

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

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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 31 May 2020.

# HIGHLIGHTS

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- As of May 31, 2020, a total of 188 of all COVID-19 admissions reported from 218 facilities (57 public-sector and 161 private-sector) in all nine provinces of South Africa were health care workers (HCWs). Among these were 6 (3.2%) allied HCWs, 29 (15.4%) nurses, and 25 (13.3%) porters. The HCW type data were missing in the remaining 128 admissions. There was an increase of 14 new HCW admissions since week 21.
- There were 148 (78.3%) and 41 (21.7%) admissions reported in the private and public sector, respectively. The majority of HCW admissions were reported from Western Cape (63; 33.5%), KwaZulu-Natal (59; 31.4%), Gauteng (34; 18.1%), and the Eastern Cape (18; 9.6%) provinces.
- The median age of COVID-19 HCW admissions was 45 years, there were 17 (9%) admissions in patients 60 years and older. A total of 150 (79.8%) were female.
- Among 162 (86.2%) patients with data on comorbid conditions, 67/162 (41.4%) had at least one comorbid condition reported. Most commonly reported comorbid conditions were hypertension (34/67; 50.8%) and diabetes (23/67; 33.3%). There were 12 (17.9%) patients admitted with HIV and one (1.5%) with active tuberculosis and three (4.5%) with a previous history of tuberculosis.
