

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

Update: Week 27, 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 5 July 2020 on the DATCOV platform.

# HIGHLIGHTS

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- As of 5 July, 2020, 466 (2.6 %) of the 17, 930 COVID-19 hospital admissions recorded on the DATCOV surveillance database, were health care workers (HCWs), reported from 121 facilities (19 public-sector and 102 private-sector) in all nine provinces of South Africa. Among 120 (25.8 %) HCWs with available data on type of work, 77 (16.5 %) were nurses, 26 (5.6 %) porters, 11 (2.4 %) allied HCWs, 5 (1.1 %) doctors and 1 (0.2 %) laboratory scientist.
- There was an increase of 94 new HCW admissions since week 26.
- There were 86 (18.4 %) and 380 (81.6%) admissions reported in public and private sector, respectively.
- The majority of HCW admissions were reported from Gauteng (137, 29.4%), KwaZulu-Natal (134; 28.8 %), Western Cape (99; 21.2 %), and the Eastern Cape (47; 10.1 %) provinces.
- The median age of COVID-19 HCW admissions was 44 years, there were 40 (8.6%) admissions in HCWs aged 60 years and older. A total of 365 (78.3 %) were female.
- Among 429 (92.1%) HCW admissions with data on comorbid conditions, 185/429 (43.1%) had at least one comorbid condition and 58/185 (31.4%) had more than one comorbidity reported. Most commonly reported comorbid conditions were hypertension (106/185; 57.3 %) and diabetes (72/185; 38.9 %). There were 40 (21.6%) HCWs who were HIV positive, three (1.6%) with active tuberculosis (TB) and two (1.1%) with a previous history of TB.
- A total of 38 (8.2 %) 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 466 HCW admissions, 178 (38.2%) were in hospital at the time of this report, 265 (56.9%) were discharged alive, six (1.3%) transferred out and seventeen (3.7%) HCWs had died. Six of the seventeen deaths (35.3%) were reported in the Western Cape, four (25.0%) from Gauteng, three (18.8%) from KwaZulu-Natal and three (18.8 %) from the Eastern Cape provinces. Of those that died seven (41.1%) had more than one comorbidity. There were eight additional deaths since the last reporting week, which occurred in weeks 23 to 27.

# 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).

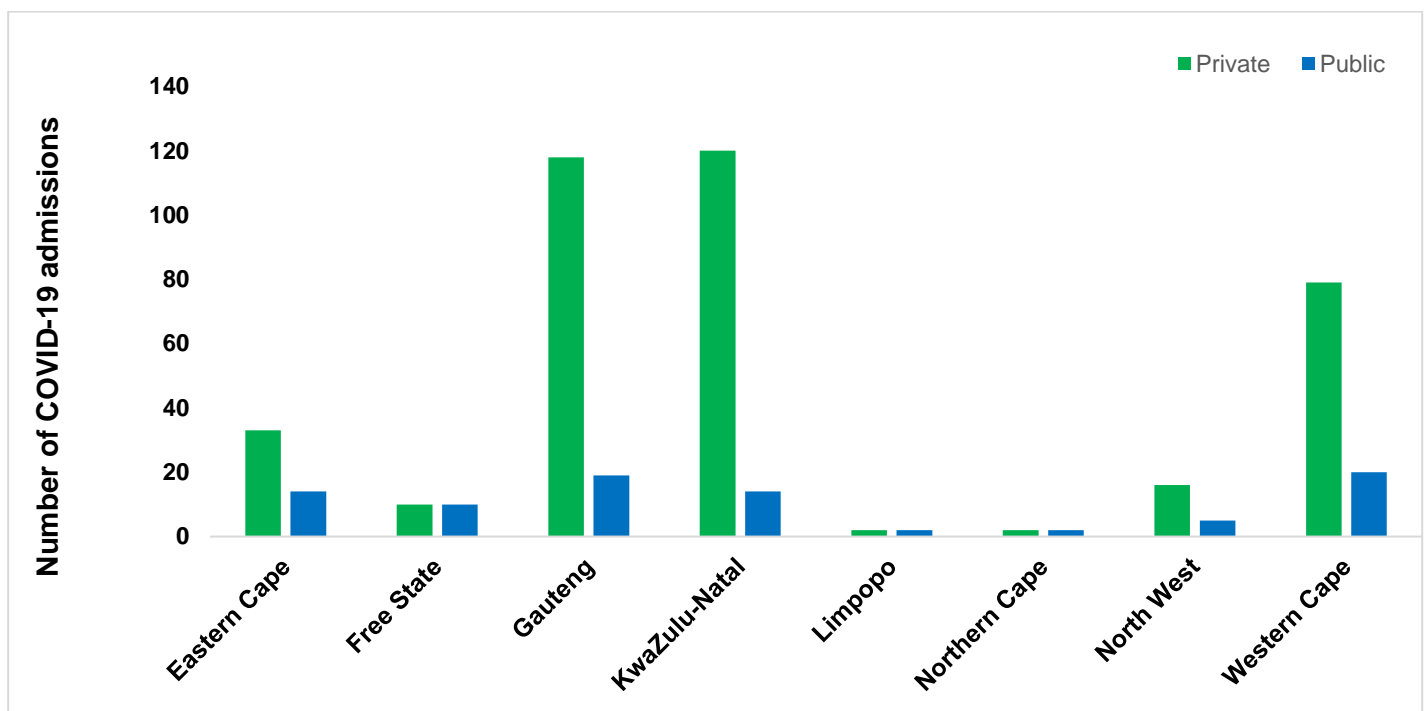
Data on all COVID-19 admissions are received from all private hospitals nationally, and a subset of public hospitals in all nine provinces (data are received from all public hospitals in the Western Cape (WC) Province). As new hospitals join the surveillance system, they retrospectively captured all admissions recorded. As of 5 July 2020, a total of 288 facilities, 76 from public sector and 212 from private sector, submitted data on hospitalized patients with COVID-19 (Table 1). There were 10 additional hospitals reporting COVID-19 admissions since the last report. Data on hospitalized HCWs who were diagnosed with COVID-19 from 5 March to 5 July 2020 were collected from 121 hospitals (19 public and 102 private) of the 288 participating sentinel hospitals.

