

SOUTH AFRICA WEEK 2 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 15 January 2022 (Week 2 of 2022).

HIGHLIGHTS

- The number of tests reported in week 2 of 2022 (n=207,345: 157,934 PCR and 49,411 antigen tests) was slightly lower than the number of tests reported in the previous week.
- In week 2, the testing rate was highest in the Western Cape (507 per 100,000 persons) and lowest in Limpopo (90 per 100,000 persons).
- In week 2, the percentage testing positive was 16.0%, which was 8.1% lower than the previous week.
- In week 2, compared to the previous week, the percentage testing positive decreased in all provinces.
- The percentage testing positive in week 2 was highest in the Northern Cape (24.3%) followed by the Western Cape (23.3%). The percentage testing positive was between 10-20% in all other provinces.

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Executive Summary:

- In the period 1 March 2020 through 15 January 2022, 21,627,313 tests for SARS-CoV-2 have been reported nationally: 18,193,992 PCR and 3,433,321 antigen tests.
- The number of tests reported in week 2 of 2021 (n=207,345: 157,934 PCR and 49,411 antigen tests) was slightly lower than the number of tests reported in the previous week
- Gauteng reported the largest proportion of tests (36.1%), followed by KwaZulu-Natal (18.0%) and Western Cape (17.4%).
- The overall testing rate decreased slightly from 413 per 100,000 persons in week 1 to 345 per 100,000 persons in week 2.
- In week 2 the testing rate was similar to the previous week in the North West, and decreased in all other provinces. The testing rate was highest in the Western Cape (507 per 100,000 persons) and lowest in Limpopo (90 per 100,000 persons).
- The testing rate in week 2 was highest in the ≥80 years age group (815 per 100,000 persons).
- In week 2 the percentage testing positive was 16.0%, which was 8.1% lower than the previous week (P<0.001).
- In the past week, the percentage testing positive decreased by 8.1% in the public sector (24.7% in week 1 to 16.6% in week 2, P<0.001) and by 8.2% in the private sector (23.6% in week 1 to 15.4% in week 2, P<0.001).
- In week 2, compared to the previous week, the percentage testing positive decreased in all provinces.

- The percentage testing positive in week 2 was highest in the Northern Cape (24.3%) followed by the Western Cape (23.3%). The percentage testing positive was between 10-20% in all other provinces.
- The percentage testing positive was highest in the 10-14 years age group (21.4%) and followed by the ≥80 years age group (20.4%).
- Health sub-districts showing the highest percentage testing positive were concentrated in the Western Cape (n=12) and Northern Cape (n=6).
- Antigen tests accounted for 23.8% (49,411/207,345) of tests reported in week 2, however the number of antigen tests is likely underestimated due to under-reporting and delayed reporting of antigen tests.
- In week 2 the public sector accounted for 65.5% (32,374/ 49,411) 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 2 was 1.2 days; 0.9 days in the public sector and 1.3 days in the private sector. Turnaround times for public sector PCR tests decreased in the North West and the Free State in the past week, and were <2 days in all provinces.
- The mean turnaround time for antigen tests reported in week 2 was 9.5 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 – 15 January 2022. Blue line shows the 7-day moving average of the number of tests reported. Grey bars highlight weekend days and public holidays

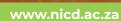


Table 1. Weekly number of SARS-CoV-2 tests and positive tests reported, South Africa, 3 January 2021 – 15 January 2022

