

HIGHLIGHTS

- As of June 14, 2020, a total of 238 of all COVID-19 admissions reported from 257 facilities (67 public-sector and 190 private-sector) in all nine provinces of South Africa were health care workers (HCWs). Among these were 8 (3.4%) allied HCWs, 34 (14.3%) nurses, and 25 (10.5%) porters. Approximately 72% (171) did not report on the HCW type. There was an increase of 24 new HCW admissions since week 23.
- There were 185 (77.7%) and 53 (22.3%) admissions reported in private and public sector, respectively. The majority of HCW admissions were reported from Western Cape (81; 34%), KwaZulu-Natal (63; 26.5%), Gauteng (47; 19.8%), and the Eastern Cape (24; 10.1%) provinces.
- The median age of COVID-19 HCW admissions was 44 years, there were 23 (9.7%) admissions in patients 60 years and older. A total of 192 (80.7%) were female.
- Among 214 (89.9%) patients with data on comorbid conditions, 89/214 (41.6%) had at least one comorbid condition reported. Most commonly reported comorbid conditions were hypertension (52/89; 58.4%) and diabetes (34/89; 38.2%). There were 16 (18%) patients admitted with HIV and one (1.1%) with active tuberculosis and two (2.3%) with a previous history of tuberculosis.
- A total of 19 (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 238 HCW admissions, 65 (27.3%) were in hospital at the time of this report, 162 (68.1%) were discharged alive, four (1.7%) transferred out and seven (2.9%) patients had died. Four of the seven deaths (57.1%) were reported in the Western Cape, two (28.6%) from Gauteng and one (14.3%) from KwaZulu-Natal provinces. There were two additional deaths since the last reporting week (one in week 22 and one in week 24).

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 14 June 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 14 June 2020, a total of 257 facilities, 190 from private sector and 67 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-14 June 2020

Province	Sector	
	Public	Private
Eastern Cape (EC)	5	11
Free State (FS)	3	9
Gauteng (GP)	5	69
KwaZulu-Natal (KZN)	5	36
Limpopo (LP)	1	6
North West (NW)	2	12
Northern Cape (NC)	1	5
Western Cape (WC)	45	36
Mpumalanga (MP)	0	6
South Africa	67	190

Results

From 5 March to 14 June, a total of 238 COVID-19 admissions among HCWs (24 additional from the last report) were reported from 257 facilities in all nine provinces of South Africa. Of these admissions, 185 (77.7%) and 53 (22.3%) were reported in the private and public sector, respectively (Figure 1). The majority of HCW admissions (215/238; 90.3%) were recorded in four provinces, with the highest number (81/238, 34%) reported in Western Cape (WC), followed by 63/238 (26.5%) in KwaZulu-Natal (KZN), 47/238 (19.8%) in Gauteng (GP), and 24/238 (10.1%) in Eastern Cape (EC) provinces (Figure 1).

