# **COVID-19 Weekly Testing Summary**

# Week 24 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 18 June 2022 (Week 24 of 2022).

## <u>Highlights:</u>

- The number of tests reported in week 24 of 2022 (85,209: 60,997 PCR and 24,212 antigen tests) was 27.3% lower than the number of tests reported in the previous week (n=117,313).
- In week 24, the testing rate was 142 per 100,000 persons; highest in Gauteng (212 per 100,000 persons) and lowest in Limpopo (25 per 100,000 persons).
- In week 24, the percentage testing positive was 6.4%, which was 2.3% lower than the previous week.
- In week 24, compared to the previous week, the percentage testing positive decreased in all provinces, except in Mpumalanga, Limpopo and North West where it was unchanged.
- In week 24, the percentage testing positive was highest in the Western Cape (10.6%) and was was <10% in all other provinces.
- In week 24, the percentage testing positive was highest in the ≥80 years age group (13.1%).

## Executive Summary:

- In the period 1 March 2020 through 18 June 2022, 25,331,028 tests for SARS-CoV-2 have been reported nationally: 20,677,082 PCR and 4,653,946 antigen tests.
- The number of tests reported in week 24 of 2022 (n=85,209: 60,997 PCR and 24,212 antigen tests) was 27.3% lower than the number of tests reported in the previous week (n=117,313 in week 23).
- Gauteng reported the largest proportion of tests (39.3%), followed by KwaZulu-Natal (21.4%) and Western Cape (11.8%).
- The overall testing rate decreased from the previous week (195 per 100,000 persons in week 23 to 142 per 100,000 persons in week 24).
- In week 24, testing rates decreased in all provinces and were highest in Gauteng (212 per 100,000 persons) and lowest in Limpopo (25 per 100,000 persons).
- The testing rate in week 24 was highest in the ≥80 years age group (357 per 100,000 persons).
- In week 24, the percentage testing positive was 6.4%, which was 2.3% lower than the previous week (8.7% in week 23 to 6.4% in week 24, P<0.001).
- In the past week, the percentage testing positive decreased by 1.5% in the public sector (6.4% in week 23 to 4.9% in week 24, P<0.001) and by 3.1% in the private sector (10.8% in week 23 to 7.7% in week 24, P<0.001).
- In week 24, compared to the previous week, the percentage testing positive decreased in all provinces, except in Mpumalanga, Limpopo and North West where it was unchanged.

- The percentage testing positive in week 24 was highest in the Western Cape (10.6%) and was <10% in all other provinces.
- In week 24, health sub-districts showing the highest percentage testing positive were concentrated in the Western Cape (n=12), followed by Northern Cape (n=5) and Free Sate (n=3).
- In week 24, the percentage testing positive continued to decrease in all age groups and was highest in the ≥80 years age group (13.1%).
- Antigen tests accounted for 28.4% (24,212/85,209) of tests reported in week 24, however the number of antigen tests is likely underestimated due to under-reporting and delayed reporting of antigen tests.
- In week 24 the public sector accounted for 53.1% (12,853/24,212) 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 24 was 0.8 days; 1.0 day in the public sector and 0.6 days in the private sector. Turnaround times for public sector PCR tests were <2 days in all provinces.
- The mean turnaround time for antigen tests reported in week 24 was 15.5 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 – 18 June 2022. Blue line shows the 7-day moving average of the number of tests reported. Grey bars highlight weekend days and public holidays