Week number	Week beginning	No. of tests n (%)	No. of positive tests	Percentage testing positive (%)
	03-Jan-21	501376 (2.3)	151070	30.1
2	10-Jan-21	418294 (1.9)	104823	25.1
3	17-Jan-21	327510 (1.5)	63275	19.3
4	24-Jan-21	249612 (1.2)	34652	13.9
5	31-Jan-21	203774 (0.9)	22378	11.0
6	07-Feb-21	193330 (0.9)	16476	8.5
7	14-Feb-21	190687 (0.9)	12191	6.4
8	21-Feb-21	184715 (0.9)	10388	5.6
9	28-Feb-21	189722 (0.9)	8695	4.6
10	07-Mar-21	193450 (0.9)	8340	4.3
11	14-Mar-21	185524 (0.9)	8156	4.4
12	21-Mar-21	173270 (0.8)	7356	4.2
13	28-Mar-21	163973 (0.8)	7063	4.3
14	04-Apr-21	180873 (0.8)	7292	4.0
15	11-Apr-21	185348 (0.9)	8847	4.8
16	18-Apr-21	184916 (0.9)	9471	5.1
17	25-Apr-21	160016 (0.7)	9181	5.7
18	02-May-21	193966 (0.9)	13461	6.9
19	09-May-21	240288 (1.1)	19937	8.3
20	16-May-21	248484 (1.1)	24212	9.7
21	23-May-21	262625 (1.2)	29778	11.3
22	30-May-21	270298 (1.2)	36103	13.4
23	06-Jun-21	337898 (1.6)	59449	17.6
24	13-Jun-21	370977 (1.7)	88084	23.7
25	20-Jun-21	432377 (2.0)	118614	27.4
26	27-Jun-21	490220 (2.3)	146616	29.9
27	04-Jul-21	443766 (2.1)	141429	31.9
28	11-Jul-21	320582 (1.5)	100933	31.5
29	18-Jul-21	313010 (1.4)	88422	28.2
30	25-Jul-21	350351 (1.6)	88310	25.2
31	01-Aug-21	371172 (1.7)	88093	23.7
32	08-Aug-21	358803 (1.7)	83353	23.2
33	15-Aug-21	420706 (1.9)	95345	22.7
34	22-Aug-21	391255 (1.8)	78148	20.0
35	29-Aug-21	344935 (1.6)	55044	16.0
36	05-Sep-21	300087 (1.4)	38818	12.9
37	12-Sep-21	260471 (1.2)	24001	9.2
38	19-Sep-21	208831 (1.0)	14000	6.7
39	26-Sep-21	206473 (1.0)	9480	4.6
40	03-Oct-21	196185 (0.9)	6441	3.3
41	10-Oct-21	191313 (0.9)	5014	2.6
42	17-Oct-21	184939 (0.9)	3407	1.8
43	24-Oct-21	175835 (0.8)	2560	1.5
44	31-Oct-21	180008 (0.8)	2092	1.2
45	07-Nov-21	193622 (0.9)	2310	1.2
46	14-Nov-21	195265 (0.9)	4801	2.5
47	21-Nov-21	222079 (1.0)	18914	8.5
48	28-Nov-21	377200 (1.7)	97966	26.0
49	05-Dec-21	486544 (2.2)	173987	35.8
50	12-Dec-21	415756 (1.9)	153274	36.9
51	19-Dec-21	329938 (1.5)	116197	35.2
52	20-Dec-21	209929 (1.0)	64892	30.9
1	02-Jan-22	248380 (1.1)	59833	24.1
2	09-Jan-22	207345 (1.0)	33087	16.0
	Total	21,627,313 (100.0)	3,860,993	

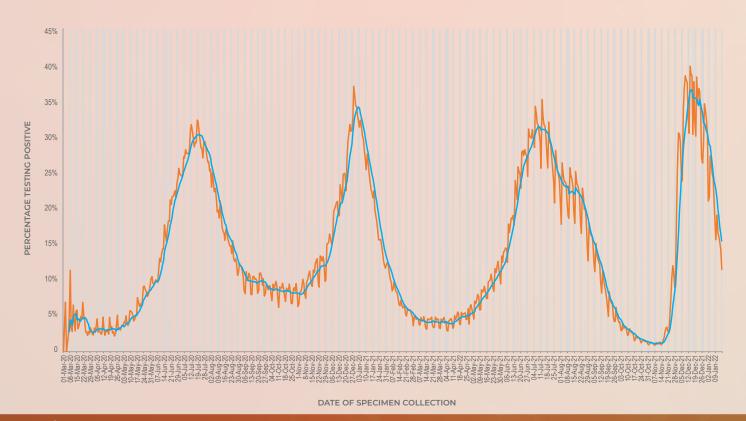


Figure 2. Percentage of tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 1 March 2020 - 15 January 2022. Blue line shows the 7-day moving average of the percentage testing positive. Grey bars highlight weekend days and public holidays.