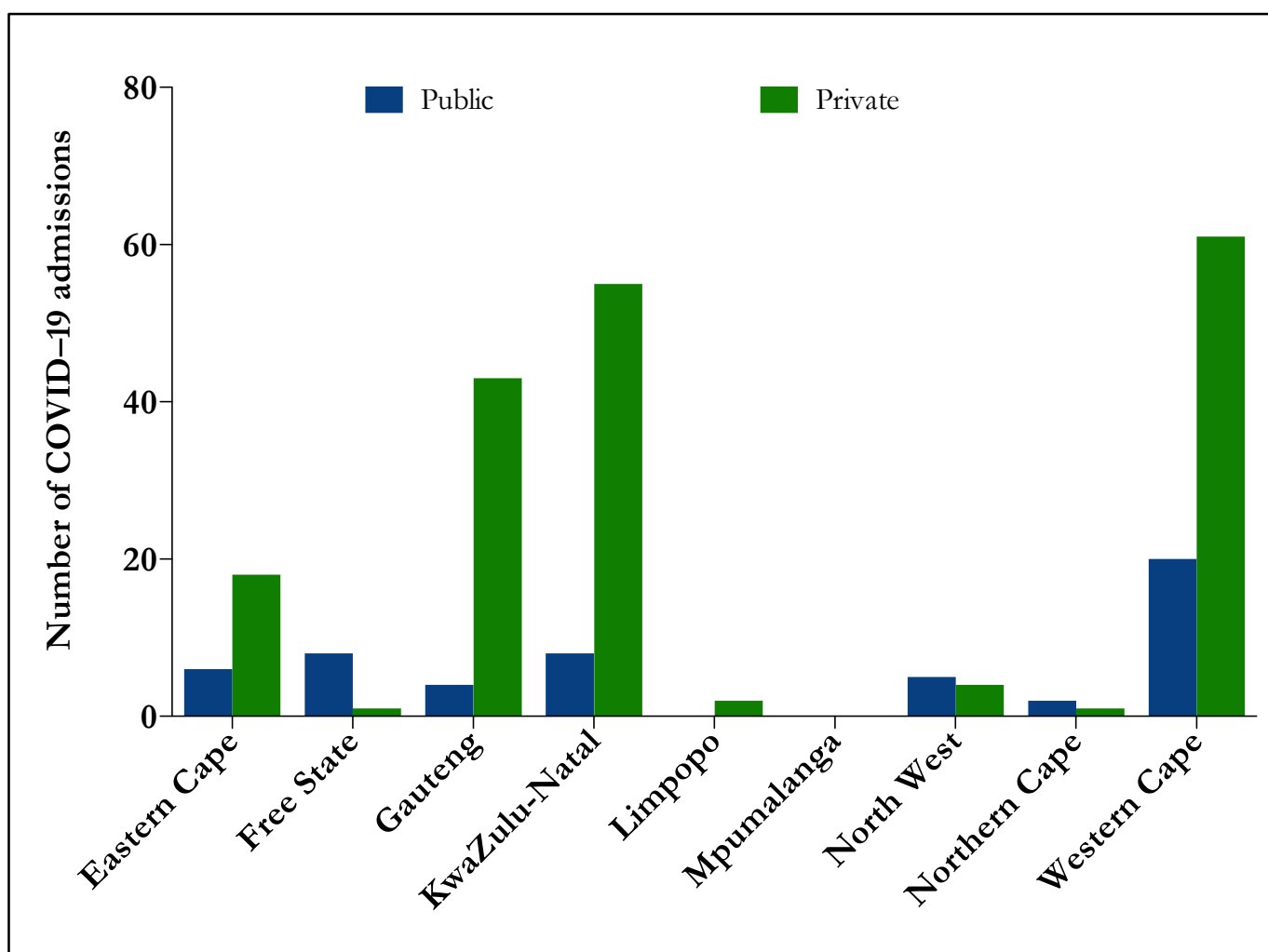


Figure 1: Number of reported COVID-19 admissions among HCWs by province and health-sector, South Africa, 5 March-14 June 2020 (n=238)

