

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

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Update: Week 28, 2020



Compiled by:

**Epidemiology and Surveillance Division  
National Institute for Occupational Health  
25 Hospital Street, Constitution Hill, Johannesburg**

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 12 July 2020 on the DATCOV platform.

# HIGHLIGHTS

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- As of 12 July 2020, 593 (2.6 %) of the 23,104 COVID-19 hospital admissions recorded on the DATCOV surveillance database, were health care workers (HCWs), reported from 122 facilities (18 public-sector and 104 private-sector) in all nine provinces of South Africa. Among 164/593 (27.7 %) HCWs with available data on type of work, 106/164 (64.6 %) were nurses, 27/164 (16.5 %) porters or administrators, 12/164 (7.3 %) allied HCWs, 11/164 (6.7 %) doctors, 7/164 (4.3%) paramedics, and 1/164 (0.6 %) laboratory scientist.
- There was an increase of 127 new HCW admissions since week 27.
- There were 105 (17.7 %) and 488 (82.3 %) admissions reported in public and private sector, respectively.
- The majority of HCW admissions were reported in Gauteng (198, 31.9 %), KwaZulu-Natal (164, 27.7%), Western Cape (109, 18.4 %), and Eastern Cape (55, 9.3 %).
- The median age of COVID-19 HCW admissions was 45 years, there were 55 (9.3 %) admissions in HCWs aged 60 years and older. A total of 468 (78.9 %) were female.
- Among 526 (88.7 %) HCW admissions with data on comorbid conditions, 229/526 (43.5 %) had at least one comorbid condition and 84/229 (36.7 %) had more than one comorbidity reported. Most commonly reported comorbid conditions were hypertension (130/229; 56.8 %) and diabetes (93/229; 40.6 %). There were 45 (19.7%) HCWs who were HIV positive, three (1.3 %) with active tuberculosis (TB) and 4 (1.8 %) with a previous history of TB.
- A total of 46 (7.8 %) 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 593 HCW admissions, 153 (25.8%) were in hospital at the time of this report, 410 (69.1%) were discharged alive, 7 (1.2%) transferred out and 23 (3.9%) HCWs had died. Seven of the 23 deaths (30.4%) were reported in the Gauteng, six (26.1%) from the Western Cape, five (21.7%) from KwaZulu-Natal, four (17.4 %) from the Eastern Cape, and one (4.3%) from the North West provinces. Of those that died, nine (39.1%) had more than one comorbidity. There were six additional deaths since the last reporting week, which occurred in weeks 25 to 28.

# 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).

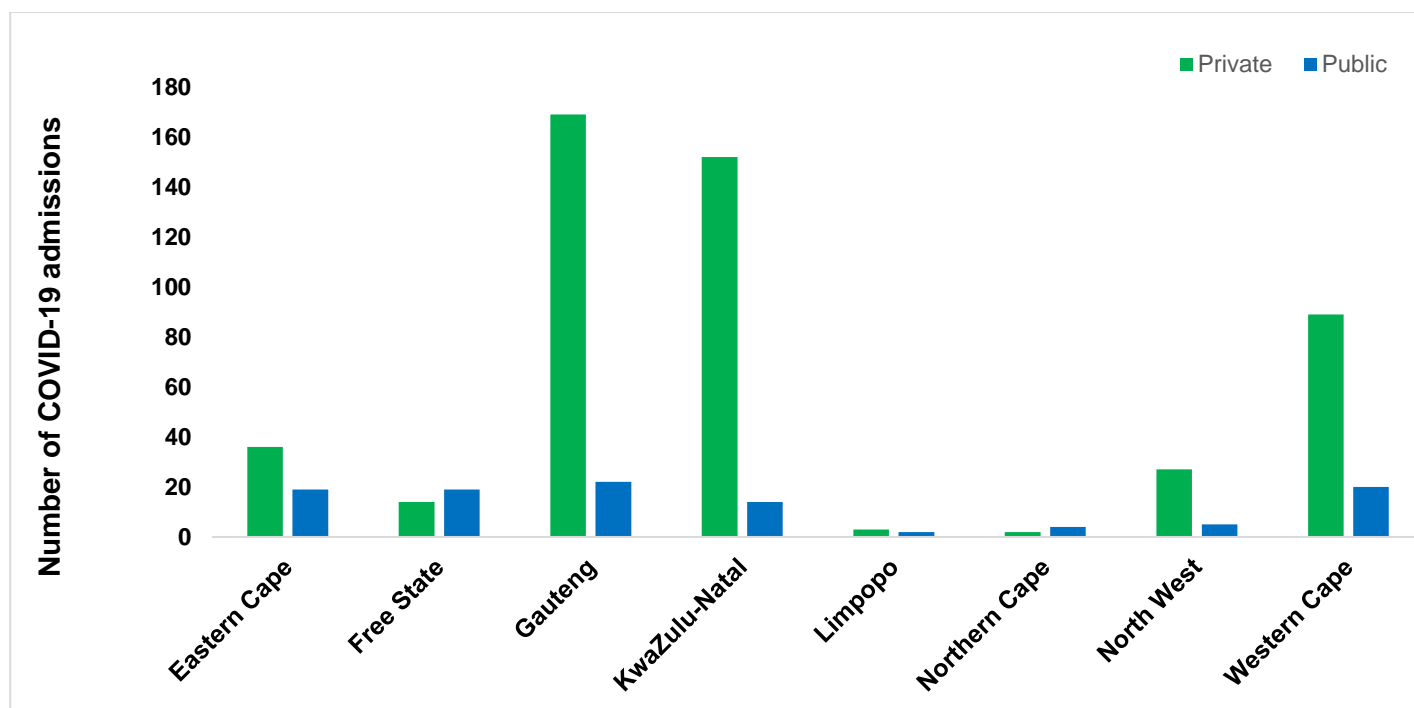
Data on all COVID-19 admissions are received from all private hospitals nationally, and a subset of public hospitals in all nine provinces (data are received from all public hospitals in the Western Cape (WC) Province). As new hospitals join the surveillance system, they retrospectively captured all admissions recorded. As of 12 July 2020, a total of 301 facilities, 83 from public sector and 218 from private sector, submitted data on hospitalized patients with COVID-19 (Table 1). There were 13 additional hospitals reporting COVID-19 admissions since the last report. Data on hospitalized HCWs who were diagnosed with COVID-19 from 5 March to 12 July 2020 were collected from 122 hospitals (18 public and 104 private) of the 301 participating sentinel hospitals.

