

COVID-19 Sentinel Hospital Surveillance Weekly Update on Hospitalized HCWs

Update: Week 43, 2020



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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 24 October 2020 on the DATCOV platform.

HIGHLIGHTS

- As of 24 October 2020, 4036 (4.4%) of the 92 726 COVID-19 hospital admissions recorded on the DATCOV surveillance database, were health care workers (HCWs), reported from 605 facilities in all nine provinces of South Africa. Among 1222/4036 (30.3%) HCWs with available data on type of work, 771/1222 (63.1%) were nurses, 188/1222 (15.4%) porters or administrators, 123/1222 (10.1%) allied HCWs, 77/1222 (6.3%) doctors, 24/1222 (1.9%) paramedics, and 10/1222 (0.8%) laboratory scientists.
 - There was an increase of 52 new HCW admissions since week 41.
 - There were 1623 (40.2%) and 2413 (59.8%) admissions reported in the public and private sector, respectively.
 - The majority of HCW admissions were reported in Gauteng (1631, 40.4%), KwaZulu-Natal (938, 23.2%), Eastern Cape (585, 14.5%) and Western Cape (287, 7.1%).
 - The median age of COVID-19 HCW admissions was 47 years, there were 616 (15.3%) admissions in HCWs aged 60 years and older. Among admitted HCWs with COVID-19, 3003 (74.4 %) were female.
 - Of the 1501 (37.1%) HCWs for whom comorbid disease was known, 939/1501 (62.6%) had at least one comorbid disease and 562/1501 (37.4%) had more than one comorbidity reported. Among the 1501 HCWs who had reported a comorbid condition, the most commonly reported comorbid conditions were hypertension (989/1501; 65.9%) and diabetes (636/1501; 42.4%). There were 212 (14.1%) HCWs who were HIV positive, 26 (1.7%) with active tuberculosis (TB) and seventeen (1.1%) with a previous history of TB.
 - A total of 483 (11.9%) HCW admissions were admitted to ICU, of these 190 (39.3%) were treated with oxygen, 85 (17.6%) were treated on ventilation and 90 (18.6%) received both treatment. The remainder 118 (24.4%) did not receive oxygen or ventilation support.
 - Of the 4036 HCW admissions, 176 (4.4%) were in hospital at the time of this report, 3484 (86.3%) were discharged alive, 57 (1.4%) transferred out and 319 (7.9%) HCWs had died. Ninety-five (95) of the 319 deaths (29.8%) were reported in the Eastern Cape, 80 (25.1) from KwaZulu-Natal, and 76 (23.8%) from Gauteng. Of those who died, 226 (76.4%) had comorbid diseases, and 123 (38.6%) had more than one reported comorbidity.
 - The case fatality ratio among HCWs with known in-hospital outcome was 7.3%.
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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 and public hospitals nationally, in all nine provinces. As new hospitals join the surveillance system, they retrospectively captured all admissions recorded. As of 24 October 2020, a total of 605 facilities, 357 from public sector and 248 from private sector, submitted data on hospitalized patients with COVID-19 (Table 1). There were 57 additional hospitals (54 public sector and 2 private sector) reporting COVID-19 admissions since the last report.

Table 1: Number of hospitals reporting data on COVID-19 admissions by province and health-sector, South Africa, 5 March – 24 October 2020

Provinces	Public	Private
Eastern Cape	82	17
Free State	35	20
Gauteng	38	90
KwaZulu-Natal	63	45
Limpopo	34	7
Mpumalanga	24	9
North West	12	12
Northern Cape	13	8
Western Cape	56	40
South Africa	357	248

Results

From 5 March to 24 October 2020, there was a total of 4036/92 726 (4.4%) COVID-19 admissions among HCWs (52 additional admissions from the last report) reported from 605 facilities in all nine provinces of South Africa. Of these admissions, 1623 (40.2%) and 2413 (59.8%) were reported in the public and private sector, respectively (Figure 1). The majority of HCW admissions (3446/4036; 85.4%) were recorded in four provinces, with the highest number 1631/4036 (40.4%) reported in Gauteng, followed by 938/4036 (23.2) in KwaZulu-Natal, 585/4036 (14.5%) in Eastern Cape and 287/4036 (7.1%) in Western Cape provinces (Figure 1).

