

SOUTH AFRICA WEEK 3 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 22 January 2022 (Week 3 of 2022).

HIGHLIGHTS

- The number of tests reported in week 3 of 2022 (n=191,510: 147,872 PCR and 43,638 antigen tests) was slightly lower than the number of tests reported in the previous week.
- In week 3, the testing rate was highest in the Western Cape (459 per 100,000 persons) and lowest in Limpopo (100 per 100,000 persons).
- In week 3, the percentage testing positive was 11.7%, which was 4.0% lower than the previous week.
- In week 3, compared to the previous week, the percentage testing positive increased in Mpumalanga and Limpopo, was unchanged in the North West, and decreased in all other provinces.
- The percentage testing positive in week 3 was highest in Limpopo (24.4%) and was between 10-20% in the Western Cape, Eastern Cape, Northern Cape, KwaZulu-Natal, North West and Mpumalanga provinces. The percentage testing positive was <10% in Gauteng and the Free State.

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Executive Summary:

- In the period 1 March 2020 through 22 January 2022, 21,843,211 tests for SARS-CoV-2 have been reported nationally: 18,345,405 PCR and 3,497,806 antigen tests.
- The number of tests reported in week 3 of 2021 (n=191,510: 147 872 PCR and 43,638 antigen tests) was slightly lower than the number of tests reported in the previous week.
- Gauteng reported the largest proportion of tests (37.1%), followed by KwaZulu-Natal (17.5%) and Western Cape (17.1%).
- The overall testing rate decreased slightly from 366 per 100,000 persons in week 2 to 318 per 100,000 persons in week 3.
- In week 3, the testing rate was similar to the previous week in the North West and Limpopo, and decreased in all other provinces. The testing rate was highest in the Western Cape (459 per 100,000 persons) and lowest in Limpopo (100 per 100,000 persons).
- The testing rate in week 3 was highest in the ≥80 years age group (755 per 100,000 persons).
- The percentage testing positive continued to decrease and in week 3 it was 11.7%, which was 4.0% lower than the previous week (P<0.001).
- In the past week, the percentage testing positive decreased by 4.1% in the public sector (16.1% in week 2 to 12.0% in week 3, P<0.001) and by 3.8% in the private sector (15.4% in week 2 to 11.6% in week 3, P<0.001).
- In week 3, compared to the previous week, the percentage testing positive increased in

- Mpumalanga and Limpopo, was unchanged in the North West, and decreased in all other provinces.
- The percentage testing positive in week 3 was highest in Limpopo (24.4%) and was between 10-20% in the Western Cape, Eastern Cape, Northern Cape, KwaZulu-Natal, North West and Mpumalanga provinces. The percentage testing positive was <10% in Gauteng and the Free State.
- The percentage testing positive was highest in the 10-14 years age group (26.1%).
- Health sub-districts showing the highest percentage testing positive were concentrated in the Western Cape (n=8), Limpopo (n=6), and Northern Cape (n=5).
- Antigen tests accounted for 22.8% (43,638/ 191,510) of tests reported in week 3, however the number of antigen tests is likely underestimated due to under-reporting and delayed reporting of antigen tests.
- In week 3 the public sector accounted for 67.1% (29,298/43,638) of antigen tests reported. A decrease in the number of antigen tests reported was observed across all provinces in the past few weeks.
- The mean turnaround time for PCR tests reported in week 3 was 0.9 days; 1.1 days in the public sector and 0.8 days in the private sector. Turnaround times for public sector PCR tests increased in Mpumalanga, Limpopo and the Northern Cape in the past week, and were >2 days in the Northern Cape and Mpumalanga provinces.
- The mean turnaround time for antigen tests reported in week 3 was 8.7 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 – 22 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 – 22 January 2022

