

COVID-19 Sentinel Hospital Surveillance Weekly Update on Hospitalized HCWs

Update: Week 39, 2020



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This report summarises data of COVID-19 cases admitted to sentinel hospital surveillance sites in all provinces. The report is based on data collected from 5 March to 26 September 2020 on the DATCOV platform.

HIGHLIGHTS

- As of 26 September 2020, 2998 (4.1%) of the 73 530 COVID-19 hospital admissions recorded on the DATCOV surveillance database, were health care workers (HCWs), reported from 301 facilities (132 public-sector and 169 private-sector) in all nine provinces of South Africa. Among 1118/2998 (37.3%) HCWs with available data on type of work, 584/1118 (52.2%) were nurses, 170/1118 (15.2%) porters or administrators, 164/1118 (14.7%) were categorized as other HCWs, 103/1118 (9.2%) allied HCWs, 69/1118 (6.2%) doctors, 20/1118 (1.8%) paramedics, and 8/1118 (0.7%) laboratory scientists.
 - There was an increase of 74 new HCW admissions since week 38.
 - There were 629 (21.0%) and 2369 (79.0%) admissions reported in the public and private sector, respectively.
 - The majority of HCW admissions were reported in Gauteng (849, 28.3%), KwaZulu-Natal (808, 27.0%), Eastern Cape (527, 17.6%) and Western Cape (288, 9.6%).
 - The median age of COVID-19 HCW admissions was 49 years, there were 500 (16.7%) admissions in HCWs aged 60 years and older. A total of 2162 (72.1%) were female.
 - Of the 2031 (67.7%) HCWs for whom comorbid disease was known, 1287/2998 (42.9%) had at least one comorbid disease and 444/1287 (34.5%) had more than one comorbidity reported. Among the 1287 HCWs who had reported a comorbid condition, the most commonly reported comorbid conditions were hypertension (760/1287; 59.1%) and diabetes (615/1287; 47.8%). There were 179 (14.3%) HCWs who were HIV positive, 21 (1.6%) with active tuberculosis (TB) and eight (0.6%) with a previous history of TB
 - A total of 292 (9.7%) HCWs had severe disease defined as receiving treatment in high care or intensive care unit (ICU) or ventilated or diagnosed with acute respiratory distress syndrome (ARDS).
 - Of the 2998 HCW admissions, 67 (2.2%) were in hospital at the time of this report, 2576 (85.9%) were discharged alive, 47 (1.6%) transferred out and 308 (10.3%) HCWs had died. Ninety-two (92) of the 308 deaths (29.9%) were reported in the Eastern Cape, 77 (25.0%) from KwaZulu-Natal and 72 (23.4%) from Gauteng provinces. Of those who died, 214 (69.5%) had at least one comorbid disease reported and 105 (34.1%) had more than one reported comorbidity.
 - The case fatality ratio among HCWs with known in-hospital outcome was 10.7%.
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Methods

DATCOV, sentinel hospital surveillance for COVID-19 admissions, was initiated on the 1 April 2020. Data are submitted by public and private hospitals that have agreed to report COVID-19 admissions through DATCOV surveillance in all nine provinces of South Africa (Table 1). A COVID-19 case was defined as a person with a positive reverse transcriptase polymerase chain reaction (RT-PCR) assay for SARS-CoV-2 who was admitted to a DATCOV sentinel hospital. All hospitalized patients who were noted to be doctors, nurses, allied health care workers, laboratory staff, porters and administrative staff were captured as health care workers (HCWs). An individual was defined as having severe disease if treated in high care or intensive care unit (ICU) or ventilated or diagnosed with acute respiratory distress syndrome (ARDS).

