

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

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Update: Week 34, 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 22 August 2020 on the DATCOV platform.

# HIGHLIGHTS

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- As of 22 August 2020, 2 481 (4.2%) of the 58 594 COVID-19 hospital admissions recorded on the DATCOV surveillance database, were health care workers (HCWs), reported from 245 facilities (71 public-sector and 174 private-sector) in all nine provinces of South Africa. Among 701/2481 (28.3%) HCWs with available data on type of work, 335/701 (47.8%) were nurses, 171/701 (24.4%) were categorized as other HCWs, 88/701 (12.5%) porters or administrators, 47/701 (6.7%) allied HCWs, 37/701 (5.3%) doctors, 16/701 (2.3%) paramedics, and 7/701 (1.0%) laboratory scientists.
- There was an increase of 261 new HCW admissions since week 33. Notably, 185/261 HCW admissions were retrospectively captured into the DATCOV system and are not real-time admissions from the last week.
- There were 299 (12.1%) and 2182 (87.9%) admissions reported in the public and private sector, respectively.
- The majority of HCW admissions were reported in Gauteng (778, 31.4%), KwaZulu-Natal (606, 24.4%), Eastern Cape (395, 15.9%) and Western Cape (276, 11.1%).
- The median age of COVID-19 HCW admissions was 49 years, there were 440 (17.7%) admissions in HCWs aged 60 years and older. A total of 1770 (71.3%) were female.
- Among 1809 (72.9%) HCWs for whom comorbid disease was known, 1162/2481 (46.8%) had at least one comorbid disease and 410/1162 (35.3%) had more than one comorbidity reported. The most commonly reported comorbid conditions were hypertension (732/1162; 63.0%) and diabetes (535/1162; 46.0%). There were 141 (12.1%) HCWs who were HIV positive, 20 (1.7%) with active tuberculosis (TB) and seven (0.6%) with a previous history of TB.
- A total of 167 (6.7%) 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 2481 HCW admissions, 176 (7.1%) were in hospital at the time of this report, 2064 (83.2%) were discharged alive, 32 (1.3%) transferred out and 209 (8.4%) HCWs had died. Sixty-eight (68) of the 209 deaths (32.5%) were reported in the Eastern Cape, 51 (24.4%) from Gauteng, and 47 (22.5%) from KwaZulu-Natal provinces. Of those that died, 80 (38.3%) had more than one comorbidity and 90 (43.1%) were aged 60 or older.
- The case fatality ratio among HCWs with known in-hospital outcome was 9.2%.

