

COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE



NATIONAL INSTITUTE FOR
COMMUNICABLE DISEASES

Division of the National Health Laboratory Service

SOUTH AFRICA WEEK 34 2020

OVERVIEW

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.

HIGHLIGHTS

- As of 22 August, 58 594 COVID-19 admissions were reported from 414 facilities (173 public-sector and 241 private-sector) in all nine provinces of South Africa. There was an increase of 9 466 admissions reported since the last report, and 34 additional hospitals (29 public-sector and 5 private-sector) reporting COVID-19 admissions. There were 19 247 (33%) and 39 347 (67%) admissions reported in public and private sector respectively. The majority of COVID-19 admissions were reported from four provinces, 16 983 (29%) in Western Cape, 16 090 (28%) in Gauteng, 9 347 (16%) in KwaZulu-Natal and 6 937 (12%) in Eastern Cape. Admissions in the Western Cape, Eastern Cape and Gauteng have decreased and there are indications of slowing of the rate of increase in admissions in the other provinces over the past three weeks.
- Of the 58 594 admissions, 5 669 (10%) patients were in hospital at the time of this report, 43 133 (73%) patients were discharged alive or transferred out and 9 792 (17%) patients had died. There were 2 137 additional deaths since the last report.
- The 52 357 COVID-19 patients who had recorded in-hospital outcome (died and discharged), the case fatality ratio (CFR) was 19%. On multivariable analysis, factors associated with in-hospital mortality were older age groups; male sex; Black African, Coloured and Indian race; admission in the public sector; and having comorbid hypertension, diabetes, chronic cardiac disease, chronic renal disease, malignancy, HIV, current tuberculosis alone or both current and past tuberculosis, and obesity. Compared to the Western Cape province, individuals hospitalised in Eastern Cape, Free State, Gauteng, Limpopo and North West provinces were more likely to die in-hospital.



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. 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. 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). Case fatality ratio (CFR) was calculated for all closed cases, i.e. COVID-19 deaths divided by COVID-19 deaths plus COVID-19 discharges, excluding individuals who are still admitted in hospital.

Data are received from all private hospitals nationally, from all public hospitals in the Western Cape (WC) Province and 117 public hospitals in the other eight provinces. As new hospitals join the surveillance system, they have 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 hospitalised COVID-19 cases (Table 1). There were 34 additional hospitals (29 public-sector and 5 private-sector) reporting COVID-19 admissions since the last report.

Table 1: Number of hospitals reporting data on COVID-19 admissions by province and 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

Epidemiological and geographic trends in admissions

From 5 March to 22 August, a total of 58 594 COVID-19 admissions (9 466 additional from last report) were reported from 414 facilities in all nine provinces of South Africa. Of these admissions, 19 247 (32.8%) and 39 347 (67.2%) were reported in public and private sector, respectively. Initially, most admissions were reported in the private sector; from week 17 a higher proportion of total admissions was reported in the public sector; and since week 24 a higher proportion was reported in the private sector. The shift is most likely due to underreporting in the public sector in other provinces besides Western Cape. There has been a decrease in reported COVID-19 admissions for the past four weeks (Figure 1).

