



# HIGHLIGHTS

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- As of 1 August 2020, 883 (2.0%) of the 43943 COVID-19 hospital admissions recorded on the DATCOV surveillance database, were health care workers (HCWs), reported from 153 facilities (39 public-sector and 114 private-sector) in all nine provinces of South Africa. Among 327/883 (37.0%) HCWs with available data on type of work, 227/327 (69.4%) were nurses, 40/327 (12.2%) porters or administrators, 24/327 (7.3%) allied HCWs, 22/327 (6.7%) doctors, 9/327 (2.8%) paramedics, and 5/327 (1.5%) laboratory scientists.
  - There was an increase of 116 new HCW admissions since week 30.
  - There were 177 (20.1%) and 706 (79.9%) admissions reported in the public and private sector, respectively.
  - The majority of HCW admissions were reported in Gauteng (275, 31.1%), KwaZulu-Natal (253, 28.7%), Western Cape (112, 12.7%), and Eastern Cape (81, 9.2%).
  - The median age of COVID-19 HCW admissions was 45 years, there were 89 (10.1%) admissions in HCWs aged 60 years and older. A total of 702 (79.5%) were female.
  - Among 824 (93.3%) HCW admissions with data on comorbid conditions, 402/824 (48.8%) had at least one comorbid condition and 148/402 (36.8%) had more than one comorbidity reported. Most commonly reported comorbid conditions were hypertension (225/402; 56.0%) and diabetes (171/402; 42.5%). There were 91 (22.6%) HCWs who were HIV positive, eight (2.0%) with active tuberculosis (TB) and four (1.0%) with a previous history of TB.
  - A total of 77 (8.7 %) 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 883 HCW admissions, 108 (12.2%) were in hospital at the time of this report, 704 (79.7%) were discharged alive, 24 (2.7%) transferred out and 47 (5.3%) HCWs were officially confirmed dead. Fourteen of the 47 deaths (29.8%) were reported in the Gauteng, ten (21.3%) from KwaZulu-Natal, nine (19.2%) from the Eastern Cape, six (12.8%) from the Western Cape, five (10.6%) from the Free State, and three (6.4%) from the North West provinces. Of those that died, 20 (42.6%) had more than one comorbidity and 33 (70.2%) were aged 50 or older.
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# Methods

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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).

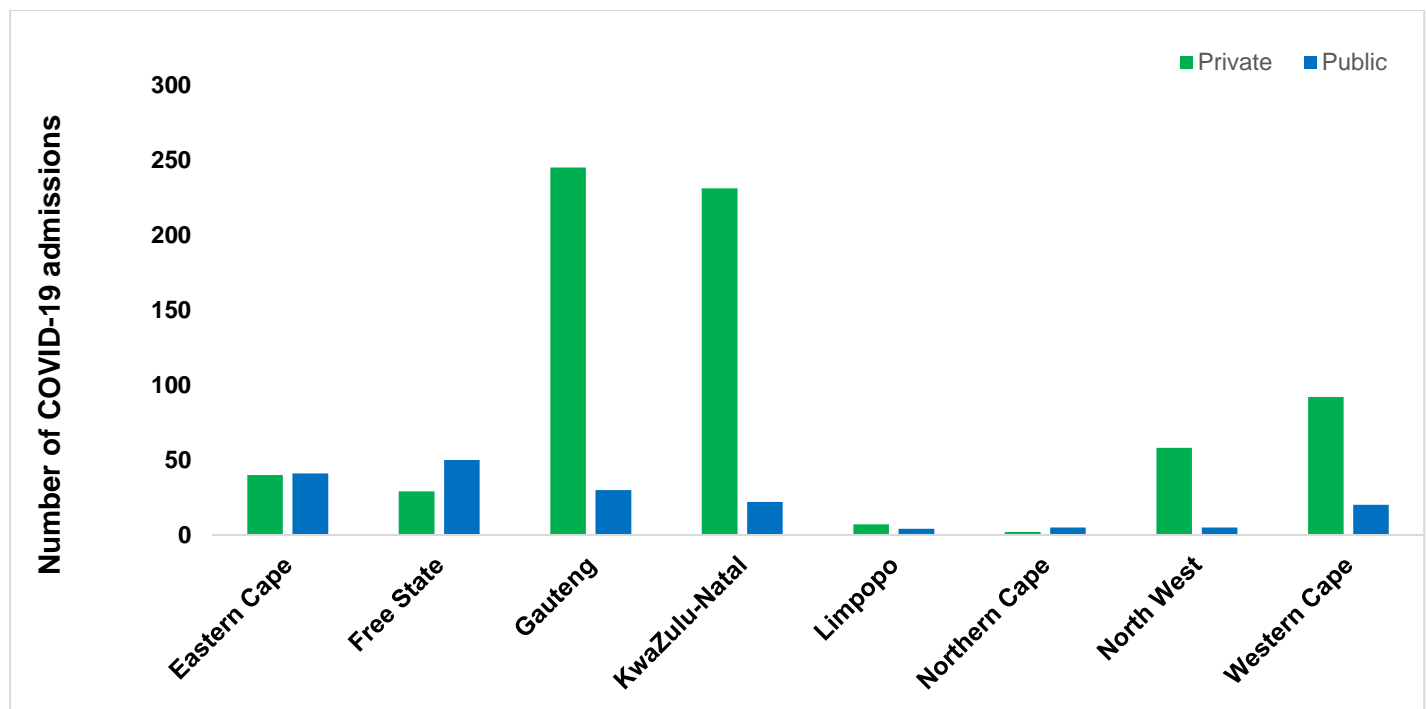
Data on all COVID-19 admissions are received from all private hospitals nationally, and a subset of public hospitals in all nine provinces (data are received from all public hospitals in the Western Cape (WC) Province). As new hospitals join the surveillance system, they retrospectively captured all admissions recorded. As of 1 August 2020, a total of 341 facilities, 118 from public sector and 233 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 1 August 2020 were collected from 153 hospitals (39 public and 114 private) of the 341 participating sentinel hospitals.