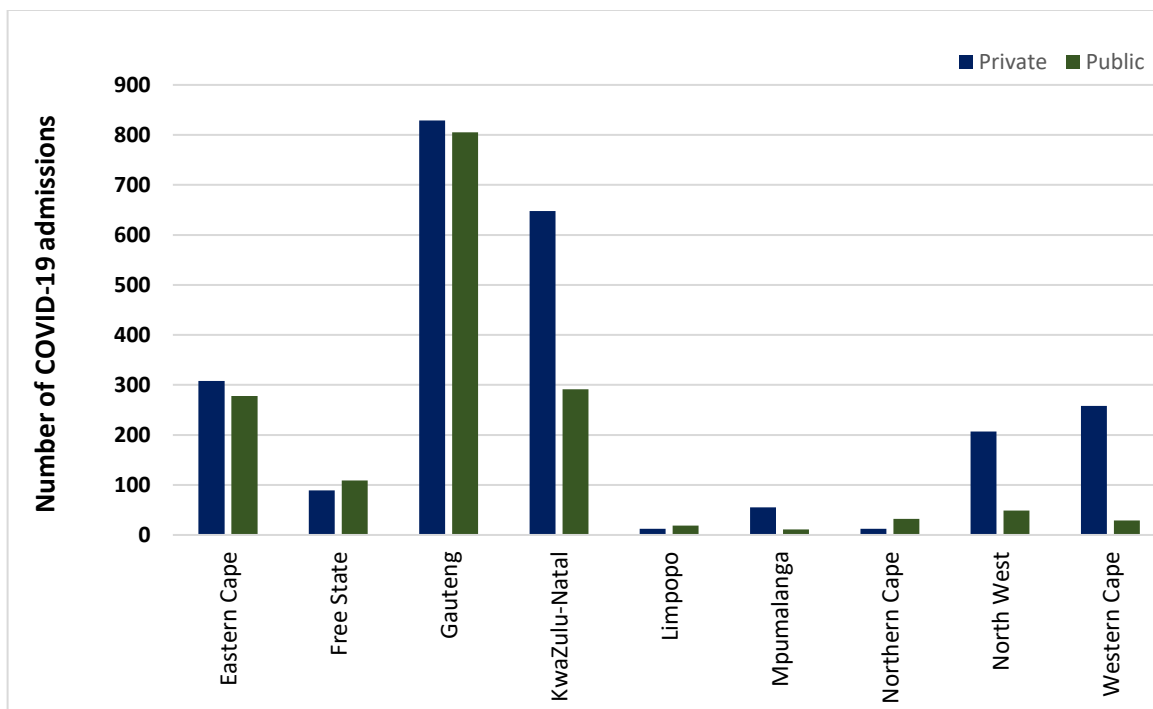


Figure 1: Number of reported COVID-19 admissions among HCWs by province and health-sector, South Africa, 5 March – 24 October 2020 (n=4036)

The majority of HCW admissions continue to be reported in the private sector (59.8%) (Figure 2). The overall number of admissions has been decreasing since week 30.