# 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).

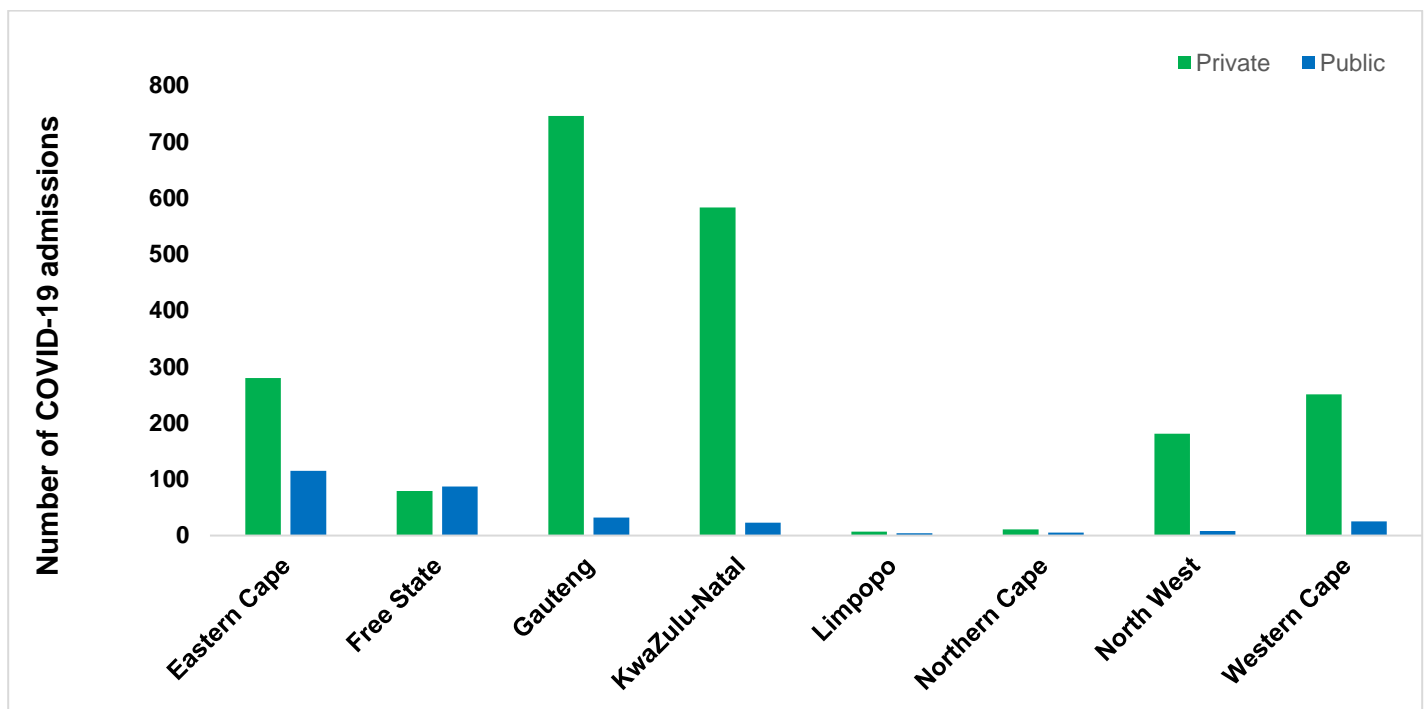
Data on all COVID-19 admissions are received from all private hospitals nationally, and a subset of public hospitals in all nine provinces (data are received from all public hospitals in the Western Cape (WC) Province). As new hospitals join the surveillance system, they retrospectively captured all admissions recorded. As of 22 August 2020, a total of 414 facilities, 173 from public sector and 241 from private sector, submitted data on hospitalized patients with COVID-19 (Table 1). There were 16 additional hospitals reporting COVID-19 admissions since the last report. Data on hospitalized HCWs who were diagnosed with COVID-19 from 5 March to 22 August 2020 were collected from 245 hospitals (71 public and 174 private) of the 414 participating sentinel hospitals.

**Table 1:** Number of hospitals reporting data on COVID-19 admissions by province and health-sector, South Africa, 5 March – 22 August 2020

Facilities reporting	Public	Private
Eastern Cape	71	16
Free State	26	20
Gauteng	6	87
KwaZulu-Natal	8	45
Limpopo	1	6
Mpumalanga	2	9
North West	2	12
Northern Cape	1	7
Western Cape	56	39
South Africa	173	241

