

SOUTH AFRICA WEEK 15 2022

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 April 2022 (Week 15 of 2022).

HIGHLIGHTS

- The number of tests reported in week 15 of 2022 (110,669: 78,809 PCR and 31,860 antigen tests) was lower than the number of tests reported in the previous week.
- In week 15, the testing rate was highest in Gauteng (311 per 100,000 persons) and lowest in Limpopo (30 per 100,000 persons).
- In week 15, the percentage testing positive was 10.5%, which was 2.6% higher than the previous week.
- In week 15, compared to the previous week the percentage testing positive increased in all provinces except in the North West, Mpumalanga and Limpopo, where it was unchanged.
- The percentage testing positive in week 15 was highest in the Western Cape (14.4%), followed by Gauteng (11.7%) and KwaZulu-Natal (10.8%). The percentage testing positive was <10% in all other provinces.
- In week 15, the percentage testing positive was highest in the 10-14 years age group (17.9%).

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Executive Summary:

- In the period 1 March 2020 through 16 April 2022, 23,952,846 tests for SARS-CoV-2 have been reported nationally: 19,803,245 PCR and 4,149,601 antigen tests.
- The number of tests reported in week 15 of 2022 (n=110,669: 78,809 PCR and 31,860 antigen tests) was lower than the number of tests reported in the previous week.
- Gauteng reported the largest proportion of tests (44.4%), followed by KwaZulu-Natal (17.4%) and Western Cape (13.9%).
- The overall testing rate decreased from the previous week (221 per 100,000 persons in week 14 to 184 per 100,000 persons in week 15).
- In week 15, a decrease in testing rate was observed in all provinces. The testing rate was highest in Gauteng (311 per 100,000 persons) and lowest in Limpopo (30 per 100,000 persons).
- The testing rate in week 15 was highest in the ≥80 years age group (327 per 100,000 persons).
- In week 15, the percentage testing positive was 10.5%, which was 2.6% higher than the previous week (7.9% in week 14 to 10.5% in week 15, P<0.001).
- In the past week, the percentage testing positive increased by 0.9% in the public sector (5.6% in week 14 to 6.5% in week 15, P<0.001) and by 3.4% in the private sector (9.3% in week 14 to 12.7% in week 15, P<0.001).
- In week 15, compared to the previous week, the percentage testing positive increased in all provinces except in the North West,

- Mpumalanga and Limpopo, where it was unchanged.
- The percentage testing positive in week 15 was highest in the Western Cape (14.4%), followed by Gauteng (11.7%) and KwaZulu-Natal (10.8%). The percentage testing positive was <10% in all other provinces.
- In week 15, health sub-districts showing the highest percentage testing positive were concentrated in the Western Cape (n=16) and Gauteng (n=6).
- In week 15, an increases in the percentage testing was observed across all age groups and was highest in the 10-14 years age group (17.9%).
- Antigen tests accounted for 28.8% (31,860/110,669) of tests reported in week 15, however the number of antigen tests is likely underestimated due to under-reporting and delayed reporting of antigen tests.
- In week 15 the public sector accounted for 48.4% (15,432/31,860) of antigen tests reported. A decrease in the number of antigen tests reported was observed across all provinces in the past week.
- The mean turnaround time for PCR tests reported in week 15 was 0.8 days; 1.1 day in the public sector and 0.6 days in the private sector. Turnaround times for public sector PCR tests increased in the Eastern Cape, Free State and North West and decreased in Mpumalanga and Limpopo. Turnaround times were <2 days in all provinces.</p>
- The mean turnaround time for antigen tests reported in week 15 was 29.7 days in the public sector and 0.1 days in the private sector.