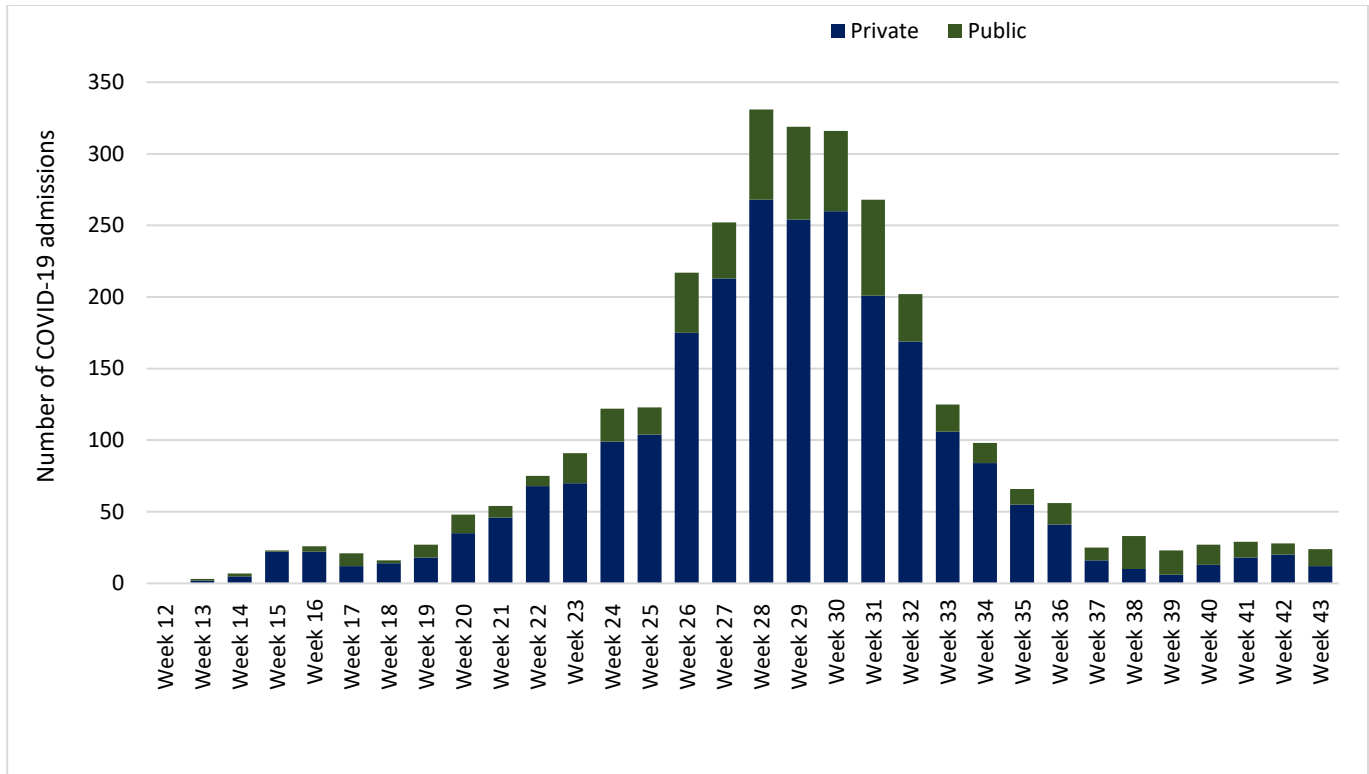


Figure 2: Number of reported COVID-19 admissions among HCWs by epidemiologic week of diagnosis and health-sector, South Africa, 5 March– 24 October 2020 (n=4036)

Demographic and clinical characteristics of COVID-19 admissions among HCWs, South Africa, 5 March– 24 October 2020

There were two HCWs whose gender was unknown at the time of this report's dissemination. The median age of COVID-19 admissions among HCWs was 47 years (interquartile range [IQR] 38–56). There were 616 (15.2%) admissions in HCW 60 years and older (Figure 3). Among admitted HCWs with COVID-19, 3003 (74.4%) were female. The sex ratio varied by age group with females more common than males in all age groups (Figure 3). Among the 3003 female admissions, 51 (1.7%) were pregnant.

