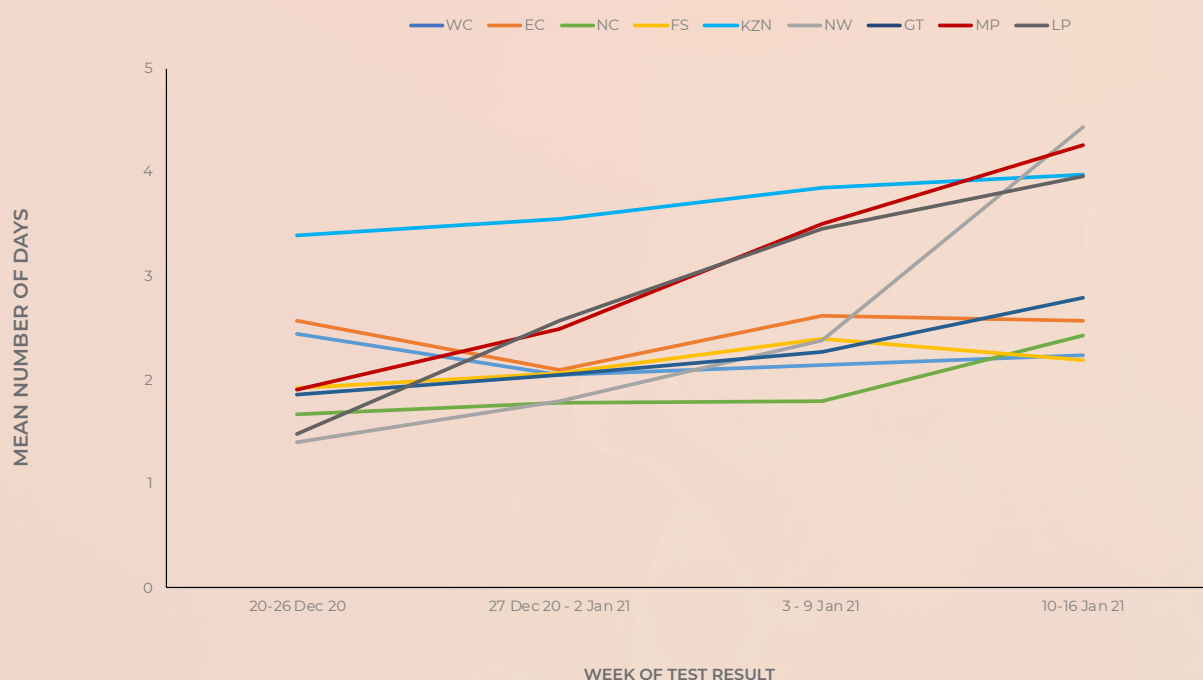
<sup>a</sup>Ratio of percentage testing positive (PTP) in the public sector to the private sector calculated as (no. of cases/total tests in public sector)/ (no. of cases/total tests in private sector)

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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, 20 December 2020 – 16 January 2021



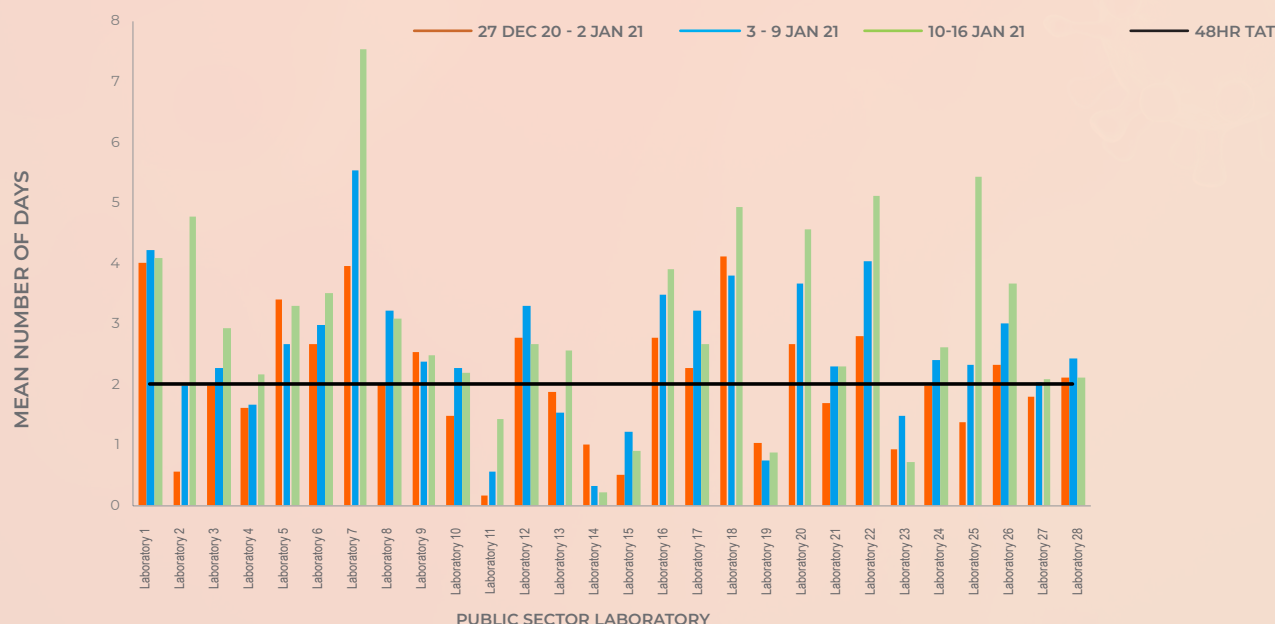
**Figure 4.** Mean number of days between date of specimen collection and date of test result, by week of test result and province, public sector, South Africa, 20 December 2020 – 16 January 2021. WC, Western Cape; EC, Eastern Cape; FS, Free State; KZN, KwaZulu-Natal; GT, Gauteng; NC, Northern Cape; NW, North West; MP, Mpumalanga; LP, Limpopo



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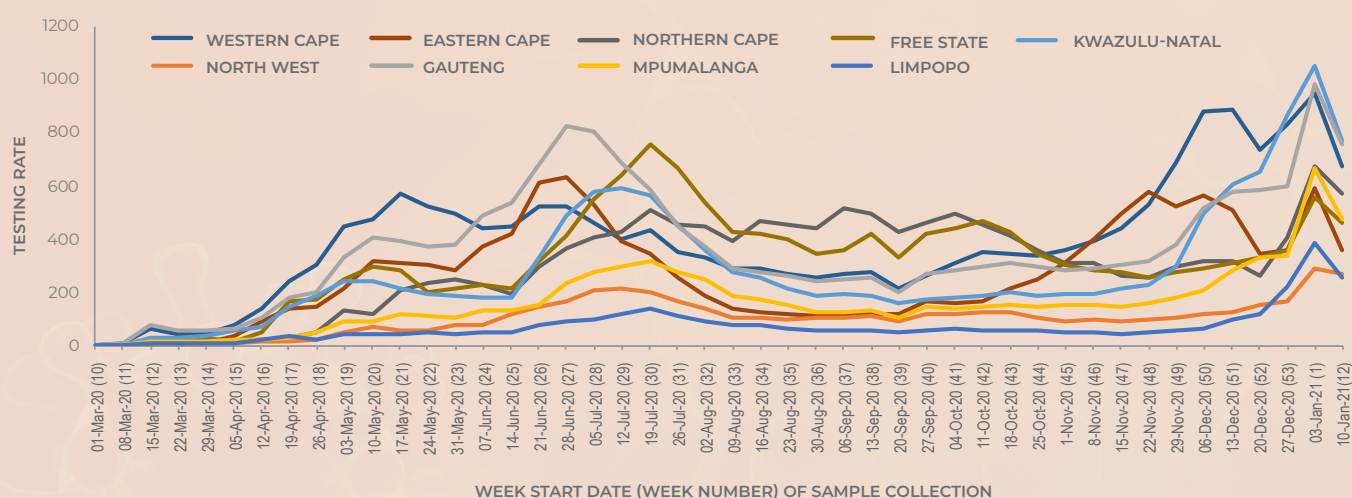
**Figure 5.** Mean number of days between date of specimen collection and date of test result, by public sector laboratory, 27 December 2020 – 16 January 2021. The horizontal black line indicates 48-hour turnaround time (TAT).

## Testing by province

Gauteng (33.8%) performed the largest number of tests in week 2 of 2021, followed by KwaZulu-Natal (25.7%) and Western Cape (13.7%) provinces (Table 3). KwaZulu-Natal (770 per 100,000 persons), Gauteng (755 per 100,000 persons) and Western Cape (676 per 100,000 persons) provinces had the highest testing rates in week 2 of 2021 (Figure 6). Testing rates decreased in all provinces over the past week.