Figure 1. Number of SARS-CoV-2 tests reported by date of specimen collection, South Africa, 4 October 2020 – 16 April 2022. Blue line shows the 7-day moving average of the number of tests reported. Grey bars highlight weekend days and public holidays

Table 1. Weekly number of SARS-CoV-2 tests and positive tests reported, South Africa, 3 January 2021 – 16 April 2022

Week number	Week beginning	No. of tests n (%)	No. of positive tests	Percentage testing positive (%)
1	03-Jan-21	501386 (2.1)	151074	30.1
2	10-Jan-21	418299 (1.7)	104825	25.1
3	17-Jan-21	327534 (1.4)	63283	19.3
4	24-Jan-21	249623 (1.0)	34652	13.9
5	31-Jan-21	203797 (0.9)	22380	11.0
6	07-Feb-21	193340 (0.8)	16476	8.5
7	14-Feb-21	190714 (0.8)	12192	6.4
8	21-Feb-21	184731 (0.8)	10390	5.6
9	28-Feb-21	189730 (0.8)	8695	4.6
10	07-Mar-21	193454 (0.8)	8341	4.3
11	14-Mar-21	185526 (0.8)	8156	4.4
12	21-Mar-21	173275 (0.7)	7356	4.2
13	28-Mar-21	163975 (0.7)	7063	4.3
14	04-Apr-21	180875 (0.8)	7292	4.0
15	11-Apr-21	185349 (0.8)	8847	4.8
16	18-Apr-21	184920 (0.8)	9471	5.1
17	25-Apr-21	160025 (0.7)	9183	5.7
18	02-May-21	193973 (0.8)	13463	6.9
19	09-May-21	240328 (1.0)	19939	8.3
20	16-May-21	248489 (1.0)	24212	9.7
<u></u>	23-May-21	262637 (1.1)	29778	11.3
22	30-May-21	270307 (1.1)	36106	13.4
23	06-Jun-21	337913 (1.4)	59453	17.6
24	13-Jun-21	370988 (1.5)	88086	23.7
25	20-Jun-21	432588 (1.8)	118653	27.4
<u></u>	27-Jun-21	490248 (2.0)	146638	29.9
27	04-Jul-21	443857 (1.9)	141461	31.9
28	11-Jul-21	320771 (1.3)	100956	31.5
29	18-Jul-21	313099 (1.3)	88444	28.2
30	25-Jul-21	350577 (1.5)	88356	25.2
31	01-Aug-21	372287 (1.6)	88127	23.7
32	08-Aug-21	359548 (1.5)	83380	23.2
33	15-Aug-21	420882 (1.8)	95389	22.7
34	22-Aug-21	392564 (1.6)	78197	19.9
35	29-Aug-21	346083 (1.4)	55095	15.9
36	05-Sep-21	300465 (1.3)	38855	12.9
37	12-Sep-21	260666 (1.1)	24018	9.2
38	19-Sep-21	209033 (0.9)	14011	6.7
39	26-Sep-21	207758 (0.9)	9491	4.6
40	03-Oct-21	197826 (0.8)	6450	3.3
41	10-Oct-21	191660 (0.8)	5043	2.6
42	17-Oct-21	185546 (0.8)	3412	1.8
43	24-Oct-21	177125 (0.7)	2566	1.4
44	31-Oct-21	182839 (0.8)	2105	1.2
45	07-Nov-21	196631 (0.8)	2321	1.2
46	14-Nov-21	196675 (0.8)	4810	2.4
47	21-Nov-21	224581 (0.9)	18974	8.4
48	28-Nov-21	381904 (1.6)	98390	25.8
49	05-Dec-21	493008 (2.1)	175038	35.5
50	12-Dec-21	424217 (1.8)	154822	36.5
51	19-Dec-21	336983 (1.4)	117620	34.9
52	20-Dec-21	216483 (0.9)	66057	30.5
1	02-Jan-22	272369 (1.1)	61060	22.4
2	09-Jan-22	233559 (1.0)	35097	15.0