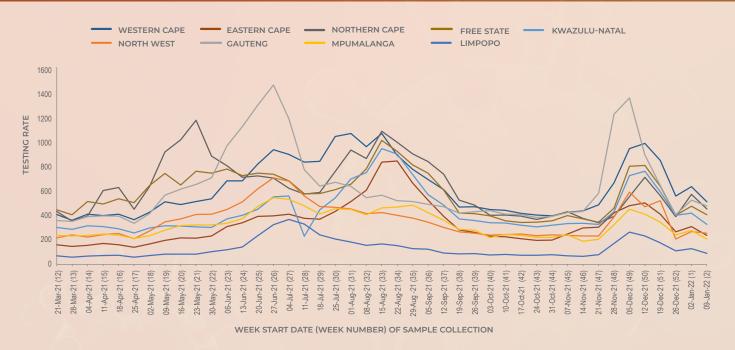


Figure 3. Testing rate per 100,000 persons by province and week of specimen collection, South Africa, 21 March 2021 – 15 January 2022

Table 2. Weekly number of tests and positive tests reported by province, South Africa, 26 December 2021 - 15 January 2022

		26 Dec 20)21 - 1 Jan 2022	2-8	Jan 2022	9-15	Jan 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	39560	16254 (41.1)	44889	15411 (34.3)	36073	8420 (23.3)	507	-11.0%
Eastern Cape	6676590	17693	7197 (40.7)	20417	5998 (29.4)	15716	2890 (18.4)	235	-11.0%
Northern Cape	1303047	5053	1964 (38.9)	7410	2505 (33.8)	5850	1423 (24.3)	449	-9.5%
Free State	2932441	11689	3307 (28.3)	13851	2848 (20.6)	11839	1514 (12.8)	404	-7.8%
KwaZulu-Natal	11513575	45807	16934 (37.0)	47911	13217 (27.6)	37355	6378 (17.1)	324	-10.5%
North West	4122854	8513	2274 (26.7)	10984	2332 (21.2)	10473	1471 (14.0)	254	-7.2%
Gauteng	15810388	63668	12224 (19.2)	82299	13268 (16.1)	74910	8353 (11.2)	474	-5.0%
Mpumalanga	4743584	11393	2590 (22.7)	13039	2370 (18.2)	9779	1585 (16.2)	206	-2.0%
Limpopo	5926724	6535	2146 (32.8)	7558	1880 (24.9)	5321	1051 (19.8)	90	-5.1%
Unknown		18	2 (11.1)	22	4 (18.2)	29	2 (6.9)		
Total	60142978	209929	64892 (30.9)	248380	59833 (24.1)	207345	33087 (16.0)	345	-8.1%

a 2021 Mid-year population Statistics SA

b Current week compared to previous week

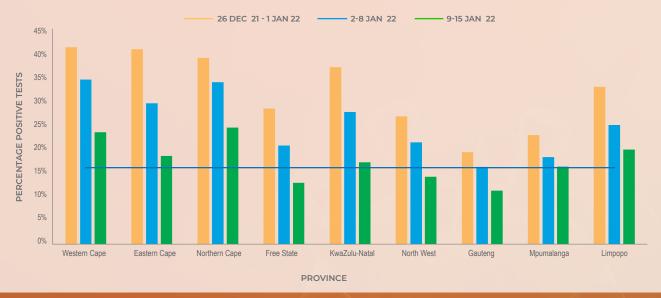


Figure 4. Weekly percentage testing positive by province, South Africa, 26 Dec 2021-15 January 2022. The horizontal blue line shows the national mean for week 2, beginning 9 January 2022