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

Facilities reporting	Public	Private
Eastern Cape	30	14
Free State	19	20
Gauteng	6	86
KwaZulu-Natal	7	42
Limpopo	1	6
Mpumalanga	0	9
North West	2	12
Northern Cape	1	6
Western Cape	52	38
<b>South Africa</b>	<b>118</b>	<b>233</b>

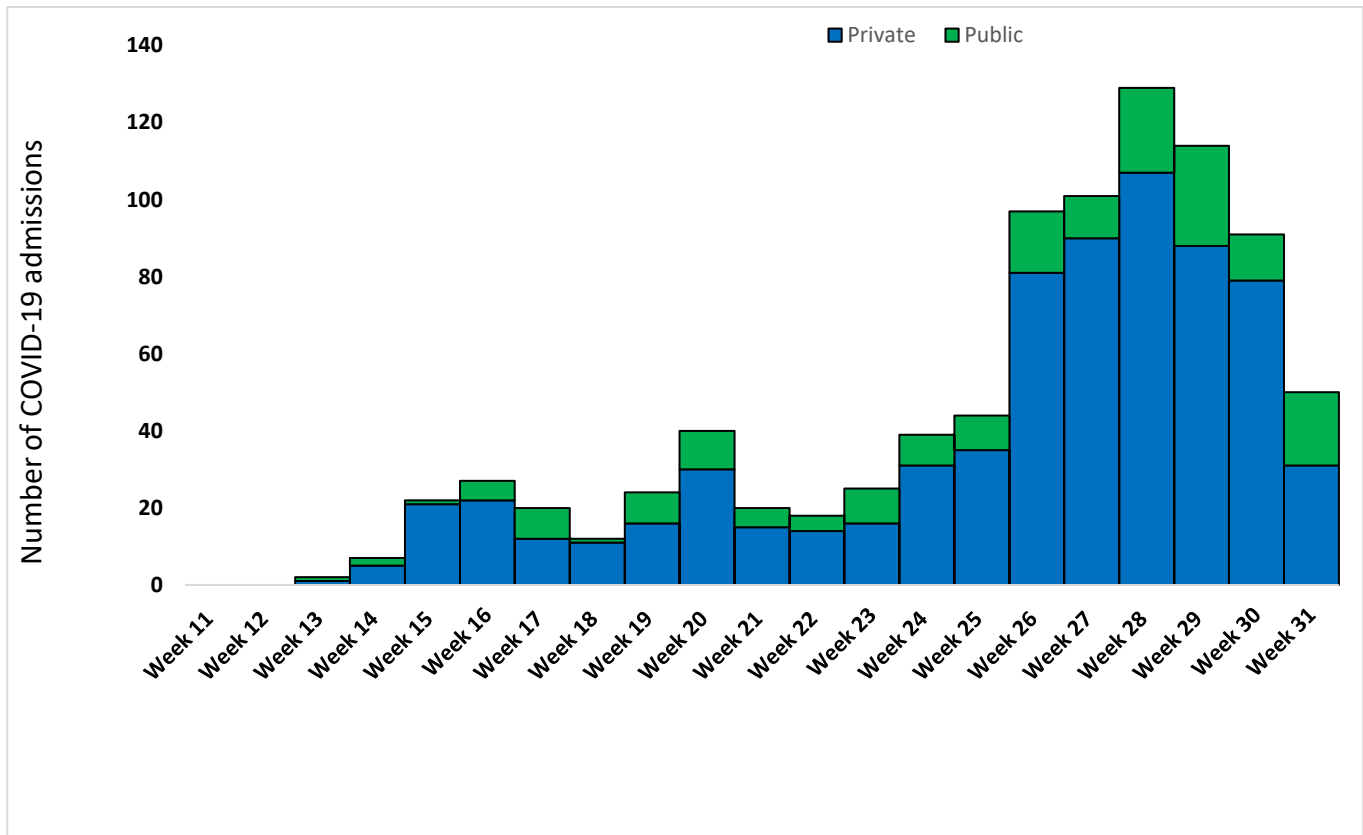
# Results

From 5 March to 1 August 2020, there was a total of 883/43943 (2.0%) COVID-19 admissions among HCWs (116 additional from the last report) reported from 153 facilities in all nine provinces of South Africa. Of these admissions, 177 (20.1%) and 706 (79.9%) were reported in