Data on all COVID-19 admissions are received from all private hospitals nationally, and a subset of public hospitals in all nine provinces (data are received from all public hospitals in the Western Cape (WC) Province). As new hospitals join the surveillance system, they retrospectively captured all admissions recorded. As of 26 September 2020, a total of 548 facilities, 303 from public sector and 245 from private sector, submitted data on hospitalized patients with COVID-19 (Table 1). There were 35 additional hospitals (34 public sector and 1 private sector) reporting COVID-19 admissions since the last report. Data on hospitalized HCWs who were diagnosed with COVID-19 from 5 March to 26 September 2020 were collected from 301 hospitals (132 public and 169 private) of the 548 participating sentinel hospitals.

Table 1: Number of hospitals reporting data on COVID-19 admissions by province and health-sector, South Africa, 5 March – 26 September 2020

| Facilities reporting | Public | Private |
|----------------------|--------|---------|
| Eastern Cape | 81 | 17 |
| Free State | 33 | 20 |
| Gauteng | 7 | 88 |
| KwaZulu-Natal | 53 | 45 |
| Limpopo | 32 | 6 |
| Mpumalanga | 24 | 9 |
| North West | 9 | 13 |
| Northern Cape | 8 | 7 |
| Western Cape | 56 | 40 |
| South Africa | 303 | 245 |

Results

From 5 March to 26 September 2020, there was a total of 2998/73530 (4.1%) COVID-19 admissions among HCWs (74 additional admissions from the last report) reported from 301 facilities in all nine provinces of South Africa. Of these admissions, 629 (21.0%) and 2369 (79.0%) were reported in the public and private sector, respectively (Figure 1). The majority of HCW admissions (2472/2998; 82.5%) were recorded in four provinces, with the highest number 849/2998 (28.3%) reported in Gauteng, followed by 808/2998 (27.0) in KwaZulu-Natal, 527/2998 (17.6%) in Eastern Cape and 288/2998 (9.6%) in Western Cape provinces (Figure 1).