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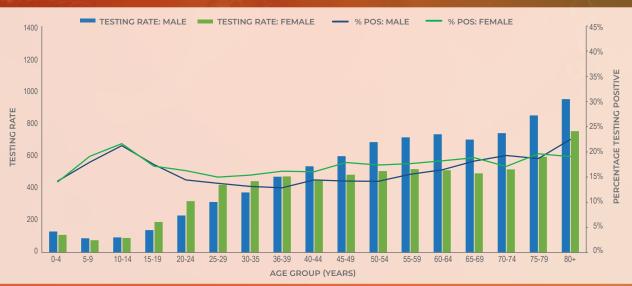


Figure 5. Testing rates per 100,000 persons and percentage testing positive by age group and sex, South Africa, week 2, 9-15 January 2022

Table 3. Health sub-districts with the highest proportion testing positive based on public and private sector data for the week of 9-15 January 2022

Health district or sub-district	Province	PTP (95% CI)	Previous week
Hantam	Northern Cape	0.679 (0.620-0.738)	0.748 (0.696-0.801)
Cederberg	Western Cape	0.597 (0.479-0.715)	0.759 (0.667-0.851)
Cape Agulhas	Western Cape	0.560 (0.459-0.660)	0.673 (0.605-0.741)
Kareeberg	Northern Cape	0.513 (0.384-0.641)	0.630 (0.481-0.778)
Swellendam	Western Cape	0.510 (0.427-0.594)	0.621 (0.554-0.688)
Matzikama	Western Cape	0.505 (0.452-0.557)	0.510 (0.468-0.553)
Karoo Hoogland	Northern Cape	0.479 (0.378-0.579)	0.502 (0.383-0.621)
Swartland	Western Cape	0.461 (0.385-0.537)	0.547 (0.479-0.616)
Bergrivier	Western Cape	0.452 (0.326-0.578)	0.650 (0.545-0.755)
Kamiesberg	Northern Cape	0.435 (0.352-0.517)	0.358 (0.279-0.437)
Theewaterskloof	Western Cape	0.425 (0.346-0.505)	0.618 (0.556-0.681)
Beaufort West	Western Cape		0.608 (0.530-0.686)
Witzenberg	Western Cape	0.420 (0.352-0.488)	0.709 (0.669-0.749)
Langeberg	Western Cape	0.414 (0.326-0.501)	0.440 (0.357-0.522)
Kagisano/Molopo	North West	0.410 (0.308-0.512)	0.382 (0.285-0.480)
Kou-Kamma	Eastern Cape	0.404 (0.299-0.509)	0.368 (0.292-0.443)
Randfontein	Gauteng	0.396 (0.362-0.431)	0.552 (0.524-0.581)
Setsoto	Free State	0.396 (0.300-0.493)	0.186 (0.119-0.254)
Nama Khoi	Northern Cape	0.383 (0.338-0.428)	0.215 (0.196-0.235)
Thulamela	Limpopo	0.379 (0.325-0.433)	0.392 (0.345-0.439)
Nqutu	KwaZulu-Natal	0.370 (0.314-0.426)	0.451 (0.393-0.509)
Breede Valley	Western Cape	0.361 (0.325-0.398)	0.461 (0.427-0.496)
Saldanha Bay	Western Cape	0.361 (0.327-0.395)	0.459 (0.429-0.489)
Siyancuma	Northern Cape	0.354 (0.235-0.473)	0.549 (0.412-0.686)
Tshwane 5	Gauteng	0.352 (0.250-0.455)	0.303 (0.209-0.396)

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.

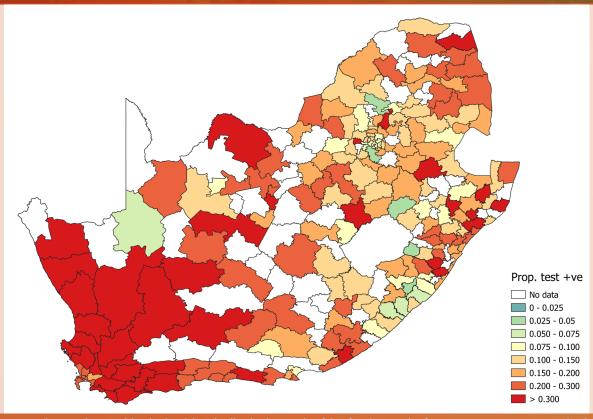


Figure 6. Proportion testing positive by health sub-district in South Africa for the week of 9-15 January 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