- A total of 15 (8%) patients 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 188 HCW admissions, 45 (23.9%) were in hospital at the time of this report, 135 (71.8%) were discharged alive, three (1.6%) transferred out and five (2.7%) patients had died. Four of the five deaths (80%) were reported in the Western Cape and one from KwaZulu-Natal province. There were no additional deaths since the last reporting week.

# Methods

DATCOV19, 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 DATCOV19 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 DATCOV19 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).

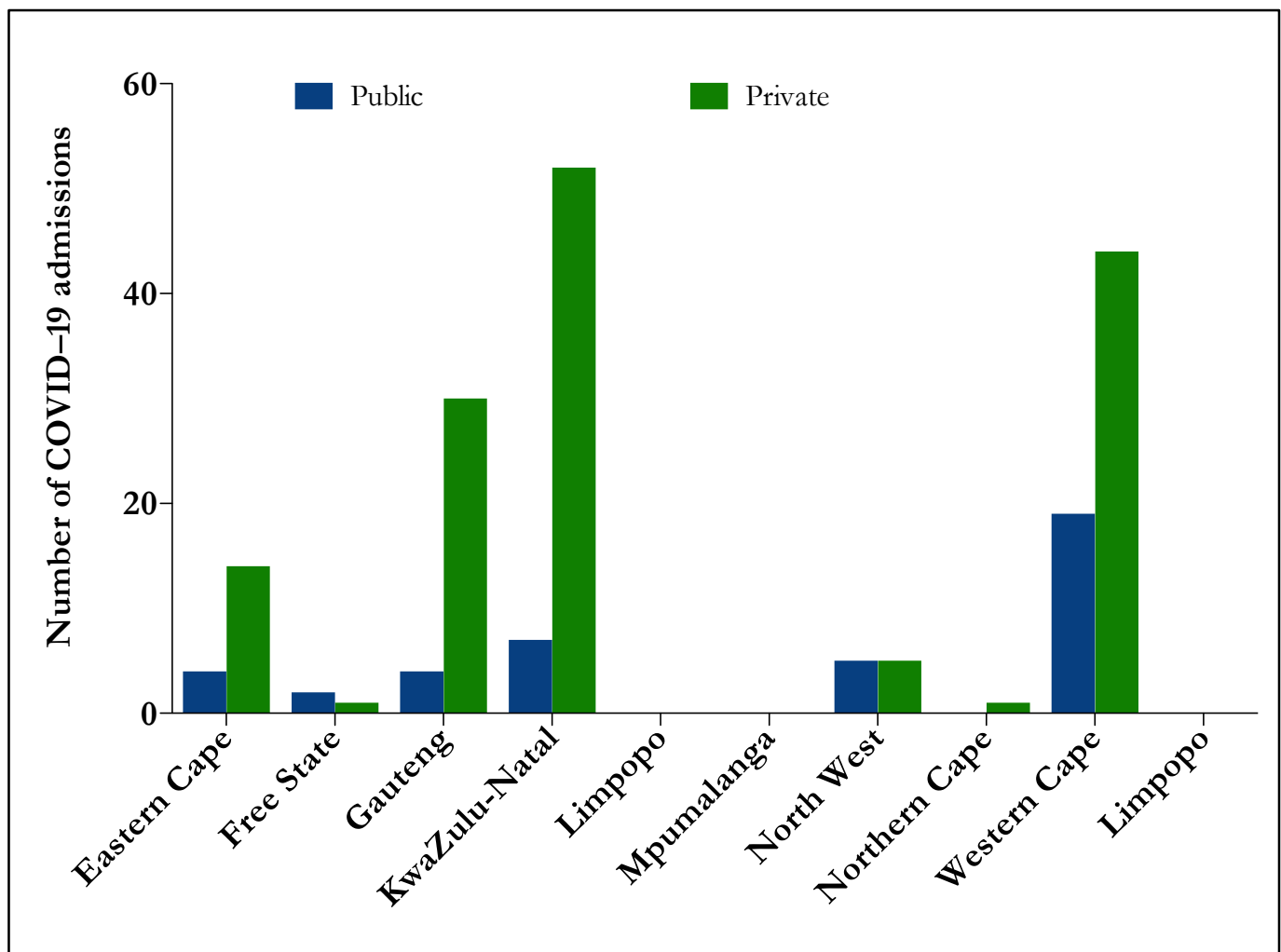
Data on hospitalized HCWs, who were diagnosed with COVID-19 from 5 March to 31 May 2020, were collected. Data are received from all private hospitals nationally, and a subset of public hospitals in all nine provinces (data are received from all public hospitals in the Western Cape (WC) Province). As of 31 May 2020, a total of 218 facilities, 161 from private sector and 57 from public sector, submitted data on hospitalized HCWs with COVID-19 (Table 1).