Province	Sector	
	Public	Private
Eastern Cape (EC)	10	13
Free State (FS)	8	17
Gauteng (GP)	5	80
KwaZulu-Natal (KZN)	6	40
Limpopo (LP)	1	6
North West (NW)	2	12
Northern Cape (NC)	1	6
Western Cape (WC)	50	36
Mpumalanga (MP)	0	8
<b>South Africa</b>	<b>83</b>	<b>218</b>

**Table 1:** Number of hospitals reporting data on COVID-19 admissions by province and health-sector, South Africa, 5 March - 12 July 2020

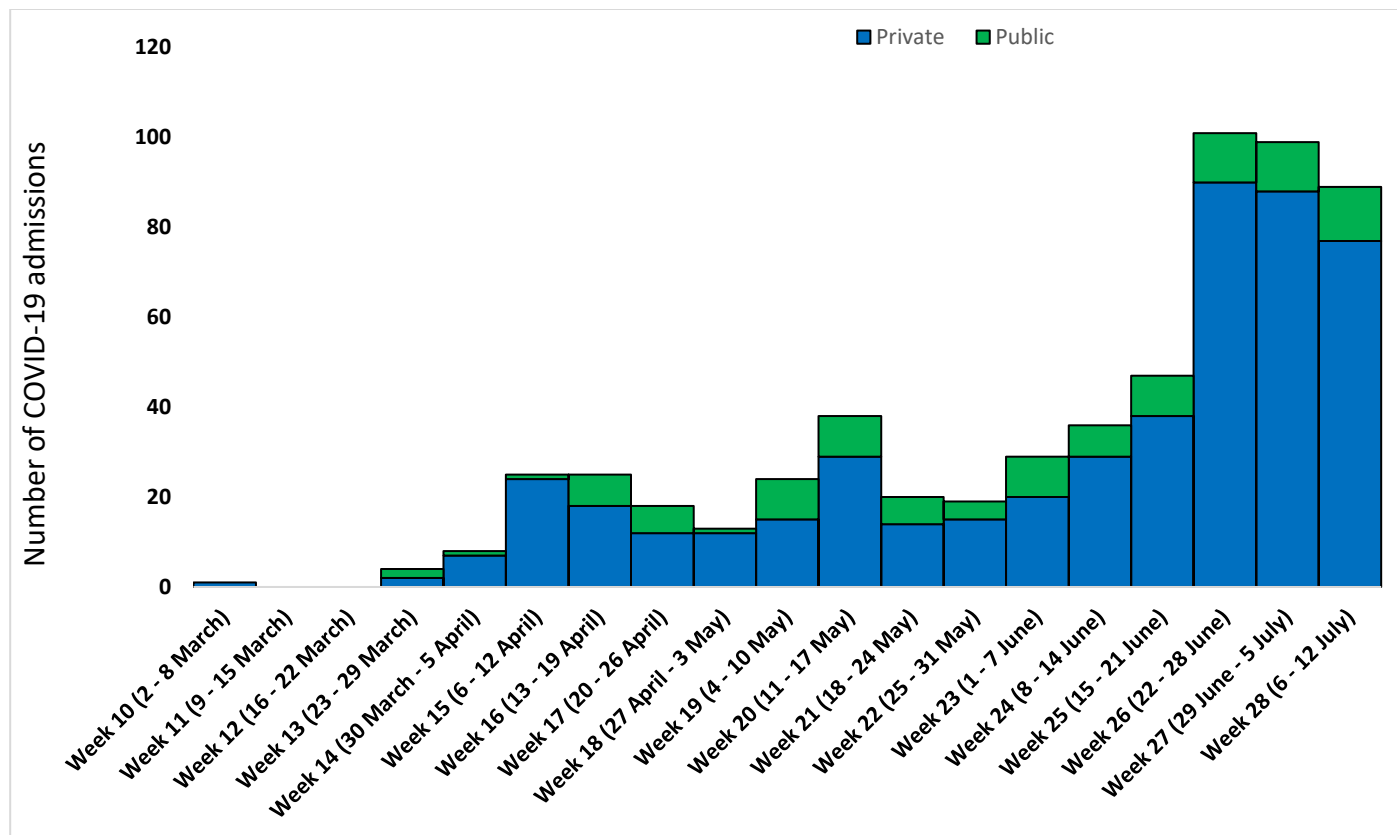
# Results

From 5 March to 12 July, there was a total of 593/23104 (2.6%) COVID-19 admissions among HCWs (127 additional from the last report) reported from 122 facilities in all nine provinces of South Africa. Of these