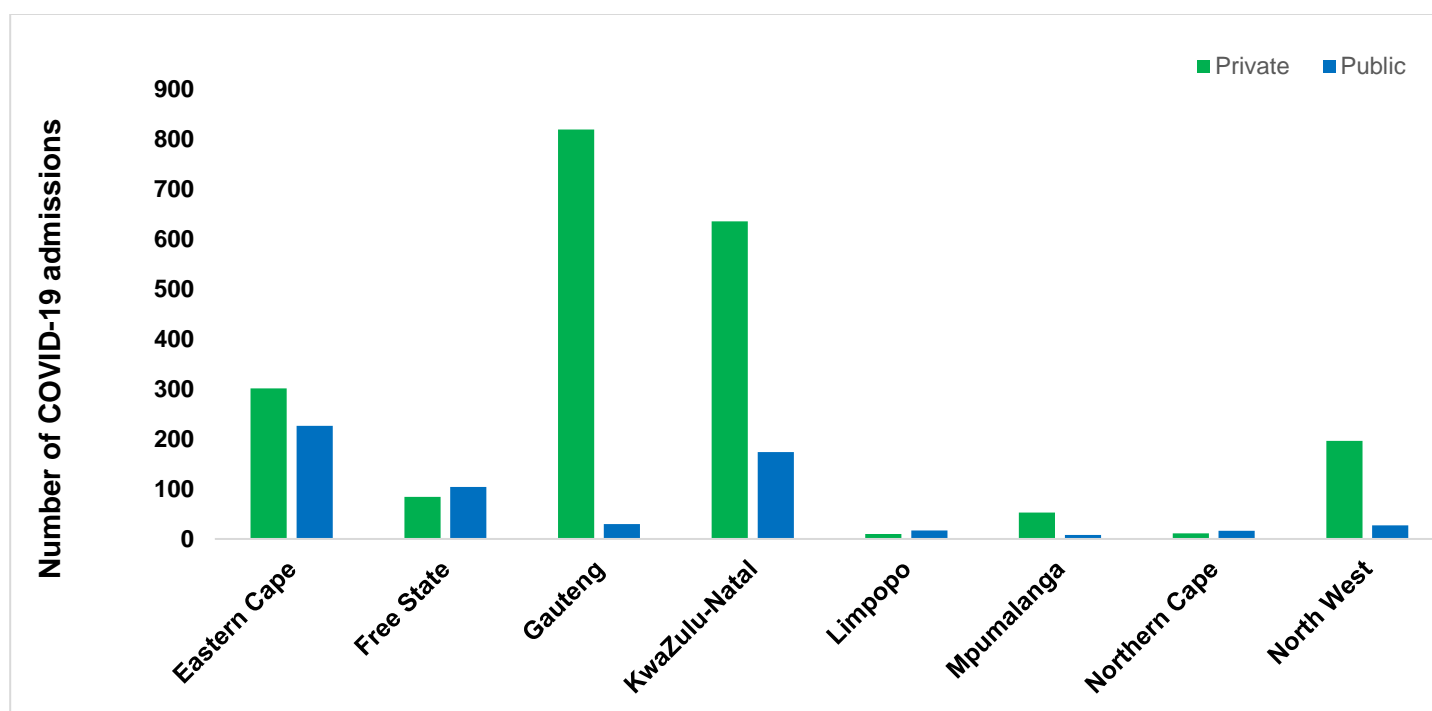


Figure 1: Number of reported COVID-19 admissions among HCWs by province and health-sector, South Africa, 5 March – 26 September 2020 (n=2998)

The majority of HCW admissions continue to be reported in the private sector (79.0%) (Figure 2). The overall number of admissions has been decreasing since week 30.

