

# COVID-19 Sentinel Hospital Surveillance Weekly Update on Hospitalized HCWs

Update: Week 26, 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 28 June 2020 on the DATCOV platform.

# HIGHLIGHTS

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- As of June 28, 2020, 372 (2.6 %) of the 14,555 COVID-19 hospital admissions recorded on the DATCOV surveillance database, were health care workers (HCWs), reported from 278 facilities (74 public-sector and 204 private-sector) in all nine provinces of South Africa. Among 92 (25%), with available data on type of work, 52 (14.0 %) were nurses, 26 (7.0 %) porters, 10 (2.7 %) allied HCWs, 3 (0.8 %) doctors and 1 (0.3 %) laboratory scientist.
- There was an increase of 88 new HCW admissions since week 25.
- There were 294 (79.0%) and 78 (21.0 %) admissions reported in private and public sector, respectively.
- The majority of HCW admissions were reported from Gauteng (115, 30.9%), Western Cape (94; 25.3%), KwaZulu-Natal (90; 24.2 %), and the Eastern Cape (37; 10.0 %) provinces.
- The median age of COVID-19 HCW admissions was 44 years, there were 32 (8.6%) admissions in HCWs aged 60 years and older. A total of 296 (79.6%) were female.
- Among 336 (90.3%) HCW admissions with data on comorbid conditions, 143/336 (42.6%) had at least one comorbid condition reported. Most commonly reported comorbid conditions were hypertension (80/143; 55.9 %) and diabetes (50/143; 35.0 %). There were 28 (19.6%) HCWs who were HIV positive, three (2.1%) with active tuberculosis (TB) and two (1.4%) with a previous history of TB.
- A total of 23 (6.2 %) HCW 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 372 HCW admissions, 125 (33.6%) were in hospital at the time of this report, 233 (62.2%) were discharged alive, five (1.3%) transferred out and nine (2.4%) HCWs had died. Five of the nine deaths (55.6%) were reported in the Western Cape, two (22.2%) from Gauteng, one (1.1%) from KwaZulu-Natal and one (1.1 %) from the Eastern Cape provinces. There was one additional death since the last reporting week, which occurred in week 19.

# 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).

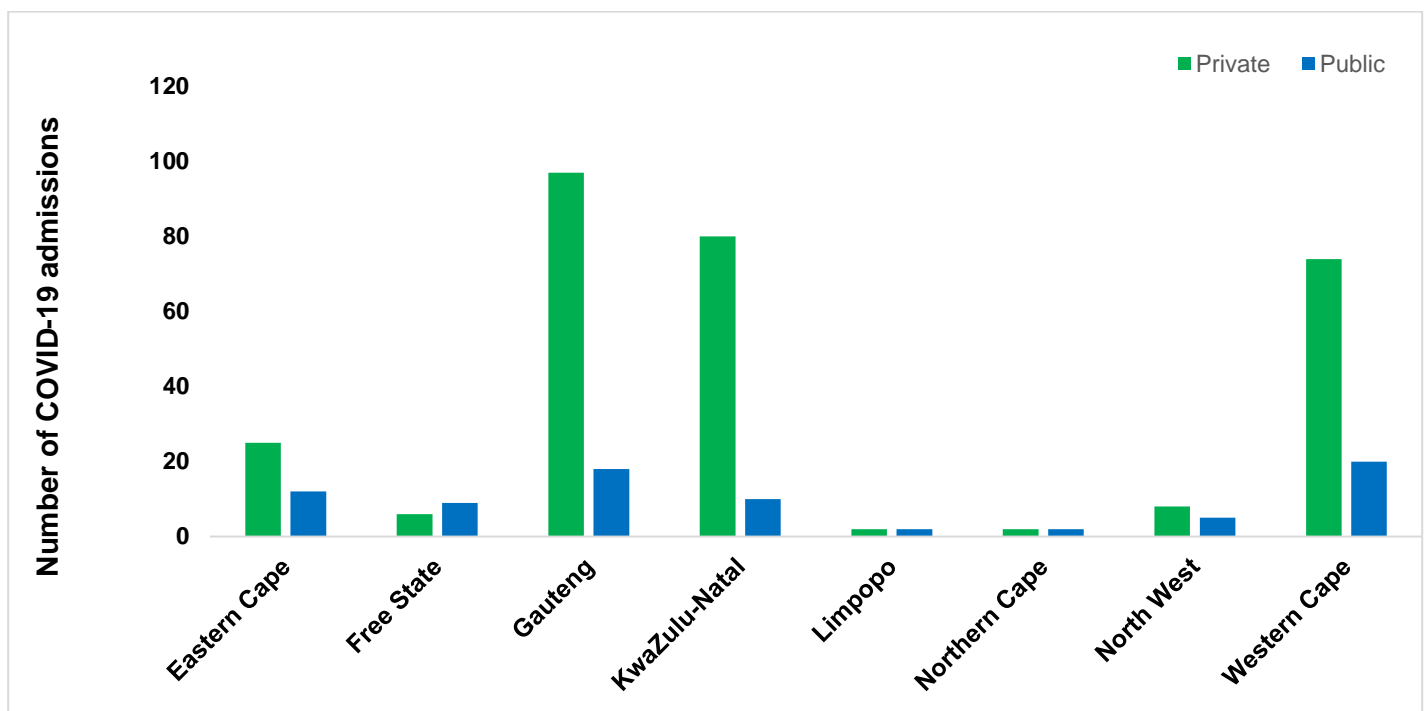
Data on hospitalized HCWs who were diagnosed with COVID-19 from 5 March to 28 June 2020 were collected. Data are received from all private hospitals nationally, and a subset of public hospitals in all nine provinces (data are received from all public hospitals in the Western Cape (WC) Province). As new hospitals join the surveillance system, they retrospectively captured all admissions recorded. As of 28 June 2020, a total of 278 facilities, 204 from private sector and 74 from public sector, submitted data on hospitalized HCWs with COVID-19 (Table 1). There were 9 additional hospitals (3 public-sector and 6 private-sector) reporting COVID-19 admissions since the last report.

