COVID-19 Weekly Testing Summary

Week 26 of 2022

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 2 July 2022 (Week 26 of 2022).

<u>Highlights:</u>

- The number of tests reported in week 26 of 2022 (61,579: 45,308 PCR and 16,271 antigen tests) was 30.8% lower than the number of tests reported in the previous week (n=88,942 in week 25).
- In week 26, the testing rate was 102 per 100,000 persons; highest in Gauteng (149 per 100,000 persons) and lowest in Limpopo (19 per 100,000 persons).
- In week 26, the percentage testing positive was 4.0%, which was 0.8% lower than the previous week.
- In week 26, compared to the previous week, the percentage testing positive decreased in the Western Cape, KwaZulu-Natal, North West, Gauteng and Limpopo, and was unchanged in all other provinces.
- In week 26, the percentage testing positive was highest in the Western Cape (6.4%), followed by Mpumalanga (5.2%), and was <5.0% in all other provinces.
- In week 26, the percentage testing positive was highest in the \geq 80 years age group (7.6%).

Executive Summary:

- In the period 1 March 2020 through 2 July 2022, 25,492,564 tests for SARS-CoV-2 have been reported nationally: 20,786,409 PCR and 4,706,155 antigen tests.
- The number of tests reported in week 26 of 2022 (n=61,579: 45,308 PCR and 16,271 antigen tests) was 30.8% lower than the number of tests reported in the previous week (n=88,942 in week 25).
- Gauteng reported the largest proportion of tests (38.3%), followed by KwaZulu-Natal (23.9%) and Western Cape (12.0%).
- The overall testing rate decreased from the previous week (147 per 100,000 persons in week 25 to 102 per 100,000 persons in week 26).
- In week 26, a decrease in the testing rate was observed in all provinces. The testing rate was highest in Gauteng (149 per 100,000 persons) and lowest in Limpopo (19 per 100,000 persons).
- The testing rate in week 26 was highest in the ≥80 years age group (259 per 100,000 persons).
- In week 26, the percentage testing positive was 4.0%, which was 0.8% lower than the previous week (4.8% in week 25 to 4.0% in week 26, P<0.001).
- In the past week, the percentage testing positive decreased by 0.7% in the public sector (3.7% in week 25 to 3.0% in week 26, P<0.001) and by 1.0% in the private sector (5.8% in week 25 to 4.8% in week 26, P<0.001).
- In week 26, compared to the previous week, the percentage testing positive decreased in the Western Cape, KwaZulu-Natal, North West, Gauteng and Limpopo, and was unchanged in all other provinces.

- The percentage testing positive in week 26 was highest in the Western Cape (6.4%), followed by Mpumalanga (5.2%) and was <5.0% in all other provinces.
- In week 26, health sub-districts showing the highest percentage testing positive were concentrated in the Western Cape (n=10).
- In week 26, the percentage testing positive was highest in the ≥80 years age group (7.6%).
- Antigen tests accounted for 26.4% (16,271/61,579) of tests reported in week 26, however the number of antigen tests is likely underestimated due to under-reporting and delayed reporting of antigen tests.
- In week 26 the public sector accounted for 54.5% (8,865/16,271) of antigen tests reported and a decrease in the number of antigen tests reported was observed in all provinces in the past week.
- The mean turnaround time for PCR tests reported in week 26 was 1.1 days; 1.1 days in both the public and private sectors. Turnaround times for public sector PCR tests were <2 days in all provinces.
- The mean turnaround time for antigen tests reported in week 26 was 11.0 days in the public sector and 0.1 days in the private sector.





Date of specimen collection

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

Number of tests

No. of tests Week Week No. of positive Percentage testing number beginning positive (%) n (%) tests 1 03-Jan-21 501386 (2.0) 151074 30.1 2 10-Jan-21 418301 (1.6) 104825 25.1 3 327535 (1.3) 17-Jan-21 63283 19.3 4 24-Jan-21 249623 (1.0) 34652 13.9 5 31-Jan-21 11.0 203797 (0.8) 22380 6 07-Feb-21 8.5 193340 (0.8) 16476 7 14-Feb-21 190714 (0.7) 12192 6.4 8 5.6 21-Feb-21 184732 (0.7) 10390 9 4.6 28-Feb-21 189731 (0.7) 8695 4.3 10 07-Mar-21 8341 193454 (0.8) 11 14-Mar-21 185527 (0.7) 8156 4.4 4.2 12 21-Mar-21 173275 (0.7) 7356 13 28-Mar-21 4.3 163976 (0.6) 7063 14 04-Apr-21 180875 (0.7) 7292 4.0 15 11-Apr-21 185350 (0.7) 8847 4.8 16 18-Apr-21 184922 (0.7) 9471 5.1 17 25-Apr-21 160025 (0.6) 9183 5.7 18 02-May-21 13464 6.9 193978 (0.8) 19 09-May-21 8.3 240329 (0.9) 19939 20 16-May-21 248497 (1.0) 24212 9.7 21 23-May-21 262638 (1.0) 29778 11.3 22 30-May-21 270322 (1.1) 36111 13.4 17.6 23 06-Jun-21 337915 (1.3) 59453 24 13-Jun-21 370992 (1.5) 23.7 88089 25 20-Jun-21 27.4 432643 (1.7) 118657 26 27-Jun-21 490278 (1.9) 146650 29.9 27 04-Jul-21 444111 (1.7) 141490 31.9 28 11-Jul-21 320844 (1.3) 100996 31.5 29 18-Jul-21 313378 (1.2) 88476 28.2 30 25-Jul-21 350819 (1.4) 88389 25.2 31 01-Aug-21 372347 (1.5) 88144 23.7 32 08-Aug-21 23.2 359664 (1.4) 83390 33 15-Aug-21 22.7 421122 (1.7) 95461 34 22-Aug-21 392821 (1.5) 78239 19.9 35 29-Aug-21 346237 (1.4) 55109 15.9 36 05-Sep-21 300620 (1.2) 38864 12.9 37 9.2 12-Sep-21 260731 (1.0) 24019