3

**Table 1.** Weekly number of SARS-CoV-2 tests and positive tests reported, South Africa, 3 January 2021- 18 June 2022

		No. of tests		Demonstration to atime	
number	eek Week nber beginning n (%)		tests	positive (%)	
1	03-Jan-21	501386 (2.0)	151074	30.1	
2	10-Jan-21	418301 (1.7)	104825	25.1	
3	17-Jan-21	327534 (1.3)	63283	19.3	
4	24-Jan-21	249623 (1.0)	34652	13.9	
5	31-Jan-21	203797 (0.8)	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	184732 (0.7)	10390	5.6	
9	28-Feb-21	189731 (0.7)	8695	4.6	
10	07-Mar-21	193454 (0.8)	8341	4.3	
11	14-Mar-21	185527 (0.7)	8156	4.4	
12	21-Mar-21	173275 (0.7)	7356	4.2	
13	28-Mar-21	163975 (0.6)	7063	4.3	
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	193978 (0.8)	13464	6.9	
19	09-May-21	240329 (0.9)	19939	8.3	
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	
23	06-Jun-21	337915 (1.3)	59453	17.6	
24	13-Jun-21	370992 (1.5)	88089	23.7	
25	20-Jun-21	432642 (1.7)	118657	27.4	
26	27-Jun-21	490253 (1.9)	146641	29.9	
27	04-Jul-21	444064 (1.8)	141466	31.9	
28	11-Jul-21	320775 (1.3)	100958	31.5	
29	18-Jul-21	313312 (1.2)	88450	28.2	
30	25-Jul-21	350772 (1.4)	88361	25.2	
31	01-Aug-21	372330 (1.5)	88138	23.7	
32	08-Aug-21	359641 (1.4)	83387	23.2	
33	15-Aug-21	421122 (1.7)	95461	22.7	
34	22-Aug-21	392813 (1.6)	78238	19.9	
35	29-Aug-21	346230 (1.4)	55109	15.9	
36	05-Sep-21	300579 (1.2)	38863	12.9	
37	12-Sep-21	260716 (1.0)	24019	9.2	

38	19-Sep-21	209128 (0.8)	14015	6.7
39	26-Sep-21	207859 (0.8)	9492	4.6
40	03-Oct-21	197975 (0.8)	6454	3.3
41	10-Oct-21	191811 (0.8)	5045	2.6
42	17-Oct-21	185619 (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	196848 (0.8)	2323	1.2
46	14-Nov-21	197952 (0.8)	4813	2.4
47	21-Nov-21	225550 (0.9)	18977	8.4
48	28-Nov-21	382100 (1.5)	98443	25.8
49	05-Dec-21	493426 (1.9)	175168	35.5
50	12-Dec-21	424649 (1.7)	154972	36.5
51	19-Dec-21	337200 (1.3)	117707	34.9
52	20-Dec-21	216612 (0.9)	66128	30.5
1	02-Jan-22	272607 (1.1)	61154	22.4
2	09-Jan-22	234507 (0.9)	35155	15.0
3	16-Jan-22	208578 (0.8)	24098	11.6
4	23-Jan-22	212691 (0.8)	25840	12.1
5	24-Jan-22	210697 (0.8)	22978	10.9
6	06-Feb-22	203529 (0.8)	20431	10.0
7	13-Feb-22	191302 (0.8)	19102	10.0
8	14-Feb-22	181693 (0.7)	16317	9.0
9	27-Feb-22	172736 (0.7)	13137	7.6
10	06-Mar-22	155521 (0.6)	10686	6.9
11	13-Mar-22	163668 (0.6)	9875	6.0
12	20-Mar-22	146365 (0.6)	9457	6.5
13	27-Mar-22	157525 (0.6)	10257	6.5
14	03-Apr-22	138115 (0.5)	10612	7.7
15	10-Apr-22	119994 (0.5)	12273	10.2
16	17-Apr-22	138639 (0.5)	24141	17.4
17	24-Apr-22	156048 (0.6)	33843	21.7
18	01-May-22	184987 (0.7)	47576	25.7
19	08-May-22	195495 (0.8)	48529	24.8
20	15-May-22	177356 (0.7)	38363	21.6
21	22-May-22	148743 (0.6)	24630	16.6
22	29-May-22	125212 (0.5)	14657	11.7
23	05-Jun-22	117313 (0.5)	10150	8.7
24	12-Jun-22	85209 (0.3)	5487	6.4
	Total	25,331,028 (100.0)	4,323,785	





#### Date of specimen collection

**Figure 2.** Percentage of tests positive for SARS-CoV-2 by date of specimen collection South Africa 1 March 2020 – 18 June 2022. Blue line shows the 7-day moving average of the percentage testing positive. Grey bars highlight weekend days and public holidays.