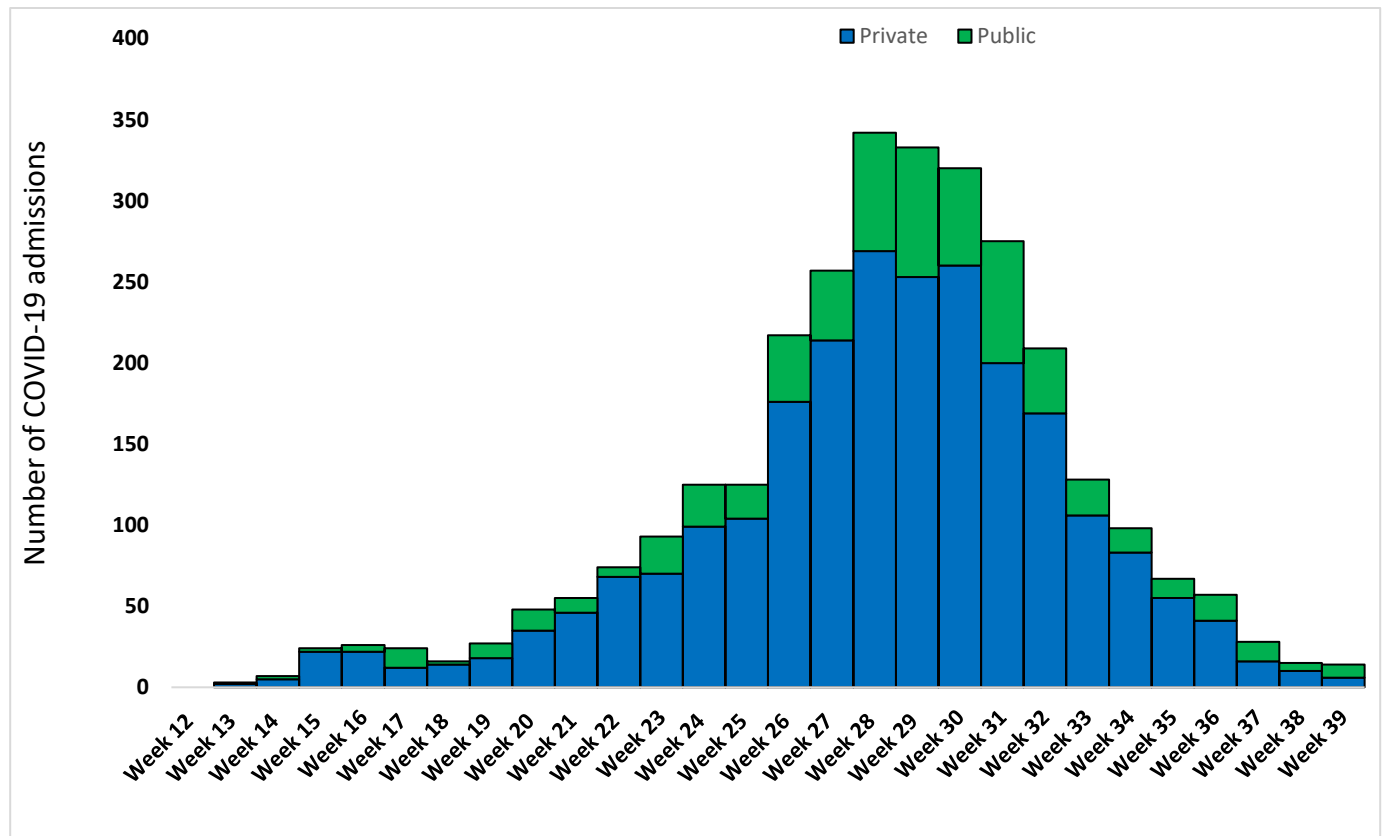


Figure 2: Number of reported COVID-19 admissions among HCWs by epidemiologic week of diagnosis and health-sector, South Africa, 5 March– 26 September 2020 (n=2998)

Demographic and clinical characteristics of COVID-19 admissions among HCWs, South Africa, 5 March– 26 September 2020

The median age of COVID-19 admissions among HCWs was 49 years (interquartile range [IQR] 39–57). There were 500 (16.7%) admissions in patients 60 years and older (Figure 3). Among admitted HCWs with COVID-19, 2162 (72.1%) were female. The sex ratio varied by age group with females more common than males in all age groups (Figure 3). Among the 2162 female admissions, 49 (2.3%) were pregnant.