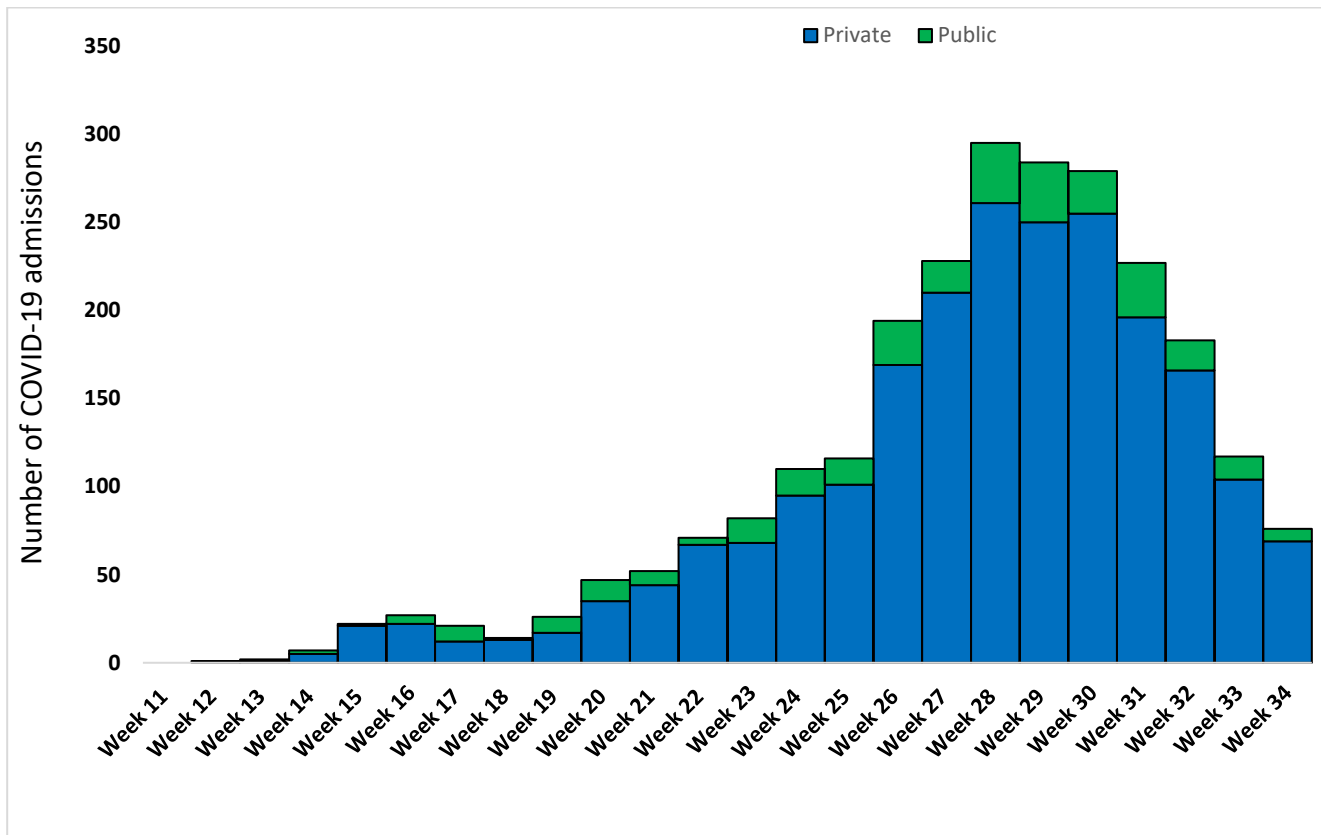
# Results

From 5 March to 22 August 2020, there was a total of 2481/58594 (4.2%) COVID-19 admissions among HCWs (261 additional from the last report) reported from 245 facilities in all nine provinces of South Africa. Of these admissions, 299 (12.1%) and 2182 (87.9%) were reported in the public and private sector, respectively (Figure 1). The majority of HCW admissions (2055/2481; 82.8%) were recorded in four provinces, with the highest number 778/2481 (31.4%) reported in Gauteng, followed by 606/2481 (24.4%) in KwaZulu-Natal, 395/2481 (15.9%) in Eastern Cape and 276/2481 (11.1%) 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 – 22 August 2020 (n=2481)