	16 7 22	200225 (0.0)	2/006	11.5
3	16-Jan-22	208226 (0.9)	24006	11.5
4	23-Jan-22	212190 (0.9)	25771	12.1
5	24-Jan-22	208305 (0.9)	22922	11.0
6	06-Feb-22	200463 (0.8)	20382	10.2
7	13-Feb-22	190391 (0.8)	19054	10.0
8	14-Feb-22	180149 (0.8)	16269	9.0
9	27-Feb-22	171639 (0.7)	13112	7.6
10	06-Mar-22	152551 (0.6)	10645	7.0
11	13-Mar-22	159650 (0.7)	9843	6.2
12	20-Mar-22	142474 (0.6)	9418	6.6
13	27-Mar-22	150855 (0.6)	10175	6.7
14	03-Apr-22	133203 (0.6)	10458	7.9
15	10-Apr-22	110669 (0.5)	11614	10.5
	Total	23,952,846 (100.0)	4,074,160	

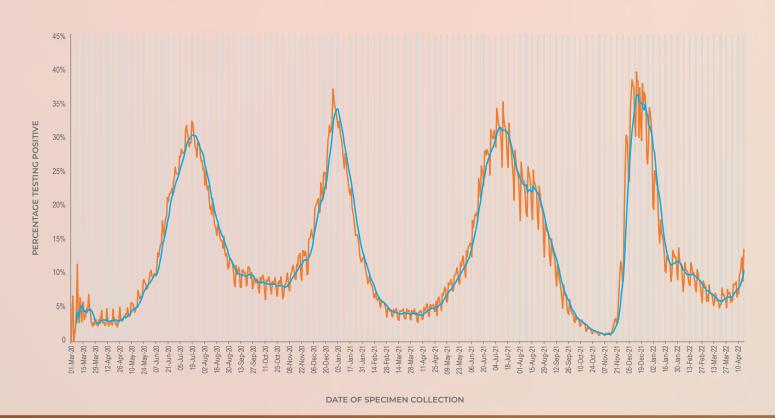


Figure 2. Percentage of tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 1 March 2020 – 16 April 2022. Blue line shows the 7-day moving average of the percentage testing positive. Grey bars highlight weekend days and public holidays.

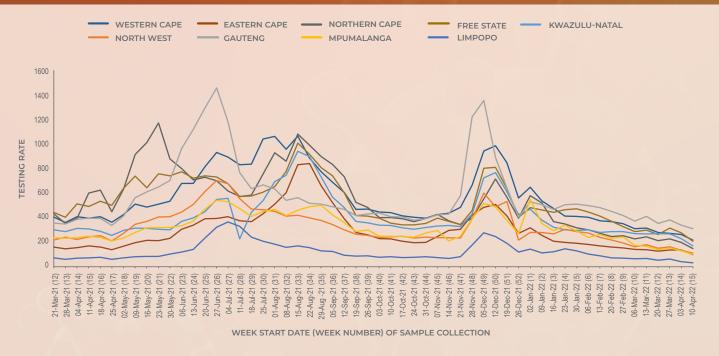


Figure 3. Testing rate per 100,000 persons by province and week of specimen collection, South Africa, 21 March 2021 – 16 April 2022

Table 2. Weekly number of tests and positive tests reported by province, South Africa, 27 March – 16 April 2022

		27 Mar	– 2 Apr 2022	3-9	Apr 2022	10-16	Apr 2022	<u> </u>	
Province	Population ^a	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	Tests per 100,000 persons	Change in percentage positive ^b
Western Cape	7113776	19362	2295 (11.9)	18670	2323 (12.4)	15405	2212 (14.4)	217	1.9%
Eastern Cape	6676590	9133	517 (5.7)	9113	567 (6.2)	6582	544 (8.3)	99	2.0%
Northern Cape	1303047	2961	127 (4.3)	2563	95 (3.7)	1912	104 (5.4)	147	1.7%
Free State	2932441	9189	323 (3.5)	8102	246 (3.0)	6049	271 (4.5)	206	1.4%
KwaZulu-Natal	11513575	30771	2133 (6.9)	26443	2061 (7.8)	19424	2102 (10.8)	169	3.0%
North West	4122854	6730	252 (3.7)	5541	225 (4.1)	4498	195 (4.3)	109	0.3%
Gauteng	15810388	60346	4055 (6.7)	53389	4489 (8.4)	49123	5738 (11.7)	311	3.3%
Mpumalanga	4743584	7275	291 (4.0)	6099	283 (4.6)	4760	253 (5.3)	100	0.7%
Limpopo	5926724	3611	92 (2.5)	2396	97 (4.0)	1783	87 (4.9)	30	0.8%
Unknown		1477	90 (6.1)	887	72 (8.1)	1133	108 (9.5)		
Total	60142978	150855	10175 (6.7)	133203	10458 (7.9)	110669	11614 (10.5)	184	2.6%

