

COVID-19 TESTING SUMMARY

SOUTH AFRICA

WEEK 22 2020

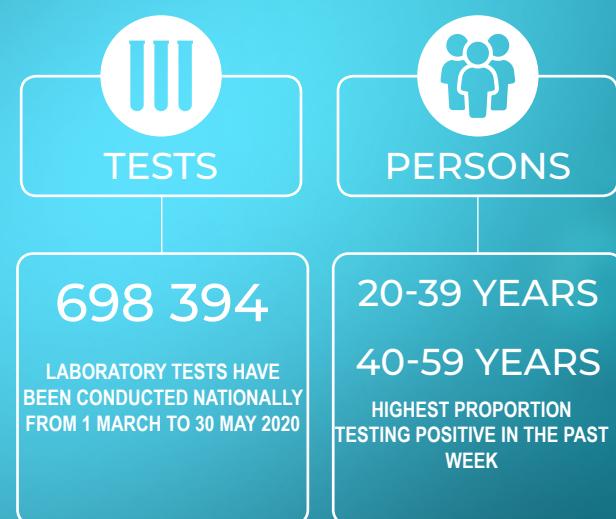
NATIONAL INSTITUTE FOR
COMMUNICABLE DISEASES
Division of the National Health Laboratory Service

OVERVIEW

This report summarises national laboratory testing for SARS-CoV-2, the virus causing COVID-19, in South Africa. This report is based on data collected up to 30 May 2020 (week 22 of 2020). Note: COVID-19 is the name of the disease and SARS-CoV-2 is the name of the virus.

Highlights

- In the period 1 March 2020 through 30 May 2020, 698 394 laboratory tests for SARS-CoV-2 have been conducted nationally
- There has been a decrease in laboratory testing volumes for SARS-CoV-2 in the past three weeks, likely due to the limited supply of testing kits
- Overall proportion testing positive was 5.0%. However, there continues to be an increase in the weekly proportion testing positive since week 18 to 9.6% in week 22 (24-30 May)
- Western Cape (20.5%) and Eastern Cape (12.2%) provinces continued to have the highest proportion testing positive in the past week
- The proportion of tests referred from community screening decreased over the past three weeks from 50.5% of public sector tests in week 20 to 22.6% in week 22
- The mean turnaround time in the public sector increased from 2.6 days to >9 days from week 18 to week 22, as a result of laboratory testing backlogs



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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 5 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) hospitalized 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. 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. Mass screening and testing has been discontinued from the week beginning 17th May, however there may be a lag in changing practice in the provinces. 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. Test results were automatically fed into a data warehouse after result authorisation. We excluded specimens collected outside South Africa and duplicate test results for an individual. 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. Categorical variables were compared using the chi-squared test, and continuous variables with the students t-test, with a P-value<0.05 considered statistically significant.

Health district and sub-district level results included only public sector data, and were mapped based on the testing facility. For these results, estimates of overall prevalence were derived using regression techniques. These estimates were then refined using the *margins* command in Stata to adjust the district-specific positive test prevalences for the average age profile, the average sex composition, and the average balance between clinical and CST tests across the entire public testing data for the week for a more accurate comparison of the prevalences across districts.

The report includes tests conducted between 1 March 2020 (week 10), the week when the first case of COVID-19 was confirmed, and 30 May 2020 (week 22).

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TESTING VOLUMES AND PROPORTION TESTING POSITIVE

From 1 March through 30 May 2020, 698 394 laboratory tests for SARS-CoV-2 were conducted. The number of tests conducted increased week on week to week 19 when 122 766 tests were conducted, however has subsequently decreased in the past three weeks with 86 030 tests having been conducted in week 22. The decrease in the volume of testing conducted over the past three weeks is likely due to a limited supply of testing kits. In addition, due to backlogs in laboratory testing, all tests for samples collected in week 22 may not yet be reflected. Reduced testing volumes were observed over weekends and public holidays (Figure 1).

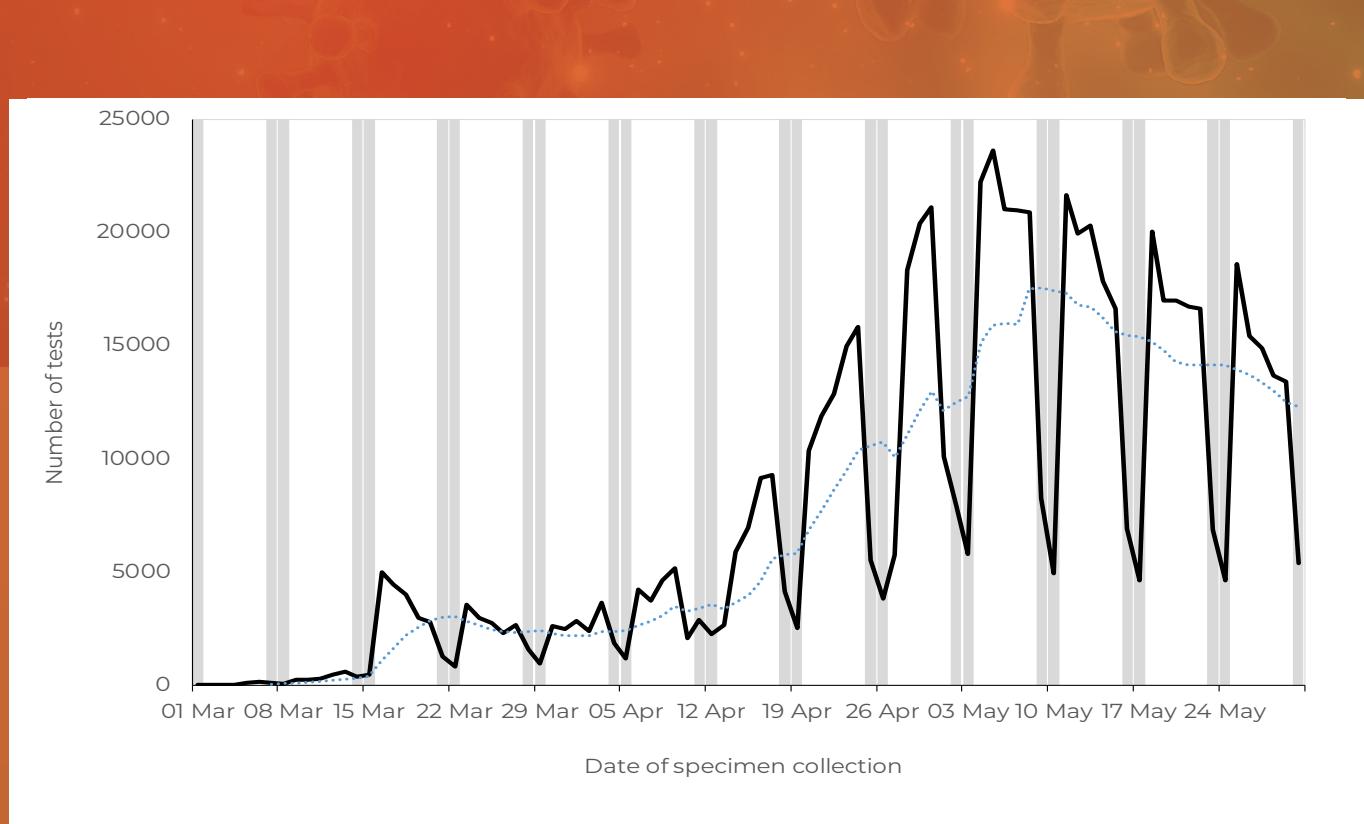


Figure 1. Number of laboratory tests conducted by date of specimen collection, South Africa, 1 March – 30 May 2020. Blue dotted line shows the 7-day moving average of the number of tests conducted. Grey bars highlight weekend days

The overall proportion testing positive from week 10 through 22 was 5.0% (Table 1). The proportion testing positive continued to increase week on week, and in the past three weeks has increased from 4.9% in week 20 to 7.3% in week 21 and to 9.6% in week 22 ($P<0.001$) (Figure 2).

