

COVID-19 Sentinel Hospital Surveillance Weekly Update on Hospitalized HCWs

Update: Week 29, 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 19 July 2020 on the DATCOV platform.

HIGHLIGHTS

- As of 19 July 2020, 695 (2.4 %) of the 28,370 COVID-19 hospital admissions recorded on the DATCOV surveillance database, were health care workers (HCWs), reported from 125 facilities (18 public-sector and 107 private-sector) in all nine provinces of South Africa. Among 215/695 (30.9 %) HCWs with available data on type of work, 147/215 (68.4 %) were nurses, 28/215 (13.0 %) porters or administrators, 13/215 (6.0 %) allied HCWs, 13/215 (6.0 %) doctors, 10/215 (4.7 %) paramedics, and 4/215 (1.9 %) laboratory scientists.
- There was an increase of 102 new HCW admissions since week 28.
- There were 119 (17.1 %) and 576 (82.9 %) admissions reported in public and private sector, respectively.
- The majority of HCW admissions were reported in Gauteng (214, 30.8 %), KwaZulu-Natal (202, 29.1 %), Western Cape (111, 16.0 %), and Eastern Cape (57, 8.2 %).
- The median age of COVID-19 HCW admissions was 45 years, there were 64 (9.2 %) admissions in HCWs aged 60 years and older. A total of 551 (79.3 %) were female.
- Among 631 (90.8 %) HCW admissions with data on comorbid conditions, 311/631 (49.3 %) had at least one comorbid condition and 122/311 (39.2 %) had more than one comorbidity reported. Most commonly reported comorbid conditions were hypertension (176/311; 56.6 %) and diabetes (126/311; 40.5 %). There were 73 (23.5%) HCWs who were HIV positive, six (1.9 %) with active tuberculosis (TB) and four (1.3 %) with a previous history of TB.
- A total of 54 (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 695 HCW admissions, 163 (23.5%) were in hospital at the time of this report, 493 (70.9%) were discharged alive, eight (1.2%) transferred out and 31 (4.5%) HCWs were officially confirmed dead. Thirteen of the 31 deaths (41.9%) were reported in the Gauteng, six (19.4%) from the Western Cape, six (19.4%) from KwaZulu-Natal, five (16.1 %) from the Eastern Cape, and one (3.2%) from the North West provinces. Of those that died, 12 (38.7%) had more than one comorbidity. There were eight additional deaths since the last reporting week, which occurred in weeks 25 to 29.

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 19 July 2020, a total of 308 facilities, 88 from public sector and 220 from private sector, submitted data on hospitalized patients with COVID-19 (Table 1). There were seven additional hospitals reporting COVID-19 admissions since the last report. Data on hospitalized HCWs who were diagnosed with COVID-19 from 5 March to 19 July 2020 were collected from 125 hospitals (18 public and 107 private) of the 308 participating sentinel hospitals.

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

Province	Sector	
	Public	Private
Eastern Cape (EC)	12	13
Free State (FS)	10	18
Gauteng (GP)	6	81
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
South Africa	88	220

Results

From 5 March to 19 July, there was a total of 695/28370 (2.4%) COVID-19 admissions among HCWs (102 additional from the last report) reported from 125 facilities in all nine provinces of South Africa. Of these admissions, 119 (17.1 %) and 576 (82.9 %) were reported in the public and private sector, respectively (Figure 1). The majority of HCW admissions (584/695; 84.0 %) were recorded in four provinces, with the highest number 214/695 (30.8 %) reported in Gauteng (GP), followed by 202/695 (29.1 %) in KwaZulu-Natal (KZN), 111/695 (16.0 %) in Western Cape (WC), and 57/695 (8.2 %) in Eastern Cape (EC) provinces (Figure 1).