the public and private sector, respectively (Figure 1). The majority of HCW admissions (721/883; 81.7%) were recorded in four provinces, with the highest number 275/883 (31.1%) reported in Gauteng, followed by 253/883 (28.7%) in KwaZulu-Natal, 112/883 (12.7%) in Western Cape, and 81/883 (9.2%) in Eastern Cape provinces (Figure 1).



**Figure 1:** Number of reported COVID-19 admissions among HCWs by province and health-sector, South Africa, 5 March – 1 August 2020 (n=883)

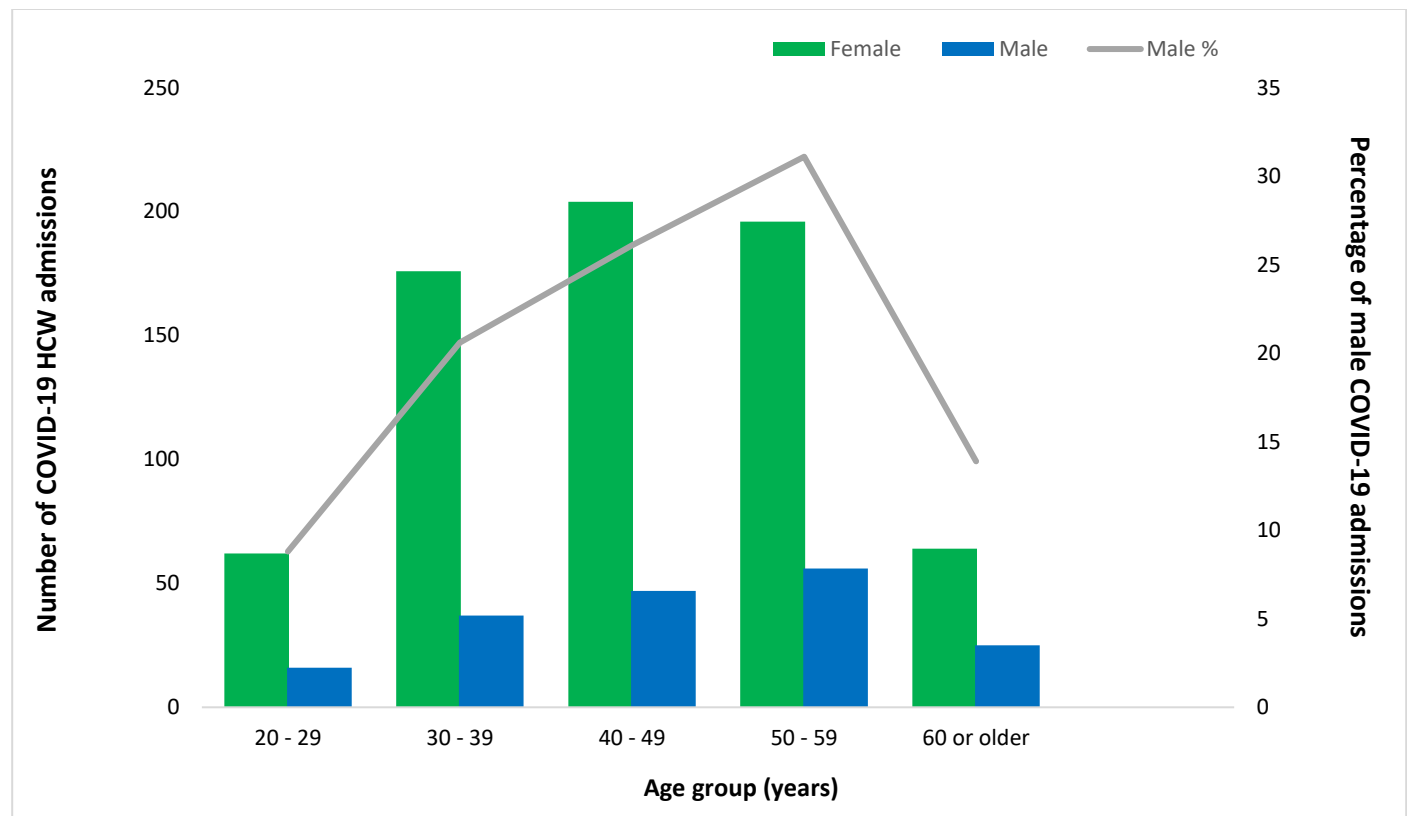
The majority of HCW admissions were reported in the private sector (79.9%) (Figure 2).