The percentage testing positive in week 2 of 2021 was highest in Limpopo (39.5%) and Mpumalanga

(30.2%). Percentage testing positive was 20-29% in the Western Cape, Northern Cape, KwaZulu-Natal, North West, Free State and Gauteng, and was <20% in the Eastern Cape (18.6%) in week 2 of 2021 (Figure 7 and Table 3). Compared to the previous week, the percentage testing positive decreased in week 2 in all provinces ( $P \leq 0.001$ ), except for the Free State where the percentage testing positive did not change ( $P = 0.696$ ). The percentage testing positive was higher than the national average, not weighted for population size, in the Western Cape, Northern Cape, KwaZulu-Natal, 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 – 16 January 2021



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**Table 3.** Weekly number of tests performed and positive tests, by province, South Africa, 27 December 2020 – 16 January 2021

Province	Population <sup>a</sup>	27 Dec 20 – 2 Jan 21		3 – 9 Jan 21		10 – 16 Jan 21		Tests per 100,000 persons	Change in percentage positive <sup>b</sup>
		No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)		
Western Cape	7005741	58326	23472 (40.2)	66366	23083 (34.8)	47350	13477 (28.5)	676	-6.3%
Eastern Cape	6734001	24127	7063 (29.3)	39929	7821 (19.6)	24112	4474 (18.6)	358	-1.0%
Northern Cape	1292786	5270	1257 (23.9)	8695	2425 (27.9)	7405	1866 (25.2)	573	-2.7%
Free State	2928903	10443	2197 (21.0)	16380	4046 (24.7)	13556	3322 (24.5)	463	-0.2%
KwaZulu-Natal	11531628	99420	38078 (38.3)	120804	39316 (32.5)	88819	22200 (25.0)	770	-7.6%
North West	4108816	6880	2577 (37.5)	11785	4295 (36.4)	11082	3014 (27.2)	270	-9.2%
Gauteng	15488137	92787	28440 (30.7)	152449	42397 (27.8)	116863	25655 (22.0)	755	-5.9%
Mpumalanga	4679786	15708	5051 (32.2)	31276	9972 (31.9)	22127	6693 (30.2)	473	-1.6%
Limpopo	5852553	12964	6315 (48.7)	22327	10652 (47.7)	14763	5834 (39.5)	252	-8.2%
Unknown		13	3 (23.1)	31	9 (29.0)	22	4 (18.2)		
<b>Total</b>	<b>59622350</b>	<b>325938</b>	<b>114453 (35.1)</b>	<b>470042</b>	<b>144016 (30.6)</b>	<b>346099</b>	<b>86539 (25.0)</b>	<b>580</b>	<b>-5.6%</b>

<sup>a</sup> 2020 Mid-year population Statistics SA

<sup>b</sup> Current week compared to previous week



**Figure 7.** Weekly percentage testing positive, by province, South Africa, 27 December 2020 – 16 January 2021. The horizontal blue line shows the national mean for week 2, beginning 10 January 2021.

## Testing in the public sector

In the public sector, the percentage testing positive decreased in the past week (31.1% in week 1 to 25.6% in week 2 of 2021,  $P < 0.001$ ) (Table 4). The percentage testing positive in week 2 of 2021 was highest in

Limpopo (46.5%), Mpumalanga (38.8%) and Western Cape (31.3%). 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, 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, 27 December 2020 – 16 January 2021

Province	27 Dec 2020 - 2 Jan 2021		3 - 9 Jan 2021		10-16 Jan 2021	
	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)
Western Cape	23737	10713 (45.1)	27588	10529 (38.2)	20126	6309 (31.3)
Eastern Cape	17005	4561 (26.8)	30730	5228 (17.0)	16796	2992 (17.8)
Northern Cape	3485	798 (22.9)	5401	1524 (28.2)	4490	1189 (26.5)
Free State	5965	1199 (20.1)	9607	2533 (26.4)	7335	2090 (28.5)
KwaZulu-Natal	50714	19909 (39.3)	62695	20239 (32.3)	50520	12018 (23.8)
North West	3430	1324 (38.6)	5665	2157 (38.1)	4735	1247 (26.3)
Gauteng	27653	9049 (32.7)	49327	14261 (28.9)	34405	8143 (23.7)
Mpumalanga	7427	2223 (29.9)	9823	4201 (42.8)	5411	2098 (38.8)
Limpopo	5327	2441 (45.8)	8739	4419 (50.6)	3504	1628 (46.5)
Unknown	0	0 (0.0)	0	0 (0.0)	2	0 (0.0)
<b>Total</b>	<b>144743</b>	<b>52217 (36.1)</b>	<b>209575</b>	<b>65091 (31.1)</b>	<b>147324</b>	<b>37714 (25.6)</b>



**Figure 8.** Weekly percentage testing positive in the public sector, by province, South Africa, 27 December 2020 – 16 January 2021. The horizontal blue line shows the national mean for week 2 of 2021, beginning 10 January 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 10-16 January 2021, with the highest proportion testing positive nationally. This week's list is dominated by facilities in Limpopo (9), KwaZulu-Natal (6) and Mpumalanga (5).

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**Table 5.1** Public sector healthcare facilities with a high proportion testing positive, 10-16 January 2021

Facility Name	Province	Tests	PTP (95% CI)
Facility 1	Limpopo	25	0.720 (0.544;0.896)
Facility 2	Mpumalanga	32	0.719 (0.563;0.875)
Facility 3	Northern Cape	28	0.714 (0.547;0.882)
Facility 4	Limpopo	34	0.706 (0.553;0.859)
Facility 5	KwaZulu-Natal	27	0.704 (0.531;0.876)
Facility 6	Eastern Cape	69	0.681 (0.571;0.791)
Facility 7	Mpumalanga	25	0.680 (0.497;0.863)
Facility 8	KwaZulu-Natal	28	0.679 (0.506;0.852)
Facility 9	KwaZulu-Natal	99	0.677 (0.585;0.769)
Facility 10	Limpopo	124	0.661 (0.578;0.745)
Facility 11	Mpumalanga	41	0.659 (0.513;0.804)
Facility 12	Mpumalanga	38	0.658 (0.507;0.809)
Facility 13	Mpumalanga	32	0.656 (0.492;0.821)
Facility 14	Limpopo	46	0.652 (0.515;0.790)
Facility 15	Limpopo	43	0.651 (0.509;0.794)
Facility 16	Limpopo	28	0.643 (0.465;0.820)
Facility 17	KwaZulu-Natal	30	0.633 (0.461;0.806)
Facility 18	KwaZulu-Natal	30	0.633 (0.461;0.806)
Facility 19	KwaZulu-Natal	30	0.633 (0.461;0.806)
Facility 20	Western Cape	30	0.633 (0.461;0.806)
Facility 21	Limpopo	29	0.621 (0.444;0.797)
Facility 22	Limpopo	26	0.615 (0.428;0.802)
Facility 23	Western Cape	49	0.612 (0.476;0.749)
Facility 24	Free State	25	0.600 (0.408;0.792)
Facility 25	Limpopo	42	0.595 (0.447;0.744)

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 10-16 January 2021, with the highest proportion testing positive nationally. Private-sector facilities with high proportions testing positive are concentrated in KwaZulu-Natal (9) and Gauteng (7), with five in Limpopo and three in the Western Cape.



# COVID-19 TESTING SUMMARY

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**Table 5.2** Private sector healthcare facilities with a high proportion testing positive, 10-16 January 2021

Facility Name	Province	Tests	PTP (95% CI)
Facility 1	Limpopo	129	0.682 (0.602;0.763)
Facility 2	Gauteng	25	0.680 (0.497;0.863)
Facility 3	KwaZulu-Natal	54	0.667 (0.541;0.792)
Facility 4	Limpopo	26	0.654 (0.471;0.837)
Facility 5	KwaZulu-Natal	40	0.650 (0.502;0.798)
Facility 6	Gauteng	55	0.600 (0.471;0.729)
Facility 7	Gauteng	46	0.565 (0.422;0.708)
Facility 8	Gauteng	172	0.541 (0.466;0.615)
Facility 9	Western Cape	50	0.520 (0.382;0.658)
Facility 10	Gauteng	53	0.509 (0.375;0.644)
Facility 11	KwaZulu-Natal	59	0.508 (0.381;0.636)
Facility 12	Limpopo	63	0.508 (0.384;0.631)
Facility 13	Western Cape	46	0.500 (0.356;0.644)
Facility 14	KwaZulu-Natal	43	0.488 (0.339;0.638)
Facility 15	KwaZulu-Natal	82	0.488 (0.380;0.596)
Facility 16	KwaZulu-Natal	41	0.488 (0.335;0.641)
Facility 17	Western Cape	217	0.484 (0.417;0.550)
Facility 18	KwaZulu-Natal	38	0.474 (0.315;0.632)
Facility 19	Mpumalanga	36	0.472 (0.309;0.635)
Facility 20	Limpopo	554	0.468 (0.426;0.509)
Facility 21	Gauteng	30	0.467 (0.288;0.645)
Facility 22	KwaZulu-Natal	367	0.460 (0.409;0.511)
Facility 23	Gauteng	174	0.460 (0.386;0.534)
Facility 24	KwaZulu-Natal	96	0.458 (0.359;0.558)
Facility 25	Limpopo	606	0.457 (0.417;0.497)

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 10-16 January 2021 have been located within the spatial framework of the health districts and health sub-districts (in the metros).

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 greatest proportions testing positive were concentrated in Limpopo (9 districts), and in KwaZulu-Natal and Mpumalanga (4 districts each).

Six districts with the highest proportion testing positive in the week from 10-16 January 2021 showed a proportion testing positive greater than 50% (but less than 60%). A significant increase was observed in only one district (Kai Garib in the Northern Cape), while the proportion of tests returned positive decreased significantly in 6 districts (5 in Limpopo, and one in the Northern Cape).