**Table 1:** Number of hospitals reporting data on COVID-19 admissions among HCWs by province and health-sector, South Africa, 5 March-31 May 2020

Province	Sector	
	Public	Private
Eastern Cape (EC)	5	11
Free State (FS)	3	6
Gauteng (GP)	3	61
KwaZulu-Natal (KZN)	4	32
Limpopo (LP)	1	4
North West (NW)	2	7
Northern Cape (NC)	1	5
Western Cape (WC)	38	31
Mpumalanga (MP)	0	4
<b>South Africa</b>	<b>57</b>	<b>161</b>

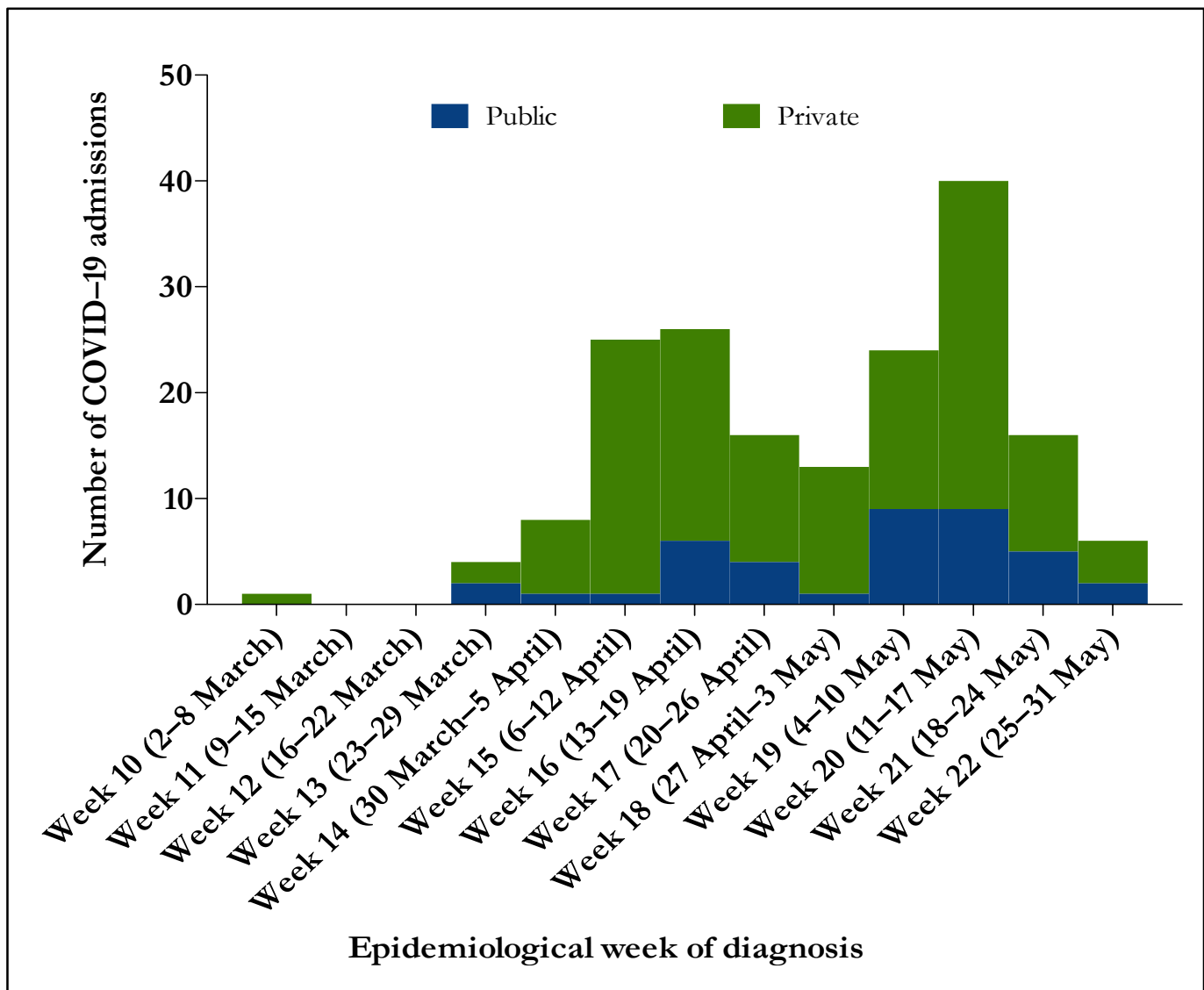
# Results

From 5 March to 31 May, a total of 188 COVID-19 admissions among HCWs were reported from 218 facilities in all nine provinces of South Africa. Of these admissions, 147 (78.2%) and 41 (21.8%) were reported in the private and public sector, respectively (Figure 1). The majority of HCW admissions (174/188; 92.6%) were recorded in four provinces, with the highest number (63/188, 33.5%) reported in Western Cape (WC), followed by 59/188 (31.4%) in KwaZulu-Natal (KZN), 34/188 (18.1%) in Gauteng (GP), and 18/188 (9.6%) 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-31 May 2020 (n=188)