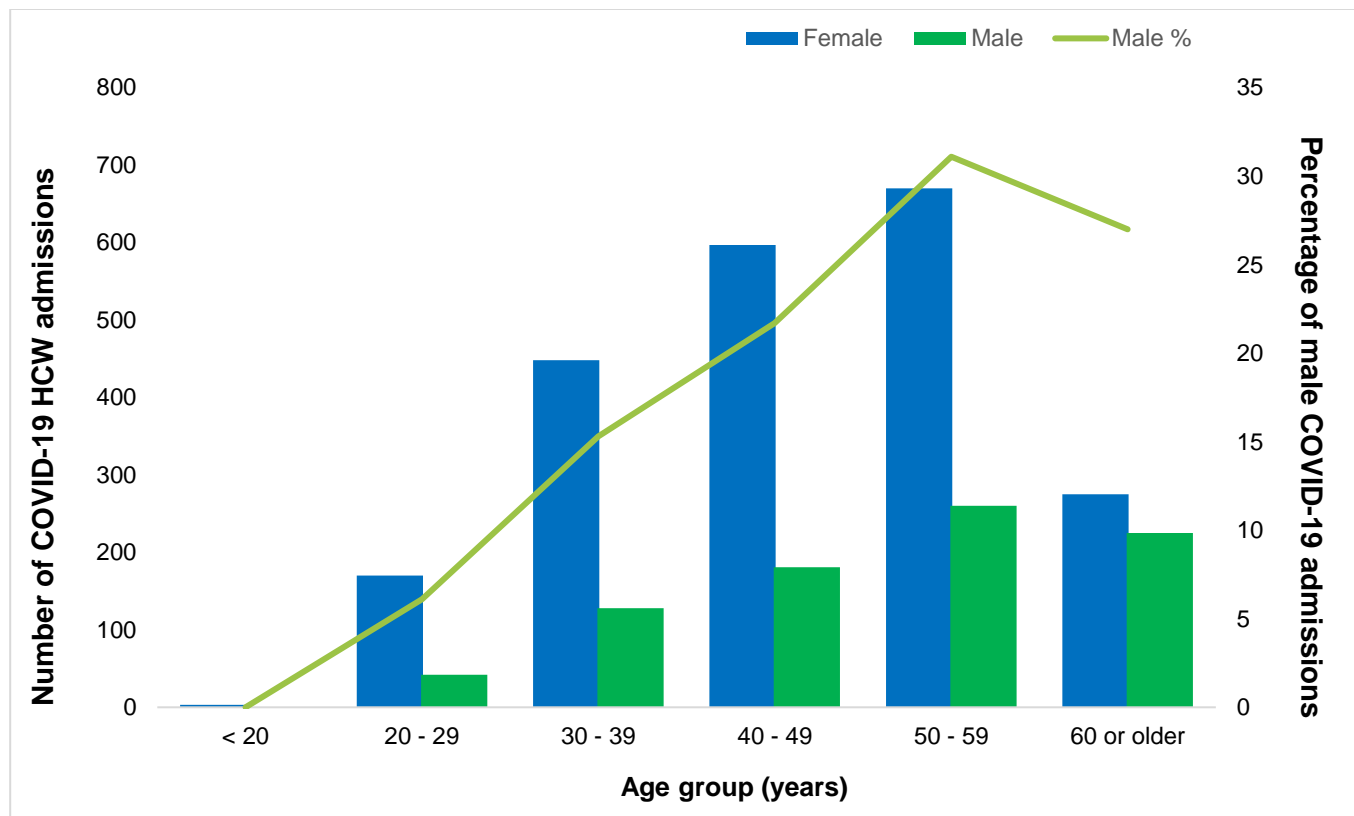


Figure 3: Number of reported COVID-19 HCW admissions by age, gender and percentage of males, South Africa, 5 March– 26 September 2020 (n=2998).

Of the 2031 (67.7%) HCWs for whom comorbid disease was known, 1287/2998 (42.9%) had at least one comorbid disease and 444/1287 (34.5%) had more than one comorbidity reported. Among the 1287 HCWs who had reported a comorbid condition, the most commonly reported comorbid conditions were hypertension (760/1287; 59.1%) and diabetes (615/1287; 47.8%). There were 179 (14.3%) HCWs who were HIV positive, 21 (1.6%) with active tuberculosis (TB) and eight (0.6%) with a previous history of TB (Table 2).

Table 2: Reported comorbid diseases in COVID-19 admissions among HCWs reporting at least one comorbid disease, South Africa, 5 March– 26 September 2020 (n=1287)

| Comorbid disease* | Frequency (n) | Percentage (%) |
|----------------------------------|---------------|----------------|
| Hypertension | 760 | 59.1 |
| Diabetes mellitus | 615 | 47.8 |
| Chronic cardiac disease | 44 | 3.4 |
| Chronic pulmonary disease/Asthma | 164 | 12.7 |
| Chronic renal disease | 9 | 0.7 |
| Malignancy | 15 | 1.2 |
| HIV | 179 | 14.3 |
| Active tuberculosis | 21 | 1.6 |
| Previous history of tuberculosis | 8 | 0.6 |

* Multiple comorbid conditions would be counted more than once so the total number may be more than the total number of individuals reporting comorbid conditions

Severity

- Of the 2998 COVID-19 HCW admissions to date, 292 (9.7%) met the criteria for severe disease defined as receiving treatment in high care or intensive care unit (ICU) or ventilated or diagnosed with acute respiratory distress syndrome (ARDS). The mean age of patients who had severe disease (51 years) was significantly different from those who did not have severe disease (48 years) ($p < 0.001$). Of the 292 with severe disease, 176 (60.3%) had at least one comorbid disease ($p < 0.001$).

Outcomes

Of the 2998 admitted HCWs, 2576 (85.9%) were discharged alive, 47 (1.6%) were transferred out to either higher level care or step-down facilities, 308 (10.3%) died, and 67 (2.2%) were currently in hospital. The case fatality ratio (CFR) of 10.7% (308/2884) among HCWs with known in-hospital outcome was different from the CFR among non-HCW admissions reported to DATCOV (19.3%, 13168/68288). Most HCW deaths occurred between week 27 and week 31 and in the private sector [Figure 4].