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**Table 6.** Health sub-districts with the highest proportion testing positive based on public and private sector data for the week of 10-16 January 2021

Health district or sub-district	Province	PTP (95% CI)	Previous week
Makhuduthamaga	Limpopo	0.570 (0.499-0.642)	0.537 (0.478-0.596)
Bushbuckridge	Mpumalanga	0.544 (0.485-0.602)	0.494 (0.465-0.522)
Dannhauser	KwaZulu-Natal	0.532 (0.388-0.676)	0.463 (0.367-0.559)
Blouberg	Limpopo	0.531 (0.402-0.659)	0.590 (0.503-0.676)
Moretele	NorthWest	0.520 (0.437-0.604)	0.455 (0.389-0.521)
Pixley Ka Seme	Mpumalanga	0.515 (0.464-0.566)	0.506 (0.467-0.545)
Senqu	Eastern Cape	0.482 (0.409-0.555)	0.430 (0.374-0.485)
Masilonyana	Free State	0.478 (0.343-0.613)	0.308 (0.171-0.445)
Bela-Bela	Limpopo	0.478 (0.371-0.585)	0.534 (0.464-0.604)
Richtersveld	Northern Cape	0.472 (0.394-0.550)	0.683 (0.597-0.769)
Matzikama	Western Cape	0.456 (0.411-0.501)	0.442 (0.403-0.482)
Makhado	Limpopo	0.453 (0.420-0.487)	0.579 (0.555-0.603)
Greater Giyani	Limpopo	0.453 (0.403-0.503)	0.629 (0.594-0.664)
Langeberg	Western Cape	0.451 (0.394-0.508)	0.481 (0.437-0.526)
Greater Tzaneen	Limpopo	0.447 (0.421-0.472)	0.539 (0.518-0.561)
Mfolozi	KwaZulu-Natal	0.445 (0.301-0.590)	0.321 (0.255-0.386)
Dipaleseng	Mpumalanga	0.445 (0.337-0.553)	0.322 (0.217-0.427)
Lekwa-Teemane	NorthWest	0.440 (0.307-0.573)	...
Mthonjaneni	KwaZulu-Natal	0.433 (0.366-0.501)	0.456 (0.383-0.530)
Lepele-Nkumpi	Limpopo	0.417 (0.371-0.463)	0.511 (0.474-0.549)
Kai Garib	Northern Cape	0.412 (0.319-0.505)	0.233 (0.181-0.285)
Ingwe	KwaZulu-Natal	0.410 (0.366-0.455)	0.369 (0.331-0.407)
Elias Motsoaledi	Limpopo	0.409 (0.355-0.463)	0.579 (0.535-0.622)
Thembisile	Mpumalanga	0.408 (0.343-0.472)	0.476 (0.424-0.529)
Ba-Phalaborwa	Limpopo	0.403 (0.370-0.436)	0.440 (0.412-0.469)

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.

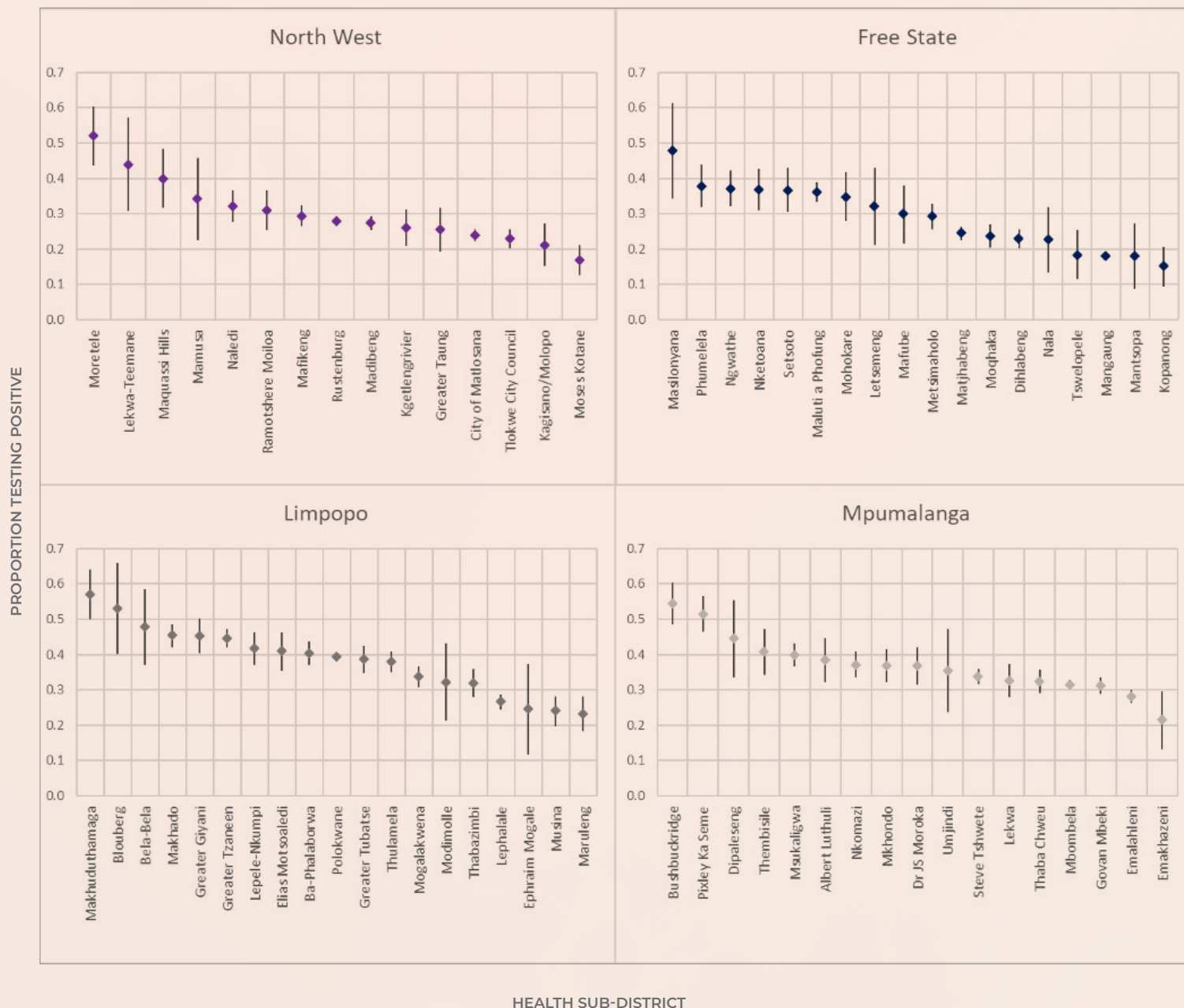
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**Figure 9.1** Proportions testing positive by health sub-district in the Western Cape, Eastern Cape, Gauteng and KwaZulu-Natal provinces based on public and private sector data for the week of 10-16 January 2021.

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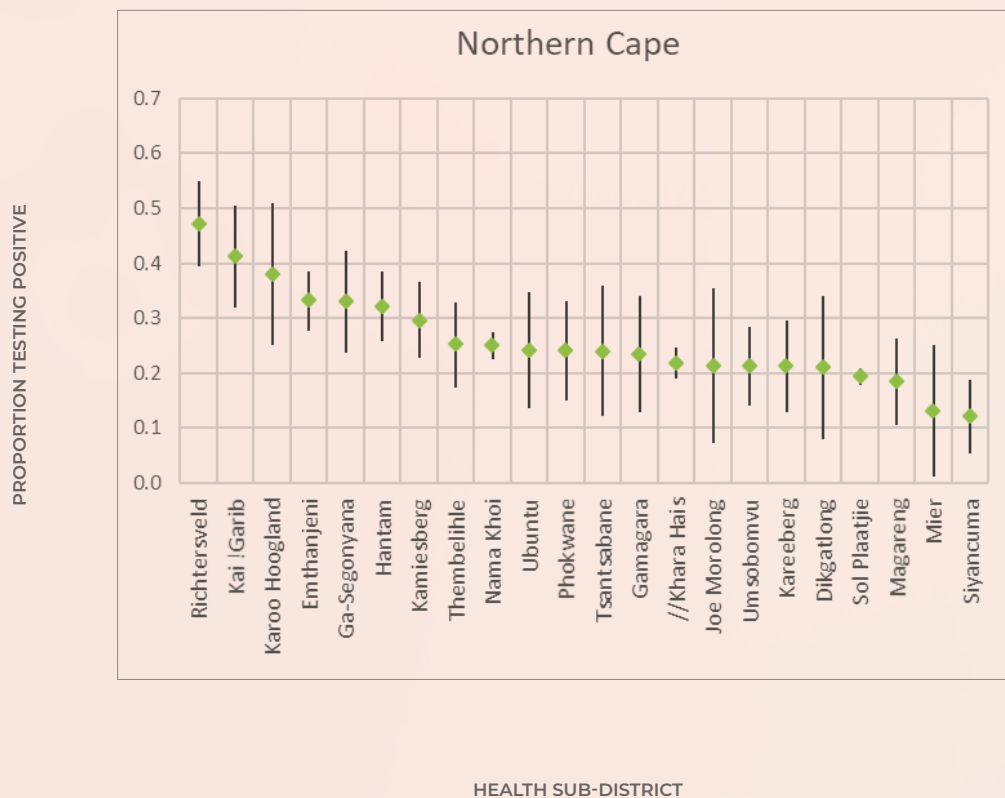


**Figure 9.2** Proportions testing positive by health sub-district in the North West, Free State, Limpopo and Mpumalanga provinces based on public and private sector data for the week of 10-16 January 2021.