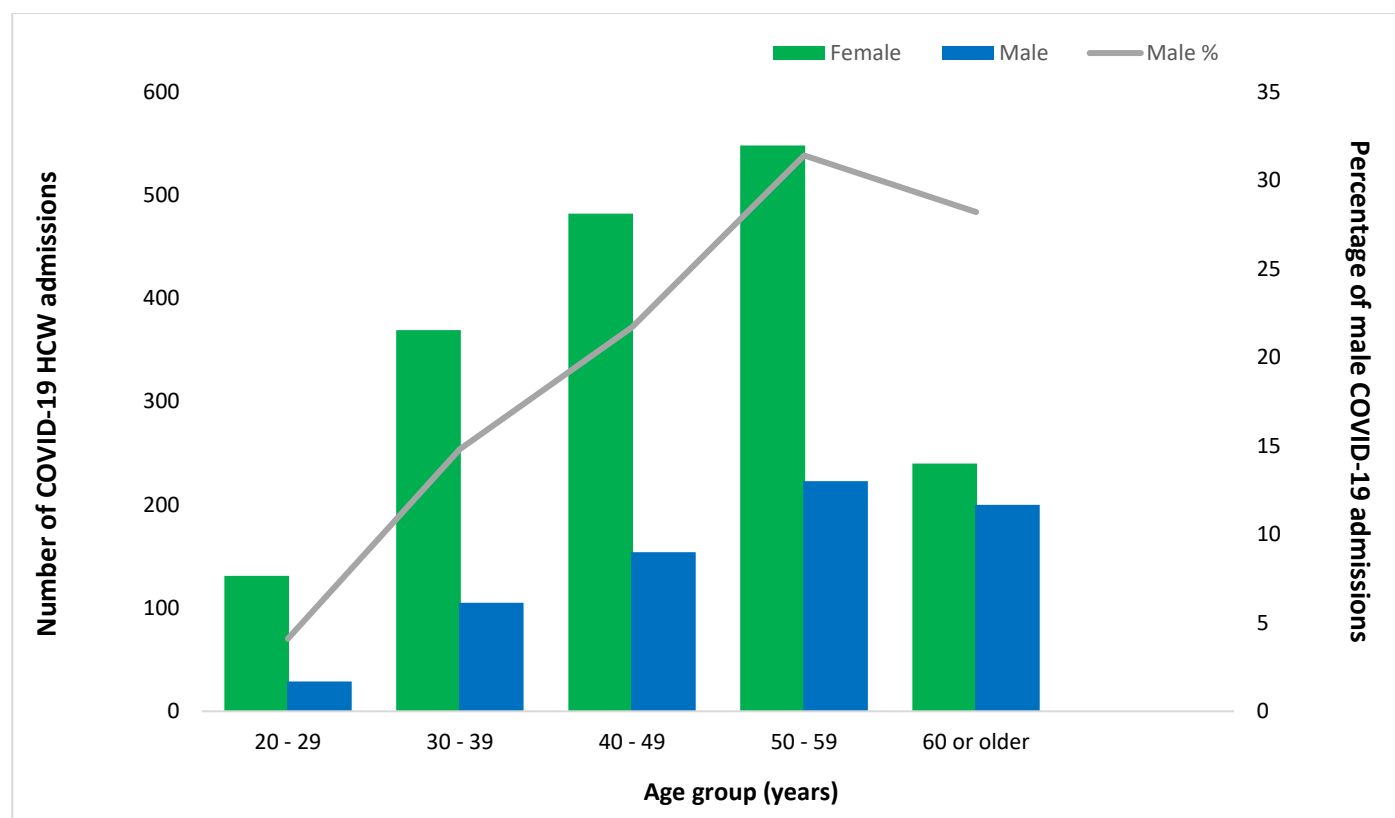
The majority of HCW admissions continue to be reported in the private sector (87.9%) (Figure 2). The overall number of admissions has been decreasing since week 30.



**Figure 2:** Number of reported COVID-19 admissions among HCWs by epidemiologic week of diagnosis and health-sector, South Africa, 5 March– 22 August 2020 (n=2481)

# Demographic and clinical characteristics of COVID-19 admissions among HCWs, South Africa, 5 March– 22 August 2020

The median age of COVID-19 admissions among HCWs was 49 years (interquartile range [IQR] 39–57). There were 440 (17.7%) admissions in patients 60 years and older (Figure 3). Among admitted HCWs with COVID-19, 1770 (71.3%) were female. The sex ratio varied by age group with females more common than males in all age groups (Figure 3). Among the 1770 female admissions, 46 (2.6%) were pregnant.