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

38	19-Sep-21	209232 (0.8)	14018	6.7
39	26-Sep-21	207957 (0.8)	9492	4.6
40	03-Oct-21	198063 (0.8)	6457	3.3
41	10-Oct-21	191812 (0.8)	5045	2.6
42	17-Oct-21	185620 (0.7)	3412	1.8
43	24-Oct-21	177233 (0.7)	2566	1.4
44	31-Oct-21	182981 (0.7)	2106	1.2
45	07-Nov-21	196870 (0.8)	2323	1.2
46	14-Nov-21	198006 (0.8)	4816	2.4
47	21-Nov-21	225639 (0.9)	18980	8.4
48	28-Nov-21	382201 (1.5)	98459	25.8
49	05-Dec-21	493438 (1.9)	175173	35.5
50	12-Dec-21	424827 (1.7)	155017	36.5
51	19-Dec-21	337327 (1.3)	117765	34.9
52	20-Dec-21	216676 (0.8)	66161	30.5
1	02-Jan-22	272612 (1.1)	61155	22.4
2	09-Jan-22	234517 (0.9)	35158	15.0
3	16-Jan-22	208588 (0.8)	24103	11.6
4	23-Jan-22	212711 (0.8)	25847	12.2
5	24-Jan-22	210721 (0.8)	22987	10.9
6	06-Feb-22	203536 (0.8)	20432	10.0
7	13-Feb-22	191324 (0.8)	19104	10.0
8	14-Feb-22	181741 (0.7)	16321	9.0
9	27-Feb-22	172754 (0.7)	13138	7.6
10	06-Mar-22	155538 (0.6)	10688	6.9
11	13-Mar-22	163683 (0.6)	9878	6.0
12	20-Mar-22	146390 (0.6)	9457	6.5
13	27-Mar-22	157552 (0.6)	10260	6.5
14	03-Apr-22	138169 (0.5)	10615	7.7
15	10-Apr-22	120111 (0.5)	12275	10.2
16	17-Apr-22	138918 (0.5)	24145	17.4
17	24-Apr-22	156156 (0.6)	33845	21.7
18	01-May-22	185265 (0.7)	47621	25.7
19	08-May-22	195942 (0.8)	48599	24.8
20	15-May-22	177706 (0.7)	38430	21.6
21	22-May-22	149170 (0.6)	24666	16.5
22	29-May-22	125652 (0.5)	14700	11.7
23	05-Jun-22	119130 (0.5)	10289	8.6
24	12-Jun-22	90349 (0.4)	5809	6.4
25	19-Jun-22	88942 (0.3)	4247	4.8
26	26-Jun-22	61579 (0.2)	2474	4.0
	Total	25,492,564 (100.0)	4,331,587	





Date of specimen collection

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

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Week start date (week number) of sample collection



7

		12-1	L8 Jun 2022	19-2	25 Jun 2022		26 Jun - 2 Jul 2	2022	Change in percentage positive
Province	Population ^a	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	Testing rate per 100,000	from previous week ^b
Western Cape	7113776	10915	1103 (10.1)	9973	766 (7.7)	7394	476 (6.4)	104	-1.2%
Eastern Cape	6676590	7466	504 (6.8)	7061	300 (4.2)	4961	202 (4.1)	74	-0.2%
Northern Cape	1303047	1974	168 (8.5)	1862	86 (4.6)	1221	48 (3.9)	94	-0.7%
Free State	2932441	4997	327 (6.5)	5188	198 (3.8)	2607	93 (3.6)	89	-0.2%
KwaZulu-Natal	11513575	18985	769 (4.1)	19896	592 (3.0)	14692	315 (2.1)	128	-0.8%
North West	4122854	4290	336 (7.8)	4264	256 (6.0)	2964	103 (3.5)	72	-2.5%
Gauteng	15810388	34280	2160 (6.3)	33754	1648 (4.9)	23580	1040 (4.4)	149	-0.5%
Mpumalanga	4743584	5403	310 (5.7)	4745	284 (6.0)	2907	151 (5.2)	61	-0.8%
Limpopo	5926724	1707	120 (7.0)	1826	97 (5.3)	1123	41 (3.7)	19	-1.7%
Unknown		332	12 (3.6)	373	20 (5.4)	130	5 (3.8)		
Total	60142978	90349	5809 (6.4)	88942	4247 (4.8)	61579	2474 (4.0)	102	-0.8%