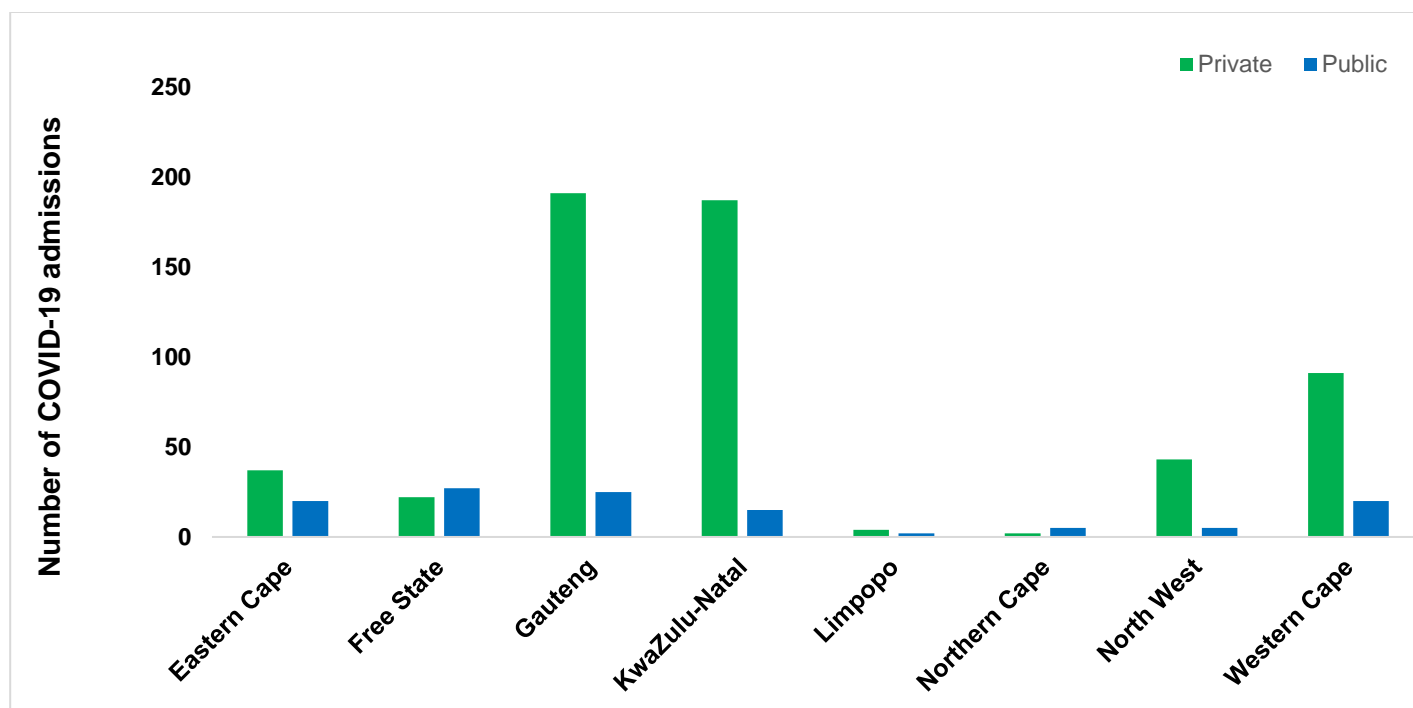


Figure 1: Number of reported COVID-19 admissions among HCWs by province and health-sector, South Africa, 5 March - 19 July 2020 (n=695)

The majority of HCW admissions were reported in the private sector (82.9 %). However, increasing number of admissions have also been reported in the public sector (Figure 2).

