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.

TESTS

698 394
LABORATORY TESTS HAVE BEEN CONDUCTED NATIONALLY FROM 1 MARCH TO 30 MAY 2020

PERSONS

20-39 YEARS
HIGHEST PROPORTION TESTING POSITIVE IN THE PAST WEEK

40-59 YEARS
WESTERN CAPE HAD THE HIGHEST PROPORTION TESTING POSITIVE IN THE PAST WEEK.
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).
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).

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).
# 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.
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).

| Week number | Week beginning | Tests | Cases n (%) | Tests | Cases n (%) | Public sector proportion of | Ratio of PTP* |
|-------------|----------------|-------|-------------|-------|-------------|--------------------------|--------------|
| 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| 5 655 (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          |

*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)
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
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).
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 2020

| Province          | 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        | 2492         | 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)            |
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

| Province        | 10-16 May | 17-23 May | 24-30 May |
|-----------------|----------|-----------|-----------|
| Western Cape    | No. of tests | No. positive tests (%) | No. of tests | No. positive tests (%) | No. of tests | No. positive tests (%) |
|                 | 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)      |
## COVID-19 TESTING SUMMARY

### WEEK 22 2020

| Province            | 10-16 May | 17-23 May | 24-30 May | 10-16 May | 17-23 May | 24-30 May | 10-16 May | 17-23 May | 24-30 May | 10-16 May | 17-23 May | 24-30 May | 10-16 May | 17-23 May | 24-30 May |
|---------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 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)|           |           |           |           |           |           |           |           |           |

### Image Description

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.
COVID-19 TESTING SUMMARY
WEEK 22 2020

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
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 (0.346;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)  |
| Facility | Province         | Count | Proportion | 95% CI |
|---------|------------------|-------|------------|--------|
| 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) |
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 eThekwini 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) |
| Municipality                  | Province         | Last week Case Fatality Rate | Week 22 Case Fatality Rate | Week 22% Change |
|------------------------------|------------------|-----------------------------|---------------------------|-----------------|
| 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)       |                 |
| eThekwini 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

| Health Sub-District         | Province        | PTP: Adjusted Positive Test Proportion | 95% CI: 95% Confidence Interval |
|-----------------------------|-----------------|----------------------------------------|---------------------------------|
| 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.

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

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.

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.