# COVID-19 TESTING SUMMARY

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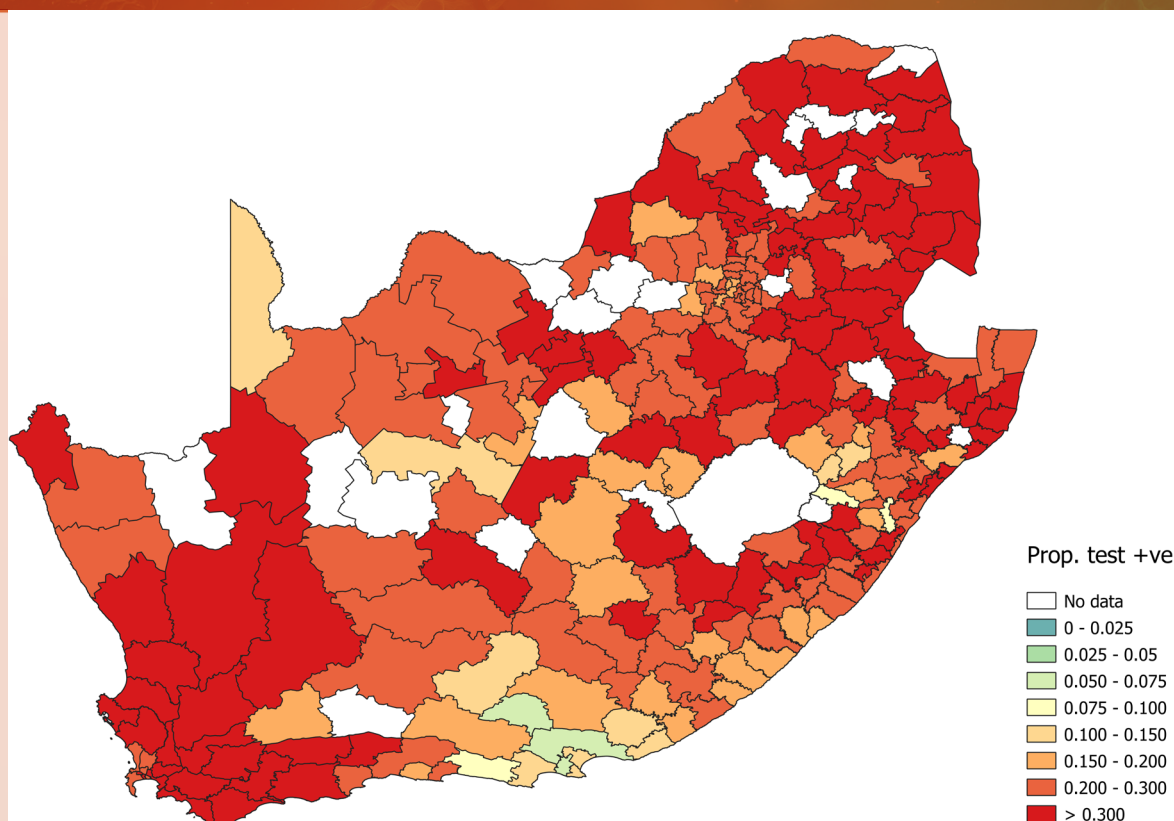
**Figure 9.3** Proportions testing positive by health sub-districts in the Northern Cape Province based on public and private sector data for the week of 10-16 January 2021.

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).

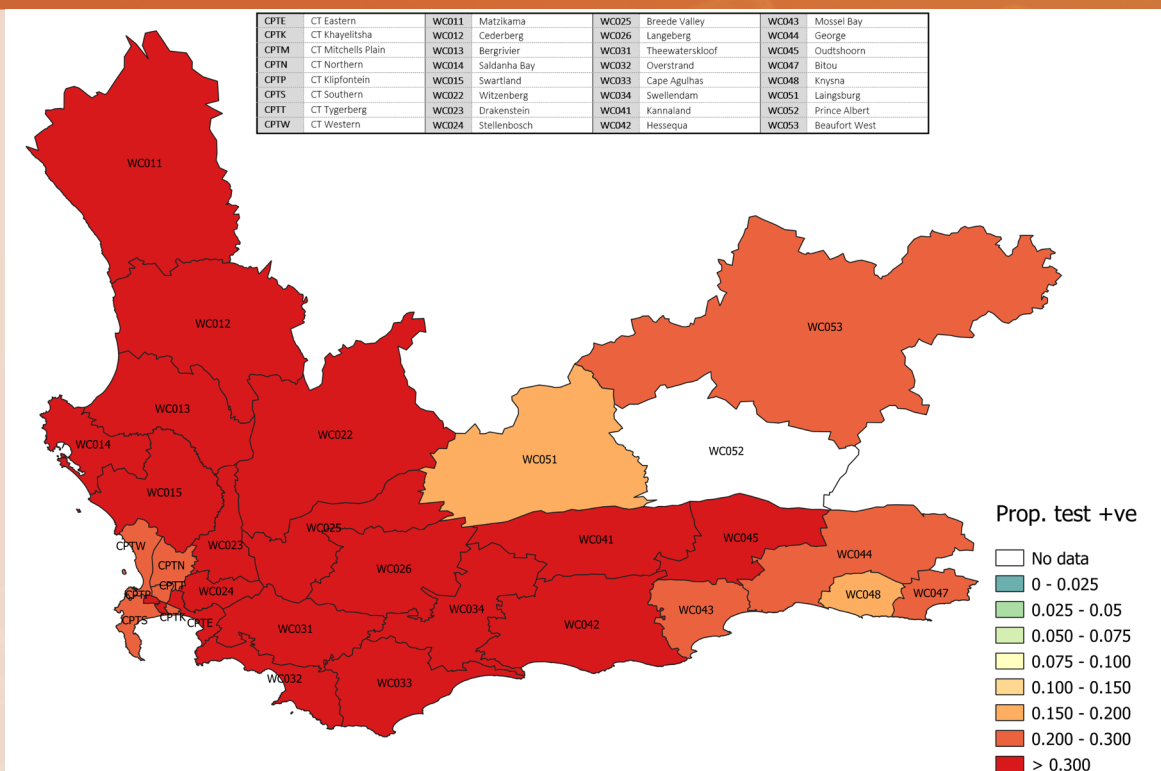


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**Figure 10.** Proportion testing positive by health sub-district in South Africa for the week of 10-16 January 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

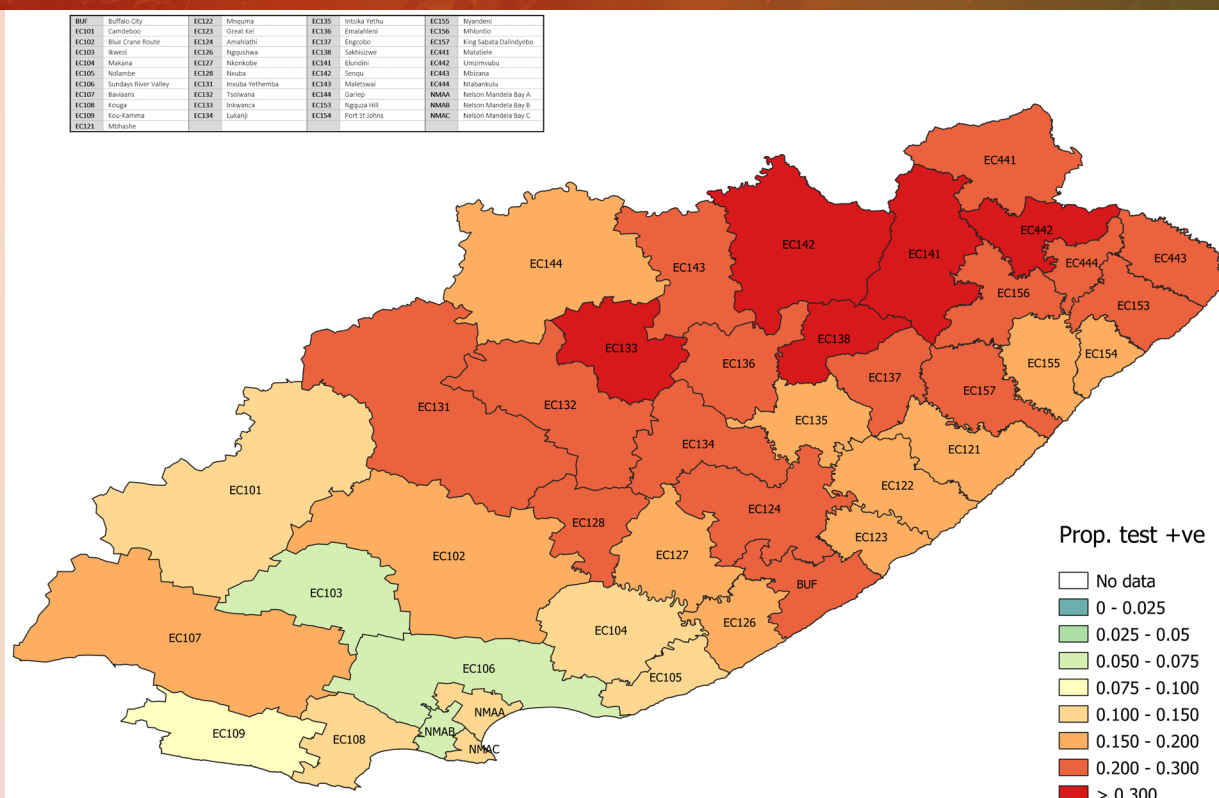


**Figure 11.** Proportion testing positive by health sub-district in the Western Cape province for the week of 10-16 January 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