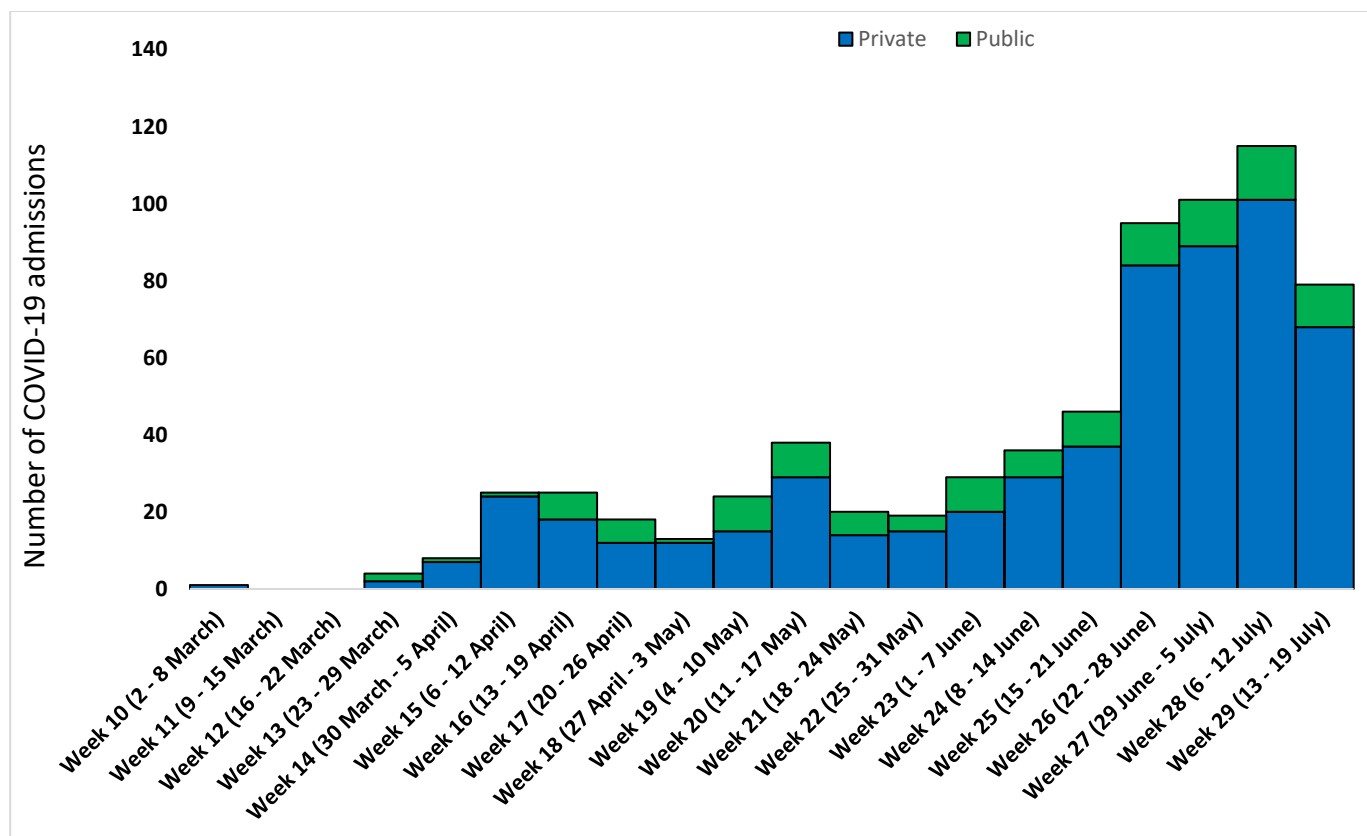


Figure 2: Number of reported COVID-19 admissions among HCWs by epidemiologic week of diagnosis and health-sector, South Africa, 5 March– 19 July 2020 (n=695)

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

The median age of COVID-19 admissions among HCWs was 45 years (interquartile range [IQR] 37–54). There were 64 (9.2 %) admissions in patients 60 years and older (Figure 3). Among admitted HCWs with COVID-19, 551 (79.3%) were female. The sex ratio varied by age group with females more common than males in all age groups (Figure 3). Among the 551 female admissions, 14 (2.0 %) were pregnant.