Week number	Week beginning	No. of tests n (%)	No. of positive tests	Percentage testing positive (%)
1	03-Jan-21	501378 (2.3)	151071	30.1
2	10-Jan-21	418298 (1.9)	104825	25.1
3	17-Jan-21	327528 (1.5)	63282	19.3
4	24-Jan-21	249613 (1.1)	34652	13.9
5	31-Jan-21	203787 (0.9)	22378	11.0
6	07-Feb-21	193334 (0.9)	16476	8.5
7	14-Feb-21	190698 (0.9)	12191	6.4
8	21-Feb-21	184715 (0.8)	10388	5.6
9	28-Feb-21	189723 (0.9)	8695	4.6
10	07-Mar-21	193451 (0.9)	8340	4.3
11	14-Mar-21	185524 (0.8)	8156	4.4
12	21-Mar-21	173271 (0.8)		4.2
13	28-Mar-21	163973 (0.8)		4.3
<u></u>	04-Apr-21	180873 (0.8)	7292	4.0
	11-Apr-21	185348 (0.8)		4.8
<u></u>	18-Apr-21	184918 (0.8)	9471	
<u>18</u>	25-Apr-21	160022 (0.7)	9182	<u> </u>
			13461	
	02-May-21 09-May-21	193966 (0.9) 240288 (1.1)		6.9 8.3
20		240288 (1.1) 248487 (1.1)		<u> </u>
	16-May-21		24212	
21	23-May-21	262631 (1.2)	29778	11.3
22	30-May-21	270299 (1.2)	36103	13.4
23	06-Jun-21	337900 (1.5)	59449	17.6
24	13-Jun-21	370979 (1.7)	88084	23.7
25	20-Jun-21	432401 (2.0)	118614	27.4
<u> 26</u>	27-Jun-21	490224 (2.2)	146618	29.9
27	04-Jul-21	443819 (2.0)	141452	31.9
28	11-Jul-21	320596 (1.5)	100941	31.5
29	18-Jul-21	313022 (1.4)	88426_	28.2
30	25-Jul-21	350379 (1.6)	88318	25.2
31	01-Aug-21	371191 (1.7)	88095	23.7
32	08-Aug-21	358827 (1.6)	83361	23.2
33	15-Aug-21	420720 (1.9)	95349	22.7
34	22-Aug-21	391290 (1.8)	78153	20.0
35	29-Aug-21	345057 (1.6)	55053	16.0
36	05-Sep-21	300189 (1.4)	38822	12.9
37	12-Sep-21	260525 (1.2)	24008	9.2
38	19-Sep-21	208872 (1.0)	14005	6.7
39	26-Sep-21	206533 (0.9)	9484	4.6
40	03-Oct-21	196371 (0.9)	6444	3.3
41	10-Oct-21	191355 (0.9)	5019	2.6
42	17-Oct-21	184968 (0.8)	3408	1.8
43	24-Oct-21	175923 (0.8)	2561	1.5
44	31-Oct-21	180088 (0.8)	2095	1.2
45	07-Nov-21	193727 (0.9)	2312	1.2
	14-Nov-21	195320 (0.9)	4801	2.5
<u></u>	21-Nov-21	222431 (1.0)	18929	8.5
	28-Nov-21	377781 (1.7)	98066	26.0
49	05-Dec-21	487609 (2.2)		
	12-Dec-21	416873 (1.9)	153625	
	12-Dec-21 19-Dec-21	331045 (1.5)	116534	
<u> </u>			65310	<u> </u>
52	20-Dec-21 02 Jan 22	211613 (1.0)		
3	02-Jan-22	252343 (1.2)	60398	23.9
2	09-Jan-22	220589 (1.0)	34572	15.7
3	16-Jan-22	191510 (0.9)	22473	11.7
	Total	21,843,211 (100.0)	3,887,155	

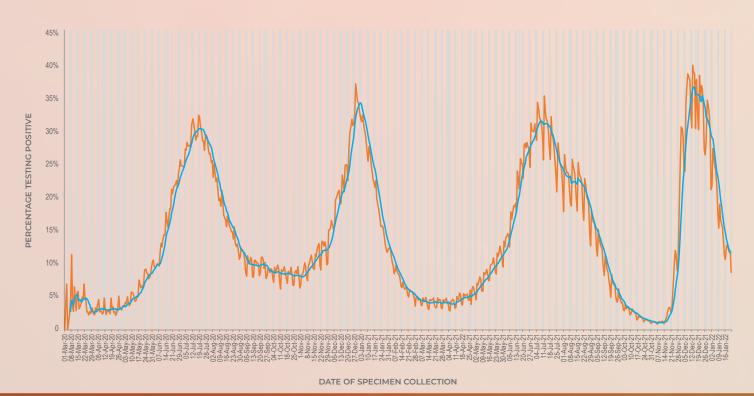


Figure 2. Percentage of tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 1 March 2020 - 22 January 2022. Blue line shows the 7-day moving average of the percentage testing positive. Grey bars highlight weekend days and public holidays.