admissions, 105 (17.7 %) and 488 (82.3 %) were reported in the public and private sector, respectively (Figure 1). The majority of HCW admissions (517/593; 87.2 %) were recorded in four provinces, with the highest number 189/593 (31.9 %) reported in Gauteng (GP), followed by 164/593 (27.7%) in KwaZulu-Natal (KZN), 109/593 (18.4 %) in Western Cape (WC), and 55/593 (9.3 %) 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 - 12 July 2020 (n=597)

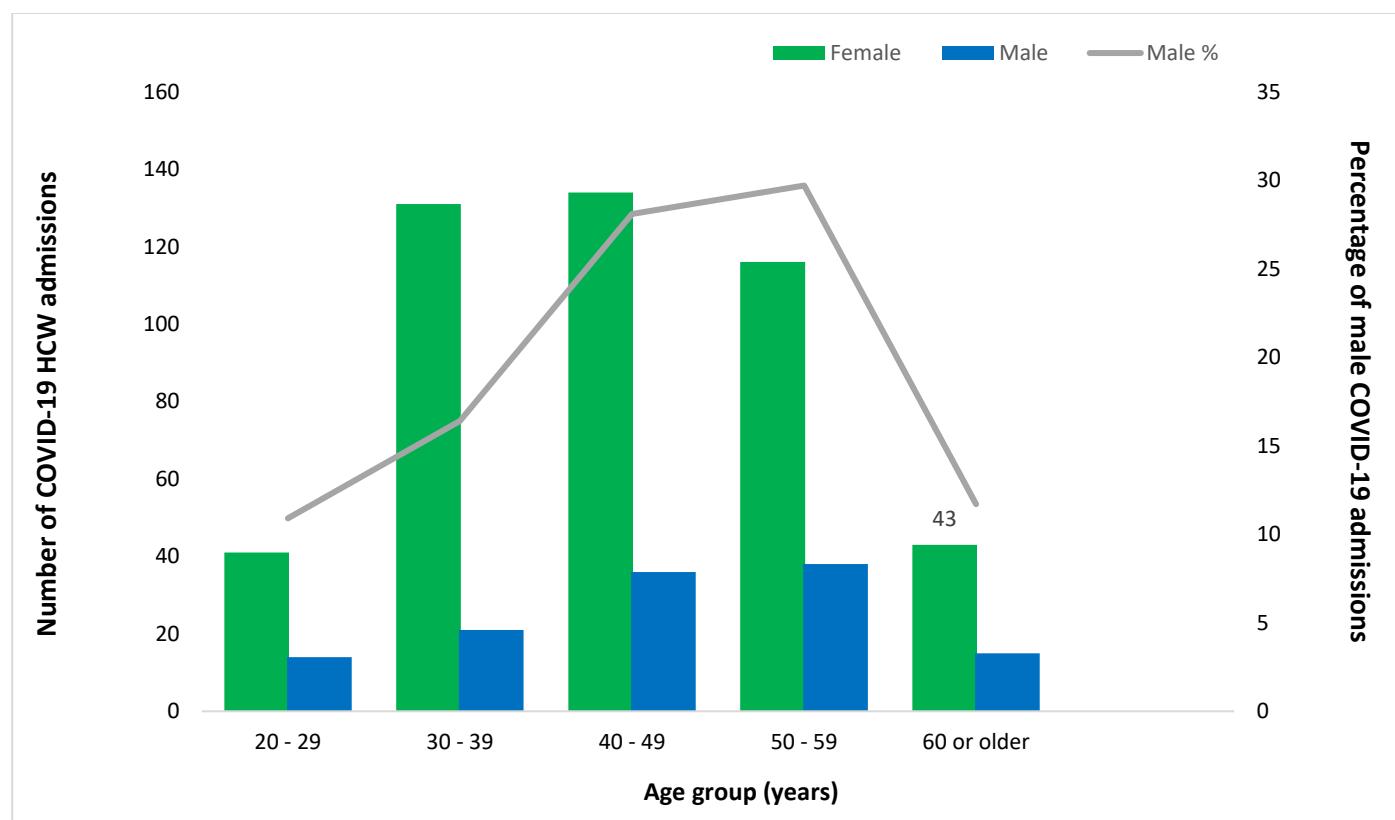
The majority of HCW admissions were reported in the private sector (82.3 %). However, increasing number of admissions have also been reported in the public sector (Figure 2).