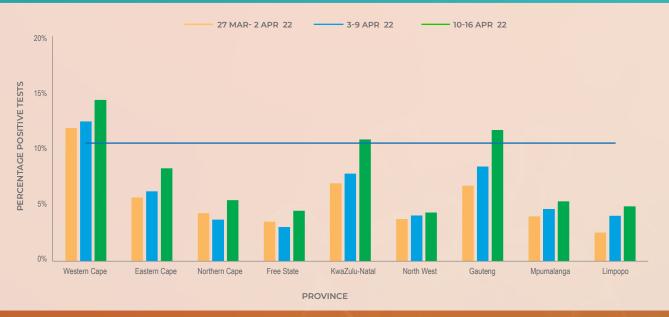


Figure 4. Weekly percentage testing positive by province, South Africa, 27 March – 16 April 2022. The horizontal blue line shows the national mean for week 15, beginning 10 April 2022

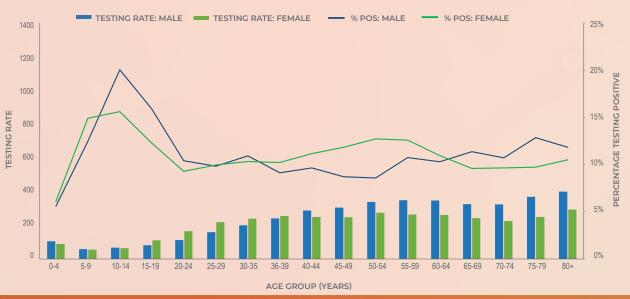


Figure 5. Testing rates per 100,000 persons and percentage testing positive by age group and sex, South Africa, week 15, 10-16 April 2022

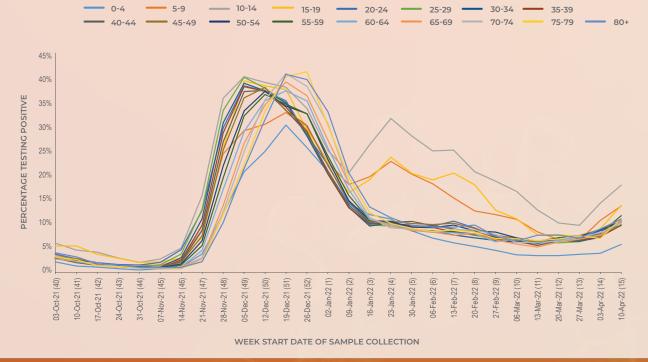


Figure 6. Percentage testing positive by age group and week of specimen collection, South Africa, 3 October 2021 – 16 April 2022

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Table 3. Health sub-districts with the highest proportion testing positive based on public and private sector data for the week of 10-16 April 2022