**Figure 2:** Number of reported COVID-19 admissions among HCWs by epidemiologic week of diagnosis and health-sector, South Africa, 5 March– 1 August 2020 (n=883)

# Demographic and clinical characteristics of COVID-19 admissions among HCWs, South Africa, 5 March– 1 August 2020

The median age of COVID-19 admissions among HCWs was 45 years (interquartile range [IQR] 37–55). There were 89 (10.1%) admissions in patients 60 years and older (Figure 3). Among admitted HCWs with COVID-19, 702 (79.5%) were female. The sex ratio varied by age group with females more common than males in all age groups (Figure 3). Among the 702 female admissions, 15 (2.1%) were pregnant.



**Figure 3:** Number of reported COVID-19 HCW admissions by age, gender and percentage of males, South Africa, 5 March– 1 August 2020 (n=883)

Of the 824 (93.3%) HCWs for whom comorbid disease was known, 402/824 (48.8%) had at least one comorbid disease and 148/402 (36.8%) had more than one comorbidity reported. Among the 402 HCWs who had reported a comorbid condition, the most commonly reported comorbid conditions were hypertension (225/402; 56.0%) and diabetes (171/402; 42.5%). There were 91 (22.6%) HCWs who were HIV positive, eight (2.0%) with active tuberculosis (TB) and four (1.0%) 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– 1 August 2020 (n=402)

Comorbid disease*	Frequency (n)	Percentage (%)
Hypertension	225	56.0
Diabetes mellitus	171	42.5
Chronic cardiac disease	20	5.0
Chronic pulmonary disease	4	1.0
Asthma	67	16.7
Chronic renal disease	4	1.0
Malignancy	8	2.0
HIV	91	22.6
Active tuberculosis	8	2.0
Previous history of tuberculosis	4	1.0

\* 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 883 COVID-19 HCW admissions to date, 77 (8.7%) 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 77 with severe disease, 57 (75.0%) had at least one comorbid disease ( $p < 0.001$ ).

## Outcomes

Of the 883 admitted HCWs, 704 (79.7%) were discharged alive, 27 (2.7%) were transferred out to either higher level care or step-down facilities, 47 (5.3%) died, and 108 (12.2%) were currently in hospital. The case fatality ratio (CFR) of 4.8 % (30/629) among HCWs with known in-hospital outcome was lower than the CFR among non-HCW admissions reported to DATCOV (18.5%, 6602/35723).

The majority of HCW deaths, 14 (29.8%), were reported in the Gauteng, ten (21.3%) from KwaZulu-Natal, nine (19.2%) from the Eastern Cape, six (12.8%) from the Western Cape, five (10.6%) from the Free State, and three (6.4%) from the North West provinces. Thirty-three (70.2%) deaths recorded were among HCWs aged 50 years and older. The median age of those who died was 57 (IQR 48 – 61) years compared to 45 (IQR 37 – 54) years for those who were still alive. Forty (85.1%) of the deaths were female and 7 (14.9%) were male HCWs. One (2.1%) deceased HCW was pregnant. Eighteen (38.3%) of the deceased were admitted in ICU, 23 (48.9%) were ventilated, and 40 (85.1%) were given supplemental oxygen. The median length of stay for the HCWs who died was 9 days [IQR 5 – 13] compared to 6 days [3 – 10] for those discharged alive. Thirty-seven of the 47 (78.7%) HCWs that died had at least one comorbid disease reported. Twenty (42.6%) had more than one reported comorbidity. Hypertension (27/47; 58.7%) and diabetes (23/47; 50.0%) were the common reported comorbid diseases.

Please note that the mortality data presented was based on available information from sentinel hospitals as of 1 August 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

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Admissions among HCW are increasing weekly in keeping with the national trend of increasing numbers of admissions. We have previously observed a high percentage of deaths amongst HCWs older than 60 years of age. However, there is an increase seen in HCWs aged 50 or older as well. In this current report, both age groups had similar high percentage of death due to Covid-19, 34% for 50 or older age group and 36.2% for those aged 60 or older. Healthcare workers with comorbid medical conditions also have higher proportion of deaths.



# 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