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

Province	Sector	
	Public	Private
Eastern Cape (EC)	8	13
Free State (FS)	5	15
Gauteng (GP)	5	77
KwaZulu-Natal (KZN)	5	39
Limpopo (LP)	1	6
North West (NW)	2	12
Northern Cape (NC)	1	6
Western Cape (WC)	49	36
Mpumalanga (MP)	0	8
<b>South Africa</b>	<b>76</b>	<b>212</b>

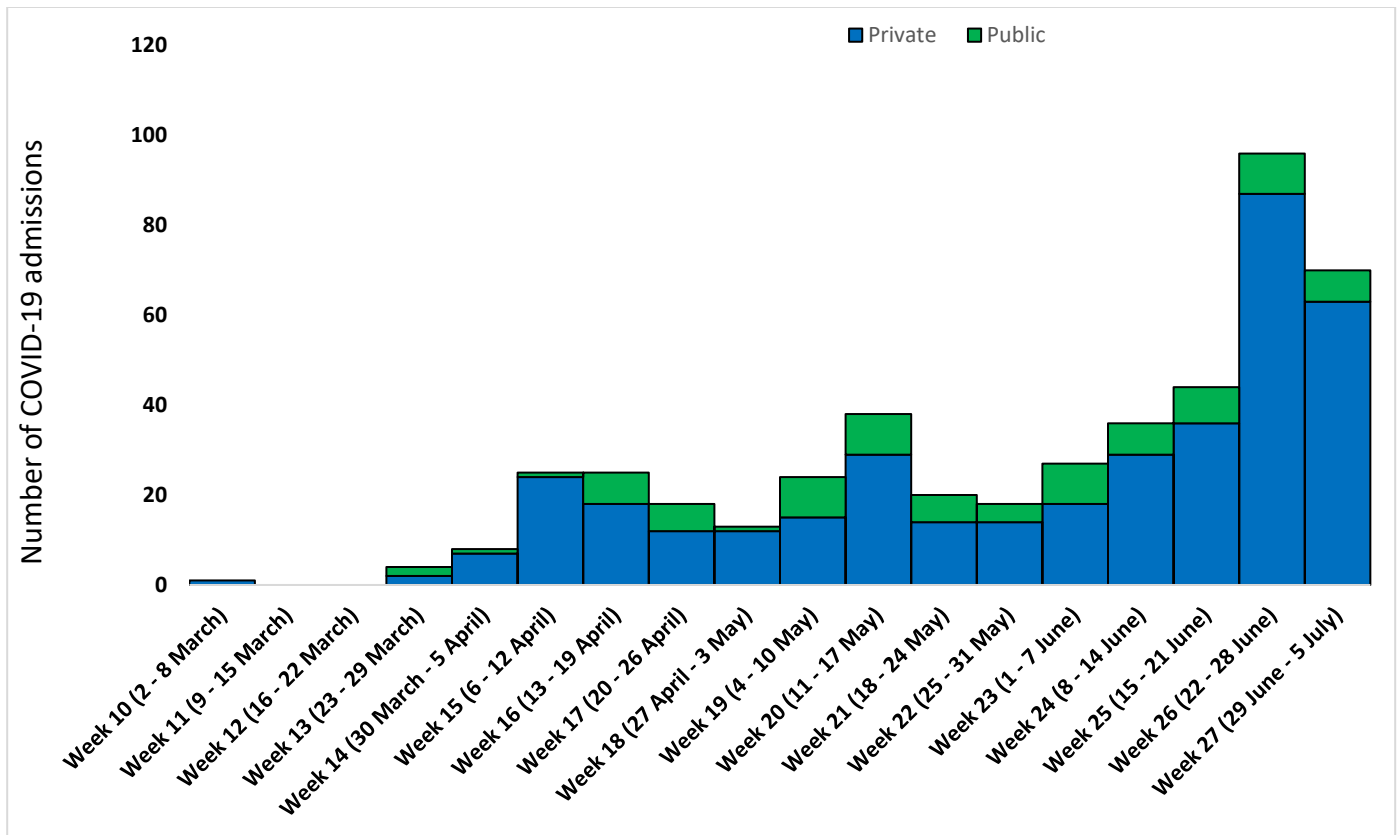
# Results

From 5 March to 5 July, there was a total of 466/17930 (2.6%) COVID-19 admissions among HCWs (94 additional from the last report) reported from 121 facilities in all nine provinces of South Africa. Of these admissions, 86 (18.4%) and 380 (81.6%) were