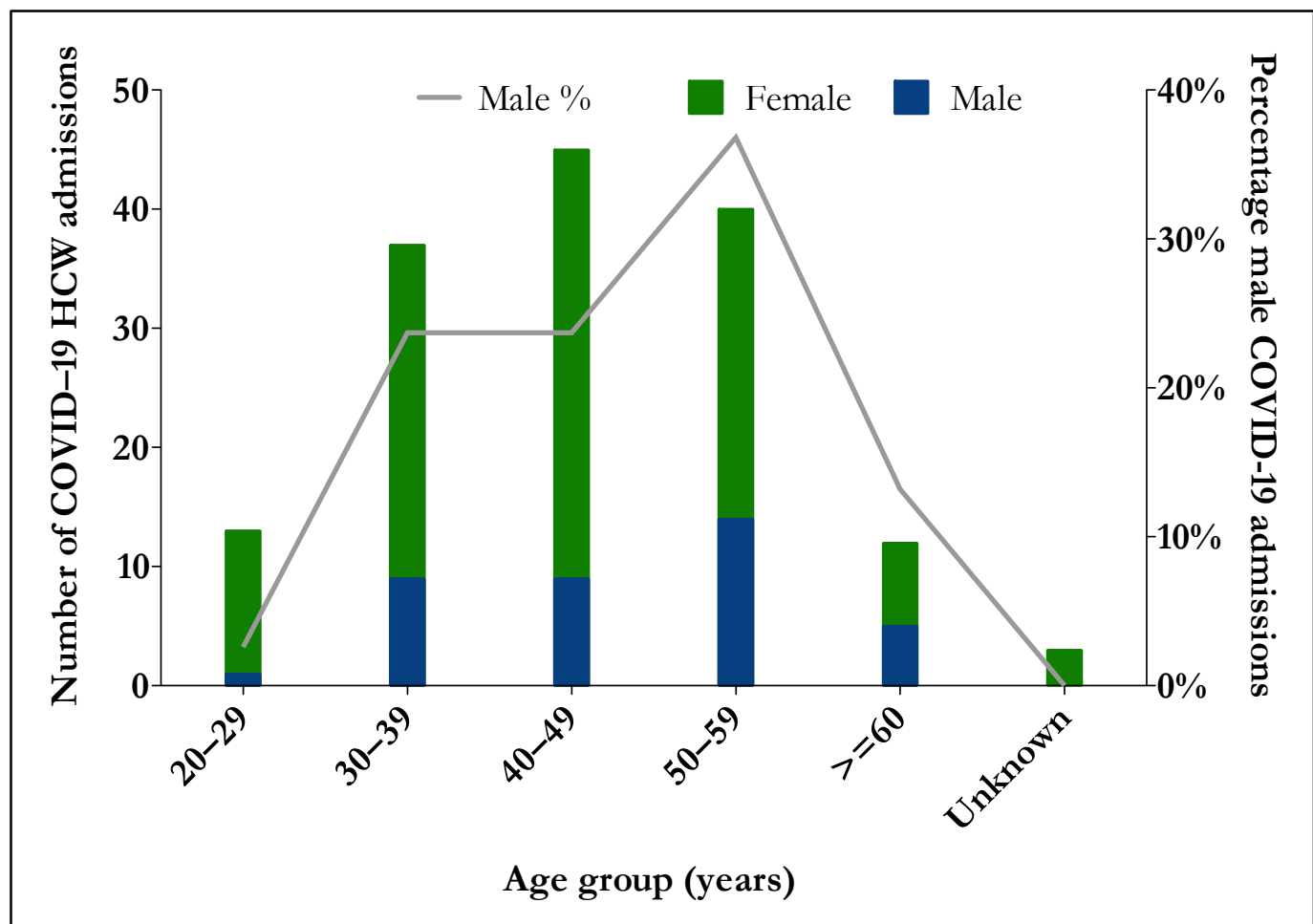
The majority of HCW admissions over time were reported in the private sector. However, increasing number of admissions are now being reported in the public sector as well (Figure 2).



**Figure 2:** Number of reported COVID-19 admissions among HCWs by epidemiologic week of diagnosis and health-sector, South Africa, 5 March–31 May 2020 (n=188)

# Demographic and clinical characteristics of COVID-19 admissions among HCWs, South Africa, 5 March–31 May 2020

The median age of COVID-19 admissions among HCWs was 45 years (interquartile range [IQR] 36.5–54.5). There were 17 (9%) admissions in patients 60 years and older (Figure 3). Among admitted HCWs with COVID-19, 150 (79.8%) were female. The sex ratio varied by age group with females more common than males in all age groups (Figure 3). Among the 150 female admissions, 10 (6.7%) were pregnant. Data on the type of HCW was only available in 32% of admissions (6/188, 3.2% allied HCWs; 29/188, 15.4% nurses, and 25/188, 13.3% porters).



**Figure 3:** Number of reported COVID-19 HCW admissions by age, gender and percentage of males, South Africa, 5 March–31 May 2020 (n=188)

Of the 162 (86.2%) HCWs for whom comorbid disease was known, 67/162 (41.4%) had one or more comorbid disease reported. Among the 67 HCWs who had reported a comorbid condition, the most commonly reported comorbid conditions were hypertension (34/67; 50.8%) and diabetes (23/67; 33.3%). There were 12 (17.9%) HCWs who were HIV positive, one (1.5%) with active tuberculosis (TB) and three (4.5%) 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–31 March 2020 (n=67)