6





Week start date (week number) of sample collection



		29 Ma	y - 4 Jun 2022	5-1	.1 Jun 2022		12-18 Jun 20	22	Change in percentage positive
Province	Population <sup>a</sup>	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	Testing rate per 100000	from previous week <sup>b</sup>
Western Cape	7113776	16195	3383 (20.9)	15428	2264 (14.7)	10073	1067 (10.6)	142	-4.1%
Eastern Cape	6676590	8998	1338 (14.9)	9041	895 (9.9)	6640	444 (6.7)	99	-3.2%
Northern Cape	1303047	3222	540 (16.8)	3005	362 (12.0)	1808	154 (8.5)	139	-3.5%
Free State	2932441	6972	867 (12.4)	6895	615 (8.9)	4714	296 (6.3)	161	-2.6%
KwaZulu-Natal	11513575	24732	1895 (7.7)	23256	1346 (5.8)	18245	747 (4.1)	158	-1.7%
North West	4122854	6122	651 (10.6)	5901	520 (8.8)	4083	316 (7.7)	99	-1.1%
Gauteng	15810388	48971	5012 (10.2)	44119	3401 (7.7)	33500	2043 (6.1)	212	-1.6%
Mpumalanga	4743584	7060	683 (9.7)	6882	509 (7.4)	4321	304 (7.0)	91	-0.4%
Limpopo	5926724	2162	226 (10.5)	2085	181 (8.7)	1507	104 (6.9)	25	-1.8%
Unknown		778	62 (8.0)	701	57 (8.1)	318	12 (3.8)		
Total	60142978	125212	14657 (11.7)	117313	10150 (8.7)	85209	5487 (6.4)	142	-2.3%

### Table 2. Weekly number of tests and positive tests reported by province South Africa 29 May – 18 June 2022

<sup>a</sup> 2021 Mid-year population Statistics SA

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





**Figure 4.** Weekly percentage testing positive by province, South Africa, 29 May – 18 June 2022. The horizontal blue line shows the national mean for week 24, beginning 12 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 24, 12-18 June 2022



Week start date (week number) of sample collection



**Table 3.** Health sub-districts with the highest proportion testing positive based on public and privatesector data for the week of 12-18 June 2022

Health district or sub-district	Province	PTP (95% CI)	Previous week
Randfontein	Gauteng	0.251 (0.206-0.297)	0.327 (0.287-0.368)
Langeberg	Western Cape	0.249 (0.105-0.393)	0.205 (0.091-0.318)
Cape Agulhas	Western Cape	0.189 (0.070-0.308)	0.122 (0.000-0.252)
Maruleng	Limpopo	0.188 (0.077-0.299)	0.120 (0.046-0.194)
Oudtshoorn	Western Cape	0.173 (0.085-0.261)	0.183 (0.121-0.245)
George	Western Cape	0.166 (0.128-0.205)	0.227 (0.192-0.262)
Inxuba Yethemba	Eastern Cape	0.158 (0.056-0.260)	0.182 (0.084-0.279)
Gamagara	Northern Cape	0.156 (0.081-0.232)	0.223 (0.163-0.284)
Saldanha Bay	Western Cape	0.154 (0.099-0.209)	0.220 (0.169-0.271)
Beaufort West	Western Cape	0.150 (0.012-0.289)	0.279 (0.157-0.400)
Karoo Hoogland	Northern Cape	0.141 (0.036-0.247)	0.236 (0.114-0.357)
Bitou	Western Cape	0.137 (0.041-0.233)	0.087 (0.025-0.150)
Metsimaholo	Free State	0.134 (0.063-0.205)	0.126 (0.062-0.190)
CT Northern	Western Cape	0.126 (0.103-0.149)	0.174 (0.152-0.195)
Nala	Free State	0.126 (0.038-0.213)	0.079 (0.018-0.139)
Mossel Bay	Western Cape	0.124 (0.080-0.168)	0.167 (0.125-0.208)
Swartland	Western Cape	0.121 (0.021-0.221)	0.198 (0.097-0.299)
Witzenberg	Western Cape	0.118 (0.020-0.216)	0.192 (0.114-0.270)
Ga-Segonyana	Northern Cape	0.117 (0.044-0.190)	0.143 (0.082-0.203)
CT Tygerberg	Western Cape	0.114 (0.096-0.133)	0.149 (0.133-0.165)
Tshwane 5	Gauteng	0.113 (0.053-0.173)	0.081 (0.035-0.126)
Kai Garib	Northern Cape	0.112 (0.052-0.173)	0.028 (0.015-0.040)
Nama Khoi	Northern Cape	0.109 (0.070-0.148)	0.180 (0.141-0.219)
Nketoana	Free State	0.109 (0.033-0.185)	0.049 (0.014-0.085)
Kagisano/Molopo	North West	0.107 (0.018-0.197)	0.031 (0.000-0.073)

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 12-18 June 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 12-18 June 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 12-18 June 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 12-18 June 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 12-18 June 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 12-18 June 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 12-18 June 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 12-18 June 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 12-18 June 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 12-18 June 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 – 18 June 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, 22 May – 18 June 2022.



Week of test result

**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, 22 May - 18 June 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, 22 May – 18 June 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 17<sup>th</sup> 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 79% 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.