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

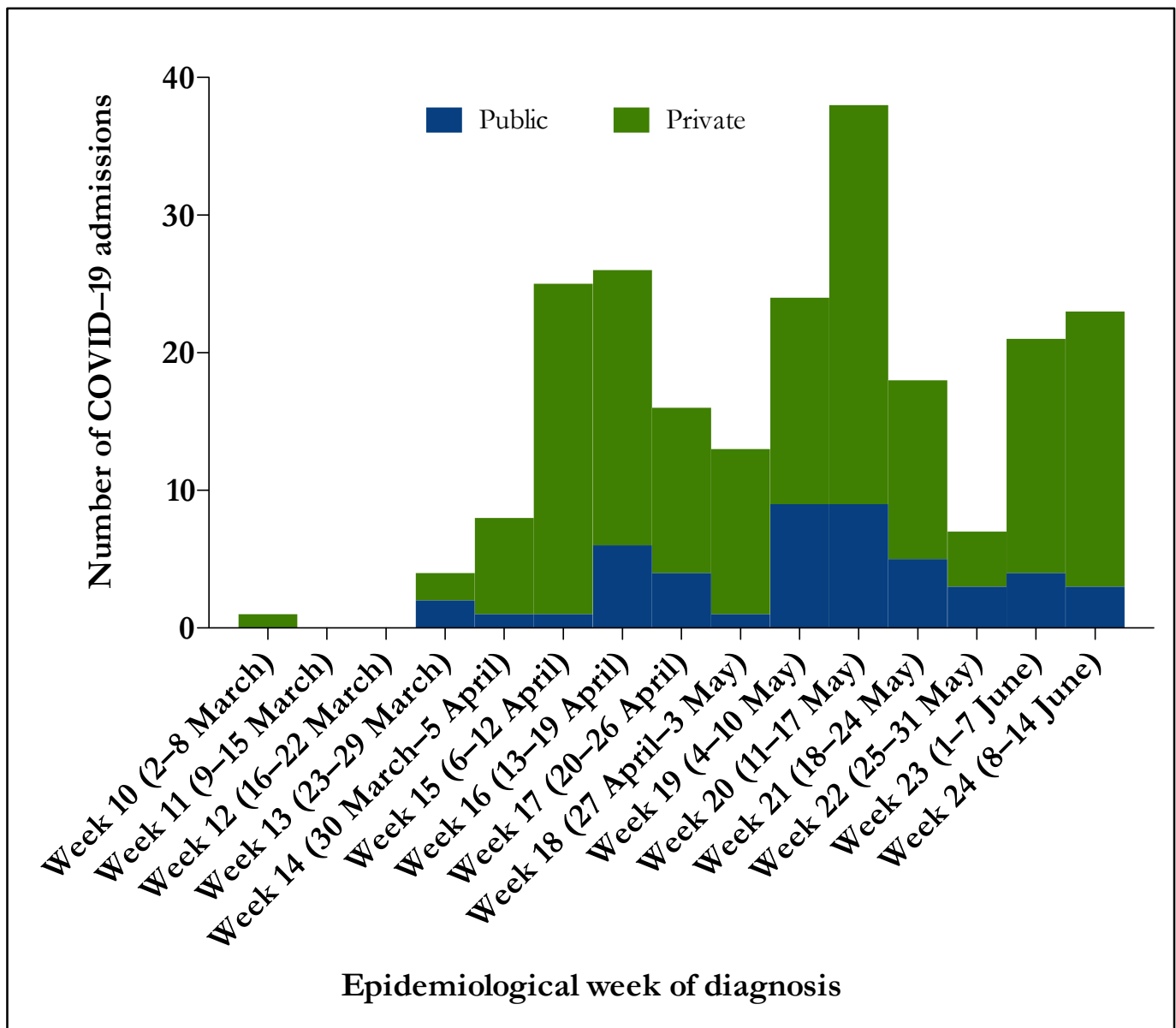


Figure 2: Number of reported COVID-19 admissions among HCWs by epidemiologic week of diagnosis and health-sector, South Africa, 5 March–14 June 2020 (n=238)

Demographic and clinical characteristics of COVID-19 admissions among HCWs, South Africa, 5 March–14 June 2020

The median age of COVID-19 admissions among HCWs was 44 years (interquartile range [IQR] 36–54). There were 23 (9.7%) admissions in patients 60 years and older (Figure 3). Among admitted HCWs with COVID-19, 192 (80.7%) were female. The sex ratio varied by age group with females more common than males in all age groups (Figure 3). Among the 192 female admissions, 10 (5.2%) were pregnant.