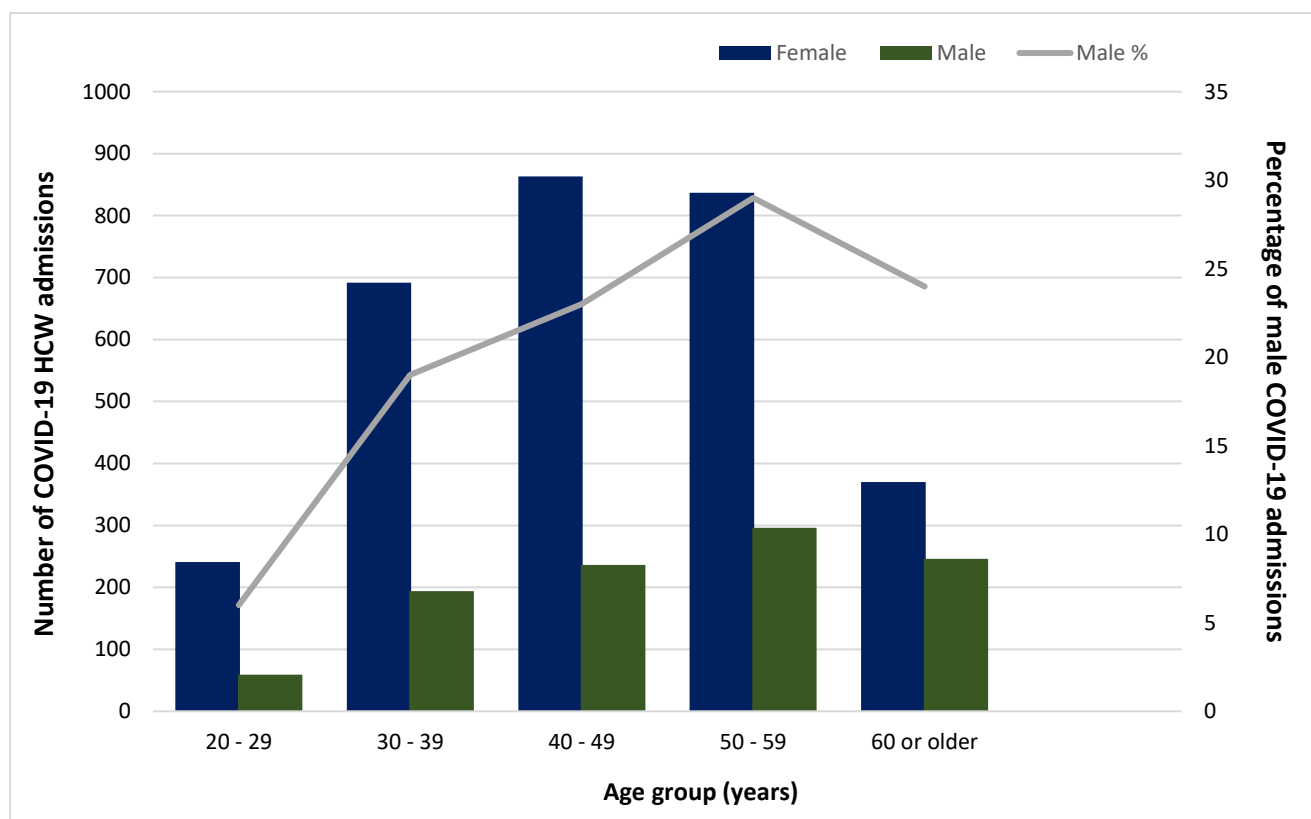


Figure 3: Number of reported COVID-19 HCW admissions by age, gender and percentage of males, South Africa, 5 March– 24 October 2020 (n=4036)

Of the 1501 (37.1%) HCWs for whom comorbid disease was known, 939/1501 (62.6%) had at least one comorbid disease and 562/1501 (37.4%) had more than one comorbidity reported. Among the 1501 HCWs who had reported a comorbid condition, the most commonly reported comorbid conditions were hypertension (989/1501; 65.9%) and diabetes (636/1501; 42.4%). There were 212 (14.1%) HCWs who were HIV positive, 26 (1.7%) with active tuberculosis (TB) and seventeen (1.1%) 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– 24 October 2020 (n=1501)

Comorbid disease*	Frequency (n)	Percentage (%)
Hypertension	989	65.8
Diabetes mellitus	636	42.4
Chronic cardiac disease	68	4.5
Chronic pulmonary disease/Asthma	197	13.1
Chronic renal disease	14	0.9
Malignancy	19	1.3
HIV	212	14.1
Active tuberculosis	26	1.7
Previous history of tuberculosis	17	1.1

* 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

- A total of 483 (11.9%) HCW admissions were in ICU, of these 190 (39.3%) were treated with oxygen, 85 (17.6%) were treated on ventilation and 90 (18.6%) received both treatment. The mean age of patients who received oxygen or ventilation as an intervention (51 years) was significantly different from those who did not receive oxygen or ventilation intervention (45 years) ($p < 0.0001$). Of the HCW admissions treated with oxygen or ventilation, 316 (26.3%) had at least one comorbid disease ($p < 0.001$).

Outcomes

Of the 4036 HCW admissions, 3484 (86.3%) were discharged alive, 57 (1.4%) transferred out to either higher level care or step-down facilities, 319 (7.9%) HCWs had died and 176 (4.4%) were currently in hospital. The case fatality ratio (CFR) of 7.3% among HCWs with known in-hospital outcome was lower than the CFR among non-HCW admissions reported to DATCOV (18.7%). Only 1 death was recorded between the week 42 and 43 (Figure 4).