The majority of HCW deaths, 92 (29.9%), were reported in the Eastern Cape, followed by 77 (25.0%) from KwaZulu-Natal and 72 (23.4%) from Gauteng provinces. One hundred and twenty-five (40.6%) deaths recorded were among HCWs aged 60 years and older. The median age of those who died was 57 (IQR 50 – 64) years compared to 47 (IQR 38 – 56) years for those who were still alive. One hundred and twenty-four (40.3%) of the deceased were admitted in ICU, 108 (35.1%) were ventilated, and 149 (48.4%) were given supplemental oxygen. The median length of stay for the HCWs who died was 10 days [IQR 4 – 19] compared to 6 days [3 – 10] for those discharged alive. Of the HCW who died, 214 (69.5%) had at least one comorbid disease reported and 105 (34.1%) had more than one reported comorbidity. Hypertension (142/308; 46.1%) and diabetes (138/308; 44.8%) were the common reported comorbid diseases.

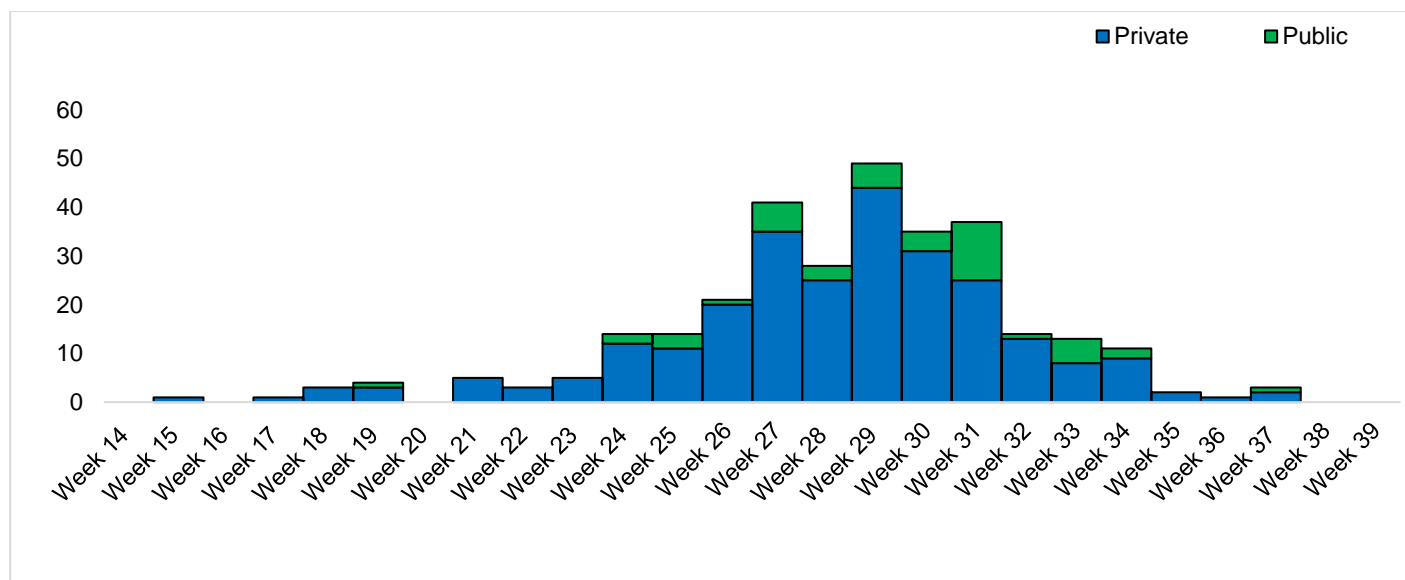


Figure 4: Number of reported COVID-19 deaths among HCWs by epidemiologic week of diagnosis and health-sector, South Africa, 5 March– 26 September 2020 (n=308)

Please note that the mortality data presented are based on available information from sentinel hospitals as of 26 September 2020, thus not all deaths that occurred during the reporting period nationally are included. Deaths that were subsequently confirmed not be of a HCW were removed from the data set.