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Table 1. Weekly number of tests conducted and positive tests, South Africa, 1 March – 30 May 2020

Week number	Week beginning	No. of tests n (%)	No. of positive tests	Proportion testing positive (%)
10	01 Mar	409 (0.1)	8	1.96
11	08 Mar	2 267 (0.3)	97	4.28
12	15 Mar	2 0879 (3.0)	854	4.09
13	22 Mar	1 6682 (2.4)	476	2.85
14	29 Mar	1 6730 (2.4)	436	2.61
15	05 Apr	23 884 (3.4)	698	2.92
16	12 Apr	40 317 (5.8)	1 174	2.91
17	19 Apr	73 949 (10.6)	2 022	2.73
18	26 Apr	87 438 (12.5)	3 028	3.46
19	03 May	122 766 (17.6)	5 206	4.24
20	10 May	108 177 (15.5)	5 346	4.94
21	17 May	98 866 (14.2)	7 171	7.25
22	24 May	86 030 (12.3)	8 288	9.63
Total		698 394 (100)	34 804	4.98

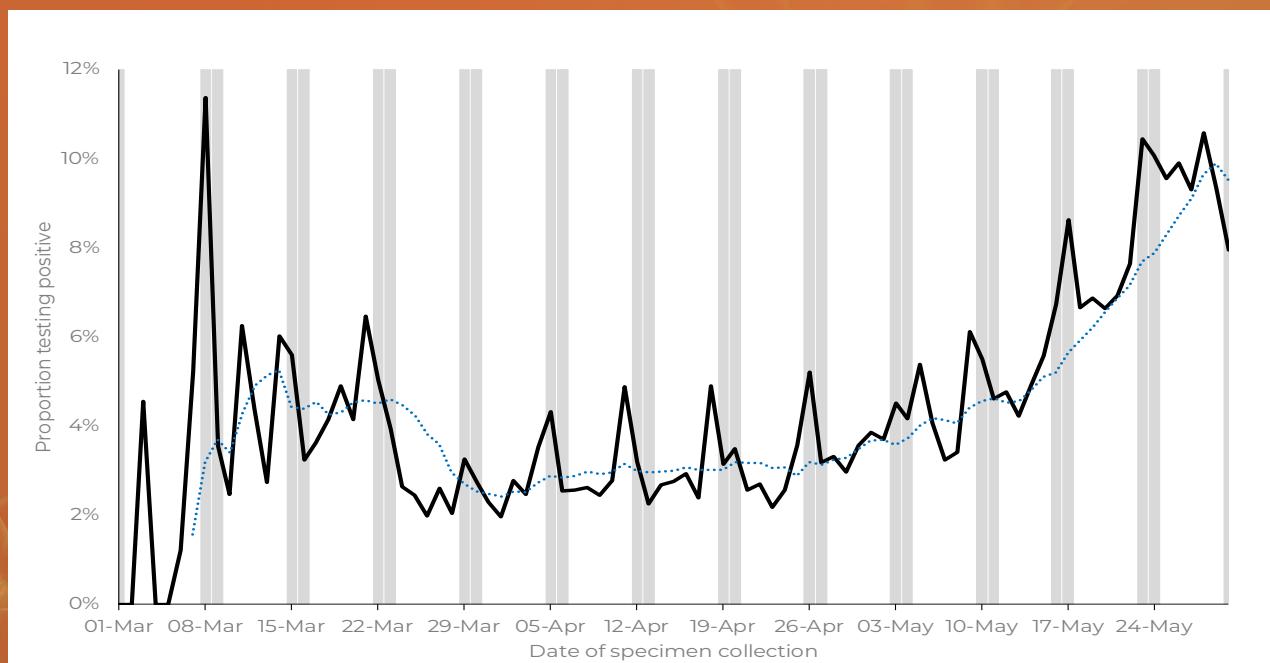


Figure 2. Proportion of laboratory tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 1 March – 30 May 2020. Blue dotted line shows the 7-day moving average of the number of tests conducted. Grey bars highlight weekend days

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TESTING IN PRIVATE AND PUBLIC SECTORS

From 1 March through 30 May, 366 607 laboratory tests were conducted in public sector laboratories, with 4.9% testing positive. Over this same period, private sector laboratories conducted 331 787 tests, with 5.0% testing positive (Table 2). Overall the public sector has conducted 52.5% of tests and accounted for 52.0% of cases. The proportion of tests conducted in public sector laboratories increased from week 12 (6.8%) through week 18 (74.9%). However, this has subsequently decreased weekly to 24.6% in week 22. This is likely due to limited supplies of testing kits, and resulting backlogs in testing. The proportion testing positive continued to increase in both the public and private sectors, and was significantly higher in the public sector (12.9%) compared to the private sector (8.6%) in week 22 ($P<0.001$).

Table 2. Weekly number of tests conducted and positive tests, by healthcare sector, South Africa, 1 March – 30 May 2020

Week number	Week beginning	Public sector		Private sector		Public sector proportion of		Ratio of PTP ^a
		Tests	Cases n (%)	Tests	Cases n (%)	Tests (%)	Cases (%)	
10	01 Mar	281	7 (2.5)	128	1 (0.8)	68.7	87.5	3.189
11	08 Mar	379	21 (5.5)	1 888	76 (4.0)	16.7	21.6	1.376
12	15 Mar	1 413	68 (4.8)	19 466	786 (4.0)	6.8	8.0	1.192
13	22 Mar	3 427	128 (3.7)	13 255	348 (2.6)	20.5	26.9	1.423
14	29 Mar	5 674	169 (3.0)	11 056	267 (2.4)	33.9	38.8	1.233
15	05 Apr	11 382	385 (3.4)	12 502	313 (2.5)	47.7	55.2	1.351
16	12 Apr	23 722	639 (2.7)	16 595	535 (3.2)	58.8	54.4	0.836
17	19 Apr	54 283	1 543 (2.8)	19 666	479 (2.4)	73.4	76.3	1.167
18	26 Apr	65 454	2 378 (3.6)	21 984	650 (3.0)	74.9	78.5	1.229
19	03 May	81 004	3 864 (4.8)	41 762	1 342 (3.2)	66.0	74.2	1.484
20	10 May	58 637	2 993 (5.1)	49 540	2 353 (4.7)	54.2	56.0	1.075
21	17 May	39 746	3 161 (8.0)	59 120	4 010 (6.8)	40.2	44.1	1.173
22	24 May	21 205	2 733 (12.9)	64 825	5 555 (8.6)	24.6	33.0	1.504
Total		366 607	18 089 (4.9)	331 787	16 715 (5.0)	52.5	52.0	0.979

^a Ratio of proportion testing positive (PTP) in the public sector to the private sector calculated as (no. of cases/total tests in public sector)/ (no. of cases/total tests in private sector)

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Laboratory delays are indicated by an increase in the mean number of days between specimen collection and reporting of the results over the past weeks, predominantly in the public sector. The mean turnaround time in the public sector increased from 2.6 days to >9 days from week 18 to week 22 (Figure 3). The turnaround time in the private sector remained <2 days over this same period. Among tests conducted in the public sector in the five provinces conducting the largest volumes of tests, the turnaround time was lowest in the Western Cape province (5.5 days) in week 22 (Figure 4). The largest increase in turnaround time from week 21 to week 22 was observed in the Free State (3.2 to 10 days) and Eastern Cape (7.9 to 12 days) provinces. The number of tests conducted varied widely by laboratory ranging from 14 to 16 803 tests in week 22 (median of 2002 tests). Of the 19 NHLS laboratories conducting SARS-CoV-2 testing, 17 had turnaround times >48 hours in the past week (Figure 5).