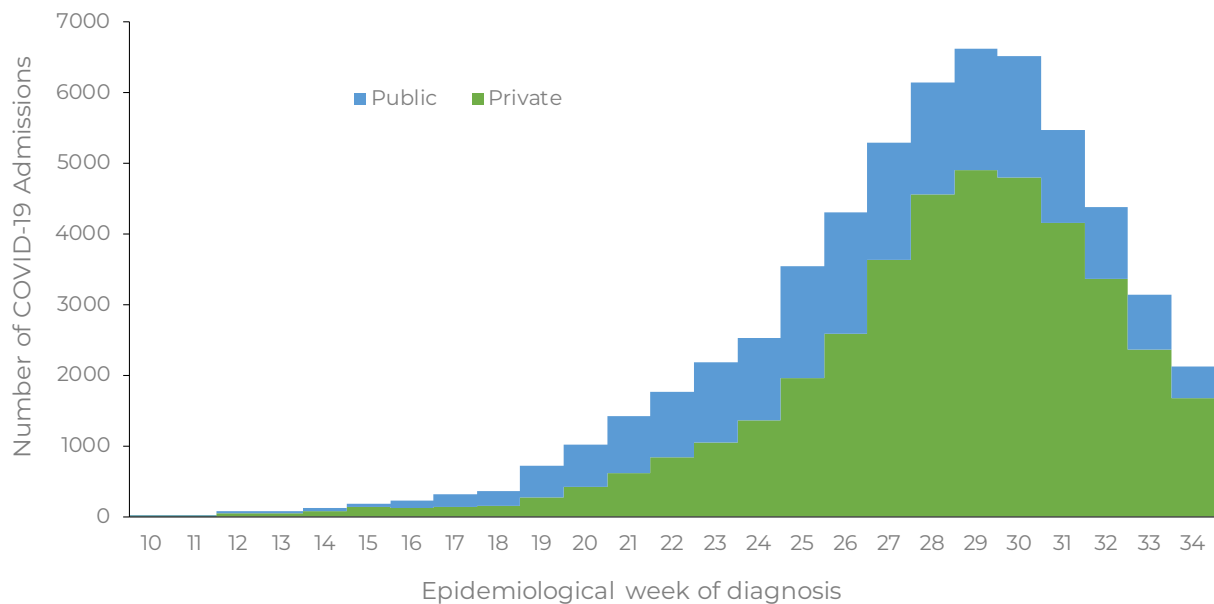


Figure 1: Number of reported COVID-19 admissions by health sector and epidemiologic week of diagnosis, 5 March-22 August 2020, n=58 594

The majority of admissions (48 347/58 594, 84.2%) were recorded in four provinces, with the highest number reported in Western Cape (16 983, 29.0%), followed by Gauteng (16 090, 27.5%), KwaZulu-Natal (9 347, 16.0%) and Eastern Cape (6 937, 11.8%) provinces. Western Cape experienced an increase in admissions starting in week 19 and in the past nine weeks the rate of increase has decreased. The increase in Gauteng and Eastern Cape began in week 23, and in KwaZulu-Natal and Free State in week 26. The rates of increase in admissions in these provinces has decreased over the past five weeks (Figure 2).

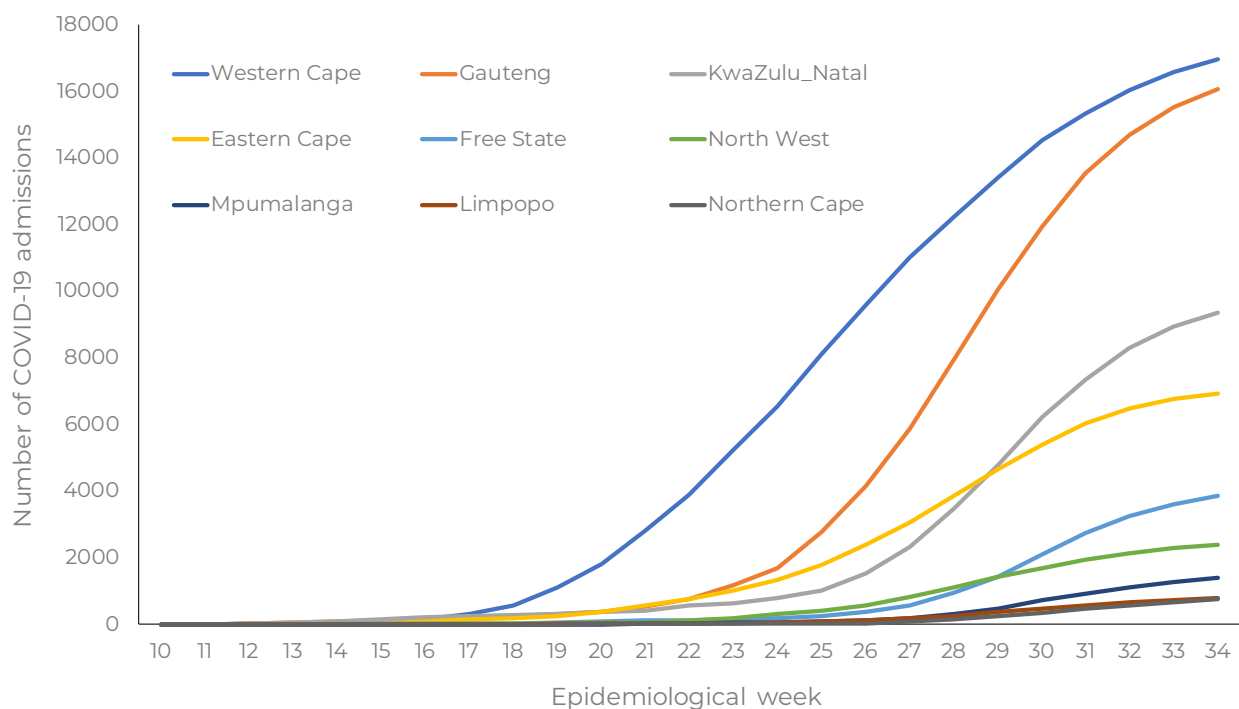


Figure 2: Cumulative numbers of reported COVID-19 admissions, by province and epidemiological week of diagnosis, South Africa, 5 March-22 August 2020, n=58 594

Most patients admitted in the public sector, were admitted to district hospitals (6 447, 35.9%), national central hospitals (4 757, 26.5%), regional hospitals (3 261, 18.2%) and provincial tertiary hospitals (2 329, 13.0%) (Figure 3).