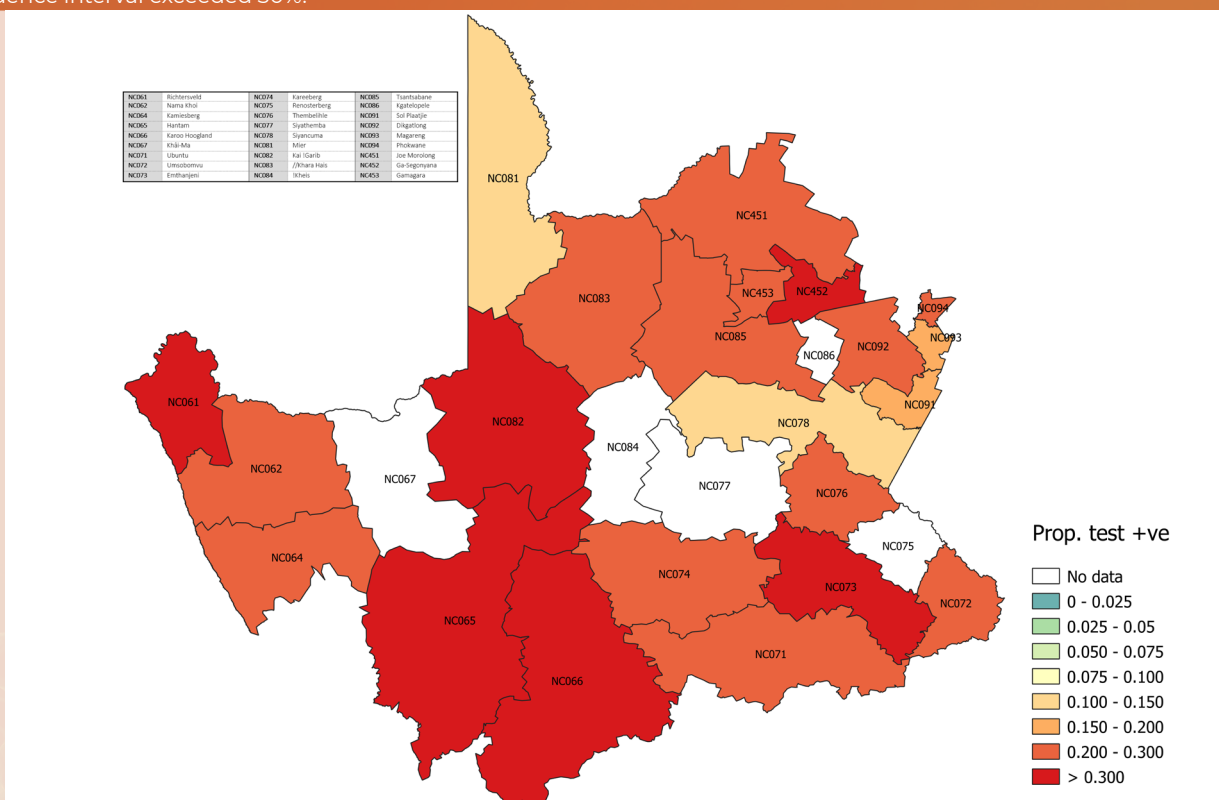
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**Figure 12.** Proportion testing positive by health sub-district in the Eastern Cape province for the week of 10-16 January 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.



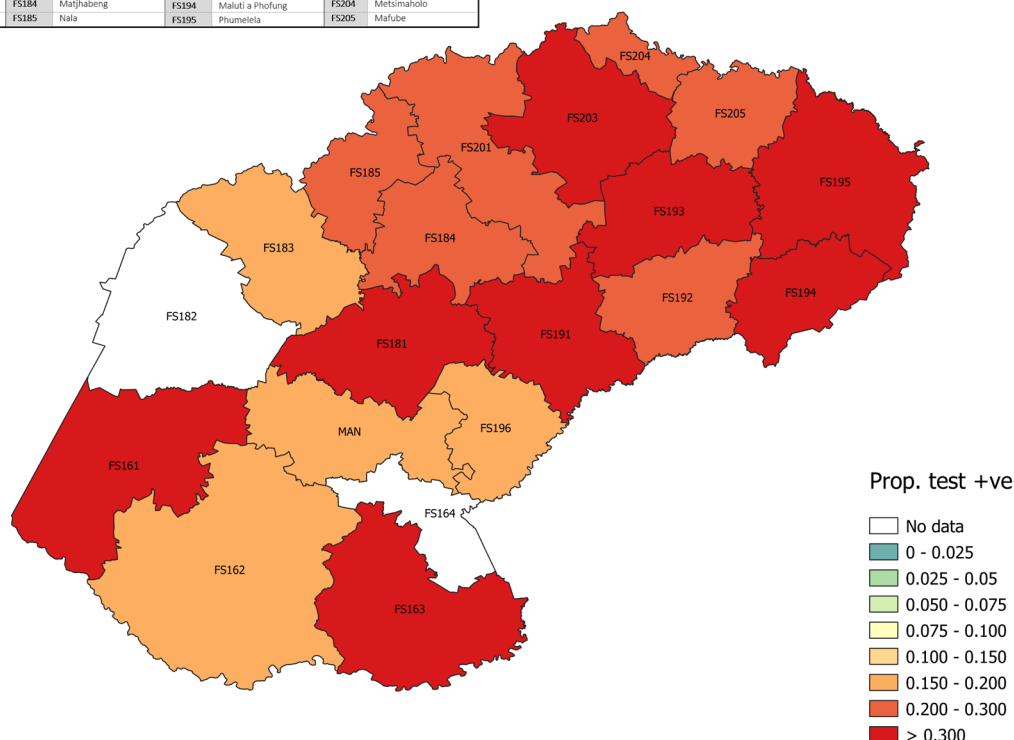
**Figure 13.** Proportion testing positive by health sub-district in Northern Cape Province for the week of 10-16 January 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

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MAN	Mangung	FS181	Masilanyana	FS191	Setoto	FS196	Mantopa
FS161	Letsemeng	FS182	Tokologo	FS192	Ditlabeng	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	Maľube



**Figure 14.** Proportion testing positive by health sub-district in Free State Province for the week of 10-16 January 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.

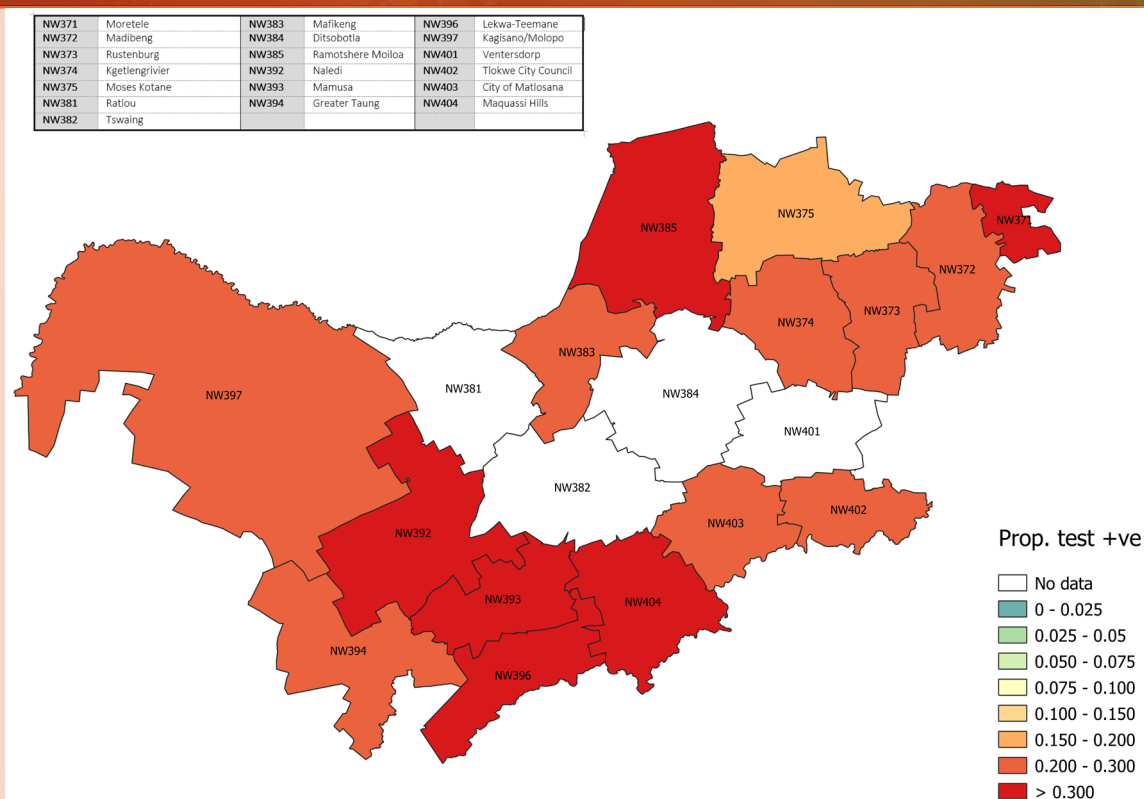
ETHN	eThekweni North	KZN233	Indaka	KZN273	The Big 5 False Bay
ETHS	eThekweni South	KZN234	Umtshezi	KZN274	Klabisa
ETHW	eThekweni West	KZN235	Oshantamba	KZN275	Mthuthuzaba
KZN211	Vulamehlo	KZN236	Imbabazane	KZN281	Mfolosi
KZN212	Umdoni	KZN241	Endumeni	KZN282	uMkhathuze
KZN213	Umsund	KZN242	Nqutu	KZN283	Ntambanana
KZN214	uMkhathuze	KZN244	Ningola	KZN284	uMkhathuze
KZN215	Ezingweni	KZN245	Umtsheni	KZN285	Mthorjani
KZN216	Hibiscus Coast	KZN252	Newcastle	KZN286	Nkandla
KZN217	uMkhathuze	KZN253	Emadungeni	KZN291	Mandeni
KZN218	uMkhathuze	KZN254	Dannewater	KZN292	KwaDukuza
KZN219	uMkhathuze	KZN261	eDumbe	KZN293	Ndweni
KZN220	uMkhathuze	KZN262	uPhongolo	KZN294	Maphumulo
KZN221	uMkhathuze	KZN263	Abaqulusi	KZN311	Inqwe
KZN222	uMkhathuze	KZN264	Nongoma	KZN312	Kwa-Sani
KZN223	uMkhathuze	KZN265	Umtsheni	KZN313	Greater Kokstad
KZN224	uMkhathuze	KZN266	Umtsheni	KZN314	Umtsheni
KZN225	uMkhathuze	KZN271	Umtsheni	KZN315	Umtsheni
KZN226	uMkhathuze	KZN272	Umtsheni	KZN316	Umtsheni
KZN227	uMkhathuze	KZN273	Umtsheni	KZN317	Umtsheni
KZN228	uMkhathuze	KZN274	Umtsheni	KZN318	Umtsheni
KZN229	uMkhathuze	KZN275	Umtsheni	KZN319	Umtsheni
KZN230	uMkhathuze	KZN276	Umtsheni	KZN320	Umtsheni
KZN231	uMkhathuze	KZN277	Umtsheni	KZN321	Umtsheni
KZN232	uMkhathuze	KZN278	Umtsheni	KZN322	Umtsheni
KZN233	uMkhathuze	KZN279	Umtsheni	KZN323	Umtsheni
KZN234	uMkhathuze	KZN280	Umtsheni	KZN324	Umtsheni
KZN235	uMkhathuze	KZN281	Umtsheni	KZN325	Umtsheni
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KZN260	uMkhathuze	KZN306	Umtsheni	KZN350	Umtsheni
KZN261	uMkhathuze	KZN307	Umtsheni	KZN351	Umtsheni
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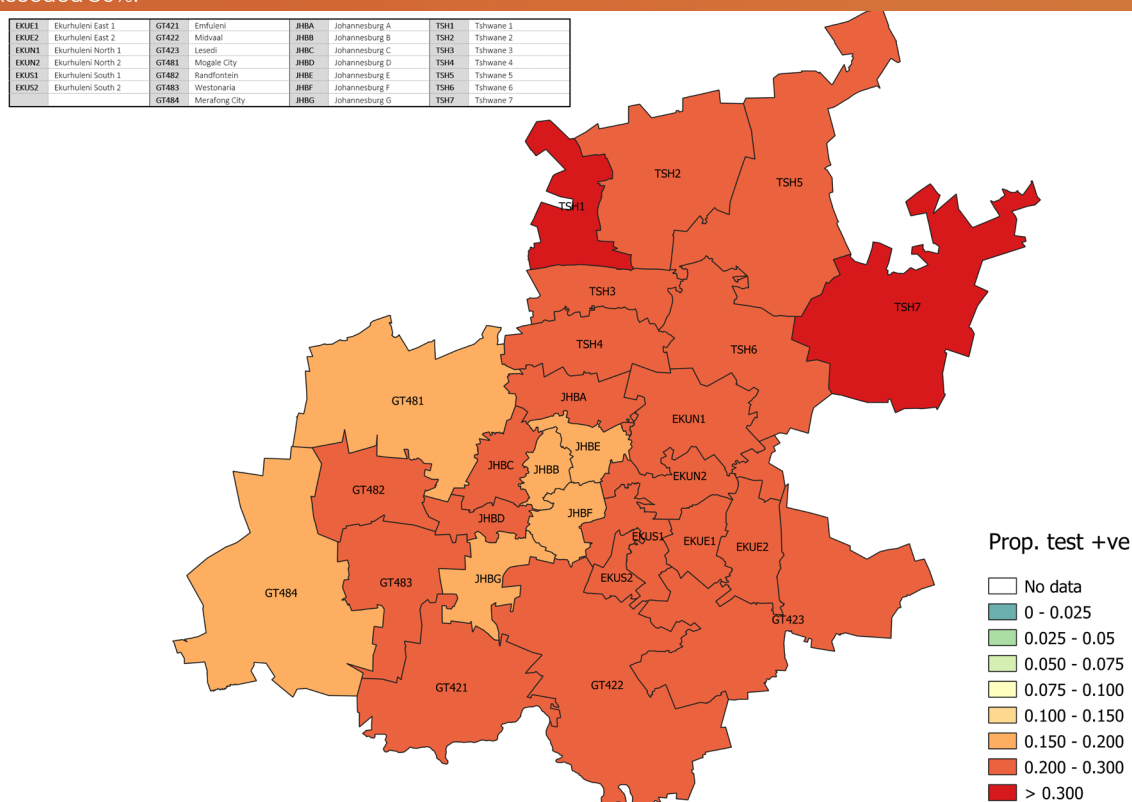
# COVID-19 TESTING SUMMARY