**Figure 3:** Number of reported COVID-19 HCW admissions by age, gender and percentage of males, South Africa, 5 March– 22 August 2020 (n=2481)

Of the 1809 (72.9%) HCWs for whom comorbid disease was known, 1162/2481 (46.8%) had at least one comorbid disease and 410/1162 (35.3%) had more than one comorbidity reported. Among the 1162 HCWs who had reported a comorbid condition, the most commonly reported comorbid conditions were hypertension (732/1162; 63.0%) and diabetes (535/1162; 46.0%). There were 141 (12.1%) HCWs who were HIV positive, 20 (1.7%) with active tuberculosis (TB) and seven (0.6%) 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– 22 August 2020 (n=1162)

Comorbid disease*	Frequency (n)	Percentage (%)
Hypertension	732	63.0
Diabetes mellitus	535	46.0
Chronic cardiac disease	44	3.8
Chronic pulmonary disease	11	1.0
Asthma	141	12.1
Chronic renal disease	6	0.5
Malignancy	15	1.3
HIV	141	12.1
Active tuberculosis	20	1.7
Previous history of tuberculosis	7	0.6

\* 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 2481 COVID-19 HCW admissions to date, 167 (6.7%) met the criteria for severe disease defined as receiving treatment in high care or intensive care unit (ICU) or ventilated or diagnosed with acute respiratory distress syndrome (ARDS). The mean age of patients who had severe disease (53 years) was significantly different from those who did not have severe disease (48 years) ( $p < 0.001$ ). Of the 167 with severe disease, 116 (69.5%) had at least one comorbid disease ( $p < 0.001$ ).

## Outcomes

Of the 2481 admitted HCWs, 2064 (83.2%) were discharged alive, 32 (1.3%) were transferred out to either higher level care or step-down facilities, 209 (8.4%) died, and 176 (7.1%) were currently in hospital. The case fatality ratio (CFR) of 9.2% (209/2273) among HCWs with known in-hospital outcome was lower than the CFR among non-HCW admissions reported to DATCOV (18.7%, 9792 /52357).

The majority of HCW deaths, 68 (32.5%), were reported in the Eastern Cape, followed by 51 (24.4%) from Gauteng, and 47 (22.5%) from KwaZulu-Natal provinces. Ninety (43.1%) deaths recorded were among HCWs aged 60 years and older. The median age of those who died was 58 (IQR 50 – 64) years compared to 48 (IQR 38.5 – 57) years for those who were still alive. One (0.5%) deceased HCW was pregnant. Eighty-seven (41.6%) of the deceased were admitted in ICU, 67 (32.1%) were ventilated, and 183 (87.6%) were given supplemental oxygen. The median length of stay for the HCWs who died was 9 days [IQR 4 – 16] compared to 6 days [3 – 10] for those discharged alive. Of the HCW who died, 155 (74.2%) had at least one comorbid disease reported and 80 (38.3%) had more than one reported comorbidity. Hypertension (115/209; 55.0%) and diabetes (96/209; 45.9%) were the common reported comorbid diseases.

Please note that the mortality data presented was based on available information from sentinel hospitals as of 22 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 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.

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# Acknowledgements

Western Cape province: all public sector hospitals submitting data to DATCOV

Public hospitals using DATCOV surveillance online platform:

Eastern Cape	
Adelaide Hospital	Aliwal North Hospital
All Saints Hospital	Andries Vosloo Hospital
Bambisana Hospital	Bedford Hospital
Bisho Hospital	Butterworth Hospital
Cala Hospital	Cathcart Hospital
Cecilia Makiwana Hospital	Cloete Joubert Hospital
Cofimvaba Hospital	Cradock Hospital
Dora Nginza Hospital	Dordrecht Hospital
Dr Malizo Mpehle Hospital	Elizabeth Donkin Hospital
Elliot Hospital	Empilisweni Hospital
Empilweni Hospital	Fort Beaufort Hospital
Frere Hospital	Frontier Hospital
Glen Grey Hospital	Grey Hospital
Hewu Hospital	Holy Cross Hospital
Humansdorp Hospital	Indwe Hospital
Isilimela Hospital	Kareedouw Hospital
Khotsong TB Hospital	Komani Hospital
Komga Hospital	Livingstone Hospital
Maclear Hospital	Madwaleni Hospital
Madzikana ka Zulu Memorial Hospital	Midland Hospital
Mjanyana Hospital	Molteno Hospital
Mount Ayliff Hospital	Nelson Mandela Academic Hospital
Nkqubela Chest Hospital	Nompumelelo Hospital
Port Alfred Hospital	Rev Dr Elizabeth Mamisa Chabula-Nxiweni Field
Sawas Hospital	Settlers Hospital
Sipetu Hospital	SS Gida Hospital
St Barnabas Hospital	St Elizabeth Hospital
St Francis Hospital	St Patricks Hospital
Sterkstroom Hospital	Steynsburg Hospital
Stutterheim Hospital	Sundays Valley Hospital
Tafalofefe Hospital	Taylor Bequest Hospital (Matatiele)
Taylor Bequest Hospital (Mount Fletcher)	Tower Psychiatric Hospital
Uitenhage Hospital	Umlamli Hospital
Umtata General Hospital	Victoria Hospital
Willowmore Hospital	Winterberg TB Hospital
Zithulele hospital	
Free State	
3 Military Hospital,	Albert Nzula District Hospital
Boitumelo Hospital	Bongani Regional Hospital
Botshabelo Hospital	Dihlabeng Hospital
Dr Js Moroka Hospital	Elizabeth Ross Hospital
Fezi Ngubentombi Provincial Hospital	Itemoheng Hospital
Katleho Hospital	Manapo Hospital
Mohau Hospital	Nala Hospital
National District Hospital	Nketoana District Hospital
Parys Hospital	Pelonomie Hospital
Phekolong Hospital	Phumelela Hospital
Senorita Ntlabathi Hospital	Stoffel Coetzee Hospital