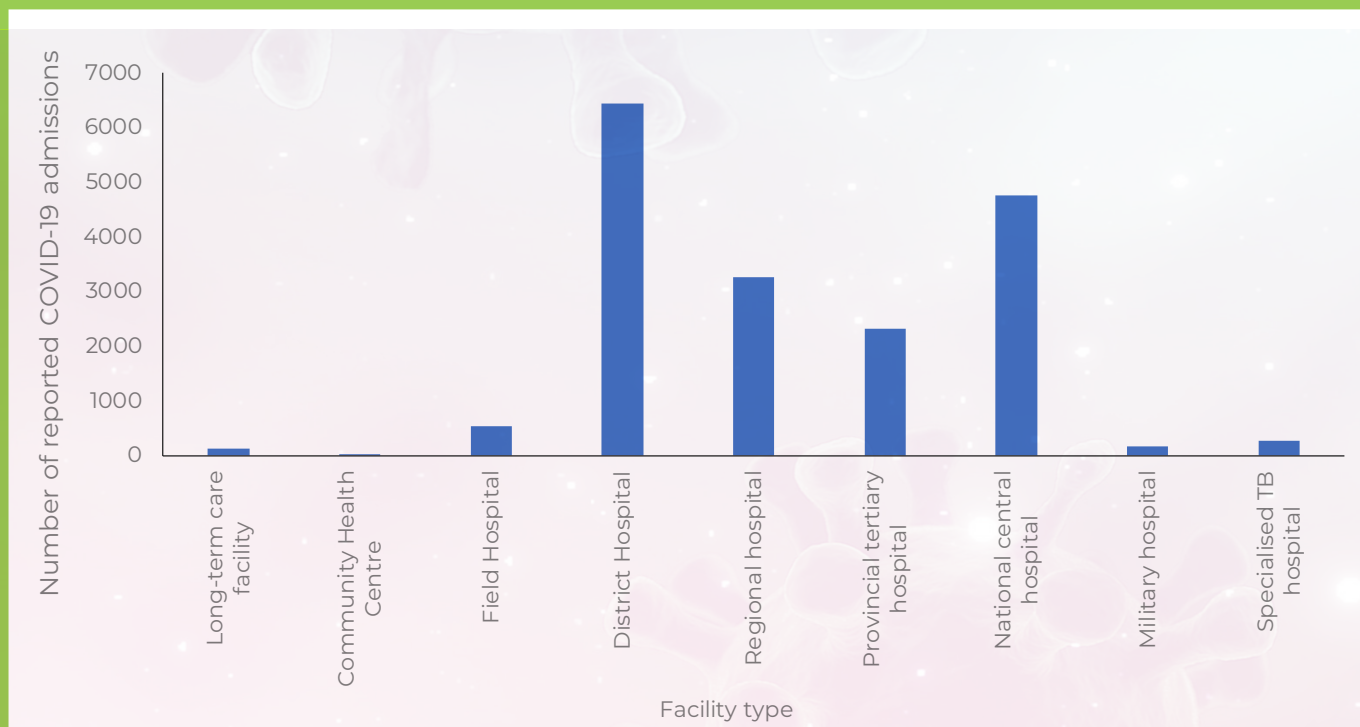


Figure 3: Cumulative numbers of reported COVID-19 admissions, by facility type in public sector, South Africa, 5 March-22 August 2020, n=17 938

DEMOGRAPHIC AND CLINICAL CHARACTERISTICS OF COVID-19 ADMISSIONS

The median age of COVID-19 admissions was 53 years (interquartile range [IQR] 40 – 63). There were 1 727 (3.0%) admissions in patients 18 years and younger and 9 207 (15.7%) in patients older than 70 years. Among admitted individuals with COVID-19, 31 990 (54.6%) were female. The sex ratio was equal in patients between 40 and 80 years; females were more common than males in patients between 10 and 40 years and over 80 years; and males more common in patients younger than 10 years (Figure 4).