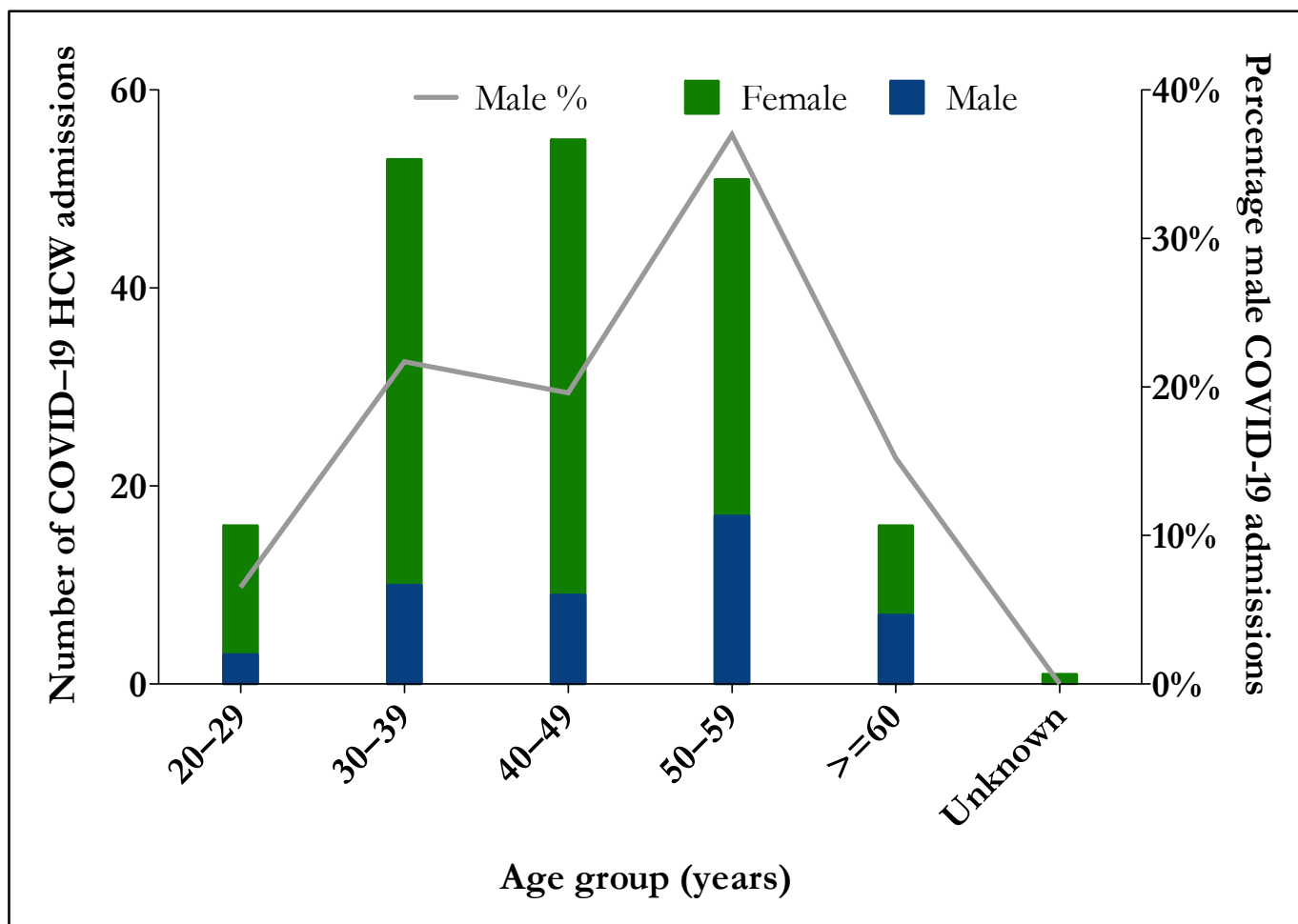


Figure 3: Number of reported COVID-19 HCW admissions by age, gender and percentage of males, South Africa, 5 March–14 June 2020 (n=238)