reported in the public and private sector, respectively (Figure 1). The majority of HCW admissions (417/466; 89.5%) were recorded in four provinces, with the highest number 137/467 (29.4%) reported in Gauteng (GP), followed by 134/466 (28.8%) in KwaZulu-Natal (KZN), 99/467 (21.2%) in Western Cape (WC), and 47/467 (10.1%) 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 - 5 July 2020 (n=466)

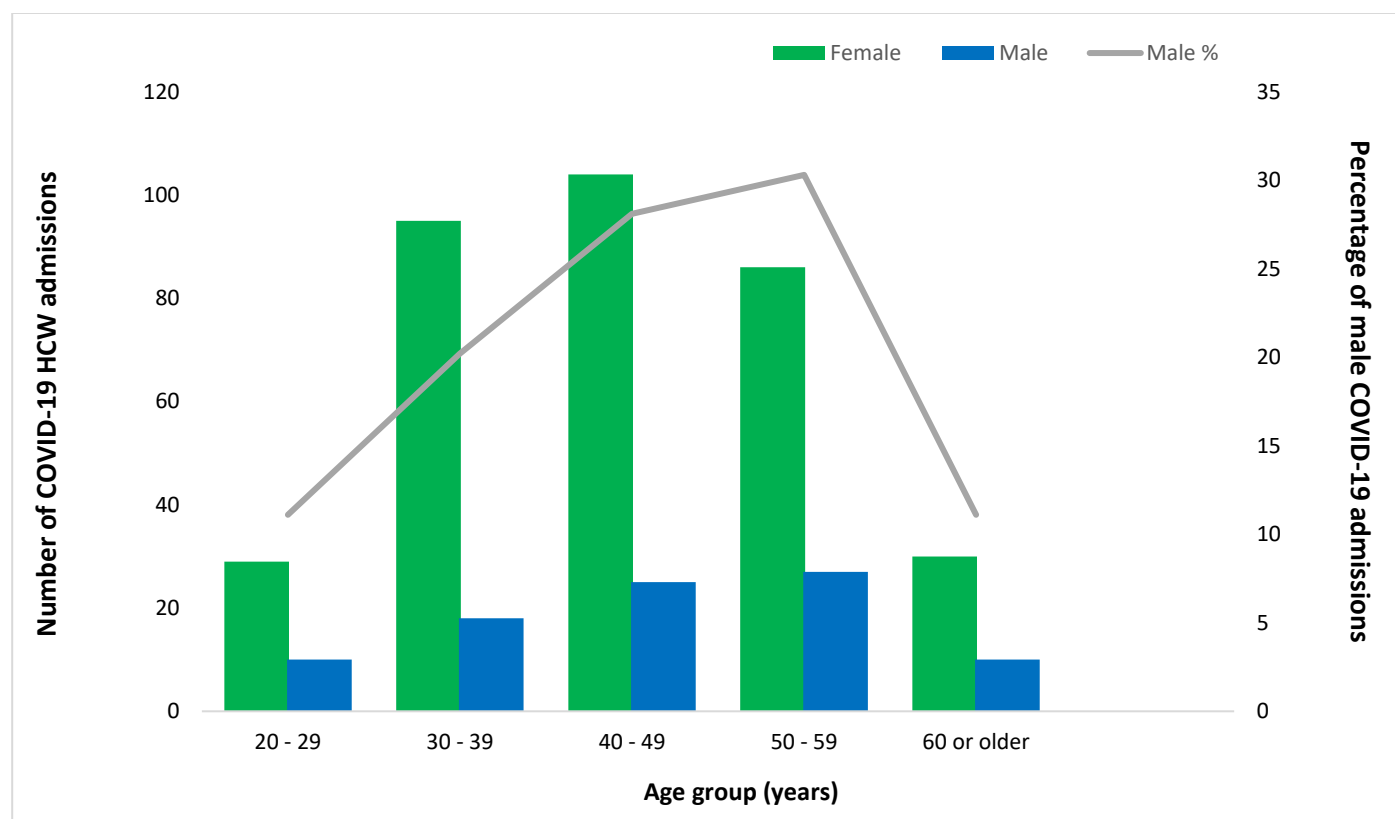
The majority of HCW admissions were reported in the private sector (81.6%). However, increasing number of admissions have also been reported in the public sector (Figure 2).