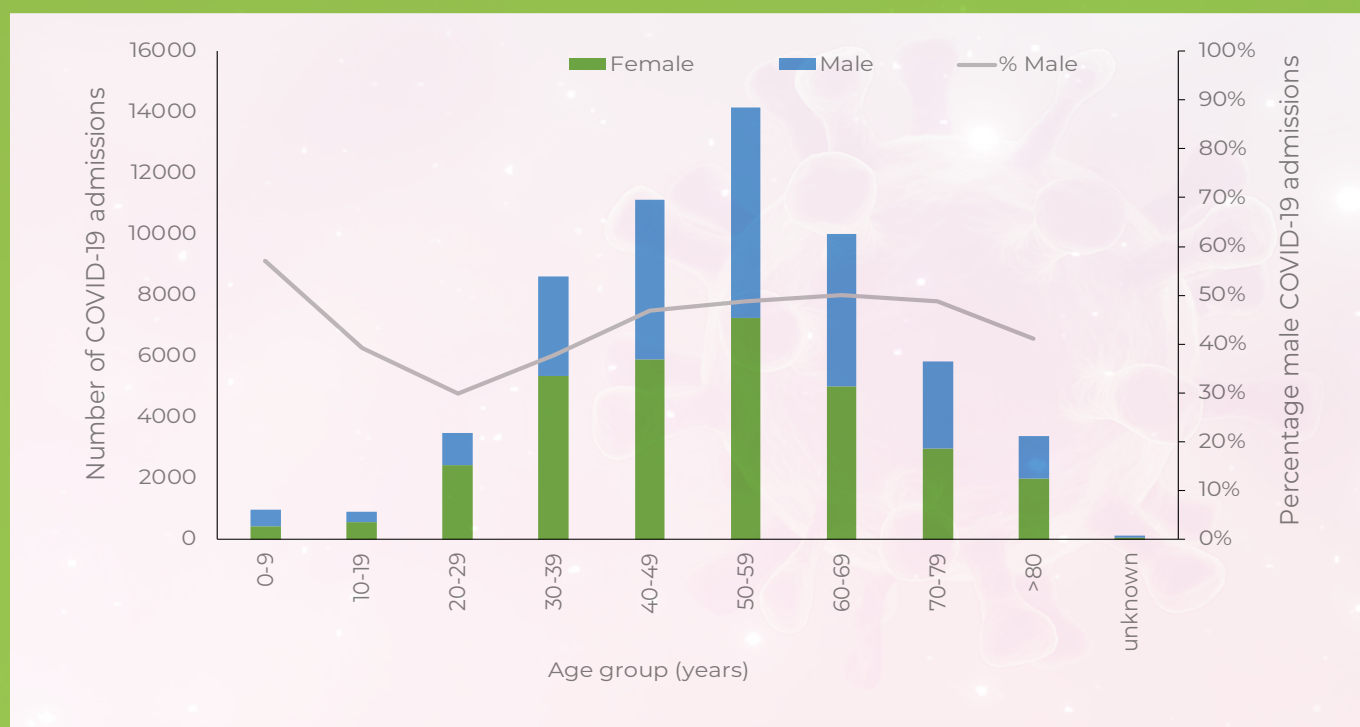


Figure 4: Number of reported COVID-19 admissions by age, gender and percentage of males, South Africa, 5 March-22 August 2020, n=58 594

Of the 42 991 (73.4%) patients for whom race was known, 32 969 (76.7%) were Black African, 2 863 (6.7%) were Coloured, 2955 (6.9%) were Indian, 4 152 (9.7%) were White and 52 (0.1%) were classified as Other race group. There were 2 586 (4.4%) health care workers (HCW) that were reported to be hospitalised. Among the 14 125 admissions in females of child-bearing age 15-50 years, there were 1 344 (9.5%) females admitted who were pregnant or within 6 weeks post-partum.

Among 49 264 (84.1%) patients for whom comorbid conditions were known, 22 608 (45.9%) had no comorbid condition reported, 14 256 (28.9%) had one comorbid condition reported, 8 862 (18.0%) had two comorbid conditions and 3 538 (7.2%) had three or more comorbid conditions reported. Among the 26 656 (45.4%) patients who had reported a comorbid condition, the most commonly reported were hypertension (16 431, 61.6%) and diabetes (13 883, 52.1%); there were 3 977 (14.9%) patients who were HIV-infected, 723 (2.7%) patients with active tuberculosis (TB) and 1 332 (5.0%) patients with previous history of TB (Table 2). Obesity, defined by the subjective opinion of the attending HCW, while not consistently recorded for all reported COVID-19 admissions, was recorded as a risk factor in 1 712 (2.9%) of all patients hospitalised.

Table 2: Reported comorbid conditions among COVID-19 admissions reporting at least one comorbid condition, South Africa, 5 March-22 August 2020, n=26 656*

Comorbid disease**	n	%
Hypertension	16 431	61.6
Diabetes mellitus	13 883	52.1
Chronic cardiac disease	1 079	4.0
Chronic pulmonary disease/ Asthma	9 401	35.3
Chronic renal disease	1 364	5.1
Malignancy	399	1.5
HIV	3 977	14.9
Active tuberculosis	723	2.7
Previous history of tuberculosis	1 332	5.0

* Multiple comorbid conditions are counted more than once so the total number may be more than the total number of individuals reporting comorbid conditions.