**Figure 2:** Number of reported COVID-19 admissions among HCWs by epidemiologic week of diagnosis and health-sector, South Africa, 5 March– 12 July 2020 (n=597)

# Demographic and clinical characteristics of COVID-19 admissions among HCWs, South Africa, 5 March–12 July 2020

The median age of COVID-19 admissions among HCWs was 45 years (interquartile range [IQR] 36–54). There were 55 (9.3 %) admissions in patients 60 years and older (Figure 3). Among admitted HCWs with COVID-19, 468 (78.9%) were female. The sex ratio varied by age group with females more common than males in all age groups (Figure 3). Among the 468 female admissions, 12 (2.6 %) were pregnant.



**Figure 3:** Number of reported COVID-19 HCW admissions by age, gender and percentage of males, South Africa, 5 March– 12 July 2020 (n=597)

Note: There were 8 HCWs whose age was unknown at the time of this report’s dissemination.

Of the 526 (88.7%) HCWs for whom comorbid disease was known, 229/526 (43.5%) had at least one comorbid disease and 84/229 (36.7%) had more than one comorbidity reported. Among the 229 HCWs who had reported a comorbid condition, the most commonly reported comorbid conditions were hypertension (130/229; 56.8%) and diabetes (93/229; 40.6 %). There were 45 (19.7%) HCWs who were HIV positive, three (1.3 %) with active tuberculosis (TB) and four (1.8%) 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– 12 July 2020 (n=229)

Comorbid disease*	Frequency (n)	Percentage (%)
Hypertension	130	56.8
Diabetes mellitus	93	40.6
Chronic cardiac disease	8	3.5
Chronic pulmonary disease	2	0.9
Asthma	44	19.2
Chronic renal disease	4	1.8
Malignancy	1	0.4
HIV	45	19.7
Active tuberculosis	3	1.3
Previous history of tuberculosis	4	1.8

\* 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 593 COVID-19 HCW admissions to date, 46 (7.8%) met the criteria for severe disease. The mean age of patients who had severe disease (50 years) was significantly different from those who did not have severe disease (45 years) ( $p < 0.001$ ). Of the 46 with severe disease, 29 (64.4%) had at least one comorbid disease ( $p = 0.003$ ).

## Outcomes

Of the 593 admitted HCWs, 410 (69.1%) were discharged alive, seven (1.2%) were transferred out to either higher level care or step-down facilities, 23 (3.9 %) had died and 153 (25.8 %) were currently in hospital. The case fatality ratio (CFR) of 5.7 % (23/433) among HCWs with known in-hospital outcome was lower than the CFR among all admissions in the DATCOV database (19.1%, 3212/16819).