Conclusion

Admissions among HCW are declining in keeping with the national trend. We continue to observe a high percentage of deaths amongst HCWs older than 60 years of age. Healthcare workers with comorbid medical conditions also have a higher proportion of deaths.

Acknowledgements

Western Cape province: all public sector hospitals submitting data to DATCOV

Public hospitals using DATCOV surveillance online platform:

| Eastern Cape | |
|-------------------------------------|---|
| Aberdeen Hospital | Adelaide Hospital |
| Aliwal North Hospital | All Saints Hospital |
| Andries Vosloo Hospital | Bambisana Hospital |
| Bedford Hospital | Bisho Hospital |
| Burgersdorp Hospital | Butterworth Hospital |
| Cala Hospital | Cathcart Hospital |
| Cecilia Makiwana Hospital | Cloete Joubert Hospital |
| Cofimvaba Hospital | Cradock Hospital |
| Dora Nginza Hospital | Dordrecht Hospital |
| Dr Malizo Mpehle Hospital | Elizabeth Donkin Hospital |
| Elliot Hospital | Empilisweni Hospital |
| Empilweni Hospital | Fort Beaufort Hospital |
| Fort England Hospital | Frere Hospital |
| Frontier Hospital | Glen Grey Hospital |
| Greenville Hospital | Grey Hospital |
| Hewu Hospital | Holy Cross Hospital |
| Humansdorp Hospital | Indwe Hospital |
| Isilimela Hospital | Jamestown Hospital |
| Kareedouw Hospital | Khotsong TB Hospital |
| Komani Hospital | Komga Hospital |
| Lade Grey Hospital | Livingstone Hospital |
| Maclear Hospital | Madwaleni Hospital |
| Madzikana ka Zulu Memorial Hospital | Midland Hospital |
| Mjanyana Hospital | Molteno Hospital |
| Mount Ayliff Hospital | Nelson Mandela Academic Hospital |
| Nkqubela Chest Hospital | Nompumelelo Hospital |
| Orsmond Hospital | Port Alfred Hospital |
| SS Gida Hospital | Rev Dr Elizabeth Mamisa Chabula-Nxiweni Field |
| Sawas Hospital | Settlers Hospital |
| Sipetu Hospital | St Barnabas Hospital |
| St Elizabeth Hospital | St Francis Hospital |
| St Patricks Hospital | Sterkstroom Hospital |
| Steynsburg Hospital | Stutterheim Hospital |
| Sundays Valley Hospital | Tafalofefe Hospital |
| Taylor Bequest Hospital (Matatiele) | Taylor Bequest Hospital (Mount Fletcher) |
| Tower Psychiatric Hospital | Uitenhage Hospital |
| Umlamli Hospital | Umtata General Hospital |
| Victoria Hospital | Wilhelm Stahl Hospital |
| Willowmore Hospital | Winterberg TB Hospital |
| Zithulele hospital | |
| Free State | |
| 3 Military Hospital, | Albert Nzula District Hospital |
| Boitumelo Hospital | Bongani Regional Hospital |
| Botshabelo Hospital | Diamant Hospital |