** Presence of a comorbid condition includes only the conditions reported in the table; obesity is not included.

OUTCOMES

Of the 58 594 admitted individuals, 5 669 (9.7%) were currently in hospital, 42 565 (72.6%) were discharged alive, 568 (1.0%) were transferred out to either higher level care or step-down facilities, 9 792 (16.7%) had died in hospital. There were 2 137 additional deaths since the last report. Of the 52 357 COVID-19 patients who had recorded in-hospital outcome (died and discharged), the case fatality ratio (CFR) was 18.7%.

EPIDEMIOLOGICAL AND GEOGRAPHIC TRENDS IN MORTALITY

In the first few weeks of the outbreak most deaths were reported in the private sector, since week 17 a higher proportion of reported deaths was in the public sector, and since week 27 again most deaths were reported in the private sector. The CFR was higher in the public health sector (25.1%) than in the private health sector (15.7%) ($p < 0.001$). There has been a decrease in reported COVID-19 deaths for the past four weeks (Figure 5).

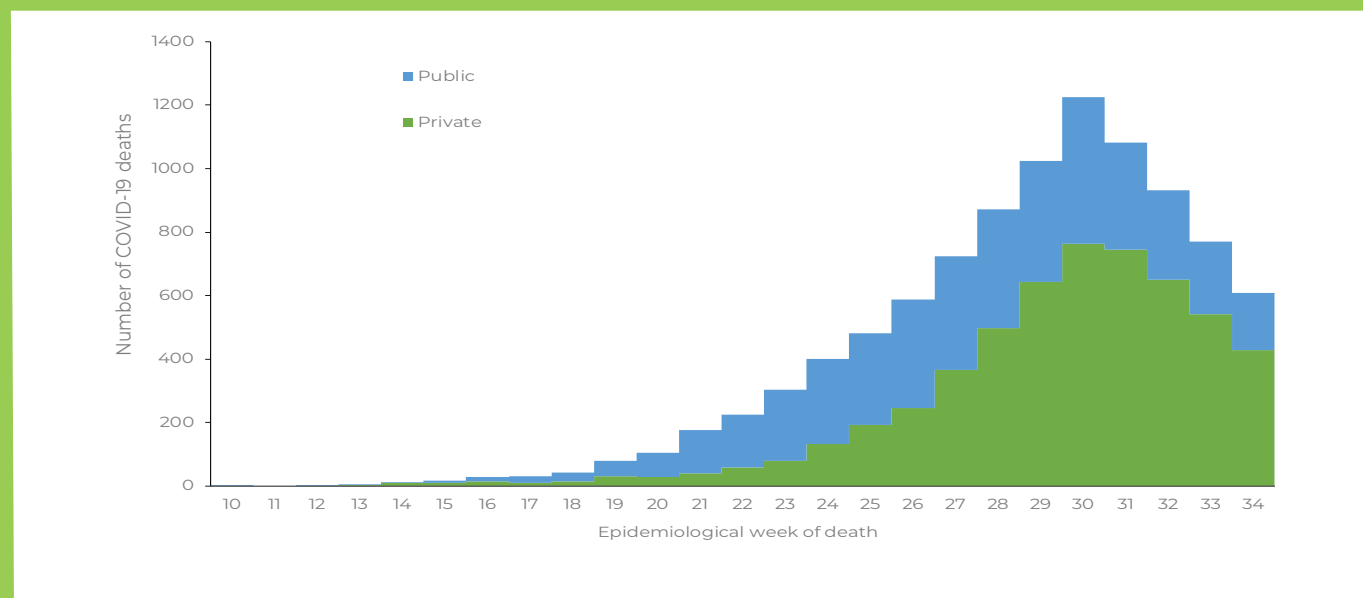


Figure 5: Number of COVID-19 deaths reported per week by health sector and epidemiologic week, South Africa, 5 March-22 August 2020, $n=9\,792$

Most deaths were reported in Western Cape (3 233, 33.0%), followed by Gauteng (2 275, 23.2%), Eastern Cape (1 696, 17.3%) and KwaZulu-Natal (1 258, 12.8%). The number of COVID-19 deaths reported weekly has decreased in Western Cape for nine weeks, and has decreased in Eastern Cape, KwaZulu-Natal and Gauteng for the past four weeks (Figure 6).