Table 2. Weekly number of tests and positive tests reported by province South Africa 12 June – 2 July 2022

^a 2021 Mid-year population Statistics SA

^bCurrent week compared to previous week





Figure 4. Weekly percentage testing positive by province, South Africa, 12 June – 2 July 2022. The horizontal blue line shows the national mean for week 26, beginning 26 June 2022



Age group (years)

Figure 5. Testing rates per 100,000 persons and percentage testing positive by age group and sex, South Africa, week 26, 26 June – 2 July 2022



Week start date (week number) of sample collection



Table 3. Health sub-districts with the highest proportion testing positive based on public and private sector data for the week of 26 June - 2 July 2022

Health district or sub-district	Province	PTP (95% CI)	Previous week
Ga-Segonyana	Northern Cape	0.198 (0.054-0.343)	0.106 (0.035-0.177)
Overstrand	Western Cape	0.150 (0.084-0.217)	0.118 (0.065-0.172)
Randfontein	Gauteng	0.134 (0.090-0.178)	0.161 (0.122-0.199)
Lephalale	Limpopo	0.119 (0.042-0.197)	0.141 (0.080-0.201)
Makhado	Limpopo	0.117 (0.009-0.226)	0.016 (0.000-0.048)
Oudtshoorn	Western Cape	0.115 (0.019-0.212)	0.095 (0.028-0.163)
Bitou	Western Cape	0.113 (0.000-0.235)	0.070 (0.000-0.165)
Stellenbosch	Western Cape	0.102 (0.053-0.150)	0.076 (0.040-0.112)
Govan Mbeki	Mpumalanga	0.099 (0.059-0.138)	0.065 (0.037-0.093)
Mkhondo	Mpumalanga	0.098 (0.000-0.204)	0.030 (0.000-0.070)
Mbombela	Mpumalanga	0.096 (0.074-0.118)	0.048 (0.039-0.056)
George	Western Cape	0.094 (0.053-0.136)	0.129 (0.091-0.168)
CT Northern	Western Cape	0.084 (0.062-0.106)	0.097 (0.076-0.117)
Inxuba Yethemba	Eastern Cape	0.083 (0.000-0.195)	0.019 (0.000-0.057)
Johannesburg E	Gauteng	0.079 (0.063-0.095)	0.079 (0.065-0.092)
Gamagara	Northern Cape	0.079 (0.018-0.140)	0.071 (0.016-0.126)
Ditsobotla	North West	0.078 (0.000-0.182)	0.091 (0.000-0.190)
CT Tygerberg	Western Cape	0.078 (0.059-0.096)	0.083 (0.067-0.099)
Mossel Bay	Western Cape	0.076 (0.036-0.117)	0.090 (0.053-0.127)
Engcobo	Eastern Cape	0.076 (0.000-0.179)	0.046 (0.000-0.109)
Saldanha Bay	Western Cape	0.072 (0.034-0.110)	0.097 (0.053-0.141)
Nala	Free State	0.071 (0.000-0.148)	0.021 (0.000-0.049)
Drakenstein	Western Cape	0.071 (0.036-0.105)	0.094 (0.062-0.126)
Greater Kokstad	KwaZulu-Natal	0.071 (0.011-0.130)	0.008 (0.000-0.024)
Kagisano/Molopo	North West	0.069 (0.000-0.146)	0.100 (0.006-0.194)

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 that do not overlap with the previous week proportions and CIs that do not overlap with the previous week proportions 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 26 June – 2 July 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 26 June – 2 July 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 26 June – 2 July 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 26 June – 2 July 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%.

MAN	Mangaung	FS181	Masilonyana	FS191	Setsoto	FS196	Mantsopa
FS161	Letsemeng	FS182	Tokologo	FS192	Dihlabeng	FS201	Moqhaka
FS162	Kopanong	FS183	Tswelopele	FS193	Nketoana	FS203	Ngwathe
FS163	Mohokare	FS184	Matjhabeng	FS194	Maluti a Phofung	FS204	Metsimaholo
FS164	Naledi	FS185	Nala	FS195	Phumelela	FS205	Mafube



Figure 11. Proportion testing positive by health sub-district in Free State Province for the week of 26 June – 2 July 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 26 June – 2 July 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 26 June – 2 July 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 26 June – 2 July 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 26 June – 2 July 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 26 June – 2 July 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%.



Week start date of specimen collection

Figure 17. Number of antigen tests by province and overall percentage antigen tests, South Africa, 1 November 2020 – 2 July 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



Week of test result

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, 5 June – 2 July 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, 5 June – 2 July 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, 5 June – 2 July 2022.

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 76% 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. antigen-based 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.