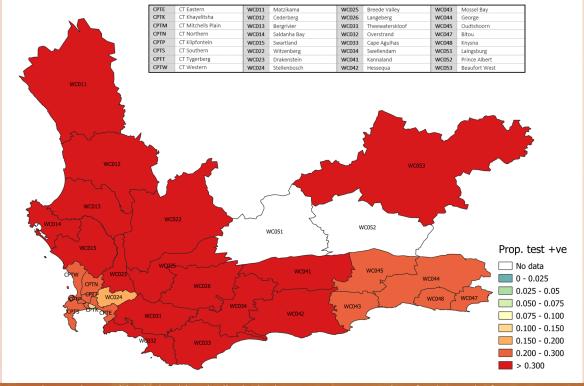


Figure 7. Proportion testing positive by health sub-district in the Western Cape Province for the week of 9-15 January 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%

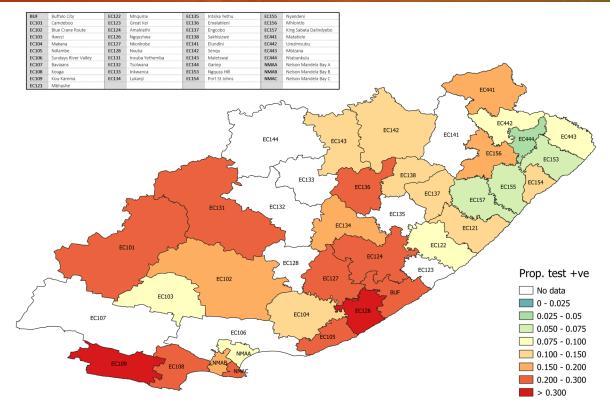


Figure 8. Proportion testing positive by health sub-district in the Eastern Cape Province for the week of 9-15 January 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

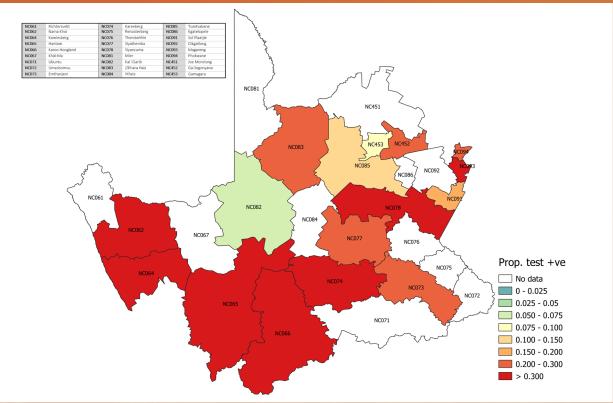


Figure 9. Proportion testing positive by health sub-district in Northern Cape Province for the week of 9-15 January 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

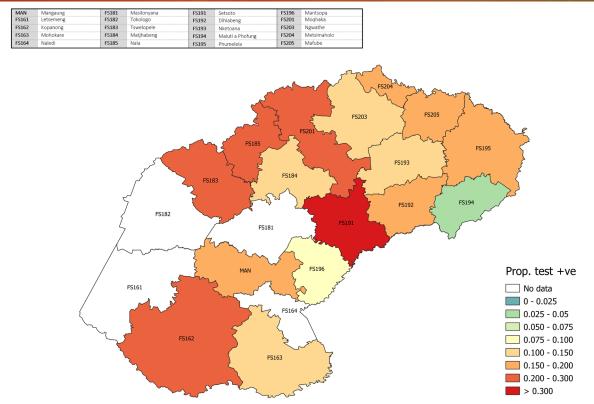


Figure 10. Proportion testing positive by health sub-district in Free State Province for the week of 9-15 January 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