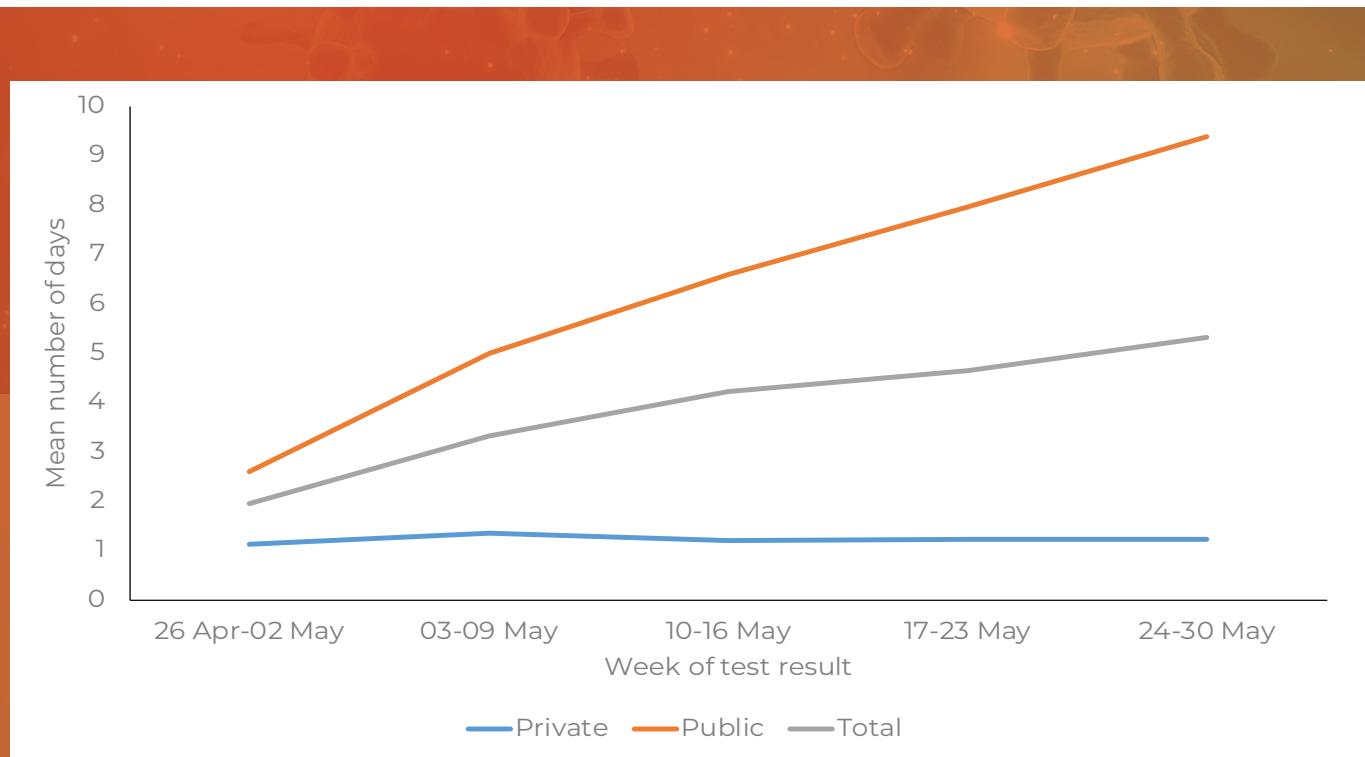


Figure 3. Mean number of days between date of specimen collection and date of test result, by week, South Africa, 26 April – 30 May 2020

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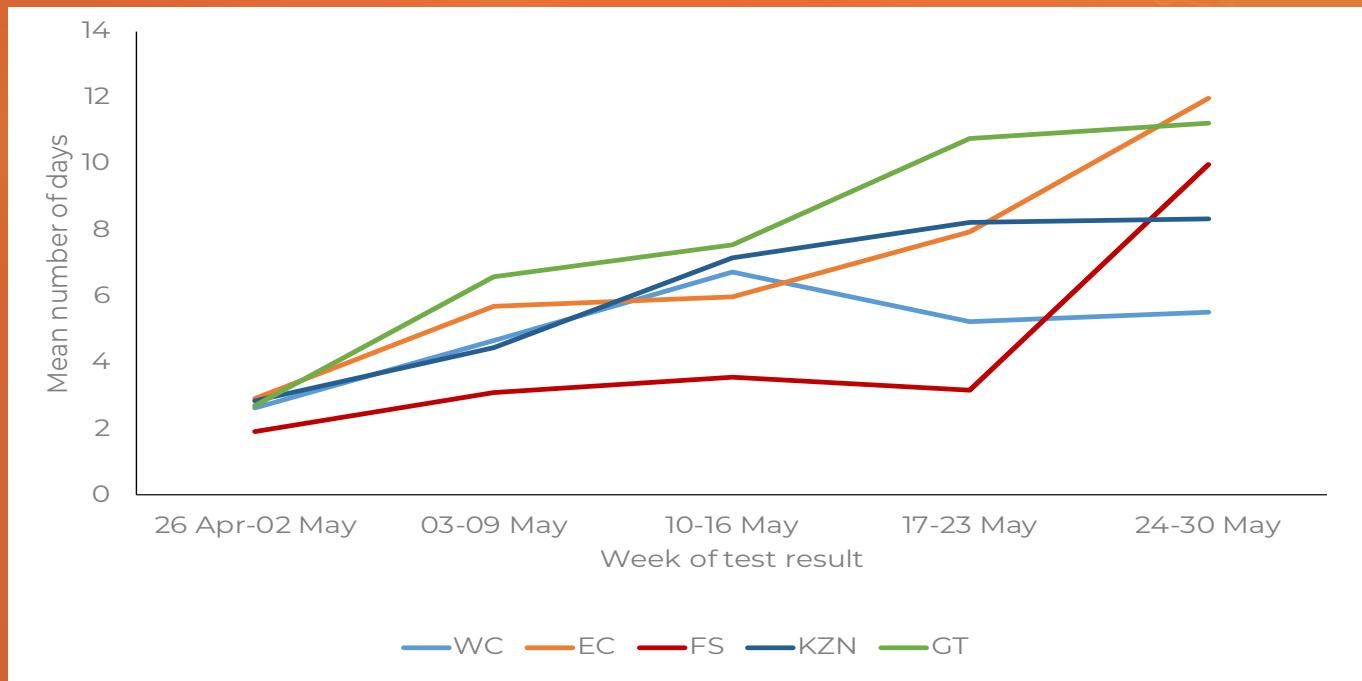


Figure 4. Mean number of days between date of specimen collection and date of test result, by week and province, South Africa, 26 April – 30 May 2020. WC, Western Cape; EC, Eastern Cape; FS, Free State; KZN, KwaZulu Natal, GT, Gauteng

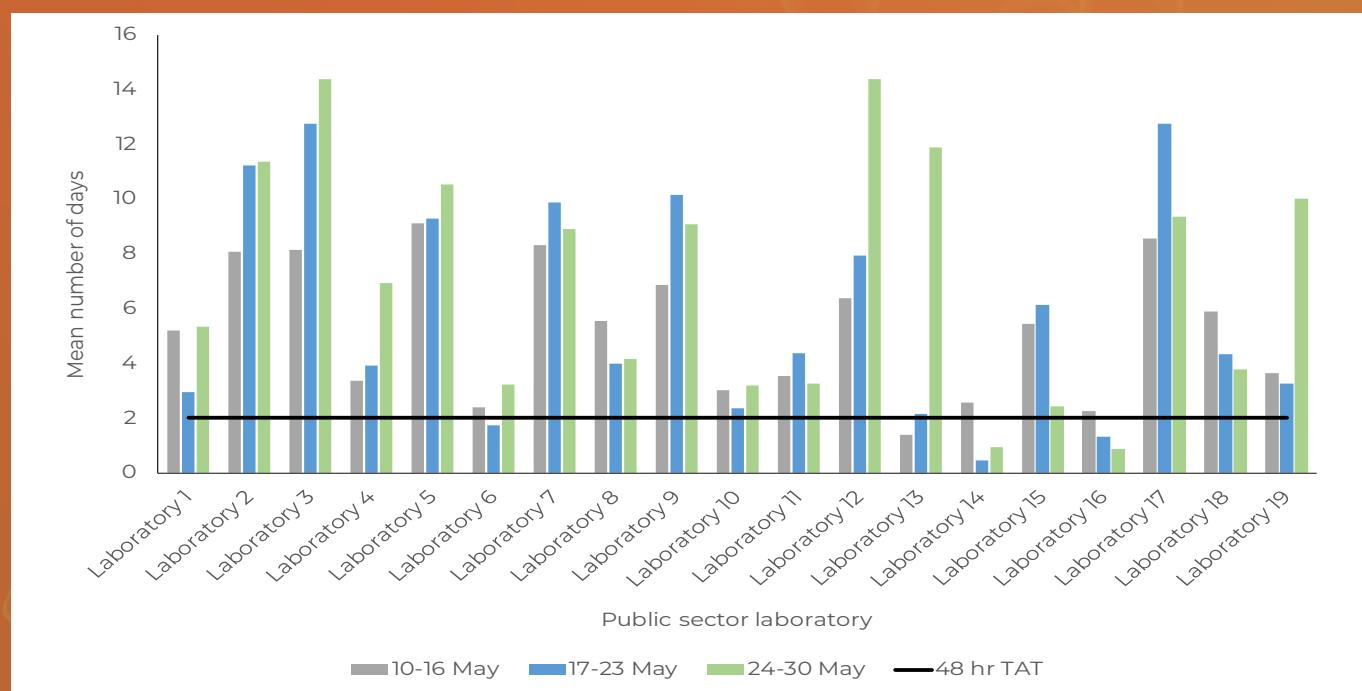


Figure 5. Mean number of days between date of specimen collection and date of test result, by public sector laboratory, 10-30 May 2020. The horizontal black line indicates 48-hour turnaround time (TAT)

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TESTING BY PROVINCE

In the past week Western Cape and Gauteng provinces performed the largest numbers of tests, accounting for 61.5% of tests nationally (Table 3). Western Cape (20.5%) and Eastern Cape (12.2%) provinces continued to have the highest proportion testing positive in week 22 (Figure 6). KwaZulu-Natal, North West, Gauteng and Mpumalanga provinces each had proportion testing positive of >3% in the past week. Over the past three weeks, the proportion testing positive has increased significantly in 8 of the 9 provinces (Western Cape ($P<0.001$), Eastern Cape ($P<0.001$), Free State ($P<0.001$), KwaZulu-Natal ($P<0.001$), North West ($P<0.001$), Gauteng ($P<0.001$), Mpumalanga ($P<0.001$) and Limpopo ($P=0.017$)).