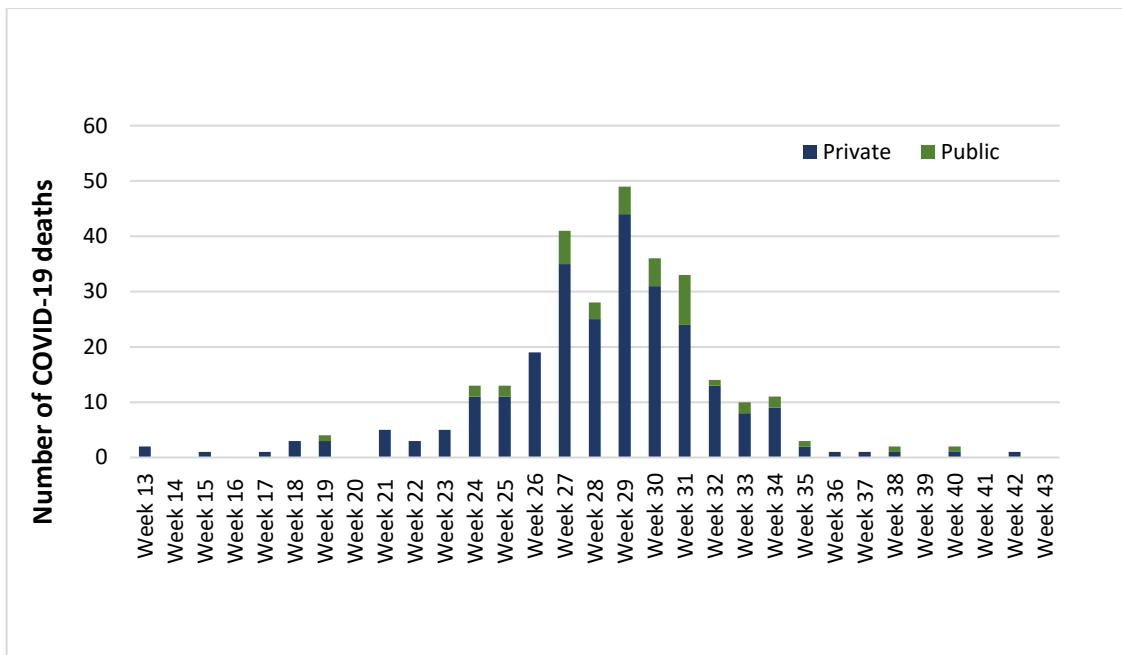


Figure 4. Number of reported COVID-19 deaths among HCW by epidemiology week in private and public sector, South Africa, 5 March– 24 October 2020.

Please note that the mortality data presented was based on available information from sentinel hospitals as of 24 October 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.

The majority of deaths among HCW admitted with COVID-19, 95 (29.8%), were reported in the Eastern Cape, followed by 80 (25.1%) from KwaZulu-Natal and 76 (23.8%) from Gauteng provinces. One hundred and twenty-nine (139, 43.3%) deaths recorded were among HCWs aged 60 years and older. The median age of those who died was 57 (IQR 50 – 64) years compared to 46 (IQR 37 – 55) years for those who were still alive. One hundred and twenty-seven, 127 (39.8 %) of the deceased were admitted in ICU, 121 (37.9 %) were ventilated, and 178 (55.8 %) were given supplemental oxygen. The median length of stay for the HCWs who died was 10 days [IQR 4 – 19] compared to 6 days [3 – 11] for those discharged alive. Of the HCW who died, 226 (76.4%) had comorbid disease reported and 123 (38.6%) had more than one reported comorbidity. Hypertension (989/1501; 65.9%) and diabetes (636/1501; 42.4%) were the common reported comorbid diseases.

Conclusion

Admissions among HCW are declining in keeping with the national trend. We continue to observe a high percentage of deaths amongst HCWs older than 60 years of age. Healthcare workers with comorbid medical conditions also have a higher proportion of deaths. The case fatality ratio (CFR) of 7.3% among HCWs with known in-hospital outcome was lower than the CFR among non-HCW (18.7%) admissions.

Acknowledgements

All public and private sector hospitals submitting data to DATCOV

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)