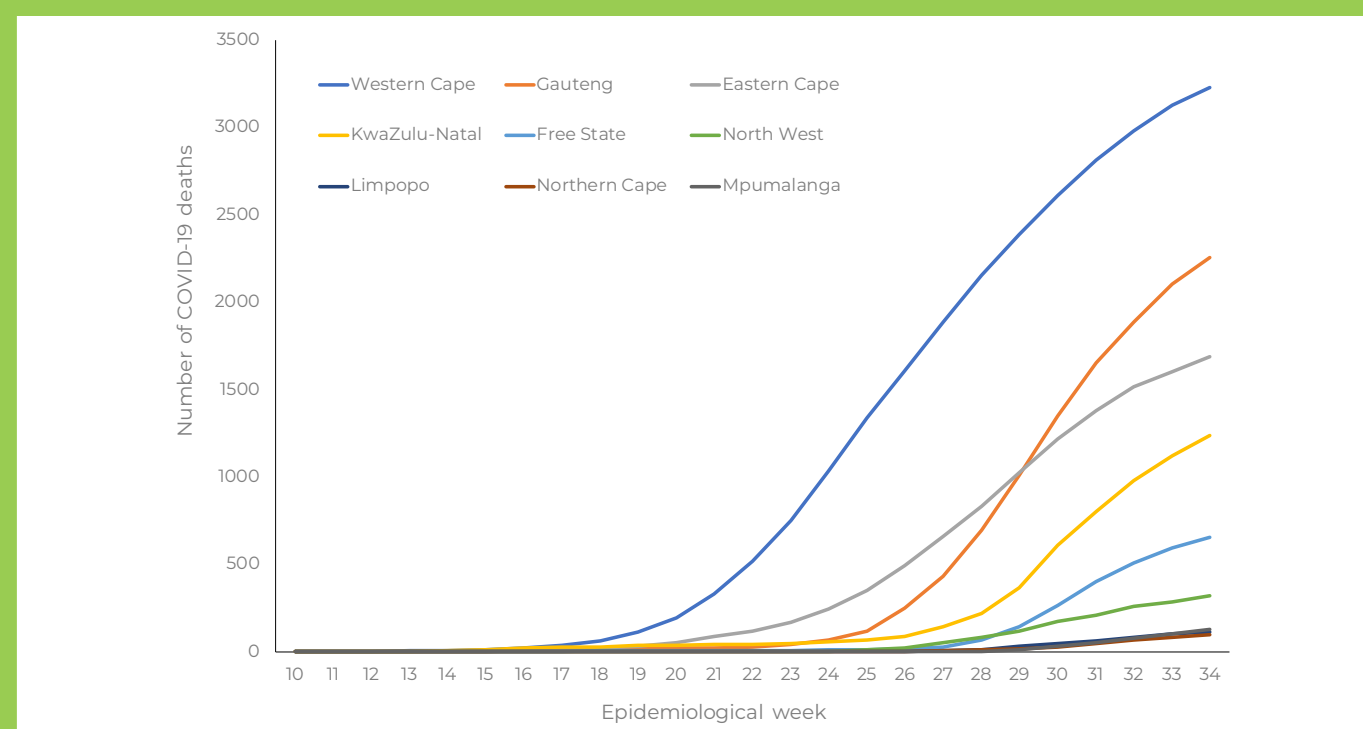


Figure 6: Cumulative numbers of reported COVID-19 deaths, by province and epidemiological week of death, South Africa, 5 March-22 August 2020, $n=9\,792$

DEMOGRAPHIC CHARACTERISTICS OF DEATHS

The median age of patients who died was 63 (IQR 53 – 73) years, and for those who were discharged alive was 50 (IQR 38 – 61) years. There were 49 (0.5%) deaths in children aged ≤ 18 years, most of these deaths in children with serious underlying comorbid conditions. There were 656 (6.7%) deaths in patients younger than 40 years (Figure 7). The CFR was higher in males (21.8%) than females (16.2%) ($p < 0.001$).