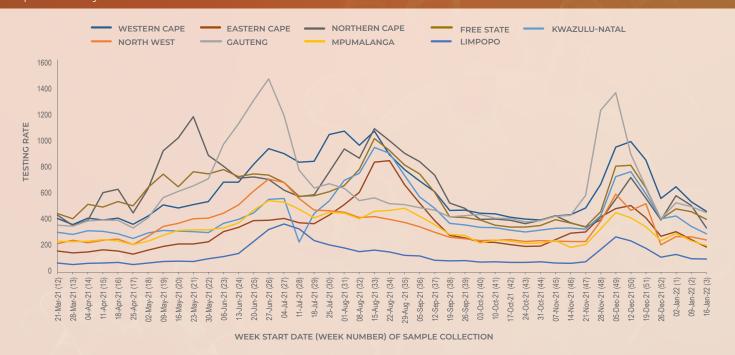


Figure 3. Testing rate per 100,000 persons by province and week of specimen collection, South Africa, 21 March 2021 – 22 January 2022

Table 2. Weekly number of tests and positive tests reported by province, South Africa, 2-22 January 2022

		2-8	Jan 2022	9-15	Jan 2022	16-22	2 Jan 2022	9	
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	45746	15525 (33.9)	37689	8681 (23.0)	32686	4841 (14.8)	459	-8.2%
Eastern Cape	6676590	20478	6009 (29.3)	16460	2996 (18.2)	12765	1393 (10.9)	191	-7.3%
Northern Cape	1303047	7514	2522 (33.6)	6564	1504 (22.9)	4355	800 (18.4)	334	-4.5%
Free State	2932441	13983	2874 (20.6)	13416	1616 (12.0)	11685	1088 (9.3)	398	-2.7%
KwaZulu-Natal	11513575	48847	13406 (27.4)	39825	6728 (16.9)	33426	3723 (11.1)	290	-5.8%
North West	4122854	11077	2343 (21.2)	11018	1544 (14.0)	10040	1454 (14.5)	244	0.5%
Gauteng	15810388	82848	13310 (16.1)	78210	8612 (11.0)	70958	6162 (8.7)	449	-2.3%
Mpumalanga	4743584	13867	2403 (17.3)	11214	1667 (14.9)	9638	1563 (16.2)	203	1.4%
Limpopo	5926724	7957	2002 (25.2)	6162	1222 (19.8)	5927	1447 (24.4)	100	4.6%
Unknown		26	4 (15.4)	31	2 (6.5)	30	2 (6.7)		
Total	60142978	252343	60398 (23.9)	220589	34572 (15.7)	191510	22473 (11.7)	318	-4.0%

a 2021 Mid-year population Statistics SA

b Current week compared to previous week

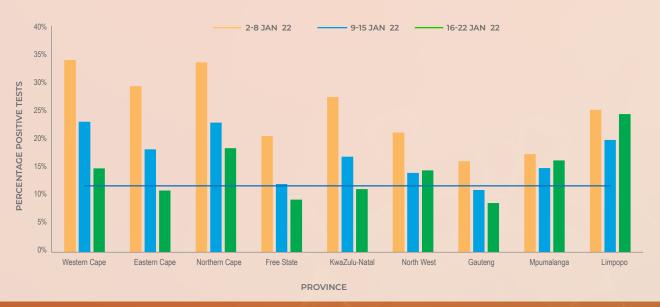


Figure 4. Weekly percentage testing positive by province, South Africa, 2-22 January 2022. The horizontal blue line shows the national mean for week 3, beginning 16 January 2022