| | |
|--|--------------------------------------|
| Dihlabeng Hospital | Dr Js Moroka Hospital |
| Elizabeth Ross Hospital | Fezi Ngubentombi Provincial Hospital |
| Itemoheng Hospital | John Daniel Newsberry Hospital |
| Katleho Hospital | Manapo Hospital |
| Mohau Hospital | Nala Hospital |
| National District Hospital | Nketoana District Hospital |
| Parys Hospital | Pelonomie Hospital |
| Phekolong Hospital | Phumelela Hospital |
| Senorita Ntlabathi Hospital | Stoffel Coetzee Hospital |
| Thebe Hospital | Thusanong Hospital |
| Universitas Hospital | Winburg Hospital |
| House Idahlia Critical Care Surge Facility | |
| Gauteng | |
| Charlotte Maxeke Hospital | Chris Hani Baragwanath Hospital |
| Helen Joseph Hospital | Leratong Hospital |
| Steve Biko Academic Hospital | Tambo Memorial Hospital |
| KwaZulu-Natal | |
| Addington Hospital | Edendale Hospital |
| General Justice Gizenga Mpanza Hospital | Grey's Hospital |
| Inkosi Albert Luthuli Central Hospital | King Edward VIII Hospital |
| Ladysmith Hospital | Manguzi Hospital |
| Limpopo | |
| Kgapane Hospital | Polokwane Hospital |
| Siloam Hospital | |
| Mpumalanga | |
| Barberton Hospital | Belfast Hospital |
| Bethal Hospital | Carolina Hospital |
| Lydenburg Hospital | Mapulaneng Hospital |
| Matibidi Hospital | Matikwana Hospital |
| Middelburg Hospital | Rob Ferreira Hospital |
| Sabie Hospital | Shongwe Hospital |
| Barberton TB Specialised Hospital | Themba Hospital |
| Tonga Hospital | Waterval-Boven Hospital |
| North West | |
| Job Shimankana Tabane Hospital | Tshepong Hospital |
| Northern Cape | |
| Robert Mangaliso Sobukwe Hospital | |
| Western Cape | |
| Tygerberg Hospital | |

Private hospital groups submitting data to DATCOV:

- Netcare
- Life Healthcare
- Mediclinic Southern Africa
- National Hospital Network (NHN)
- Clinix Health Group
- Lenmed
- Joint Medical Holdings (JMH)
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Private hospitals using DATCOV surveillance online platform:

| | |
|---------------------------------------|-------------------------------------|
| Eastern Cape | |
| Aurura Hospital | Aurura Rehabilitation Hospital |
| Care Cure Queenstown | Matatiele Private Hospital |
| Nurture Queenstown | Nurture Sunnyside |
| Free State | |
| Busamed Bram Fischer Airport Hospital | Busamed Harrismith Private Hospital |
| Cairnhall Hospital | Corona Sub-Acute Hospital |
| Emoyamed Private Hospital | Hillandale Health Care centre |

| | |
|--|--|
| Nurture Woodlands | Riemland Clinic |
| St Helena GM Hospital | |
| Gauteng | |
| Arwyp Medical Centre | Busamed Modderfontein Private Hospital |
| Botshilu Private Hospital | Louis Pasteur Private Hospital |
| Lynnmed Clinic | Midvaal Private Hospital |
| Nurture Rynmed | Nurture Vereeniging |
| Pretoria Urology Hospital | RH Rand Hospital |
| Sunshine Hospital | Zuid Afrikaans Hospital |
| KwaZulu-Natal | |
| Aba Qulusi Private Hospital | Ahmed Al-Kadi Private Hospital |
| Busamed Gateway Private Hospital | Busamed Hillcrest Private Hospital |
| Capital hospital | Hibiscus Cato Ridge Hospital |
| Hibiscus Private Hospital | KwaDukuza Private Hospital |
| Midlands Medical Centre Private Hospital | Nurture Ilembe |
| | Shelly Beach Private Hospital |
| Limpopo | |
| Zoutpansberg Private Hospital | |
| Mpumalanga | |
| Kiaat Private Hospital | RH Piet Retief Hospital |
| North West | |
| Medicare Private Hospital | Mooimed Private Hospital |
| Sunningdale Hospital | Vryburg private hospital |
| Wilmed Park Private Hospital | |
| Northern Cape | |
| Lenmed Royal Hospital and Heart Centre | |
| Western Cape | |
| Busamed - Paardevlei private hospital | Nurture Cape View |
| Nurture Newlands | |