**Table 1:** Number of hospitals reporting data on COVID-19 admissions by province and health-sector, South Africa, 5 March - 28 June 2020

| Province            | Sector    |            |
|---------------------|-----------|------------|
|                     | Public    | Private    |
| Eastern Cape (EC)   | 8         | 12         |
| Free State (FS)     | 4         | 14         |
| Gauteng (GP)        | 5         | 74         |
| KwaZulu-Natal (KZN) | 5         | 37         |
| Limpopo (LP)        | 1         | 6          |
| North West (NW)     | 2         | 12         |
| Northern Cape (NC)  | 1         | 6          |
| Western Cape (WC)   | 48        | 36         |
| Mpumalanga (MP)     | 0         | 7          |
| <b>South Africa</b> | <b>74</b> | <b>204</b> |

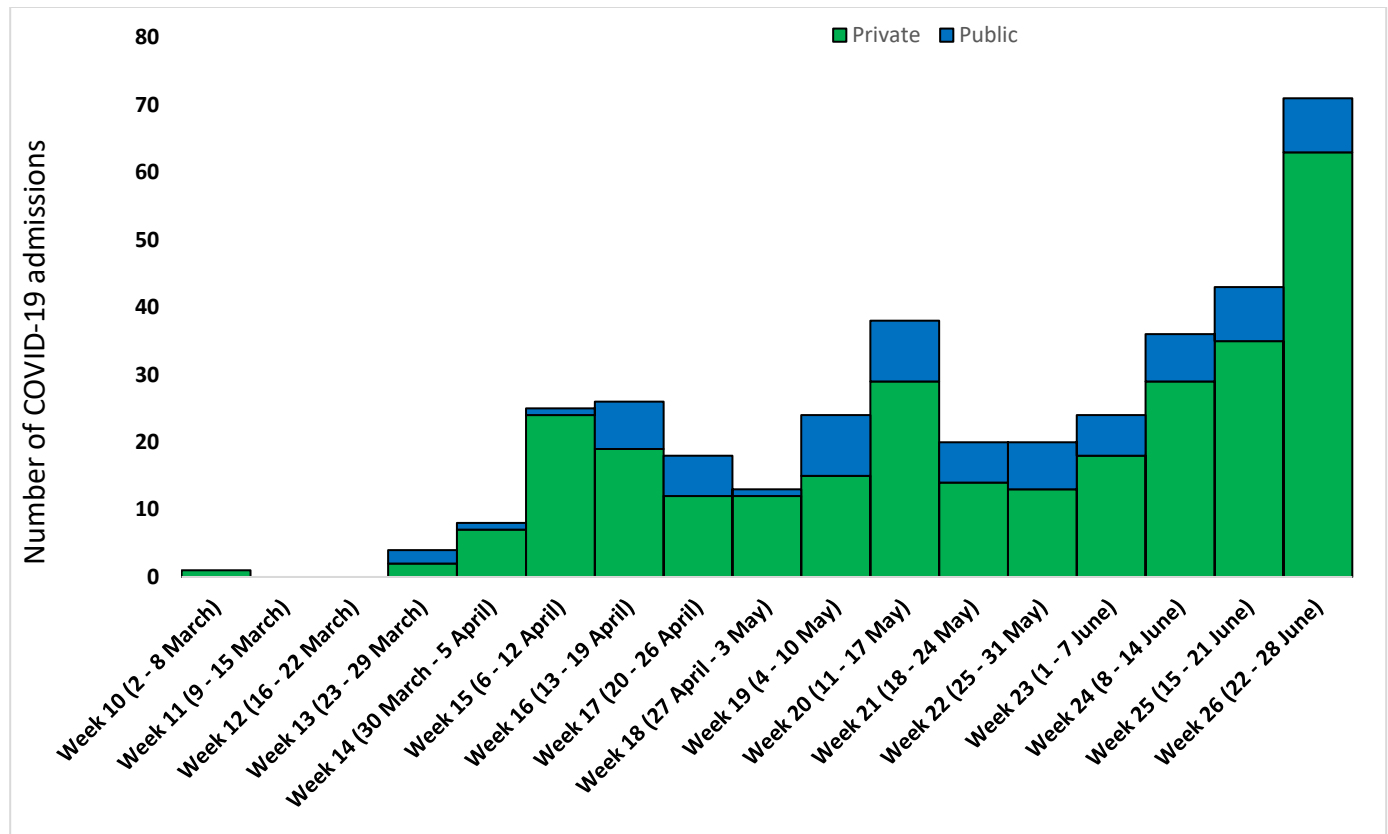
# Results

From 5 March to 28 June, there was a total of 372/14555 (2.6 %) COVID-19 admissions among HCWs (88 additional from the last report) reported from 269 facilities in all nine provinces of South Africa. Of these admissions, 294 (79.0 %) and 78 (21.0 %) were reported in the private and public sector, respectively (Figure 1). The majority of HCW admissions (336/372; 90.6 %) were recorded in four provinces, with the highest number 115/372 (30.9 %) reported in Gauteng (GP), followed by 94/372 (25.3 %) in Western Cape (WC), 90/372 (24.2 %) in KwaZulu-Natal (KZN), and 37/372 (10.0 %) in Eastern Cape (EC) provinces (Figure 1).



**Figure 1:** Number of reported COVID-19 admissions among HCWs by province and health-sector, South Africa, 5 March - 28 June 2020 (n=372)