Table 3. Weekly number of tests performed and positive tests, by province, South Africa, 3-23 May May 2020

Province	3-9 May		10-16 May		17-23 May	
	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)
Western Cape	22 584	3 745 (16.6)	28 041	5 187 (18.5)	2 6858	5 497 (20.5)
Eastern Cape	1 3131	759 (5.8)	8 411	704 (8.4)	7 222	878 (12.2)
Northern Cape	982	6 (0.6)	1 019	7 (0.7)	995	9 (0.9)
Free State	5 575	35 (0.6)	7 234	90 (1.2)	4 416	62 (1.4)
KwaZulu-Natal	16 263	200 (1.2)	16 821	320 (1.9)	13 504	664 (4.9)
North West	2 492	15 (0.6)	1 969	34 (1.7)	2 017	82 (4.1)
Gauteng	40 206	457 (1.1)	27 808	535 (1.9)	26 092	895 (3.4)
Mpumalanga	3 334	18 (0.5)	2 889	61 (2.1)	2 906	91 (3.1)
Limpopo	2 631	10 (0.4)	2 922	13 (0.4)	1 220	13 (1.1)
Unknown	979	101 (10.3)	1 752	220 (12.6)	800	97 (12.1)
Total	108 177	5346 (4.9)	98 866	7 171 (7.3)	86 030	8 288 (9.6)

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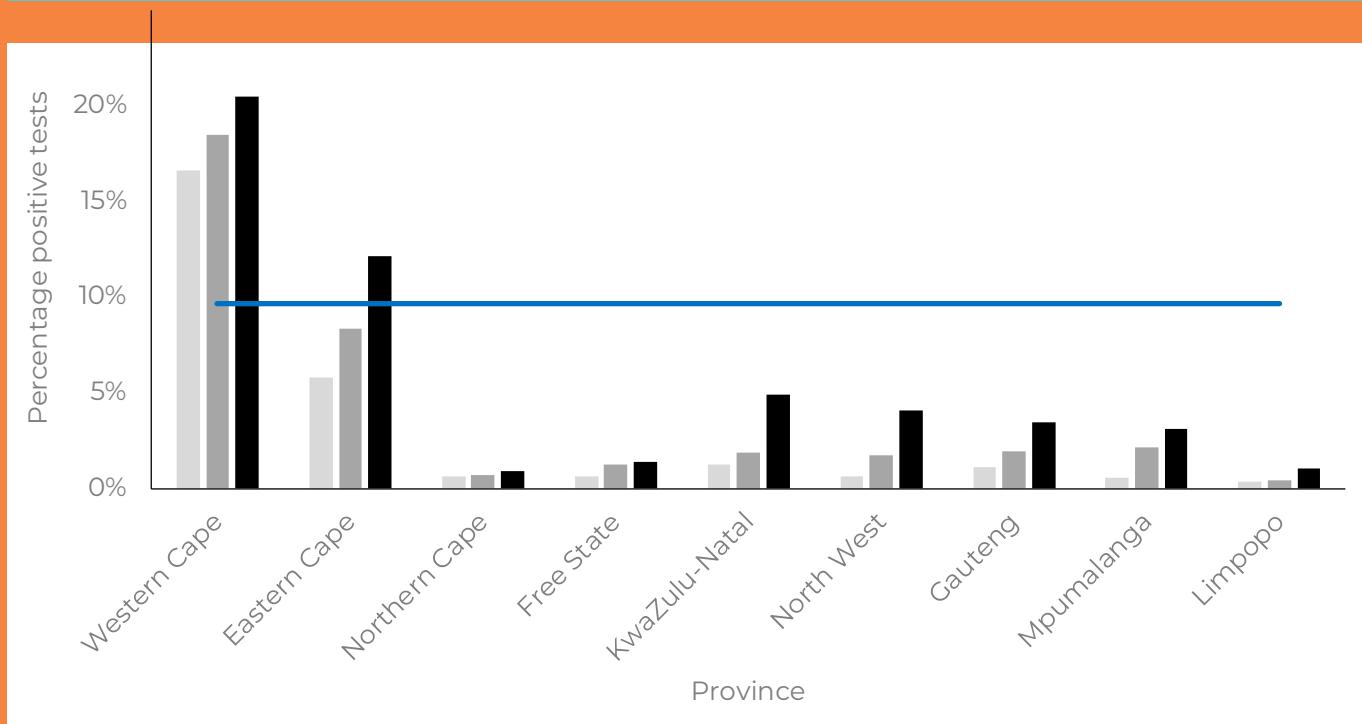


Figure 6. Weekly proportion testing positive, by province, South Africa, 10-30 May 2020. The horizontal blue line shows the national average for week 22, beginning 24 May 2020

TESTING IN THE PUBLIC SECTOR

In the public sector, the proportion testing positive increased to 12.9% in week 22 (Table 4). The proportion testing positive remained highest in the Western Cape (27.9%) and Eastern Cape (9.4%) provinces. Although the proportion testing positive in the North West province was >5% in the past week, only 39 tests were conducted. The proportion testing positive in the public sector remains higher than the national average, not weighted for population size, in Western Cape Province (Figure 7).

Table 4. Weekly number of tests conducted and positive tests in the public sector, by province, South Africa, 10-30 May 2020

10-16 May		17-23 May		24-30 May		
Province	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)
Western Cape	9 393	2 178 (23.2)	10 303	2 630 (25.5)	8 535	2 379 (27.9)
Eastern Cape	9 813	568 (5.8)	3 901	220 (5.6)	1 423	134 (9.4)
Northern Cape	130	0 (0.0)	0	0 (0.0)	7	0 (0.0)

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Free State	3 951	13 (0.3)	5 336	64 (1.2)	2 444	30 (1.2)
KwaZulu-Natal	9 779	84 (0.9)	8 541	117 (1.4)	3 852	70 (1.8)
North West	868	3 (0.3)	250	1 (0.4)	39	2 (5.1)
Gauteng	22 160	141 (0.6)	9 452	126 (1.3)	4 846	118 (2.4)
Mpumalanga	1 001	3 (0.3)	95	0 (0.0)	0	0 (0.0)
Limpopo	1 542	3 (0.2)	1 868	3 (0.2)	59	0 (0.0)
Total	58 637	2 993 (5.1)	39 746	3 161 (8.0)	21 205	2 733 (12.9)