Thebe Hospital	Thusanong Hospital
Universitas Hospital	Winburg Hospital
Gauteng	
Charlotte Maxeke Hospital	Chris Hani Baragwanath Hospital
Helen Joseph Hospital	Leratong Hospital
Steve Biko Academic Hospital	Tambo Memorial Hospital
KwaZulu-Natal	
Addington Hospital	Edendale Hospital
General Justice Gizenga Mpanza Hospital	Grey's Hospital
Inkosi Albert Luthuli Central Hospital	King Edward VIII Hospital
Ladysmith Hospital	Manguzi Hospital
Limpopo	
Polokwane Hospital	
Mpumalanga	
Belfast Hospital	Carolina Hospital
North West	
Job Shimankana Tabane Hospital	Tshepong Hospital
Northern Cape	
Robert Mangaliso Sobukwe Hospital	
Western Cape	
Tygerberg Hospital	

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)
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Private hospitals using DATCOV surveillance online platform:

Eastern Cape	
Aurura Hospital	Aurura Rehabilitation Hospital
Care Cure Queenstown	Matatiele Private Hospital
Nurture Queenstown	Nurture Sunnyside
Free State	
Busamed Bram Fischer Airport Hospital	Busamed Harrismith Private Hospital
Cairnhall Hospital	Corona Sub-Acute Hospital
Emoyamed Private Hospital	Hillandale Health Care centre
Nurture Woodlands	Riemland Clinic
St Helena GM Hospital	
Gauteng	
Arwyp Medical Centre	Busamed Modderfontein Private Hospital
Botshilu Private Hospital	Louis Pasteur Private Hospital
Lynnmed Clinic	Midvaal Private Hospital
Nurture Rynmed	Nurture Vereeniging
Pretoria Urology Hospital	RH Rand Hospital
Sunshine Hospital	Zuid Afrikaans Hospital
KwaZulu-Natal	
Aba Qulusi Private Hospital	Ahmed Al-Kadi Private Hospital
Busamed Gateway Private Hospital	Busamed Hillcrest Private Hospital
Capital hospital	Hibiscus Cato Ridge Hospital
Hibiscus Private Hospital	KwaDukuza Private Hospital
Midlands Medical Centre Private Hospital	Nurture Ilembe
	Shelly Beach Private Hospital

Limpopo	
Zoutpansberg Private Hospital	
Mpumalanga	
Kiaat Private Hospital	RH Piet Retief Hospital
North West	
Medicare Private Hospital	Mooimed Private Hospital
Sunningdale Hospital	Vryburg private hospital
Wilmed Park Private Hospital	
Northern Cape	
Lenmed Royal Hospital and Heart Centre	
Western Cape	
Busamed - Paardevlei private hospital	Nurture Cape View
Nurture Newlands	