SOUTH AFRICA

WEEK 2 2021



**Figure 16.** Proportion testing positive by health sub-district in North West Province for the week of 10-16 January 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%.



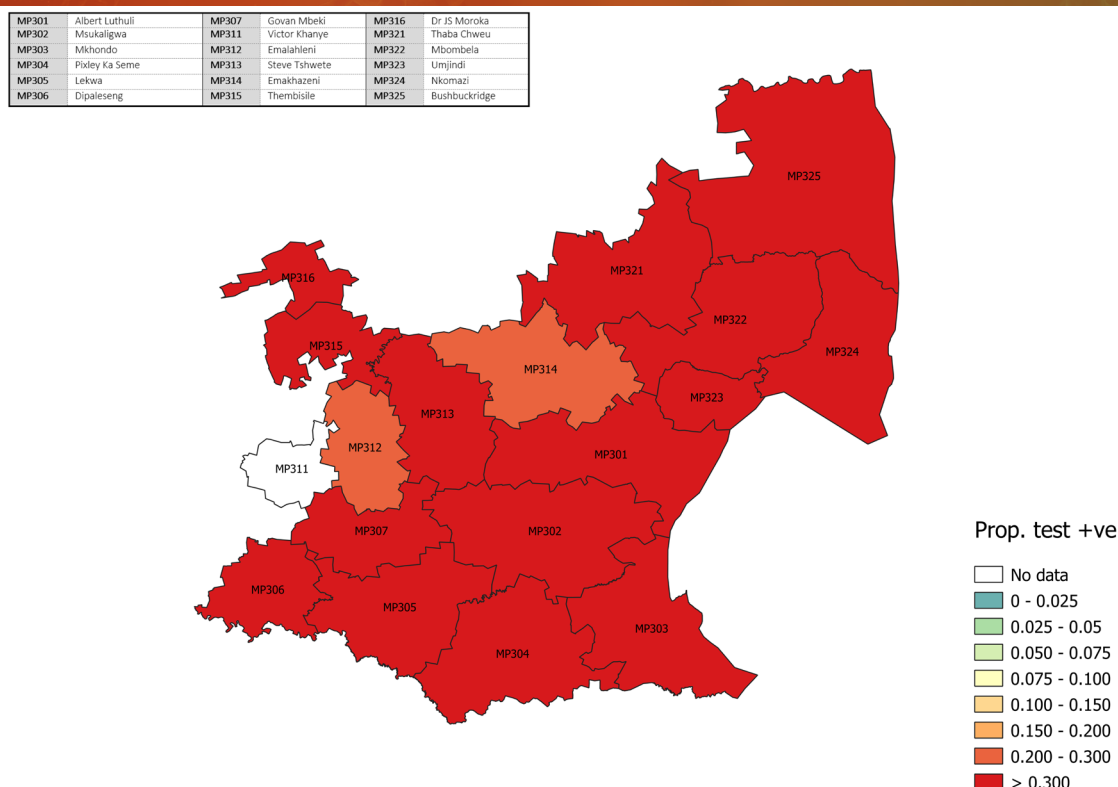
**Figure 17.** Proportion testing positive by health sub-district in Gauteng Province for the week of 10-16 January 2021. Areas shaded white represent districts in which either (i) no tests were conducted, (ii) all tests were negative, or (iii) the confidence interval exceeded 30%.



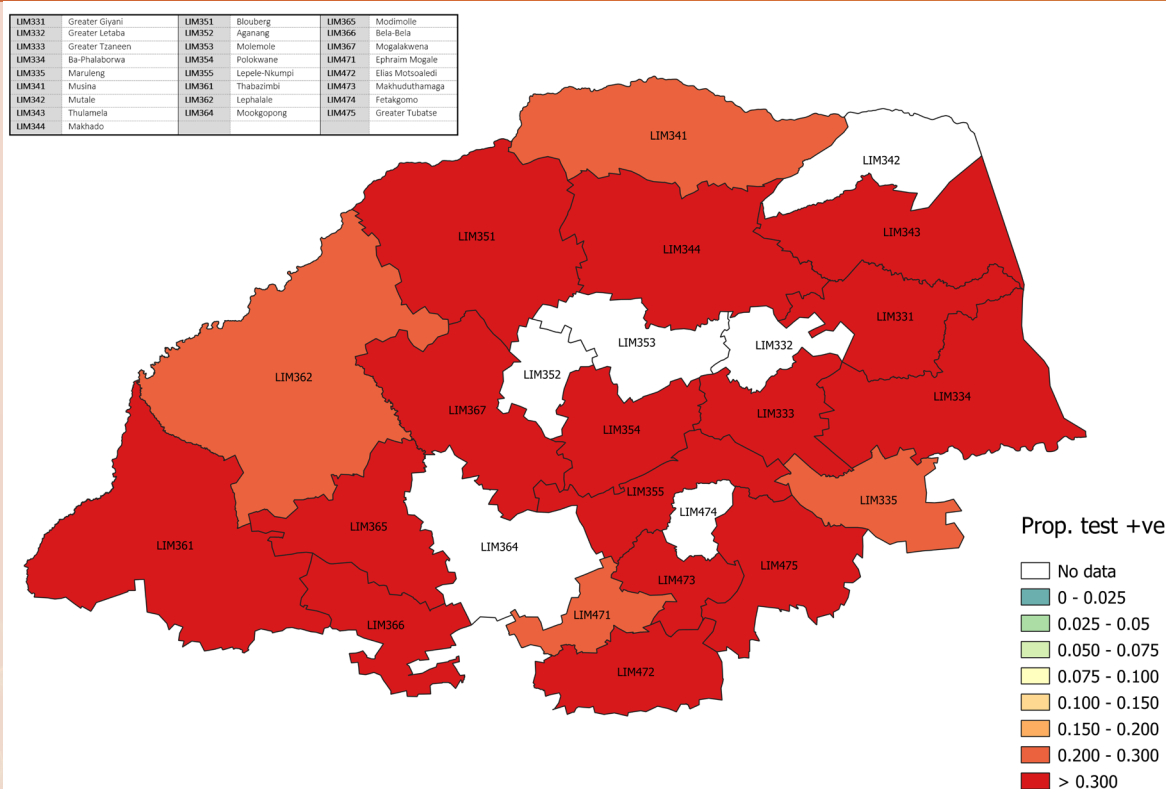
# COVID-19 TESTING SUMMARY

SOUTH AFRICA

WEEK 2 2021



**Figure 18.** Proportion testing positive by health sub-district in Mpumalanga Province for the week of 10-16 January 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 10-16 January 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%.