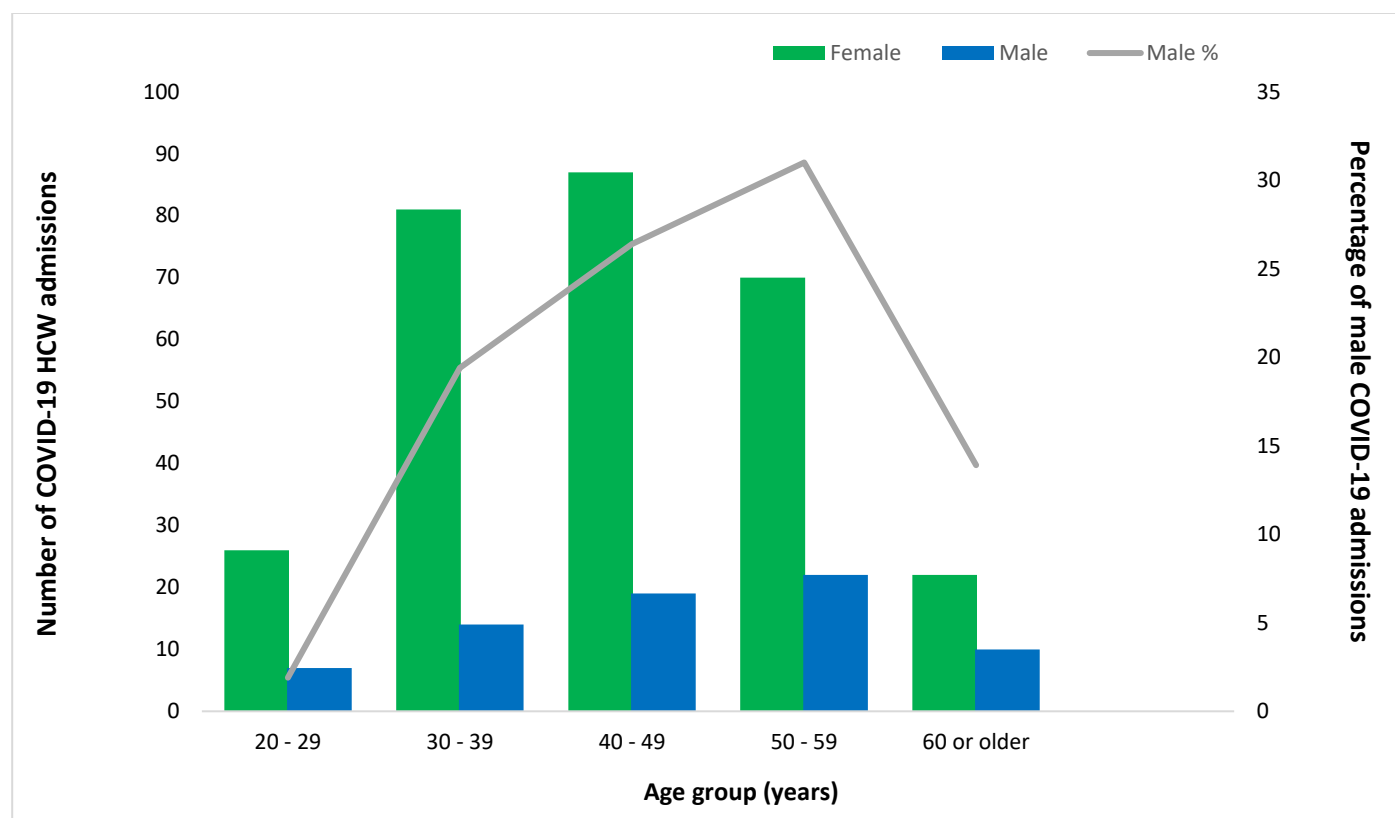
The majority of HCW admissions were reported in the private sector (79.0 %). However, increasing number of admissions have also been reported in the public sector (Figure 2).



**Figure 2:** Number of reported COVID-19 admissions among HCWs by epidemiologic week of diagnosis and health-sector, South Africa, 5 March– 28 June 2020 (n=372)

# Demographic and clinical characteristics of COVID-19 admissions among HCWs, South Africa, 5 March–21 June 2020

The median age of COVID-19 admissions among HCWs was 44 years (interquartile range [IQR] 36–53). There were 32 (8.6%) admissions in patients 60 years and older (Figure 3). Among admitted HCWs with COVID-19, 296 (79.6%) were female. The sex ratio varied by age group with females more common than males in all age groups (Figure 3). Among the 296 female admissions, 11 (3.7%) were pregnant.



**Figure 3:** Number of reported COVID-19 HCW admissions by age, gender and percentage of males, South Africa, 5 March– 28 June 2020 (n=372)

Note: There were 15 HCWs whose age was unknown at the time of this report’s dissemination.

Of the 336 (90.3%) HCWs for whom comorbid disease was known, 143/336 (42.6%) had one or more comorbid disease reported. Among the 143 HCWs who had reported a comorbid condition, the most commonly reported comorbid conditions were hypertension (80/143; 55.9%) and diabetes (50/143; 35.0 %). There were 28 (19.6%) HCWs who were HIV positive, three (2.1%) with active tuberculosis (TB) and two (1.4%) 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–28 June 2020 (n=143)

| <b>Comorbid disease*</b>         | <b>Frequency (n)</b> | <b>Percentage (%)</b> |
|----------------------------------|----------------------|-----------------------|
| Hypertension                     | 80                   | 55.9                  |
| Diabetes mellitus                | 50                   | 35.0                  |
| Chronic cardiac disease          | 5                    | 3.5                   |
| Chronic pulmonary disease        | 2                    | 1.4                   |
| Asthma                           | 30                   | 21.0                  |
| Chronic renal disease            | 3                    | 2.1                   |
| Malignancy                       | 1                    | 0.7                   |
| HIV                              | 28                   | 19.6                  |
| Active tuberculosis              | 3                    | 2.1                   |
| Previous history of tuberculosis | 2                    | 1.4                   |

\* 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 372 COVID-19 HCW admissions to date, 23 (6.2 %) met the criteria for severe disease. The mean age of patients who had severe disease (51 years) was significantly different from those who did not have severe disease ( $p=0.0106$ ). Of the 23 with severe disease, 18 (78.3%) had at least one comorbid disease ( $p < 0.001$ ).