Comorbid disease*	Frequency (n)	Percentage (%)
Hypertension	34	50.8
Diabetes mellitus	23	33.3
Chronic cardiac disease	2	3.0
Chronic pulmonary disease	2	3.0
Asthma	11	16.4
Chronic renal disease	1	1.5
Malignancy	1	1.5
HIV	12	17.9
Active tuberculosis	1	1.5
Previous history of tuberculosis	3	4.5

\* 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

# Clinical management of COVID-19 admissions among HCWs, South Africa, 5 March–31 May 2020

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Of the 45 HCWs currently in-hospital with COVID-19, five (11.1%) were being treated in isolation wards, 30 (66.7%) in general wards, two (4.4%) in high care wards and eight (17.8%) in the Intensive Care Unit (ICU). There were 14 (7.5%) patients currently ventilated and 50 (26.6%) currently on supplementary oxygen.

## Severity

Of the 188 COVID-19 HCW admissions to date, 15 (8%) met the criteria for severe disease. The mean age of patients who had severe disease (46.8 years) was not significantly different from those who did not have severe disease ( $p=0.995$ ). Of the 15 with severe disease, 10 (66.7%) had at least one comorbid disease ( $p=0.037$ ).

## Outcomes

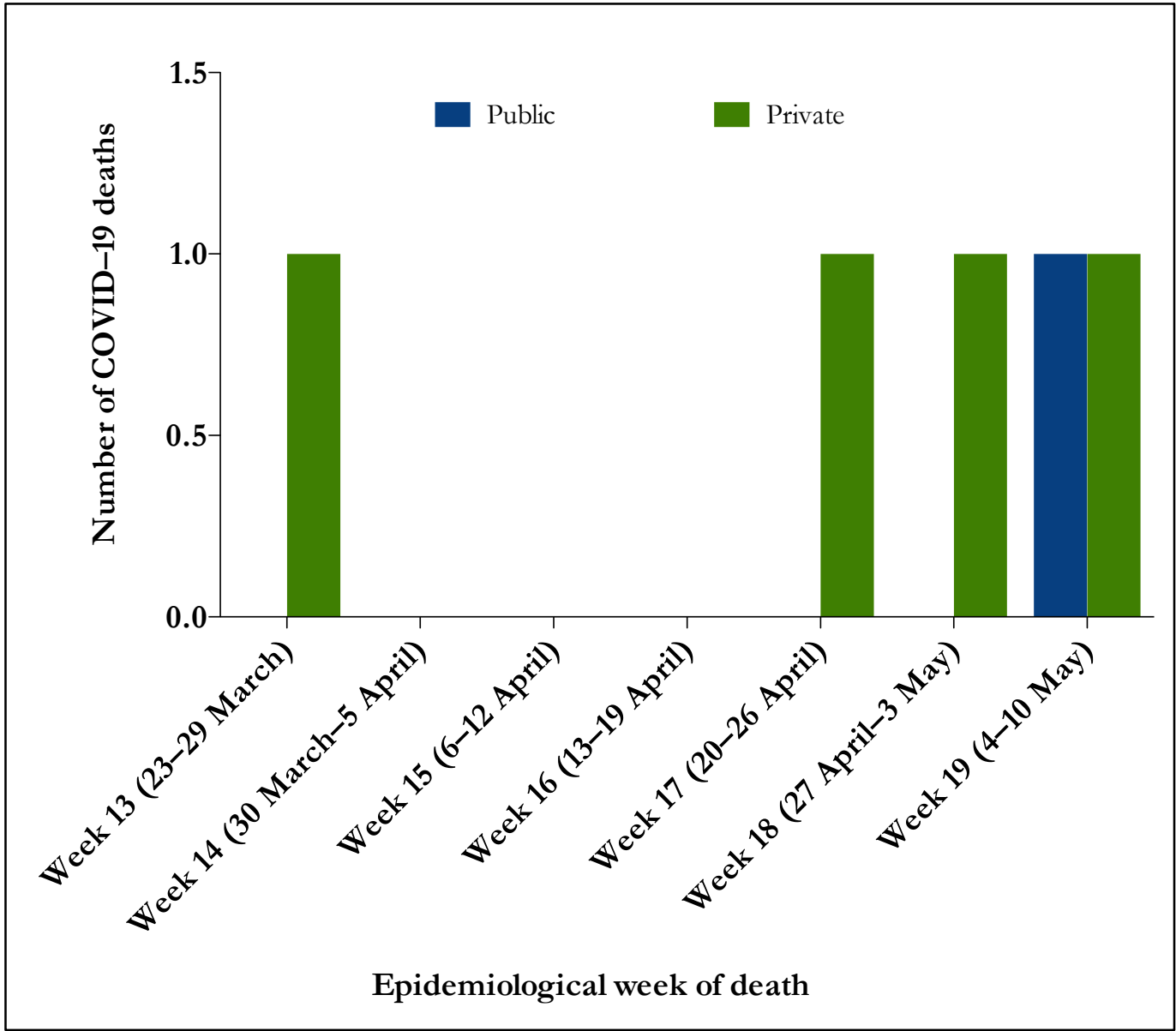
Of the 188 admitted individuals, 135 (71.8%) were discharged alive, three (1.6%) were transferred out to either higher level care or step-down facilities, five (2.7%) had died and 45 (23.9%) were currently in hospital.