Health district or sub-district	Province	PTP (95% CI)	Previous week
Randfontein	Gauteng	0.491 (0.449-0.533)	0.432 (0.392-0.472)
Cape Agulhas	Western Cape	0.335 (0.191-0.479)	
Tshwane 5	Gauteng	0.293 (0.147-0.439)	0.181 (0.088-0.274)
Oudtshoorn	Western Cape	0.235 (0.133-0.337)	0.114 (0.053-0.175)
CT Northern	Western Cape	0.234 (0.208-0.260)	0.175 (0.155-0.196)
Langeberg	Western Cape	0.231 (0.088-0.373)	0.168 (0.061-0.276)
eThekwini North	KwaZulu-Natal	0.230 (0.211-0.248)	0.141 (0.128-0.155)
CT Eastern	Western Cape	0.222 (0.193-0.250)	0.155 (0.133-0.177)
Saldanha Bay	Western Cape	0.218 (0.165-0.271)	0.202 (0.154-0.249)
Drakenstein	Western Cape	0.207 (0.164-0.250)	0.133 (0.105-0.162)
CT Mitchells Plain	Western Cape	0.198 (0.143-0.253)	0.131 (0.093-0.170)
Stellenbosch	Western Cape	0.188 (0.141-0.235)	0.083 (0.055-0.111)
CT Tygerberg	Western Cape	0.187 (0.169-0.206)	0.137 (0.123-0.151)
Bitou	Western Cape	0.186 (0.094-0.277)	0.256 (0.168-0.343)
Overstrand	Western Cape	0.185 (0.139-0.231)	0.189 (0.143-0.234)
Johannesburg C	Gauteng	0.185 (0.169-0.201)	0.125 (0.112-0.138)
Swellendam	Western Cape	0.181 (0.066-0.297)	0.270 (0.166-0.374)
Breede Valley	Western Cape	0.170 (0.118-0.222)	0.110 (0.073-0.148)
Mkhondo	Mpumalanga	0.169 (0.077-0.261)	0.033 (0.000-0.078)
KwaDukuza	KwaZulu-Natal	0.166 (0.139-0.194)	0.099 (0.080-0.117)
eThekwini West	KwaZulu-Natal	0.165 (0.145-0.184)	0.109 (0.096-0.123)
CT Western	Western Cape	0.164 (0.151-0.178)	0.152 (0.140-0.165)
Tshwane 4	Gauteng	0.160 (0.136-0.184)	0.141 (0.120-0.162)
Emfuleni	Gauteng	0.156 (0.139-0.174)	0.115 (0.100-0.131)
Tshwane 7	Gauteng	0.154 (0.074-0.235)	0.152 (0.087-0.216)

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 the have current week proportions testing positive that are than, and CIs that do not overlap with, the previous week proportions and CIs.

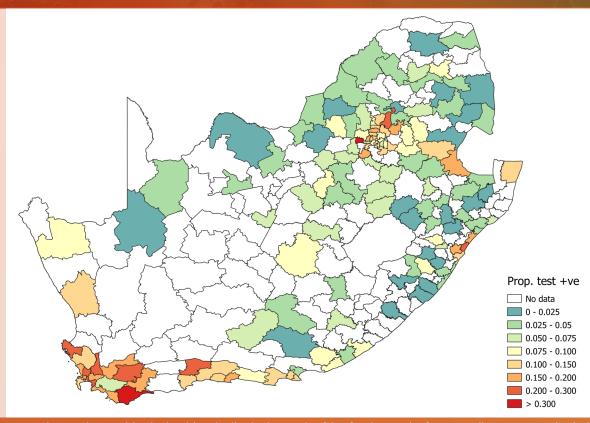


Figure 7. Proportion testing positive by health sub-district in South Africa for the week of 10-16 April 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

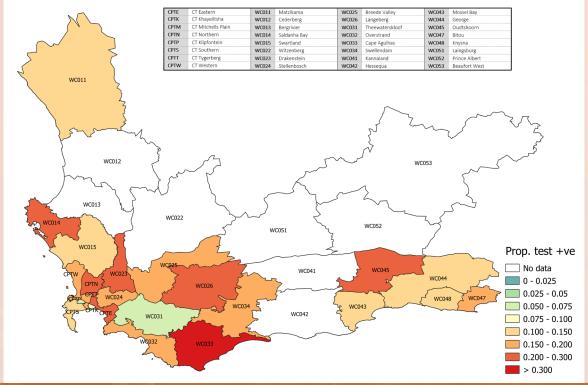


Figure 8. Proportion testing positive by health sub-district in the Western Cape Province for the week of 10-16 April 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%