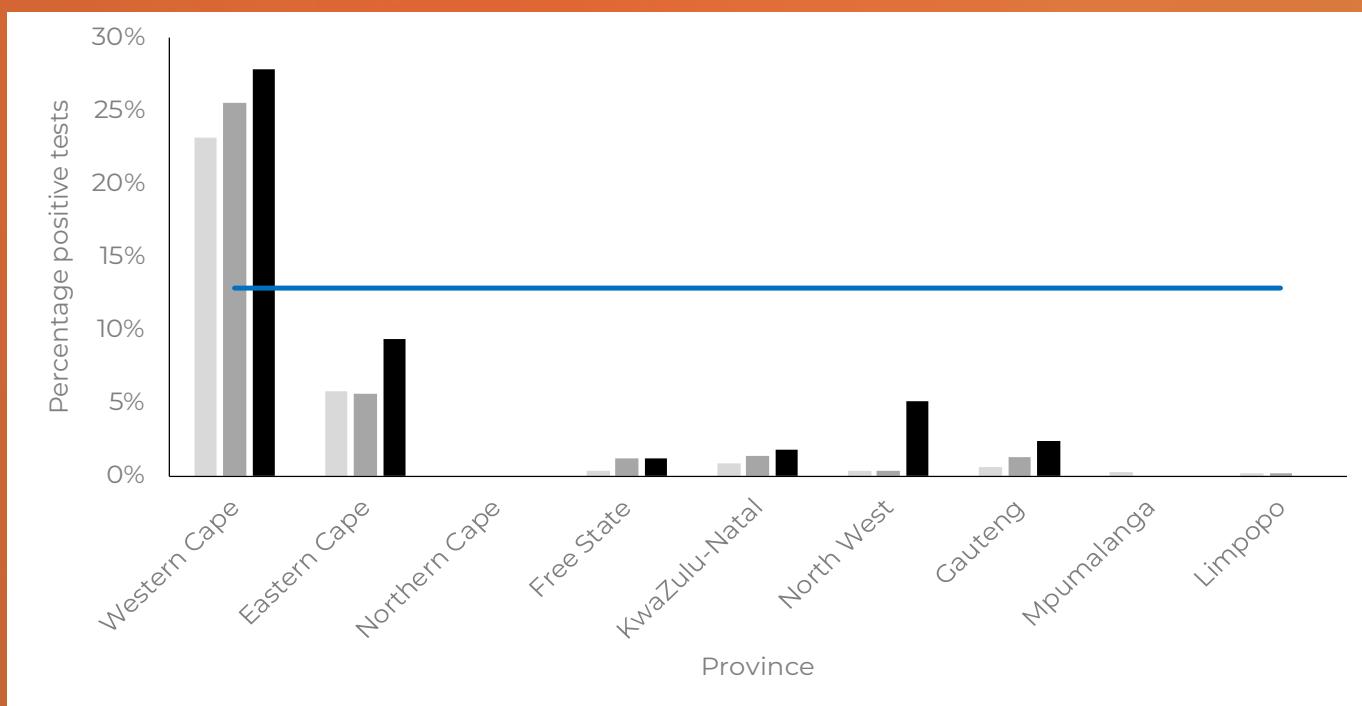


Figure 7. Weekly proportion testing positive in the public sector, by province, South Africa, 10-30 May 2020. The horizontal blue line shows the national average for week 22, beginning 24 May 2020

The proportion of tests in the public sector performed for individuals that were referred from community screening (active case finding) decreased over the past three weeks (50.5% in week 20, 35.9% in week 21 and 22.6% in week 22, $P<0.001$), with decreases noted in all five provinces where the largest volume of tests were performed (Figure 8). This likely reflects the change in policy in mid-May to discontinue mass screening and testing approaches. The proportion testing positive among CST tests varied widely by province, likely reflecting the different approaches to the programme in the provinces. The proportion testing positive in week 22 was 28% in the Western Cape and 6.6% in the Eastern Cape, while this proportion was <3% in Free State, KwaZulu-Natal and Gauteng provinces (Figure 9). The proportion testing positive among CST tests increased significantly over the past three weeks in the Western Cape (22.9% to 28.0%, $P<0.001$), Free State (0.5% to 1.5%, $P<0.001$), KwaZulu-Natal (1.0% to 2.3%, $P=0.024$) and Gauteng (0.6% to 2.0%, $P<0.001$) provinces.

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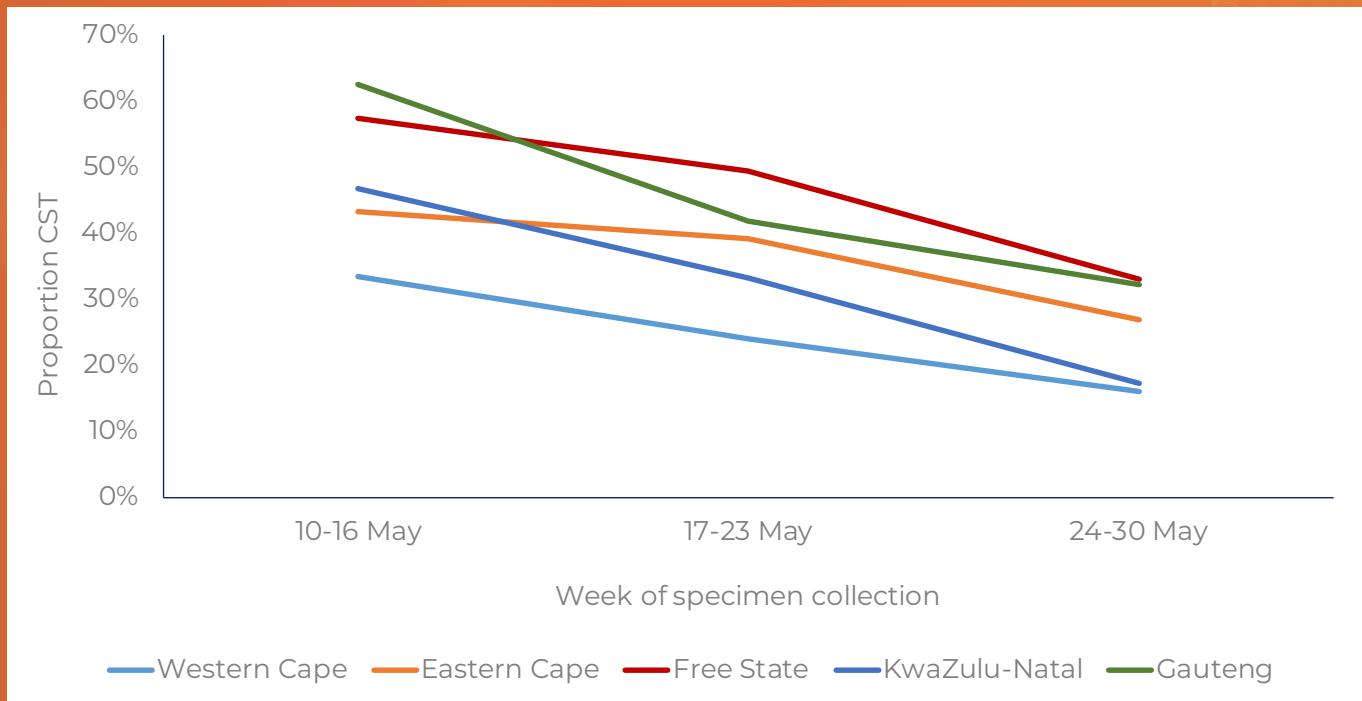


Figure 8. Weekly proportion of tests resulting from public sector community screening and testing, by province, South Africa, 10-30 May 2020

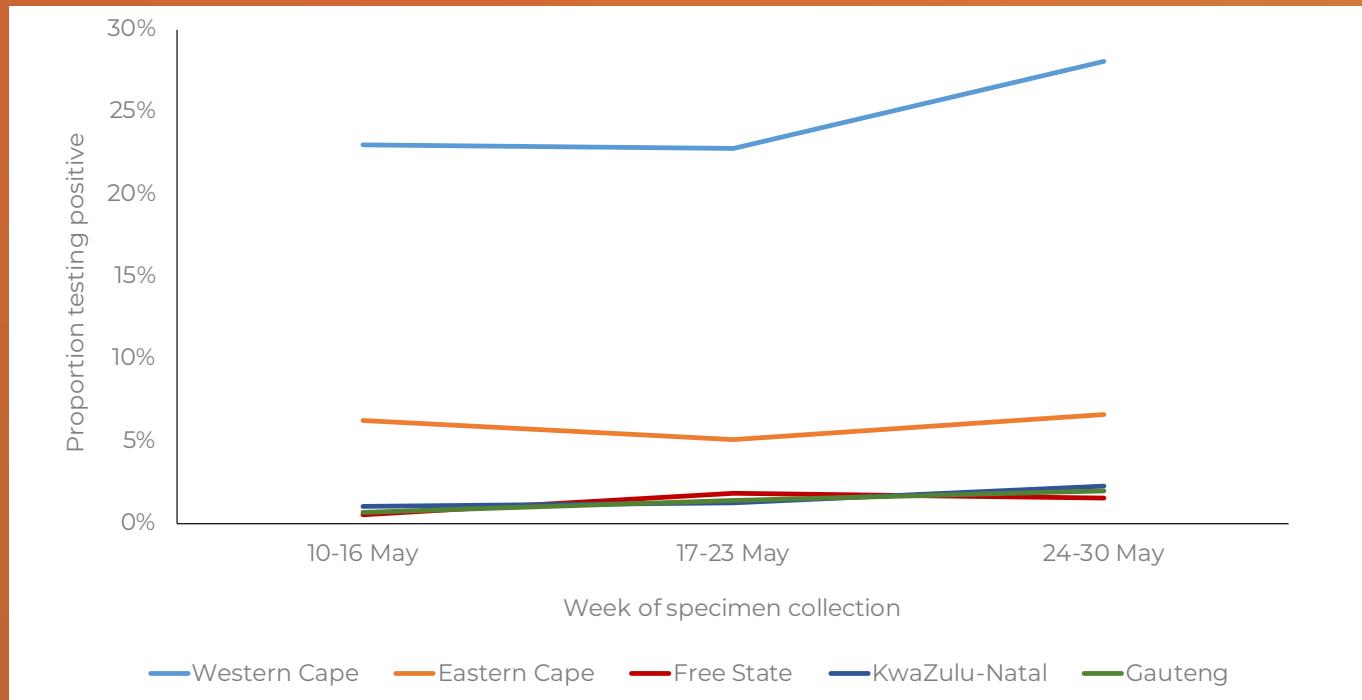


Figure 9. Weekly proportion testing positive in the public sector among individuals identified through community screening and testing, by province, South Africa, 10-30 May 2020

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PUBLIC FACILITIES WITH HIGH PROPORTIONS TESTING POSITIVE

Table 5 shows public healthcare facilities that tested ≥ 25 specimens, had ≥ 5 positive tests and had the highest proportion testing positive in the week of 24-30 May. Of 52 facilities, 37 are in the Western Cape, 5 in the Eastern Cape, 5 in Gauteng, 4 in KwaZulu-Natal and 1 in Northern Cape.