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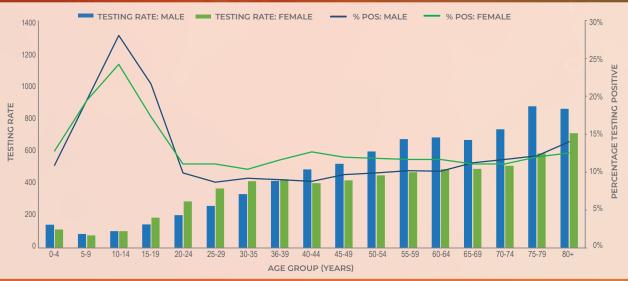


Figure 5. Testing rates per 100,000 persons and percentage testing positive by age group and sex, South Africa, week 3, 16-22 January 2022

Table 3. Health sub-districts with the highest proportion testing positive based on public and private sector data for the week of 16-22 January 2022

Health district or sub-district	Province	PTP (95% CI)	Previous week
Cederberg	Western Cape	0.538 (0.394-0.682)	0.597 (0.479-0.715)
Hantam	Northern Cape	0.523 (0.431-0.616)	0.681 (0.622-0.740)
Cape Agulhas	Western Cape	0.484 (0.369-0.600)	0.582 (0.504-0.660)
Matzikama	Western Cape	0.408 (0.341-0.476)	0.499 (0.448-0.551)
Karoo Hoogland	Northern Cape	0.387 (0.269-0.504)	0.478 (0.378-0.579)
Umzumbe	KwaZulu-Natal	0.384 (0.281-0.486)	0.301 (0.237-0.365)
Makhado	Limpopo	0.382 (0.332-0.431)	0.325 (0.274-0.375)
Witzenberg	Western Cape	0.373 (0.292-0.455)	0.432 (0.364-0.499)
Thulamela	Limpopo	0.367 (0.322-0.412)	0.378 (0.329-0.427)
Swartland	Western Cape	0.353 (0.263-0.442)	0.460 (0.384-0.536)
Nqutu	KwaZulu-Natal	0.342 (0.285-0.399)	0.370 (0.313-0.426)
Kamiesberg	Northern Cape	0.341 (0.253-0.429)	0.434 (0.352-0.516)
Swellendam	Western Cape	0.332 (0.237-0.427)	0.510 (0.426-0.593)
Langeberg	Western Cape	0.324 (0.230-0.417)	0.407 (0.320-0.493)
Modimolle	Limpopo	0.318 (0.239-0.398)	0.120 (0.071-0.169)
Ga-Segonyana	Northern Cape	0.305 (0.222-0.388)	0.307 (0.245-0.369)
Greater Tzaneen	Limpopo	0.298 (0.262-0.333)	0.249 (0.215-0.282)
Saldanha Bay	Western Cape	0.294 (0.256-0.331)	0.360 (0.326-0.393)
Tswelopele	Free State	0.288 (0.211-0.366)	0.175 (0.124-0.226)
Emthanjeni	Northern Cape	0.279 (0.163-0.394)	0.293 (0.188-0.398)
Umzimkhulu	KwaZulu-Natal	0.270 (0.164-0.376)	0.202 (0.137-0.267)
Randfontein	Gauteng	0.269 (0.237-0.301)	0.431 (0.397-0.464)
Greater Giyani	Limpopo	0.263 (0.140-0.386	0.293 (0.185-0.402)
Bushbuckridge	Mpumalanga	0.255 (0.213-0.298)	0.260 (0.224-0.297)
Mogalakwena	Limpopo	0.250 (0.202-0.299)	0.209 (0.159-0.259)

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.