# COVID-19 TESTING SUMMARY

SOUTH AFRICA WEEK 2 2021

## Testing by patient admission status

In week 2 of 2021, 30.2% of tests were performed for hospitalised patients; 41.6% in the public sector and 21.9% in the private sector (Figure 20). The percentage testing positive decreased among both inpatients

and outpatients in the past week, and in week 2 was slightly lower among outpatients (25.5%) compared to inpatients (27.0%) (Figure 21). In week 2 of 2021 the mean laboratory turnaround time in the public sector continued to be lower for inpatients (2.6 days) compared to outpatients (3.5 days) (Figure 22).

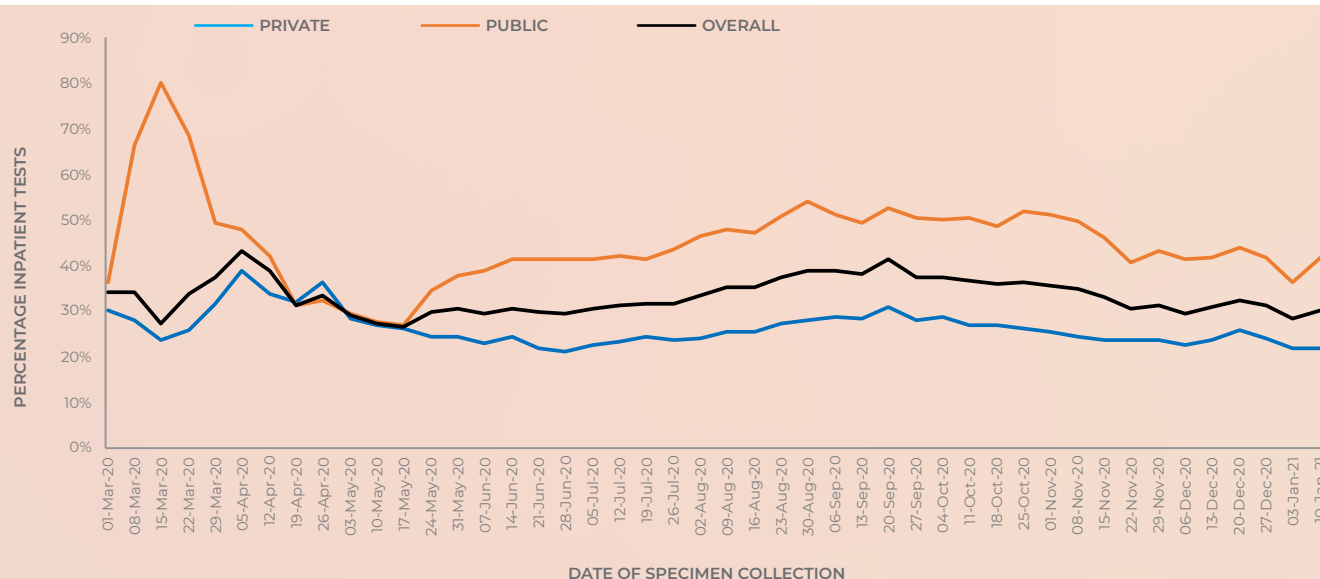


Figure 20. Percentage of inpatient tests performed by health sector, 1 March 2020 – 16 January 2021

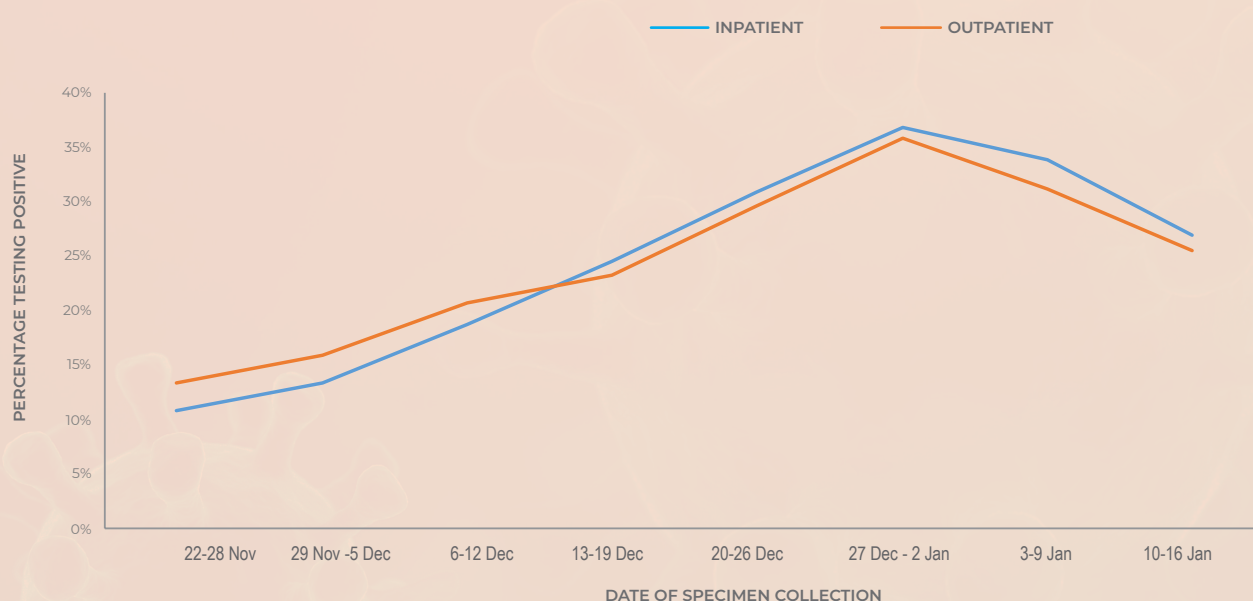
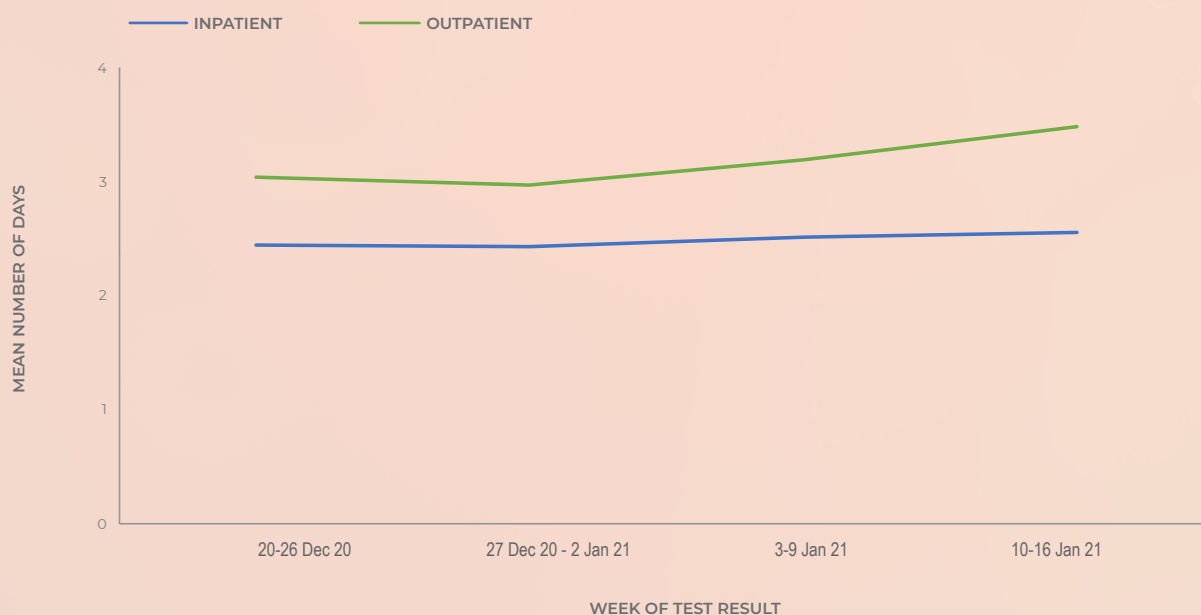


Figure 21. Percentage testing positive by patient admission status 22 November 2020 – 16 January 2021

# COVID-19 TESTING SUMMARY

SOUTH AFRICA WEEK 2 2021

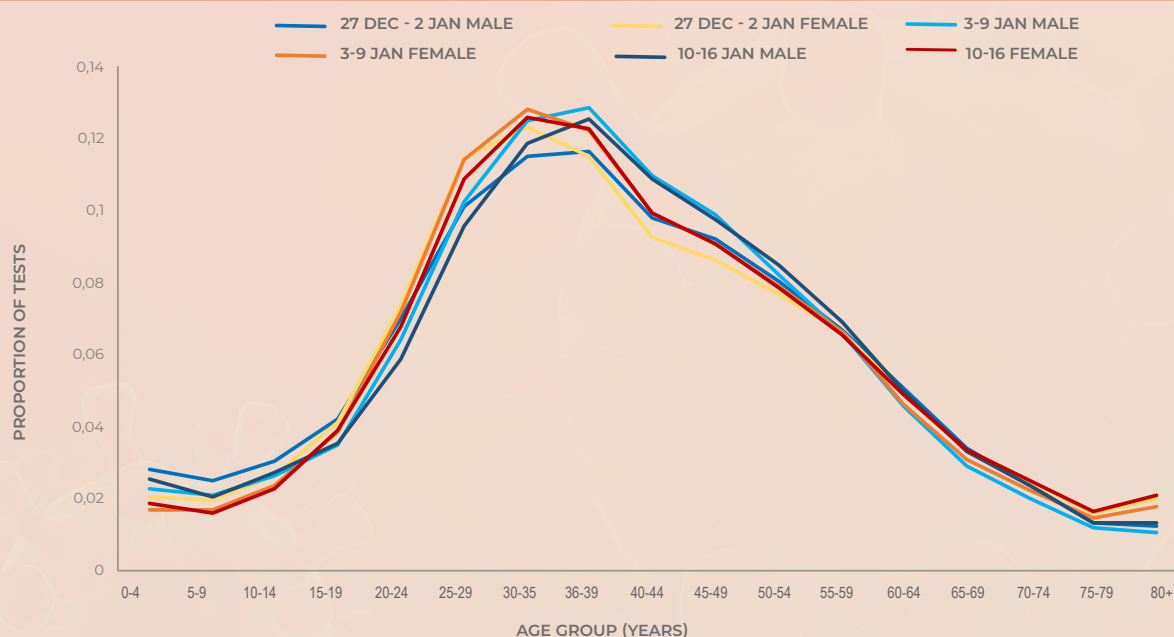


**Figure 22.** Mean number of days between date of specimen collection and date of test result in the public sector by patient admission status, 20 December 2020 – 16 January 2021