Table 5. Public healthcare facilities with a high proportion testing positive, 24-30 May 2020

Facility Name	Province	Tests	PTP (95% CI)
Facility 1	Western Cape	56	0.536 (0.405;0.666)
Facility 2	Western Cape	201	0.498 (0.428;0.567)
Facility 3	Western Cape	147	0.456 (0.375;0.536)
Facility 4	Western Cape	34	0.441 (0.274;0.608)
Facility 5	Western Cape	415	0.388 (0.341;0.435)
Facility 6	Western Cape	184	0.380 (0.310;0.451)
Facility 7	Eastern Cape	79	0.380 (0.273;0.487)
Facility 8	Western Cape	56	0.375 (0.248;0.502)
Facility 9	Western Cape	41	0.366 (0.218;0.513)
Facility 10	Western Cape	102	0.363 (0.269;0.456)
Facility 11	Western Cape	31	0.355 (0.186;0.523)
Facility 12	Western Cape	149	0.349 (0.272;0.426)
Facility 13	Western Cape	788	0.343 (0.310;0.376)
Facility 14	Western Cape	33	0.333 (0.172;0.494)
Facility 15	Western Cape	272	0.331 (0.275;0.387)
Facility 16	Western Cape	355	0.327 (0.278;0.376)
Facility 17	Western Cape	31	0.323 (0.158;0.487)
Facility 18	Western Cape	241	0.299 (0.241;0.357)
Facility 19	Western Cape	848	0.295 (0.264;0.326)
Facility 20	Western Cape	48	0.292 (0.163;0.420)

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Facility 21	Western Cape	269	0.290 (0.236;0.344)
Facility 22	Western Cape	1 008	0.290 (0.262;0.318)
Facility 23	Gauteng	25	0.280 (0.104;0.456)
Facility 24	Western Cape	252	0.270 (0.215;0.325)
Facility 25	Western Cape	115	0.270 (0.188;0.351)
Facility 26	Western Cape	239	0.268 (0.212;0.324)
Facility 27	Western Cape	40	0.250 (0.116;0.384)
Facility 28	Western Cape	378	0.249 (0.205;0.292)
Facility 29	Western Cape	28	0.214 (0.062;0.366)
Facility 30	Eastern Cape	72	0.194 (0.103;0.286)
Facility 31	Western Cape	157	0.178 (0.118;0.238)
Facility 32	Western Cape	36	0.167 (0.045;0.288)
Facility 33	Western Cape	31	0.161 (0.032;0.291)
Facility 34	Western Cape	38	0.158 (0.042;0.274)
Facility 35	Western Cape	84	0.155 (0.077;0.232)
Facility 36	Western Cape	53	0.151 (0.055;0.247)
Facility 37	Western Cape	127	0.142 (0.081;0.202)
Facility 38	Gauteng	200	0.140 (0.092;0.188)
Facility 39	Gauteng	39	0.128 (0.023;0.233)
Facility 40	KwaZulu-Natal	69	0.116 (0.040;0.191)
Facility 41	Eastern Cape	127	0.102 (0.050;0.155)
Facility 42	Northern Cape	56	0.089 (0.015;0.164)
Facility 43	Eastern Cape	108	0.083 (0.031;0.135)
Facility 44	Western Cape	250	0.080 (0.046;0.114)
Facility 45	KwaZulu-Natal	64	0.078 (0.012;0.144)
Facility 46	Western Cape	64	0.078 (0.012;0.144)
Facility 47	Western Cape	151	0.060 (0.022;0.097)
Facility 48	Eastern Cape	150	0.053 (0.017;0.089)
Facility 49	Gauteng	157	0.051 (0.017;0.085)
Facility 50	KwaZulu-Natal	142	0.035 (0.005;0.066)

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Facility 51	KwaZulu-Natal	200	0.035 (0.010;0.060)
Facility 52	Gauteng	612	0.033 (0.019;0.047)

95% CI: 95% confidence interval; PTP: positive test proportion

PUBLIC SECTOR TESTING: HEALTH DISTRICT-LEVEL RESULTS

Table 6 shows health sub-districts with high adjusted proportion testing positive for the week of 24-30 May. The adjusted positive test proportion exceeded 20% in 11 districts and health sub-districts in the Western Cape, and one in the Eastern Cape. All 8 of Cape Town's sub-districts had adjusted proportions testing positive greater than 20%. Adjusted positive test proportions exceeded 10% in a further 9 districts (5 in the Western Cape; 3 in the Eastern Cape; 1 in the Northern Cape). The proportion testing positive increased significantly in two districts and health sub-districts in the Western Cape (CT Mitchells Plain and CT Western), in Umsobomvu (Northern Cape) and eThekweni North in KwaZulu-Natal. All three of Nelson Mandela Bay's health sub-districts are also represented in the list.

Table 6. Health sub-districts with a high proportion testing positive based on public sector data for the week of 24-30 May

Health district or sub-district	Province	PTP (95% CI)	Previous week
CT Khayelitsha	Western Cape	0.473 (0.412-0.535)	0.375 (0.336-0.414)
Stellenbosch	Western Cape	0.395 (0.288-0.503)	0.299 (0.204-0.393)
CT Klipfontein	Western Cape	0.391 (0.329-0.454)	0.343 (0.295-0.391)
Drakenstein	Western Cape	0.363 (0.317-0.409)	0.305 (0.258-0.352)
CT Mitchells Plain	Western Cape	0.330 (0.301-0.360)	0.252 (0.228-0.276)
CT Eastern	Western Cape	0.303 (0.269-0.336)	0.292 (0.257-0.328)
CT Western	Western Cape	0.282 (0.261-0.304)	0.221 (0.202-0.240)
CT Tygerberg	Western Cape	0.266 (0.245-0.287)	0.294 (0.273-0.315)
Breede Valley	Western Cape	0.264 (0.211-0.317)	0.200 (0.139-0.261)
Swartland	Western Cape	0.255 (0.117-0.393)	0.211 (0.115-0.308)
CT Southern	Western Cape	0.230 (0.205-0.256)	0.221 (0.201-0.242)
CT Northern	Western Cape	0.213 (0.125-0.300)	0.196 (0.139-0.253)