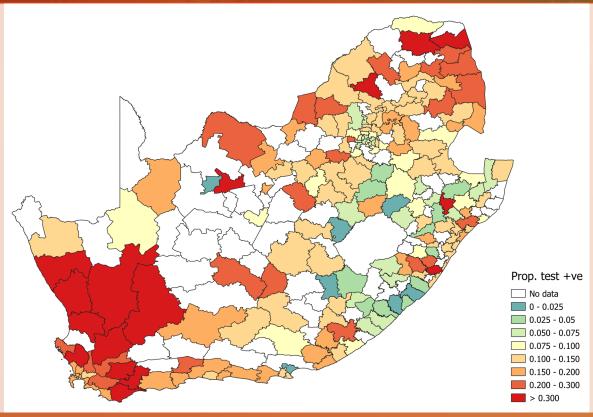


Figure 6. Proportion testing positive by health sub-district in South Africa for the week of 16-22 January 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

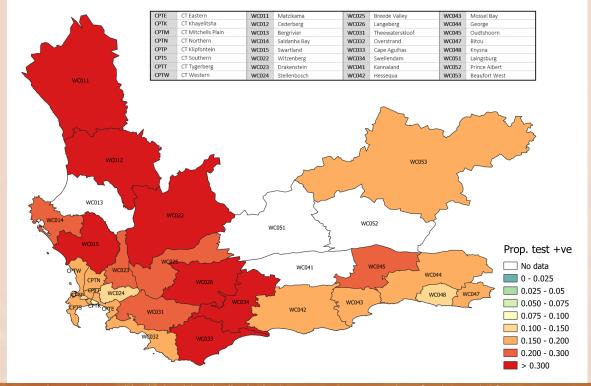


Figure 7. Proportion testing positive by health sub-district in the Western Cape Province for the week of 16-22 January 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%

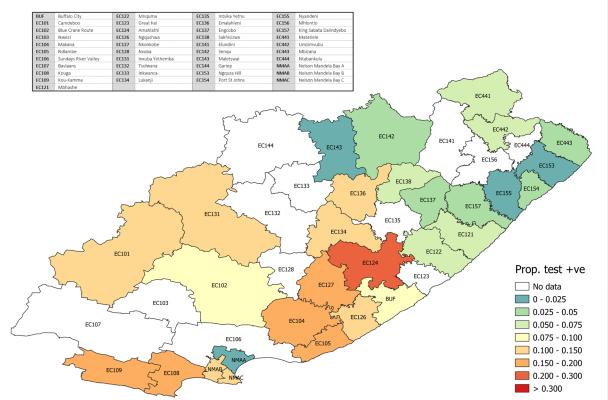


Figure 8. Proportion testing positive by health sub-district in the Eastern Cape Province for the week of 16-22 January 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

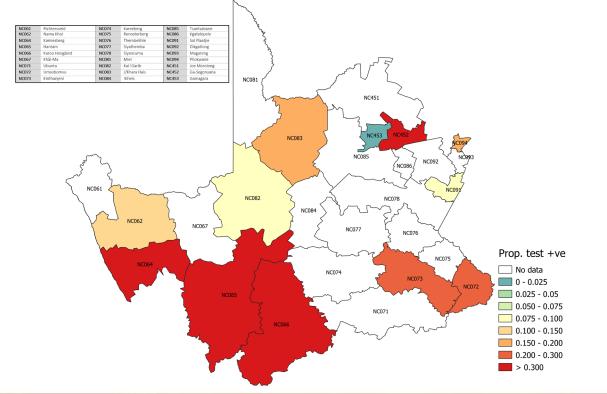


Figure 9. Proportion testing positive by health sub-district in Northern Cape Province for the week of 16-22 January 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

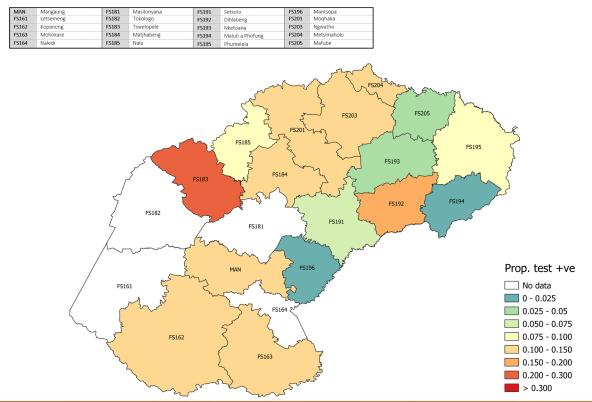


Figure 10. Proportion testing positive by health sub-district in Free State Province for the week of 16-22 January 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