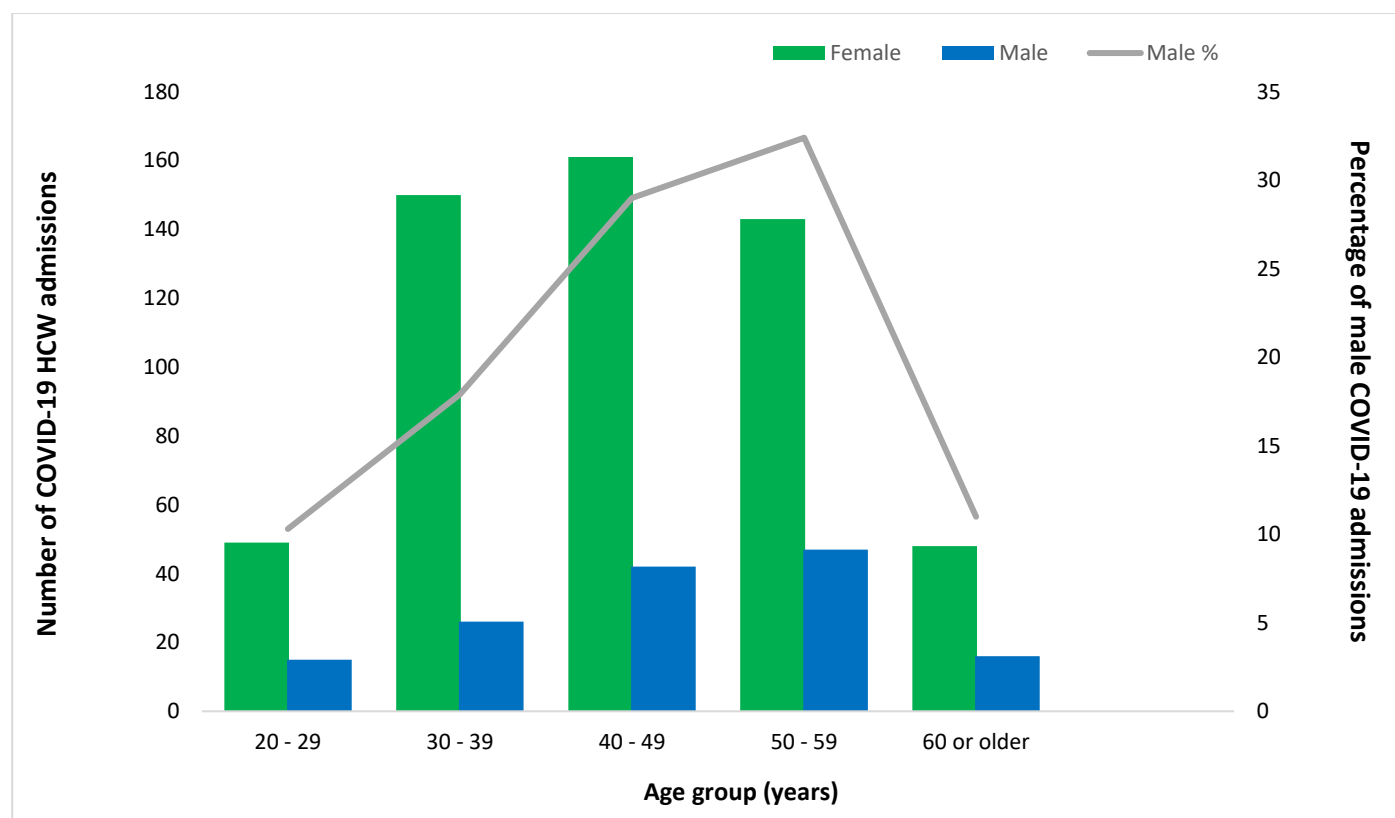


Figure 3: Number of reported COVID-19 HCW admissions by age, gender and percentage of males, South Africa, 5 March– 19 July 2020 (n=695)

Of the 631 (90.8 %) HCWs for whom comorbid disease was known, 311/631 (49.3 %) had at least one comorbid disease and 122/311 (39.2 %) had more than one comorbidity reported. Among the 311 HCWs who had reported a comorbid condition, the most commonly reported comorbid conditions were hypertension (176/311; 56.6 %) and diabetes (126/311; 40.5 %). There were 73 (23.5%) HCWs who were HIV positive, six (1.9 %) with active tuberculosis (TB) and four (1.3%) 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– 19 July 2020 (n=311)

Comorbid disease*	Frequency (n)	Percentage (%)
Hypertension	176	56.6
Diabetes mellitus	126	40.5
Chronic cardiac disease	29	9.3
Chronic pulmonary disease	2	0.6
Asthma	57	18.3
Chronic renal disease	3	1
Malignancy	8	2.6
HIV	73	23.5
Active tuberculosis	6	1.9
Previous history of tuberculosis	4	1.3

* 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 695 COVID-19 HCW admissions to date, 54 (7.8%) met the criteria for severe disease. The mean age of patients who had severe disease (52 years) was significantly different from those who did not have severe disease (45 years) ($p < 0.001$). Of the 54 with severe disease, 37 (71.2%) had at least one comorbid disease ($p = 0.001$).

Outcomes

Of the 695 admitted HCWs, 493 (70.9%) were discharged alive, 8 (1.2%) were transferred out to either higher level care or step-down facilities, 31 (4.5 %) died, and 163 (23.5 %) were currently in hospital. The case fatality ratio (CFR) of 5.9 % (31/524) among HCWs with known in-hospital outcome was lower than the CFR among all admissions in the DATCOV database (18.3%, 3818/20817).

The majority of HCW deaths, 13 (41.9%), were reported in the Gauteng, six (19.4%) from the Western Cape, another six (19.4%) from KwaZulu-Natal, five (16.1 %) from the Eastern Cape, and one (3.2%) from the North West provinces. Thirteen deaths (41.9%) recorded were among HCWs aged 60 years and older. The median age of those who died was 58 (IQR 58 – 62) years compared to 43 (IQR 35 – 52) years for those who were still alive. Twenty-two (71.0%) of the deaths were female and nine (29.0%) were male HCWs. One (3.2%) deceased HCW was pregnant. Thirteen (41.9%) of the 31 deaths were either admitted in ICU or ventilated, and 25 (80.7%) were given supplemental oxygen. The median length of stay for the HCWs who died was 9 days [IQR 6 – 14] compared to 5 days [3 – 10] for those discharged alive. Twenty-two of the 31 (75.9%) HCWs that died had at least one comorbid disease reported. Twelve (38.7%) had more than one reported comorbidity. Hypertension (17/31; 54.8%) and diabetes (13/31; 41.9 %) were the common reported comorbid diseases.

Please note that the mortality data presented was based on available information from sentinel hospitals as of 19 July 2020, thus not all deaths that occurred during the reporting period nationally are included.

Conclusion

Admissions among HCW are increasing weekly in keeping with the national trend of increasing numbers of admissions. The majority (41.9%) of the deaths are in HCWs older than 60 year of age and/or in those with comorbid medical conditions.

Acknowledgements

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 - Paardevlei private hospital, Western Cape
- Nurture Cape View, Western Cape
- Nurture Newlands, Western Cape