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Nelson Mandela Bay A	Eastern Cape	0.201 (0.044-0.358)	...
Saldanha Bay	Western Cape	0.174 (0.087-0.261)	0.175 (0.099-0.250)
Overstrand	Western Cape	0.151 (0.028-0.273)	0.138 (0.058-0.217)
Umsobomvu	Northern Cape	0.150 (0.068-0.232)	0.012 (0.000-0.024)
Blue Crane Route	Eastern Cape	0.139 (0.000-0.286)	...
Langeberg	Western Cape	0.139 (0.035-0.242)	0.032 (0.000-0.094)
Nelson Mandela Bay C	Eastern Cape	0.127 (0.089-0.166)	0.077 (0.057-0.098)
Sakhisizwe	Eastern Cape	0.116 (0.000-0.269)	...
Theewaterskloof	Western Cape	0.116 (0.029-0.203)	0.120 (0.056-0.184)
George	Western Cape	0.101 (0.030-0.173)	0.042 (0.011-0.073)
Abaqulusi	KwaZulu-Natal	0.097 (0.000-0.277)	...
Nyandeni	Eastern Cape	0.087 (0.000-0.203)	0.059 (0.003-0.115)
Renosterberg	Northern Cape	0.085 (0.014-0.157)	...
Lekwa-Teemane	NorthWest	0.083 (0.000-0.238)	...
Umzimvubu	Eastern Cape	0.081 (0.000-0.233)	0.092 (0.000-0.213)
King Sabata Dalindyebo	Eastern Cape	0.072 (0.045-0.099)	0.100 (0.073-0.127)
Msinga	KwaZulu-Natal	0.071 (0.000-0.207)	...
Sundays River Valley	Eastern Cape	0.065 (0.000-0.188)	...
Mhlontlo	Eastern Cape	0.064 (0.000-0.134)	0.065 (0.018-0.112)
Knysna	Western Cape	0.061 (0.013-0.109)	0.089 (0.036-0.142)
Camdeboo	Eastern Cape	0.060 (0.000-0.175)	0.007 (0.000-0.022)
Buffalo City	Eastern Cape	0.059 (0.028-0.091)	0.045 (0.030-0.059)
eThekweni North	KwaZulu-Natal	0.054 (0.026-0.081)	0.016 (0.008-0.024)
Amahlathi	Eastern Cape	0.050 (0.000-0.117)	0.087 (0.029-0.144)
Mbhashe	Eastern Cape	0.046 (0.000-0.133)	0.060 (0.017-0.103)
Mogale City	Gauteng	0.044 (0.002-0.087)	0.009 (0.002-0.016)
Magareng	Northern Cape	0.044 (0.000-0.093)	...
Johannesburg B	Gauteng	0.041 (0.027-0.056)	0.030 (0.018-0.042)
//Khara Hais	Northern Cape	0.040 (0.000-0.117)	...
Ndwedwe	KwaZulu-Natal	0.040 (0.000-0.085)	...

COVID-19 TESTING SUMMARY

WEEK 22 2020

City of Matlosana	NorthWest	0.040 (0.000-0.117)	...
Ekurhuleni North 1	Gauteng	0.040 (0.013-0.067)	0.032 (0.009-0.056)
Tshwane 1	Gauteng	0.038 (0.008-0.069)	0.006 (0.000-0.015)
Nelson Mandela Bay B	Eastern Cape	0.038 (0.000-0.081)	0.085 (0.037-0.133)
KwaDukuza	KwaZulu-Natal	0.035 (0.005-0.065)	0.067 (0.040-0.093)
Umtshezi	KwaZulu-Natal	0.034 (0.005-0.064)	0.107 (0.007-0.207)
Johannesburg F	Gauteng	0.034 (0.022-0.045)	0.020 (0.010-0.031)
Merafong City	Gauteng	0.033 (0.009-0.057)	...

95% CI: 95% confidence interval; PTP: adjusted positive test proportion; CT: Cape Town; bold font indicates current week proportions that are significantly higher than the previous week

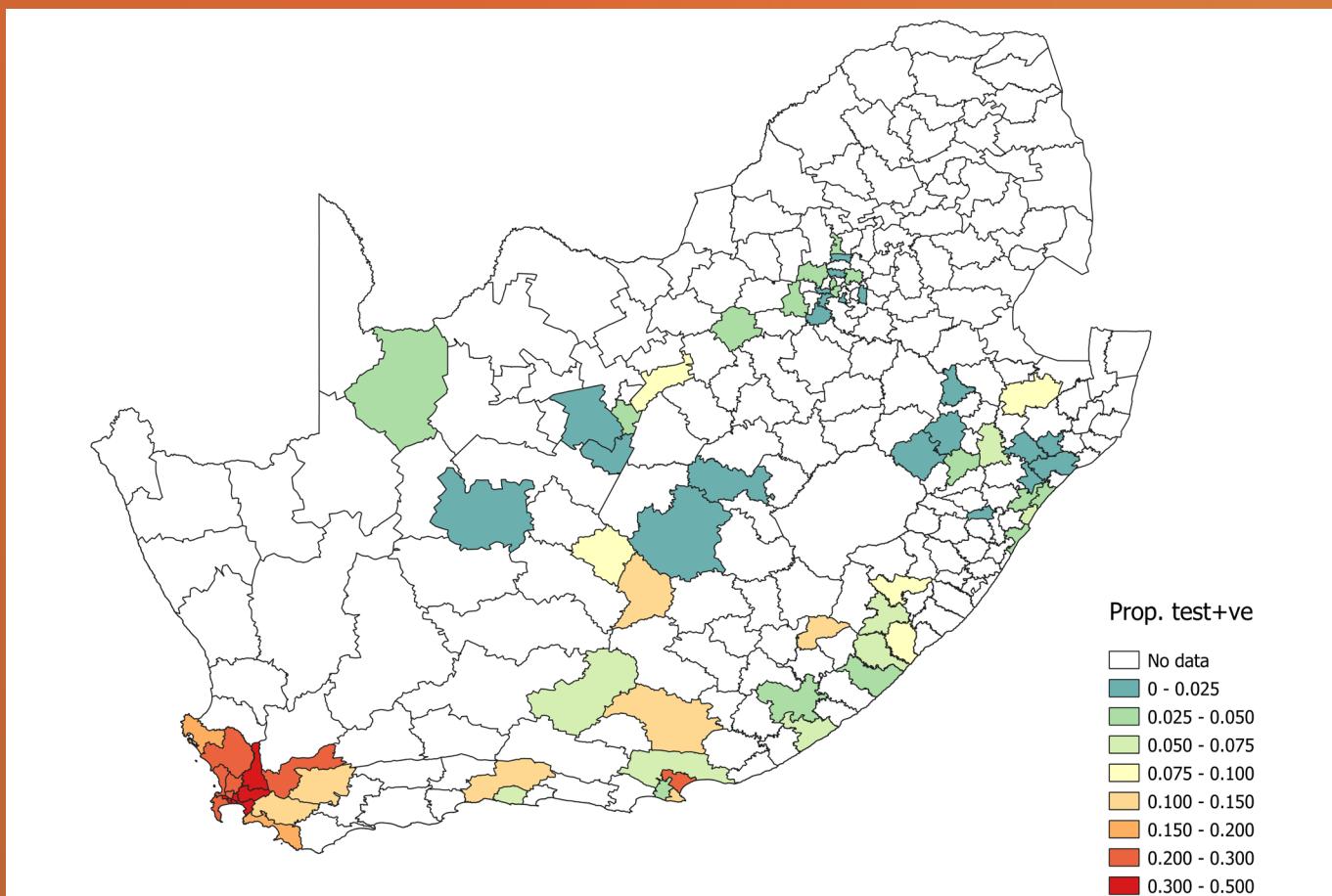


Figure 10. Proportion testing positive by health sub-district based on public sector data for the week of 24-30 May, South Africa