## Mortality

Of the 188 COVID-19 admissions among HCWs, five died (all female), case fatality ratio (CFR) 2.7%. The majority of deaths (four) due to COVID-19 were in the private sector (Figure 4). Of these, three (75%) were reported in the Western Cape and one from KwaZulu-Natal provinces. The one death reported in the public sector was from the Western Cape province.

Please note that the mortality data presented was based on available information as of 10 June 2020, thus not all deaths during the reporting period may have been recorded by the participating hospitals.





**Figure 4:** Number of COVID-19 HCW deaths reported per week by health-sector and epidemiologic week, South Africa, 5 March–31 May 2020 (n=5)

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Four deaths recorded were among HCWs 60 years and older with a median age of 61 (IQR 61 – 64) years compared to 44 (IQR 36 – 54) years for those who were still alive. Three (60%) of the five deaths were admitted in ICU and two (40%) were ventilated. Four of five (80%) HCWs that died had at least one comorbid disease reported. Hypertension (3/4; 75%) and diabetes (3/4; 75%) were the commonly reported comorbid diseases (Table 3).

**Table 3:** Clinical profiles of the health care workers admitted with COVID-19 who died, South Africa, (n=5)

Case ID	HCW Type	Age	Sex	Comorbidities	Province	LOS (days)	ICU Admission	On Oxygen	Ventilated	Complications
<b>A</b>	Unknown	52	Female	Diabetes	Western Cape	13	Yes	Yes	Yes	None
<b>B</b>	Unknown	61	Female	<ul style="list-style-type: none"> <li>• Hypertension</li> <li>• Diabetes</li> </ul>	Western Cape	10	No	Yes	No	None
<b>C</b>	Porter	61	Female	Hypertension	Western Cape	7	Yes	Yes	Yes	None
<b>D</b>	Unknown	64	Female	None	KwaZulu-Natal	7	Yes	No	No	None
<b>E</b>	Unknown	67	Female	<ul style="list-style-type: none"> <li>• Hypertension</li> <li>• Diabetes</li> <li>• Chronic pulmonary disease</li> <li>• Asthma</li> </ul>	Western Cape	21	No	Yes	No	None

# Acknowledgements

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Private hospital groups submitting data to DATCOV19:

- 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 DATCOV19

Public hospitals using DATCOV19 surveillance online platform:

- Dora Nginza Hospital (EC)
- Frere Hospital (EC)
- Livingstone Hospital (EC)
- Madwaleni Hospital (EC)
- Uitenhage Hospital (EC)
- Pelonomi Hospital (FS)
- National District Hospital (FS)
- Tambo Memorial Hospital (GP)
- Steve Biko Academic Hospital (GP)
- Charlotte Maxeke Johannesburg Academic Hospital (GP)
- Greys Hospital (KZN)
- Ladysmith Hospital (KZN)
- Manguzi Hospital (KZN)
- Addington Hospital (KZN)
- Polokwane Hospital (LP)
- Robert Mangaliso Sobukwe Hospital (NC)
- Tshepong Hospital (NW)
- Job Shimankana Thabane Hospital (NW)
- Tygerberg Hospital (WC)
- Helderberg Hospital (WC)