The majority of HCW deaths, seven (30.4%), were reported in the Gauteng, six (26.1%) from the Western Cape, five (21.7%) from KwaZulu-Natal, four (17.4 %) from the Eastern Cape, and one (4.3%) from the North West provinces. Eleven deaths (47.8%) recorded were among HCWs aged 60 years and older. The median age of those who died was 59 (IQR 52 – 63) years compared to 44 (IQR 36 – 54) years for those who were still alive. Nineteen (70.4%) of the deaths were female and eight (29.6%) were male HCWs. One (4.3%) deceased HCW was pregnant. Ten (43.5%) of the 23 deaths were either admitted in ICU or ventilated, and 19 (82.6%) were given supplemental oxygen. The median length of stay for the HCWs who died was seven days [IQR 4 – 13] compared to five days [2 – 9] for those discharged alive. Fifteen of the 23 (65.2%) HCWs that died had at least one comorbid disease reported. Nine (39.1%) had more than one reported comorbidity. Hypertension (13/23; 56.5%) and diabetes (9/23; 39.1 %) were the common reported comorbid diseases.

Please note that the mortality data presented was based on available information from sentinel hospitals as of 12 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 (47.8%) 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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Western Cape province: all public sector hospitals submitting data to DATCOV

Public hospitals using DATCOV surveillance online platform:

- Bedford Hospital, Eastern Cape
- Cradock Hospital, Eastern Cape
- Dora Nginza Hospital, Eastern Cape
- Frere Hospital, Eastern Cape
- Khotsong TB Hospital, Eastern Cape
- Livingstone Hospital, Eastern Cape
- Madwaleni Hospital, Eastern Cape
- Stutterheim Hospital, Eastern Cape
- Uitenhage Hospital, Eastern Cape
- Zithulele hospital, Eastern Cape
- 3 Military Hospital, Free State
- Bongani Regional Hospital, Free State
- Dr Js Moroka Hospital, Free State
- Manapo Hospital, Free State
- National District Hospital, Free State
- Pelonomie Hospital, Free State
- Phekolong Hospital, Free State
- Universitas Hospital, Free State
- Charlotte Maxeke Hospital, Gauteng
- Helen Joseph Hospital, Gauteng
- Leratong Hospital, Gauteng
- Steve Biko Academic Hospital, Gauteng
- Tambo Memorial Hospital, Gauteng
- Addington Hospital, KwaZulu-Natal
- General Justice Gizenga Mpanza Hospital, KwaZulu-Natal
- Grey's Hospital, KwaZulu-Natal
- King Edward VIII Hospital, KwaZulu-Natal
- Ladysmith Hospital, KwaZulu-Natal
- Manguzi Hospital, KwaZulu-Natal
- Polokwane Hospital, Limpopo
- Job Shimankana Tabane Hospital, North West
- Tshepong Hospital, North West
- Robert Mangaliso Sobukwe Hospital, Northern Cape
- Tygerberg Hospital, Western Cape

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)

Private hospitals using DATCOV surveillance online platform:

- Care Cure Queenstown, Eastern Cape
- Nurture Queenstown, Eastern Cape
- Busamed Bram Fischer International Airport Hospital, Free State
- Busamed Harrismith Private Hospital, Free State
- Corona Sub-Acute Hospital, Free State
- Riemland Clinic, Free State
- St Helena GM Hospital, Free State
- Arwyp Medical Centre, Gauteng
- Botshilu Private Hospital, Gauteng
- Busamed Modderfontein Private Hospital Orthopaedic and Oncology Centre, Gauteng
- Louis Pasteur Private Hospital, Gauteng
- Midvaal Private Hospital, Gauteng
- Nurture Rynmed, Gauteng
- Nurture Vereeniging, Gauteng
- Pretoria Urology Hospital, Gauteng
- RH Rand Hospital, Gauteng
- Sunshine Hospital, Gauteng
- Zuid Afrikaans Hospital, Gauteng
- Ahmed Al-Kadi Private Hospital, KwaZulu-Natal
- Busamed Gateway Private Hospital, KwaZulu-Natal
- Busamed Hillcrest Private Hospital, KwaZulu-Natal
- Capital hospital, KwaZulu-Natal
- KwaDukuza Private Hospital, KwaZulu-Natal
- Midlands Medical Centre Private Hospital, KwaZulu-Natal
- Nurture Ilembe, KwaZulu-Natal
- Shelly Beach Private Hospital, KwaZulu-Natal
- Zoutpansberg Private Hospital, Limpopo
- Mooimed Private Hospital, North West
- Sunningdale Hospital, North West
- Vryburg private hospital, North West
- Wilmed Park Private Hospital, North West
- Lenmed Royal Hospital and Heart Centre, Northern Cape
- Busamed - Paardevelei private hospital, Western Cape
- Nurture Cape View, Western Cape
- Nurture Newlands, Western Cape