**Figure 2:** Number of reported COVID-19 admissions among HCWs by epidemiologic week of diagnosis and health-sector, South Africa, 5 March– 5 July 2020 (n=466)

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

The median age of COVID-19 admissions among HCWs was 44 years (interquartile range [IQR] 37–53). There were 40 (8.6%) admissions in patients 60 years and older (Figure 3). Among admitted HCWs with COVID-19, 365 (78.3%) were female. The sex ratio varied by age group with females more common than males in all age groups (Figure 3). Among the 365 female admissions, 11 (3.0%) were pregnant.



**Figure 3:** Number of reported COVID-19 HCW admissions by age, gender and percentage of males, South Africa, 5 March– 5 July 2020 (n=466)

Note: There were 32 HCWs whose age was unknown at the time of this report’s dissemination.

Of the 429 (92.1 %) HCWs for whom comorbid disease was known, 185/429 (43.1%) had at least one comorbid disease and 58/185 (31%) had more than one comorbidity reported. Among the 185 HCWs who had reported a comorbid condition, the most commonly reported comorbid conditions were hypertension (106/185; 57.3%) and diabetes (72/185; 38.9%). There were 40 (21.6%) HCWs who were HIV positive, three (1.6%) with active tuberculosis (TB) and two (1.1%) 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–5 July 2020 (n=185)

Comorbid disease*	Frequency (n)	Percentage (%)
Hypertension	106	57.3
Diabetes mellitus	72	38.9
Chronic cardiac disease	6	3.2
Chronic pulmonary disease	2	1.1
Asthma	35	18.9
Chronic renal disease	3	1.6
Malignancy	1	0.5
HIV	40	21.6
Active tuberculosis	3	1.6
Previous history of tuberculosis	2	1.1

\* 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 466 COVID-19 HCW admissions to date, 38 (8.2%) 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 ( $p=0.001$ ). Of the 38 with severe disease, 26 (70.3%) had at least one comorbid disease ( $p < 0.001$ ).

## Outcomes

Of the 466 admitted individuals, 265 (56.9%) were discharged alive, six (1.3%) were transferred out to either higher level care or step-down facilities, 17 (3.6%) had died and 178 (38.2%) were currently in hospital. The case fatality ratio (CFR) of 6.0 % (17/282) among HCWs with known in-hospital outcome was lower than the CFR among all admissions in the DATCOV database (20.8%, 2615/12546).

The majority of HCW deaths (35.3%) were reported in the Western Cape, four (25.0%) from Gauteng, three (18.8%) from KwaZulu-Natal and three (18.8 %) from the Eastern Cape provinces. Nine deaths (52.9%) recorded were among HCWs aged 60 years and older. The median age of those who died was 62 (IQR 61 – 64) years compared to 44 (IQR 36 – 53) years for those who were still alive. Fourteen (82.4%) of the deaths were female and three (17.6%) were male HCWs. Nine (52.9%) of the seventeen deaths were either admitted in ICU or ventilated, and 14 (82.3%) were given supplemental oxygen. The median length of stay for the HCWs who died was 9 days [IQR 7 – 13] compared to 5 days [ 2 – 10] for those discharged alive. Twelve of the 17 (70.6%) HCWs that died had at least one comorbid disease reported. Seven (41%) had more than one reported comorbidity. Hypertension (11/17; 64.7%) and diabetes (7/17; 41.2 %) were the common reported comorbid diseases (Table 3).

Please note that the mortality data presented was based on available information from sentinel hospitals as of 5 July 2020, thus not all deaths that occurred during the reporting period nationally are included.

## Conclusion

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Admissions among HCW are increasing weekly in keeping with the national trend of increasing numbers of admissions. The majority (52.9%) of the deaths are in HCWs older than 60 year of age and/or in those with comorbid medical conditions.



# 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)
- Khotsong TB Hospital (EC)
- Zithulele Hospital (EC)
- Pelonomi Hospital (FS)
- National District Hospital (FS)
- Universitas Hospital (FS)
- Phekolong Hospital (FS)
- DR JS Moroka 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)