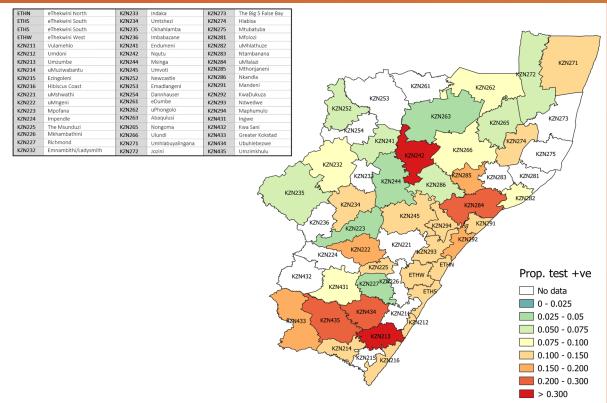


Figure 11. Proportion testing positive by health sub-district in KwaZulu-Natal Province for the week of 16-22 January 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

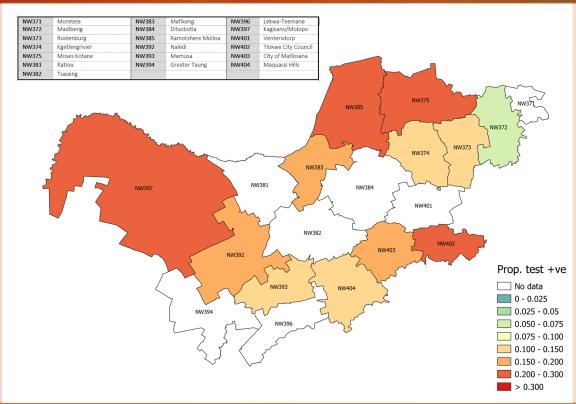


Figure 12. Proportion testing positive by health sub-district in North West Province for the week of 16-22 January 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

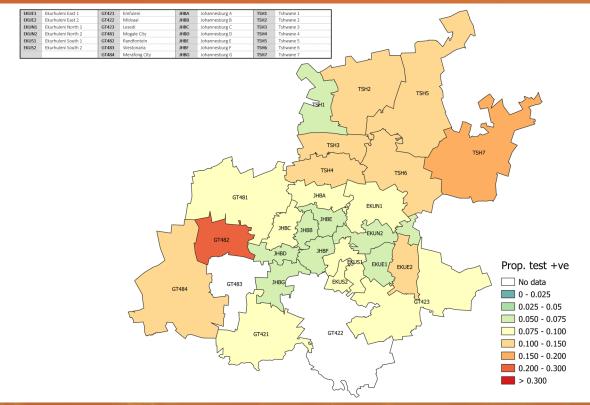


Figure 13. Proportion testing positive by health sub-district in Gauteng Province for the week of 16-22 January 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

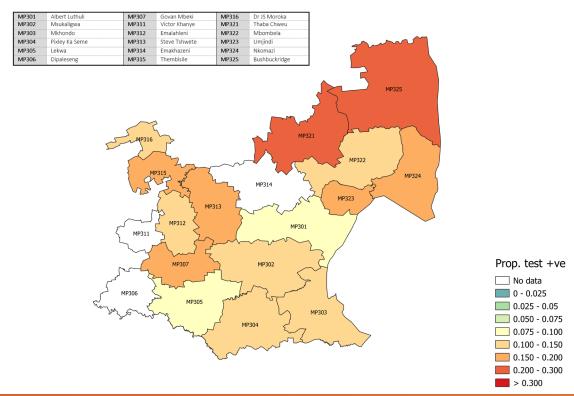


Figure 14. Proportion testing positive by health sub-district in Mpumalanga Province for the week of 16-22 January 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