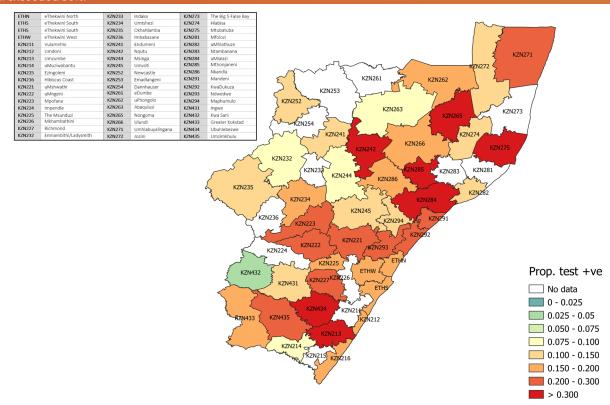


Figure 11. Proportion testing positive by health sub-district in KwaZulu-Natal Province for the week of 9-15 January 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

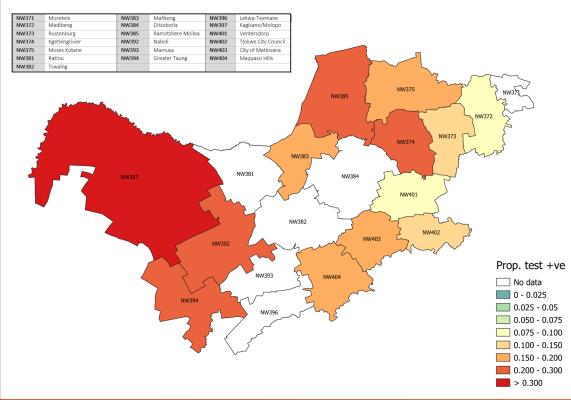


Figure 12. Proportion testing positive by health sub-district in North West Province for the week of 9-15 January 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

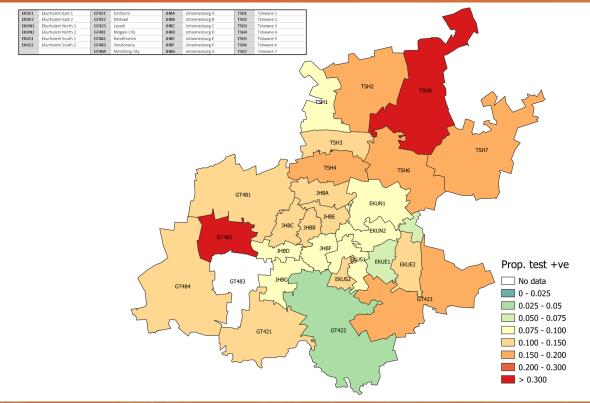


Figure 13. Proportion testing positive by health sub-district in Gauteng Province for the week of 9-15 January 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

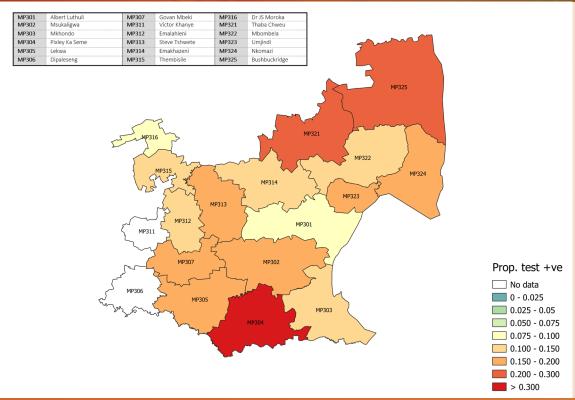


Figure 14. Proportion testing positive by health sub-district in Mpumalanga Province for the week of 9-15 January 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

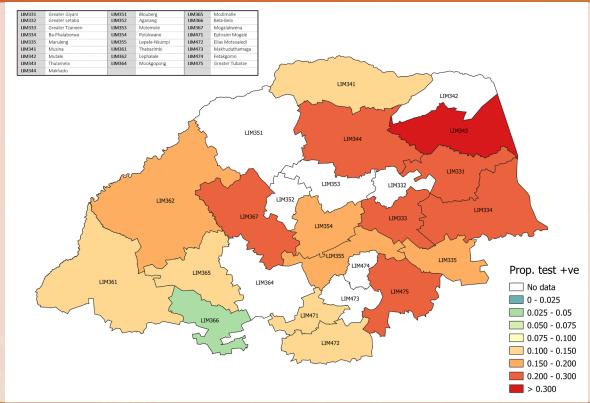


Figure 15. Proportion testing positive by health sub-district in Limpopo Province for the week of 9-15 January 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