Of the 214 (89.9%) HCWs for whom comorbid disease was known, 89/214 (41.6%) had one or more comorbid disease reported. Among the 89 HCWs who had reported a comorbid condition, the most commonly reported comorbid conditions were hypertension (52/89; 58.4%) and diabetes (34/89; 38.2%). There were 16 (18%) HCWs who were HIV positive, one (1.1%) with active tuberculosis (TB) and two (2.3%) 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–14 June 2020 (n=89)

Comorbid disease*	Frequency (n)	Percentage (%)
Hypertension	52	58.4
Diabetes mellitus	34	38.2
Chronic cardiac disease	2	2.3
Chronic pulmonary disease	1	1.1
Asthma	18	20.2
Chronic renal disease	2	2.3
Malignancy	0	0.0
HIV	16	18
Active tuberculosis	1	1.1
Previous history of tuberculosis	2	2.3

* 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

Clinical management of COVID-19 admissions among HCWs, South Africa, 5 March–14 June 2020

Of the 65 HCWs currently in-hospital with COVID-19, six (9.2%) were being treated in isolation wards, 44 (67.7%) in general wards, one (1.5%) in high care wards and 14 (21.5%) in Intensive Care Unit (ICU). There were 18 (7.6%) patients currently ventilated and 70 (29.4%) currently on supplementary oxygen.

Severity

Of the 238 COVID-19 HCW admissions to date, 19 (8%) met the criteria for severe disease. The mean age of patients who had severe disease (50.4 years) was significantly different from those who did not have severe disease ($p=0.0499$). Of the 19 with severe disease, 14 (73.7%) had at least one comorbid disease ($p=0.003$).

Outcomes

Of the 238 admitted individuals, 162 (67.6%) were discharged alive, four (1.7%) were transferred out to either higher level care or step-down facilities, seven (2.9%) had died and 65 (27.3%) were currently in hospital.

Mortality

Of the 238 COVID-19 admissions among HCWs, seven died (six female and 1 male), case fatality ratio (CFR) 2.9%. The majority of deaths (7) due to COVID-19 were in the private sector (Figure 4). Of these, four (57.1%) were reported in the Western Cape, two (28.6%) from Gauteng and one (14.3%) 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 14 June 2020, thus not all deaths during the reporting period may have been recorded by the participating hospitals.