## Testing by age and sex

The mean age of individuals tested in week 2 of 2021 was 40.2 years, and was slightly higher among females (40.4 years) compared to males (40.0 years,  $P < 0.001$ ). As in the previous two weeks, the majority of tests were performed in individuals in the 25-44 years' age groups

(Figure 23). In week 2, the testing rate in males was 533 per 100,000 persons and in females was 604 per 100,000 persons (Figure 24). The highest testing rates were observed in age groups 40-64 and  $\geq 80$  years of age. The percentage testing positive increased with increasing age, and was higher in females compared to males in all age groups (Figure 24).

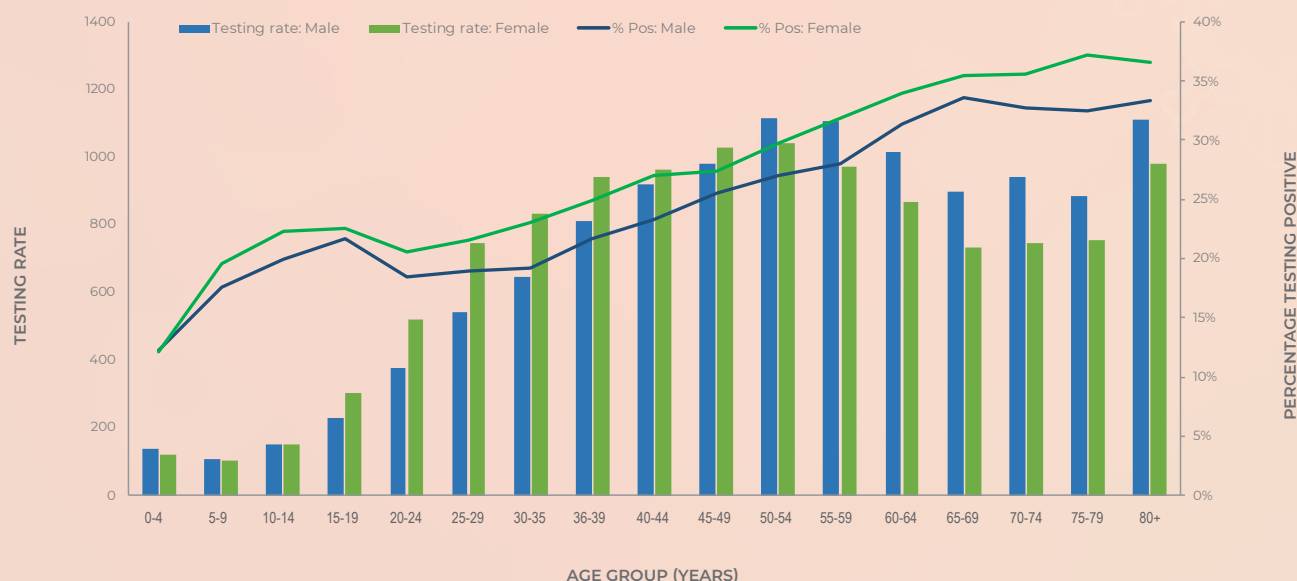


**Figure 23.** Proportion of tests by age group and sex, South Africa, 27 December 2020 - 16 January 2021



# COVID-19 TESTING SUMMARY

SOUTH AFRICA WEEK 2 2021

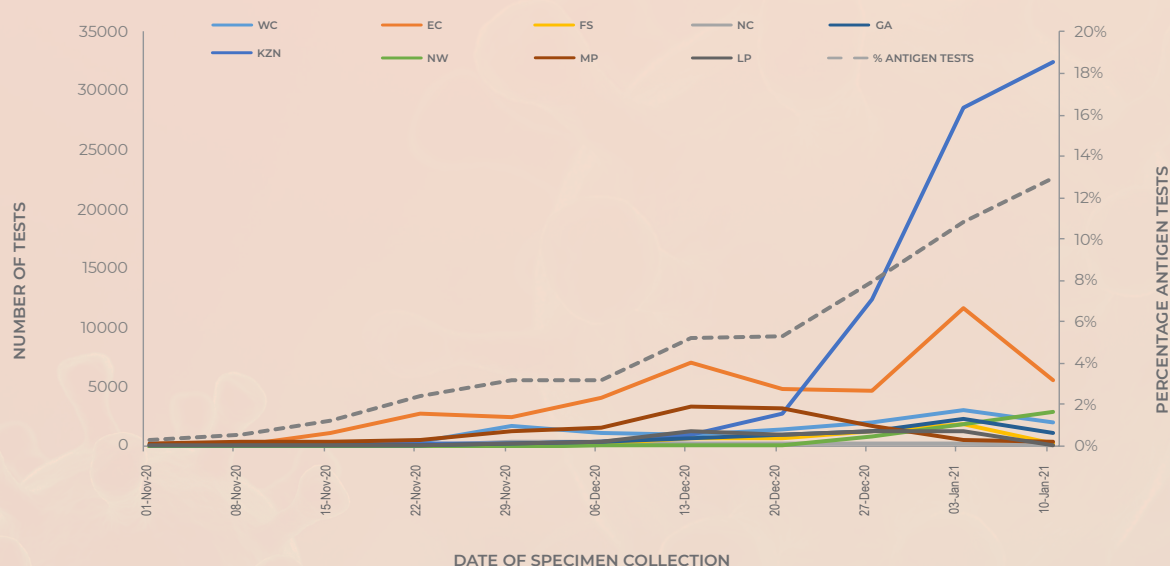


**Figure 24.** Testing rates per 100,000 persons and percentage testing positive by age group and sex, South Africa, week 2, 10-16 January 2021

## Testing by test type

Testing for SARS-CoV-2 using rapid antigen tests was initiated towards the end of October 2020. Up to the end of week 2 of 2021, 175,784 antigen tests had been performed in the public sector (45,093 in week 2). The percentage of antigen tests of all tests conducted has increased over recent weeks from 0.1% in week

44 of 2020 to 12.9% in week 2 of 2021. The majority of antigen tests have been performed in KwaZulu-Natal (n=78,459, 44.6%) and Eastern Cape (n=44,308, 25.2%) provinces (Figure 25). Over recent weeks the percentage testing positive was higher for PCR tests compared to antigen tests, likely due to the lower sensitivity of antigen tests and the setting in which they were used (Figure 26).



**Figure 25.** Number of antigen tests by province, and overall percentage antigen tests, South Africa, 1 November 2020 – 16 January 2021. WC, Western Cape; EC, Eastern Cape; FS, Free State; KZN, KwaZulu-Natal; GT, Gauteng; NC, Northern Cape; NW, North West; MP, Mpumalanga; LP, Limpopo

# COVID-19 TESTING SUMMARY

SOUTH AFRICA WEEK 2 2021



**Figure 26.** Percentage of laboratory tests positive for SARS-CoV-2 by test type and date of specimen collection, South Africa, 1 November 2020 – 16 January 2021

# COVID-19 TESTING SUMMARY

SOUTH AFRICA | WEEK 2 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 were highest in the first wave of infections in week 28 of 2020 (n=307,900), and in the second wave of infections in week 1 of 2021 (n=470,042). The number of tests performed in week 2 of 2021 was lower than the previous week. Gauteng (33.8%) performed the largest number of tests in week 2 of 2021, followed by KwaZulu-Natal (25.7%) and Western Cape (13.7%) provinces. KwaZulu-Natal (770 per 100,000 persons), Gauteng (755 per 100,000 persons) and Western Cape (676 per 100,000 persons) provinces had the highest testing rates in week 2 of 2021. The percentage of antigen tests has increased since antigen testing was implemented towards the end of October 2020, and accounted for 12.9% of all tests in week 2. The overall laboratory turnaround time for PCR tests in week 2 of 2021 was 1.9 days; 3.1 days in the public sector and 1.0 days in the private sector.

In the first wave of infections the percentage testing positive peaked at 29.7% in week 29 of 2020, and in the second wave of infections the percentage testing positive peaked at 35.1% in week 53 of 2020. In week 2 of 2021 the percentage testing positive was 25.0%, lower than has been observed in the previous few weeks. The percentage testing positive in week 2 of 2021 was highest in Limpopo (39.5%) and Mpumalanga (30.2%). Percentage testing positive was 20-29% in the Western Cape, Northern Cape, KwaZulu-Natal, North West, Free State and Gauteng, and was <20% in the Eastern Cape in week 2 of 2021. Compared to the previous week, in week 2 the percentage testing positive decreased in all provinces, except for the Free State where the percentage testing positive did not change. Districts showing the greatest proportions testing positive were concentrated in Limpopo (9 districts), and in KwaZulu-Natal and Mpumalanga (4 districts each) in the past week.