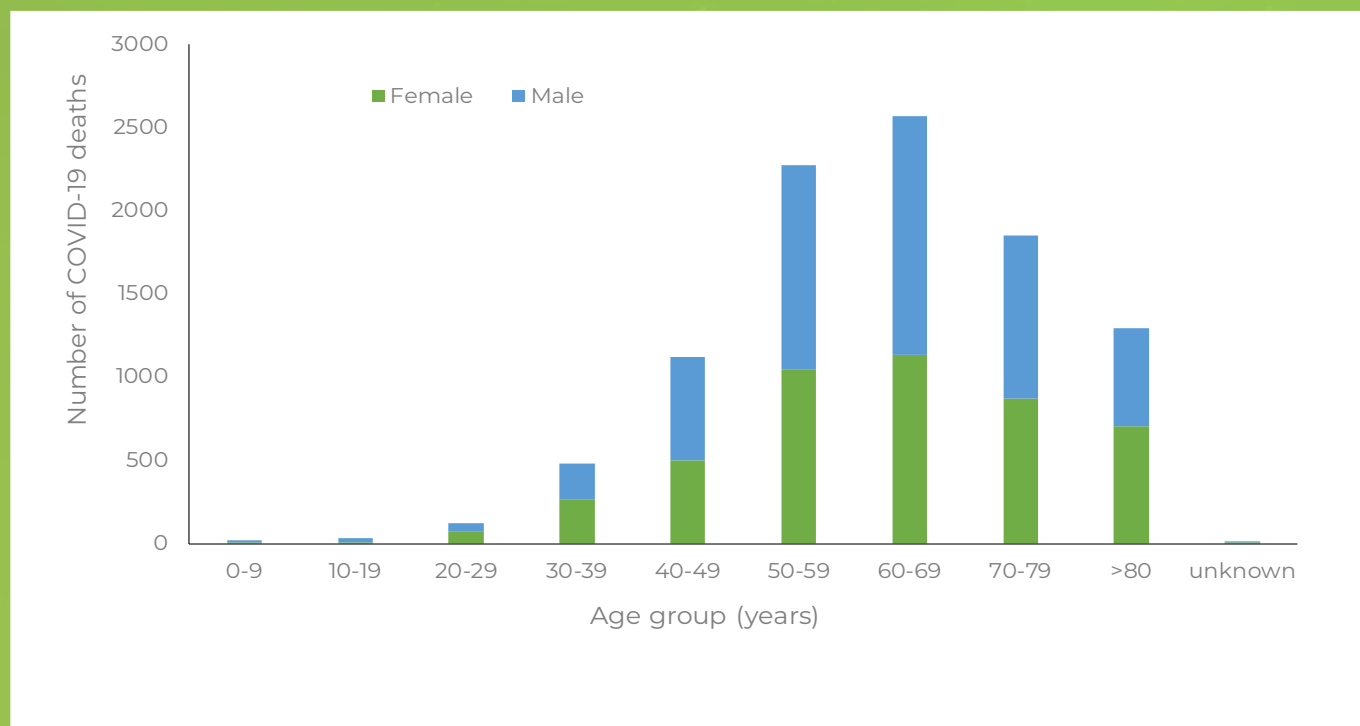


Figure 7: Number of reported COVID-19 deaths by age and gender, South Africa, 5 March-22 August 2020, n=9 792

COMMON COMORBIDITIES REPORTED AMONG DEATHS

In all age groups except < 20 years, hypertension and diabetes were most commonly reported comorbidities among patients who died. In addition, in patients between 20 and 60 years, HIV, tuberculosis and obesity were common (Figure 8).