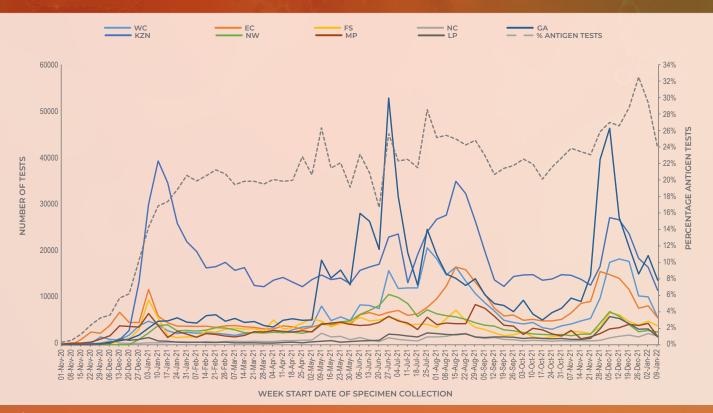


Figure 16. Number of antigen tests by province and overall percentage antigen tests, South Africa, 1 November 2020 – 15 January 2022. WC Western Cape; EC Eastern Cape; FS Free State; KZN KwaZulu-Natal; GA Gauteng; NC Northern Cape; NW North West; MP Mpumalanga; LP Limpopo

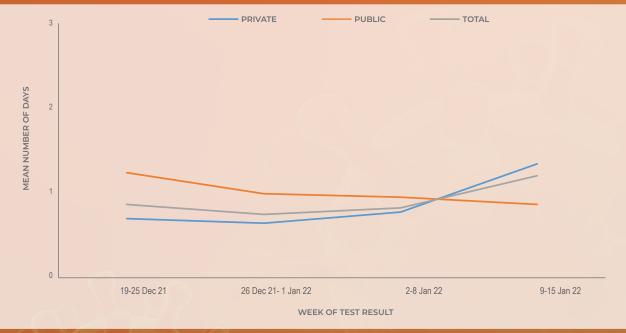


Figure 17. Mean number of days between date of specimen collection and date of test result for PCR tests by week of test result, South Africa, 19 December 2021 – 15 January 2022.

^{*} Excludes one lab in the private sector for week 51 (19-25 Dec 2021)

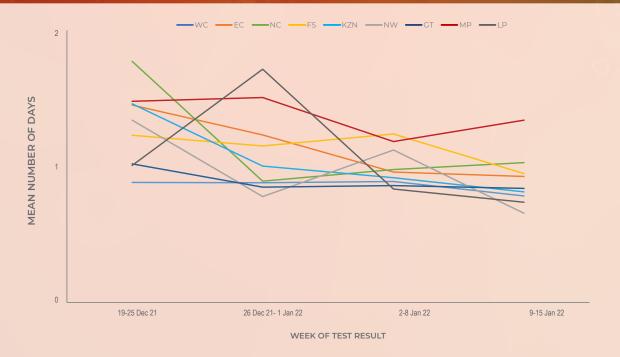


Figure 18. Mean number of days between date of specimen collection and date of test result for PCR tests in the public sector by week of test result and province, South Africa, 19 December 2021 – 15 January 2022. WC Western Cape; EC Eastern Cape; FS Free State; KZN KwaZulu-Natal; GT Gauteng; NC Northern Cape; NW North West; MP Mpumalanga; LP Limpopo



Figure 19. Mean number of days between date of specimen collection and date of test result for antigen tests by week of test result, South Africa, 19 December 2021 – 15 January 2022.

^{*} Excludes one lab in the private sector for week 1 (2-8 Jan 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 98% of public sector facilities in the country) and private (approximately 84% 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.