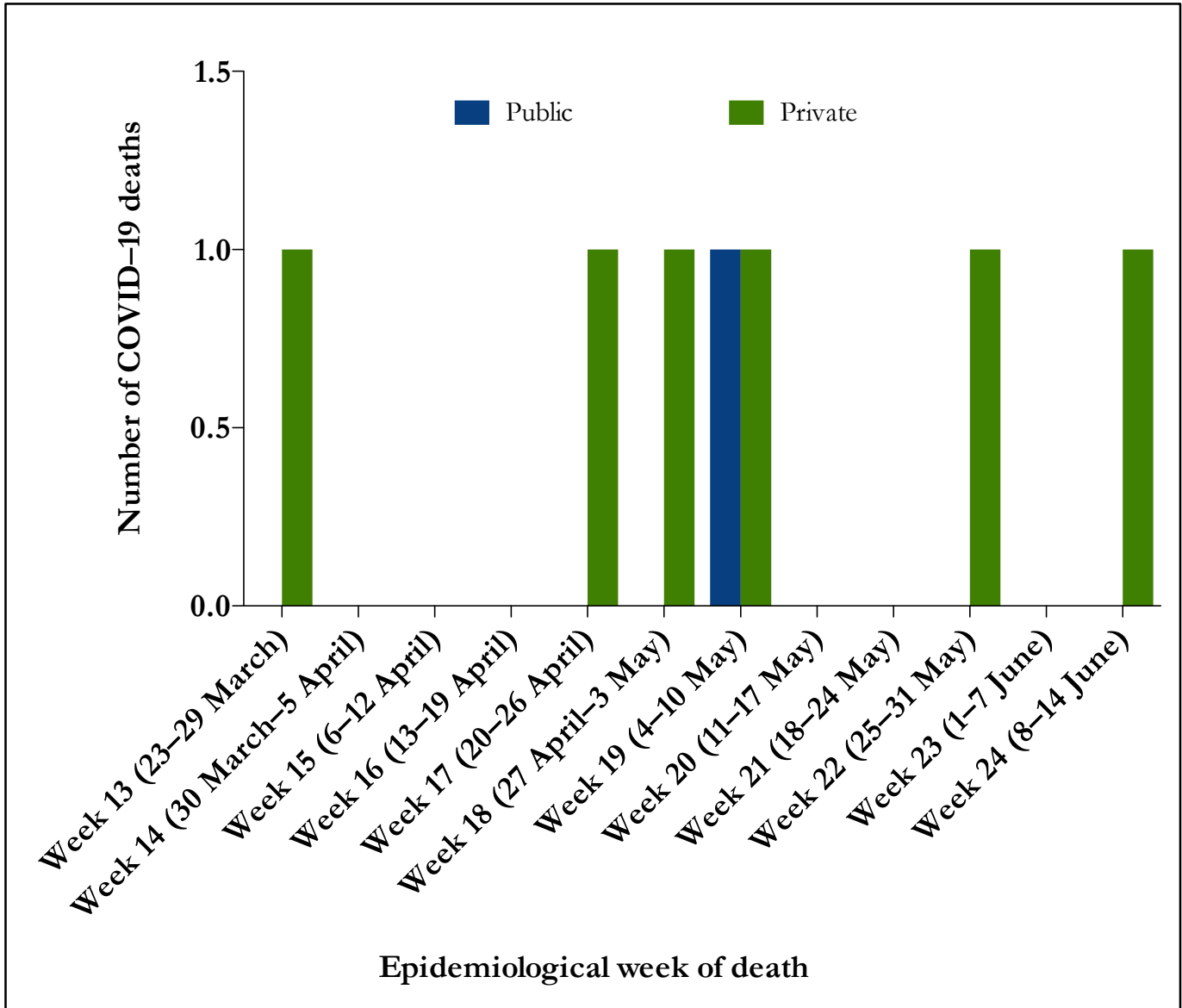


Figure 4: Number of COVID-19 HCW deaths reported per week by health-sector and epidemiologic week, South Africa, 5 March–14 June 2020 (n=7)

Four deaths recorded were among HCWs 60 years and older with a median age of 61 (IQR 57 – 64) years compared to 44 (IQR 36 – 54) years for those who were still alive. Four (57.1%) of the seven deaths were admitted in ICU, four (57.1%) were ventilated and five (71.4%) were oxygenated. Six of the seven (85.7%) HCWs that died had at least one comorbid disease reported. Hypertension (6/7; 85.7%) and diabetes (4/7; 42.9%) were the common reported comorbid diseases (Table 3).

Table 3: Clinical profiles of the health care workers admitted with COVID-19 who died, South Africa, (n=7)

Case ID	HCW Type	Age	Sex	Comorbidities	Province	LOS (days)	ICU Admission	On Oxygen	Ventilated
A	Unknown	52	Female	<ul style="list-style-type: none"> • Hypertension 	Western Cape	13	Yes	Yes	Yes
B	Unknown	61	Female	<ul style="list-style-type: none"> • Hypertension • Diabetes 	Western Cape	10	No	No	No
C	Porter	61	Female	Hypertension	Western Cape	7	Yes	Yes	Yes
D	Unknown	64	Female	None	KwaZulu-Natal	7	Yes	No	No
E	Unknown	67	Female	<ul style="list-style-type: none"> • Hypertension • Diabetes • Asthma 	Western Cape	21	No	Yes	No
F	Unknown	57	Female	<ul style="list-style-type: none"> • Hypertension 	Gauteng	2	Yes	Yes	Yes
G	Nurse	64	Male	<ul style="list-style-type: none"> • Hypertension • Diabetes 	Gauteng	11	No	Yes	Yes

Acknowledgements

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)
- Universitas 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)
- Helderberg Hospital (WC)