COVID-19 TESTING SUMMARY

WEEK 22 2020

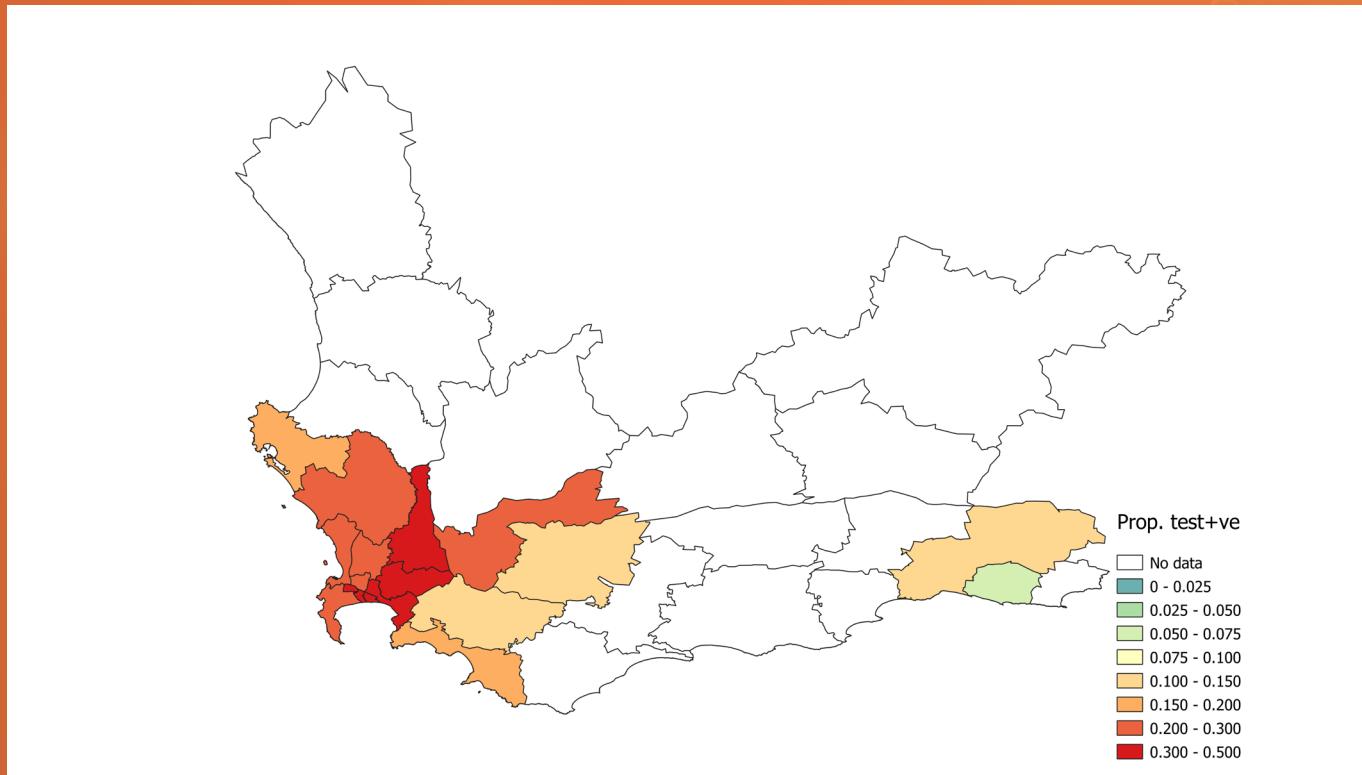


Figure 11. Health sub-districts in the Western Cape Province with a high proportion testing positive based on public sector data for the week of 24-30 May

TESTING BY AGE AND SEX

The mean age of individuals tested has remained stable over the last four weeks, and did not differ between males (40.9 years) and females (41.0 years) in the past week ($P=0.635$). The mean age of cases in week 22 was 39.9 years for both males and females (Table 7). The sex ratio (the number of males per 100 females) of cases has increased over the past four weeks from 69.9 in week 19 to 78.0 in week 22. An increased proportion testing positive has been observed for both males and females across all age groups over the past three weeks, except for males aged ≥ 80 -years in which the proportion testing positive decreased from 5.7% to 4.1% from week 21 to week 22 (Figure 12).

COVID-19 TESTING SUMMARY

WEEK 22 2020

Table 7. Mean age and sex ratio of individuals tested, South Africa, 3-30 May 2020

Week number	Week beginning	Mean age of tested (years)		Mean age of cases (years)		Sex ratios (males / 100 females)	
		Males	Females	Males	Females	Tested	Cases
19	3 May	41.8	41.7	37.9	37.8	74.3	69.9
20	10 May	41.8	42.0	40.1	40.5	77.4	72.2
21	17 May	41.3	41.3	40.6	40.3	81.2	75.4
22	24 May	40.9	41.0	39.9	39.9	79.4	78.0

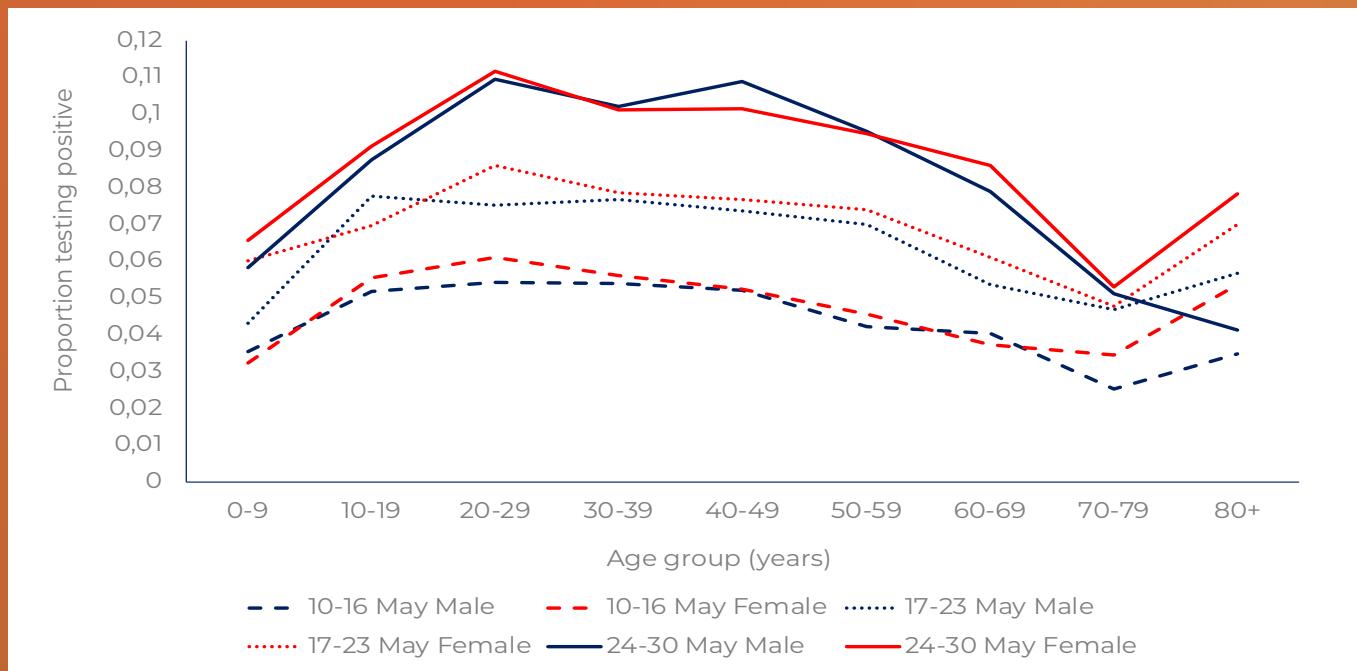


Figure 12. Weekly proportion testing positive by age group and sex, South Africa, 10-30 May 2020

From week 19 (3-9 May) to week 22 (24-30 May), the proportion testing positive increased significantly from 4.1% to 9.5% in males ($P<0.001$) and from 4.3% to 9.7% in females ($P<0.001$) (Table 8). In week 22, the proportion testing positive was higher in females than males in the ≥ 70 -year age group ($P=0.017$). The proportion testing positive was highest in the 20-39 and 40-59-year age groups for both males and females.

COVID-19 TESTING SUMMARY

WEEK 22 2020

Table 8. Proportion testing positive by sex and week, South Africa, 3-30 May 2020

Age (years)	3-9 May		10-16 May		17-23 May		24-30 May	
	Male	Female	Male	Female	Male	Female	Male	Female
0-19	4.3%	4.1%	4.3%	4.5%	5.9%	6.5%	7.1%	8.0%
20-39	5.2%	5.5%	5.4%	5.8%	7.6%	8.1%	10.5%	10.5%
40-59	3.6%	3.9%	4.7%	4.9%	7.2%	7.6%	10.3%	9.9%
60-69	2.5%	2.4%	4.0%	3.7%	5.4%	6.1%	7.9%	8.6%
70+	2.0%	2.0%	2.8%	4.1%	5.0%	5.6%	4.8%	6.3%
Total	4.1%	4.3%	4.8%	5.1%	7.0%	7.5%	9.5%	9.7%

LIMITATIONS

- The backlog in testing of samples by public laboratories will affect the reported numbers of tests performed.
- If higher-priority specimens were tested preferentially, this would likely result in an inflated proportion testing positive.
- The delay in testing affects the analysis of the testing data and identification of outbreak hotspots.
- Different and changing testing strategies (targeted vs. mass testing) used by different provinces makes percentage testing positive difficult to interpret and compare.
- Health district and sub-district level results included public-sector data only and were mapped based on the testing facility and not place of residence.

CONCLUSIONS

There has been a decrease in the volume of tests conducted over the past three weeks, likely due to limited availability of testing kits. The overall proportion testing positive continued to increase to 9.6% in week 22, with increases observed in both the public and private sectors. The increased proportion testing positive was observed across age groups, in both males and females. While the Western Cape (20.5%) and Eastern Cape (12.2%) provinces continued to have the highest proportion testing positive, the proportion testing positive increased in 8 of the 9 provinces over the past three weeks. A reduction in the proportion of public sector tests attributed to community screening was observed over the past three weeks, likely reflecting the discontinuation of mass screening and testing approaches. Increasing turnaround times in the public sector laboratories impacts the analysis of testing data as results for a portion of samples collected in the past week are not yet reflected in this report.