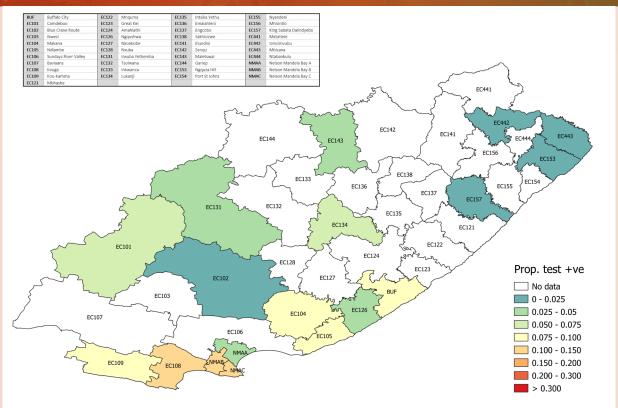


Figure 9. Proportion testing positive by health sub-district in the Eastern Cape Province for the week of 10-16 April 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

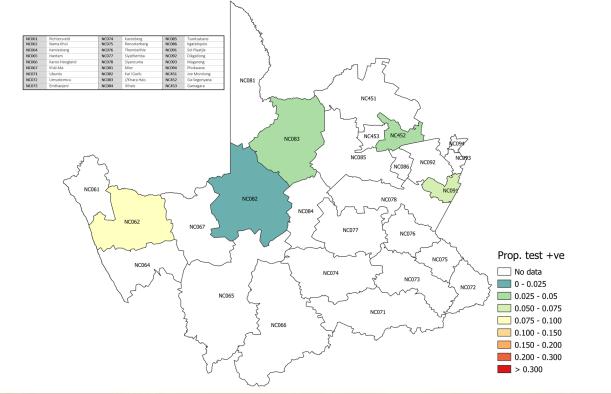


Figure 10. Proportion testing positive by health sub-district in Northern Cape Province for the week of 10-16 April 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

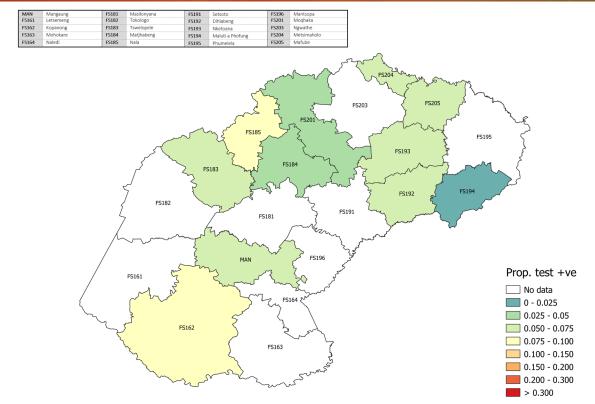


Figure 11. Proportion testing positive by health sub-district in Free State Province for the week of 10-16 April 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

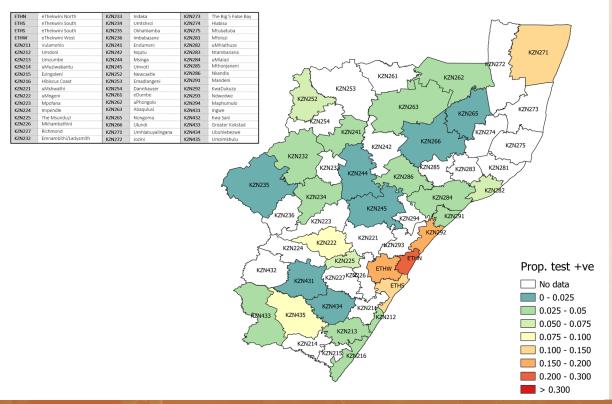


Figure 12. Proportion testing positive by health sub-district in KwaZulu-Natal Province for the week of 10-16 April 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

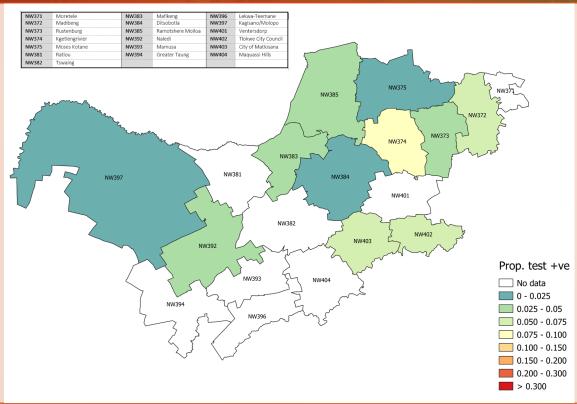


Figure 13. Proportion testing positive by health sub-district in North West Province for the week of 10-16 April 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