## Outcomes

Of the 372 admitted individuals, 233 (62.6%) were discharged alive, five (1.3%) were transferred out to either higher level care or step-down facilities, nine (7 women and 2 men) (2.4 %) had died and 125 (33.6%) were currently in hospital. This CFR (3.7%, 9/242) was lower than the CFR among all admissions in the DATCOV database (20.8%, 2116/10159).

The majority of HCW deaths (55.6%) were reported in the Western Cape, two (22.2%) from Gauteng, one (1.1%) from KwaZulu-Natal and one (1.1 %) from the Eastern Cape provinces. Six deaths (66.7%) recorded were among HCWs aged 60 years and older with a median age of 64 (IQR 61 – 67) years compared to 44 (IQR 37 – 53) years for those who were still alive. Six (66.7%) of the nine deaths were either admitted in ICU, ventilated or oxygenated. Seven of the nine (77.8%) HCWs that died had at least one comorbid disease reported. Hypertension (7/9; 77.8%) and diabetes (4/9; 44.4 %) were the common reported comorbid diseases (Table 3).

Please note that the mortality data presented was based on available information as of 28 June 2020, thus not all deaths during the reporting period may have been recorded by the participating hospitals.

## Conclusion

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HCW admissions are increasing weekly. The majority (66.7%) of the deaths are in HCW older than 60 year of age.



**Table 3:** Clinical profiles of the health care workers admitted with COVID-19 who died, South Africa, (n=9)

| Case ID  | Age | Sex    | Comorbidities                            | Province      | Week of death | LOS (days) | ICU Admission | On Oxygen | Ventilated |
|----------|-----|--------|--|---------------|---------------|------------|---------------|-----------|------------|
| <b>A</b> | 52  | Female | • Hypertension                           | Western Cape  | 19            | 13         | Yes           | Yes       | Yes        |
| <b>B</b> | 61  | Female | • Hypertension<br>• Diabetes             | Western Cape  | 19            | 10         | No            | No        | No         |
| <b>C</b> | 61  | Female | • Hypertension                           | Western Cape  | 17            | 7          | Yes           | Yes       | Yes        |
| <b>D</b> | 64  | Female | None <u>reported</u>                     | KwaZulu-Natal | 13            | 7          | Yes           | No        | No         |
| <b>E</b> | 67  | Female | • Hypertension<br>• Diabetes<br>• Asthma | Western Cape  | 18            | 21         | No            | Yes       | No         |
| <b>F</b> | 57  | Female | • Hypertension                           | Gauteng       | 24            | 2          | Yes           | Yes       | Yes        |
| <b>G</b> | 64  | Male   | • Hypertension<br>• Diabetes             | Gauteng       | 22            | 11         | No            | Yes       | Yes        |
| <b>H</b> | 69  | Male   | • Hypertension<br>• Diabetes             | Western Cape  | 21            | 27         | Yes           | Yes       | Yes        |
| <b>J</b> | 58  | Female | • None reported                          | Eastern Cape  | 19            | 33         | Yes           | No        | Yes        |

# Acknowledgements

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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)

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

Public hospitals using DATCOV surveillance online platform:

- Dora Nginza Hospital (EC)
- Frere Hospital (EC)
- Livingstone Hospital (EC)
- Madwaleni Hospital (EC)
- Uitenhage Hospital (EC)
- Stutterheim Hospital (EC)
- Bedford Hospital (EC)
- Cradock Hospital (EC)
- Pelonomi Hospital (FS)
- National District Hospital (FS)
- Universitas Hospital (FS)
- Phekolong Hospital (FS)
- Tambo Memorial Hospital (GP)
- Steve Biko Academic Hospital (GP)
- Charlotte Maxeke Johannesburg Academic Hospital (GP)
- Helen Joseph Hospital (GP)
- Leratong Hospital (GP)
- Greys Hospital (KZN)
- Ladysmith Hospital (KZN)
- Manguzi Hospital (KZN)
- Addington Hospital (KZN)
- General Justice Gizenga Mpanza Hospital (KZN)
- Polokwane Hospital (LP)
- Robert Mangaliso Sobukwe Hospital (NC)
- Tshepong Hospital (NW)
- Job Shimankana Thabane Hospital (NW)
- Tygerberg Hospital (WC)