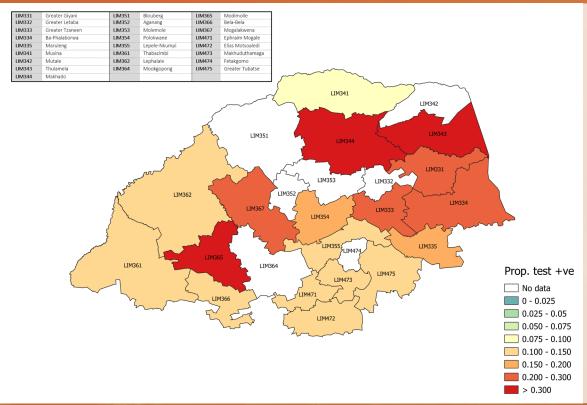


Figure 15. Proportion testing positive by health sub-district in Limpopo Province for the week of 16-22 January 2022. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

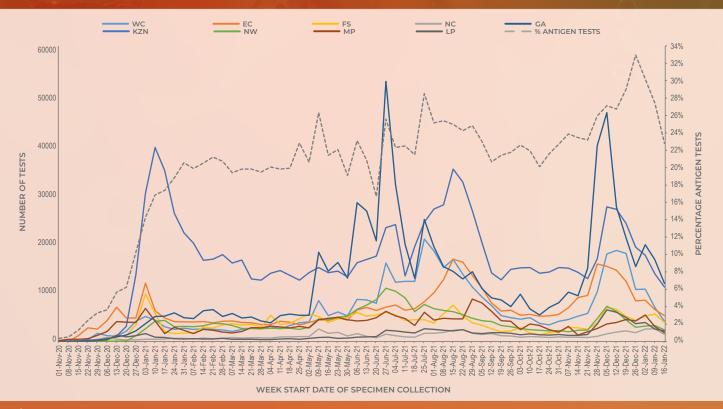


Figure 16. Number of antigen tests by province and overall percentage antigen tests, South Africa, 1 November 2020 – 22 January 2022. WC Western Cape; EC Eastern Cape; FS Free State; KZN KwaZulu-Natal; GA Gauteng; NC Northern Cape; NW North West; MP Mpumalanga; LP Limpopo

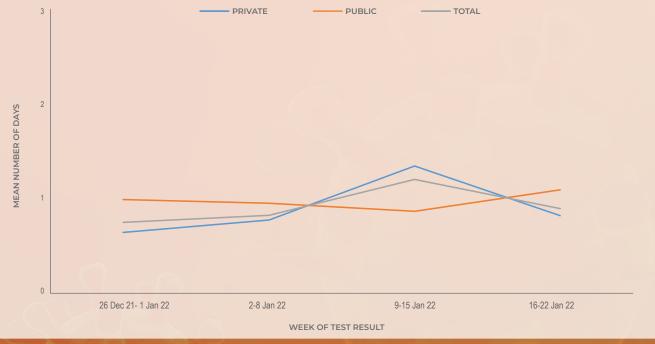


Figure 17. Mean number of days between date of specimen collection and date of test result for PCR tests by week of test result. South Africa, 26 December 2021 – 22 January 2022

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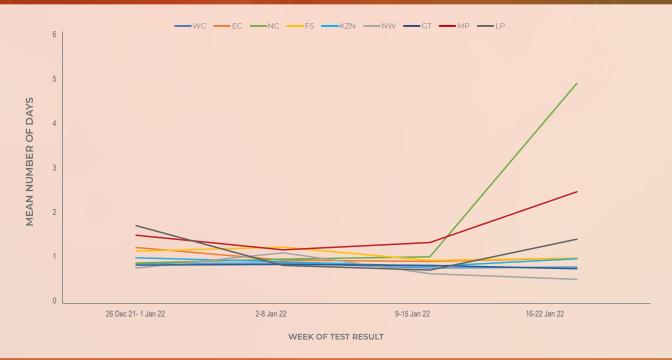


Figure 18. Mean number of days between date of specimen collection and date of test result for PCR tests in the public sector by week of test result and province, South Africa, 26 December 2021 – 22 January 2022. WC Western Cape; EC Eastern Cape; FS Free State; KZN KwaZulu-Natal; GT Gauteng; NC Northern 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, 26 December 2021 – 22 January 2022.

 st 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.