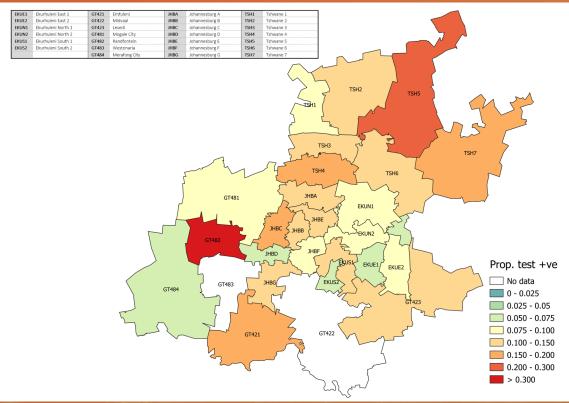


Figure 14. Proportion testing positive by health sub-district in Gauteng Province for the week of 10-16 April 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

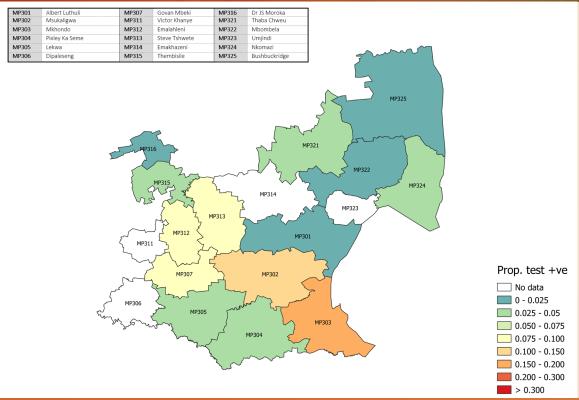


Figure 15. Proportion testing positive by health sub-district in Mpumalanga Province for the week of 10-16 April 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

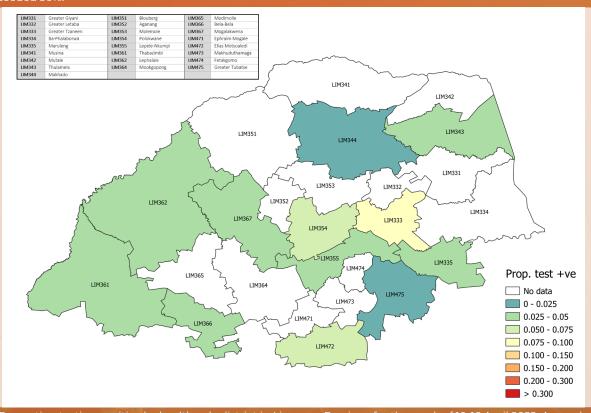


Figure 16. Proportion testing positive by health sub-district in Limpopo Province for the week of 10-16 April 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

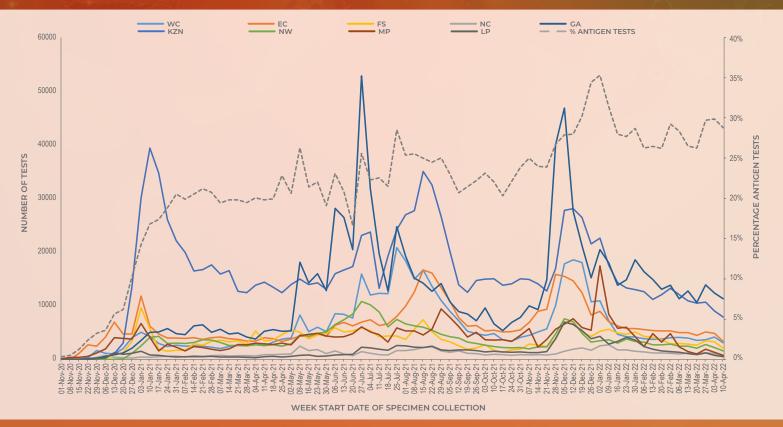


Figure 17. Number of antigen tests by province and overall percentage antigen tests, South Africa, 1 November 2020 – 16 April 2022. WC Western Cape; EC Eastern Cape; FS Free State; KZN KwaZulu-Natal; GA Gauteng; NC Northern Cape; NW North West; MP Mpumalanga; LP Limpopo

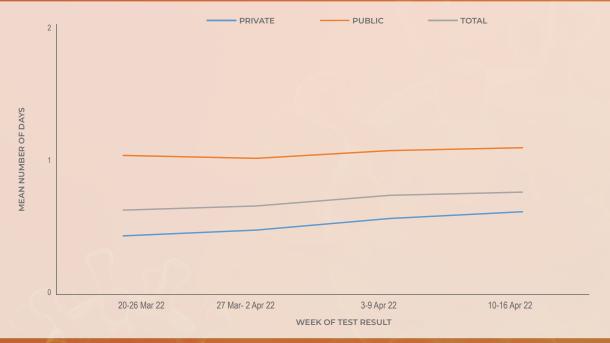


Figure 18. Mean number of days between date of specimen collection and date of test result for PCR tests by week of test result, South Africa, 20 March – 16 April 2022.

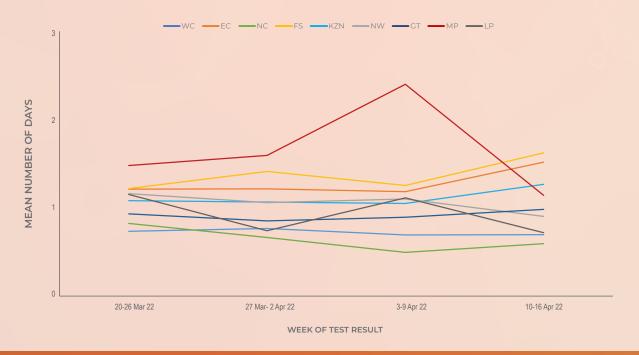


Figure 19. Mean number of days between date of specimen collection and date of test result for PCR tests in the public sector by week of test result and province, South Africa, 20 March – 16 April 2022. WC Western Cape; EC Eastern Cape; FS Free State; KZN KwaZulu-Natal; GT Gauteng; NC Northern Cape; NW North West; MP Mpumalanga; LP Limpopo

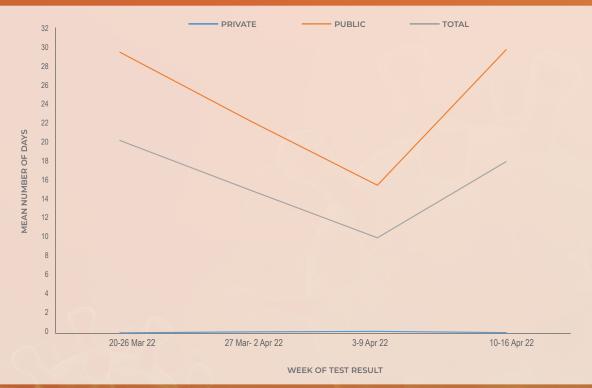


Figure 20. Mean number of days between date of specimen collection and date of test result for antigen tests by week of test result, South Africa, 20 March – 16 April 2022.

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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 49 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. Testing rates were calculated using mid-year population estimates from Statistics South Africa and expressed as tests per 100,000 (2019 estimates were used from week 10 - 40 of 2020, 2020 estimates were used from week 41 2021 to week 1 of 2022 and 2021 estimates were used from week 2 of 2022 and onwards). 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, 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 (approximately 99% of public sector facilities in the country) and private (approximately 71% of private testing facilities) 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. Districts with fewer than 20 tests reported during the week have been excluded from the analysis.

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, PCR vs. antigenbased tests or prioritisation of severe or at-risk cases during epidemic waves) 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.