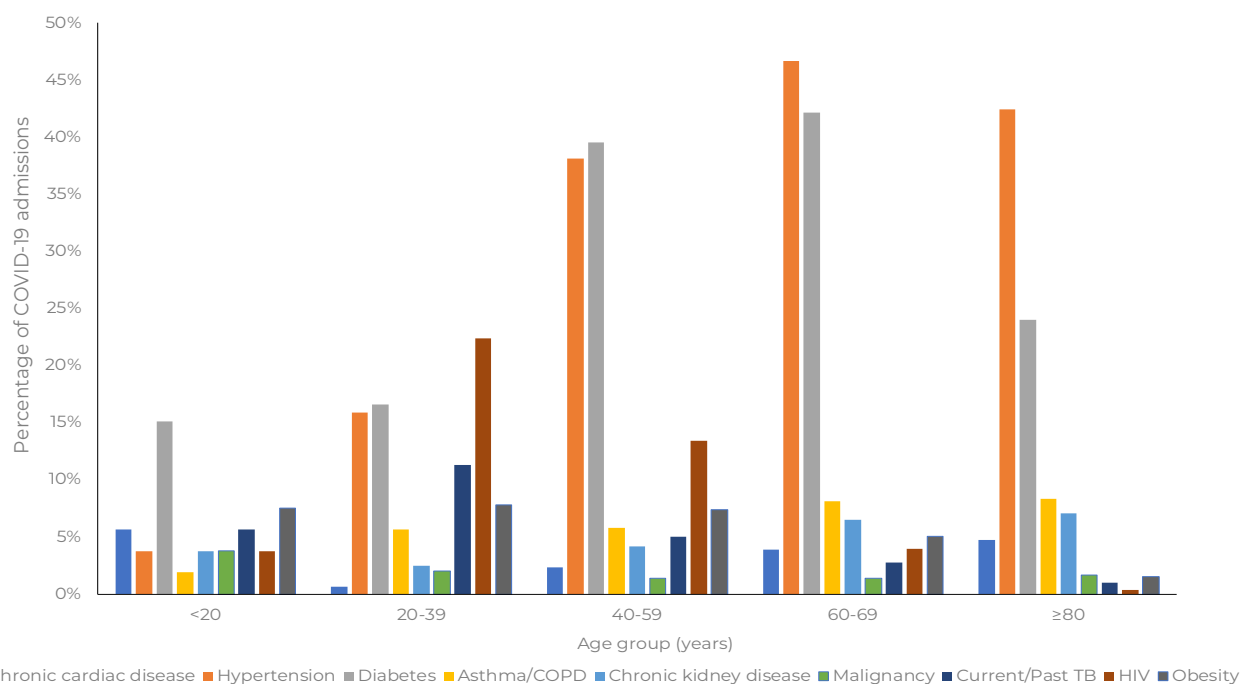


Figure 8: Frequency of comorbid conditions for reported COVID-19 deaths by age group, South Africa, 5 March-18 July 2020, n=9 792

FACTORS ASSOCIATED WITH IN-HOSPITAL MORTALITY

On multivariable analysis, factors associated with in-hospital mortality were older age groups; male sex; Black African, Coloured and Indian race; admission in the public sector; and having comorbid hypertension, diabetes, chronic cardiac disease, chronic renal disease, malignancy, HIV, current tuberculosis alone or both current and past tuberculosis, and obesity. Compared to the Western Cape province, individuals hospitalised in Eastern Cape, Free State, Gauteng, Limpopo and North West provinces were more likely to die in-hospital (Table 3 and Figure 9).

TABLE 3: UNIVARIATE AND MULTIVARIABLE ANALYSIS OF FACTORS ASSOCIATED WITH MORTALITY AMONG 43 183

INDIVIDUALS WITH IN-HOSPITAL OUTCOME (DISCHARGES AND DEATHS), SOUTH AFRICA, 5 MARCH-22 AUGUST 2020

Characteristic	Case-fatality ratio n/N (%)	Unadjusted OR (95% CI)	p-value	Adjusted OR* (95% CI)	p-value
Age group					
<20 years	53/1 708 (3.1)	Reference		Reference	
20-39 years	603/10 962 (5.5)	1.8 (1.4-2.4)	<0.001	2.0 (1.4-2.9)	<0.001
40-59 years	3 401/22 738 (15.0)	5.5 (4.2-7.2)	<0.001	5.6 (3.9-8.1)	<0.001
60-79 years	4 421/13 925 (31.8)	14.5 (11.0-19.1)	<0.001	14.1 (9.7-20.3)	<0.001
≥80 years	1 297/2 980 (43.5)	24.1 (18.1-31.9)	<0.001	31.1 (21.4-45.2)	<0.001
Unknown age	17/44 (38.6)	19.7 (10.1-38.3)	<0.001	14.6 (4.8-45.1)	<0.001
Sex					
Female	4 621/28 585 (16.2)	Reference		Reference	
Male	5 171/23 772 (21.8)	1.4 (1.4-1.5)	<0.001	1.5 (1.4-1.6)	<0.001
Race					
White	640/3 226 (19.8)	Reference		Reference	
Black	5 308/29 678 (17.9)	0.9 (0.8-0.9)	0.002	1.3 (1.2-1.4)	<0.001
Coloured	498/2 585 (19.3)	1.0 (0.8-1.1)	0.482	1.3 (1.1-1.6)	0.001
Indian	492/2 652 (18.6)	0.9 (0.8-1.0)	0.156	1.3 (1.1-1.5)	0.001
Other	7/36 (19.4)	1.0 (0.4-2.2)	0.936	1.1 (0.4-2.8)	0.812
Unknown	2 755/13 743 (20.1)	1.0 (0.9-1.1)	0.933	1.2 (1.1-1.3)	0.002
Healthcare worker					
No	9557/49989 (19.1)	Reference			
Yes	235/2368 (9.9)	0.5 (0.4-0.5)	<0.001		
Peri-partum					
No	818/11 481 (7.1)	Reference			
Yes	26/1 299 (2.0)	0.3 (0.2-0.4)	<0.001		
Comorbid condition					
No co-morbidity	2 501/20 138 (12.4)	Reference			
1 co-morbid condition	2 752/12 890 (21.4)	1.9 (1.8-2.0)	<0.001		
2 comorbid conditions	2 236/8 126 (27.5)	2.7 (2.5-2.9)	<0.001		
≥3 comorbid conditions	1 082/3 286 (32.9)	3.5 (3.2-3.8)	<0.001		
Unknown	1 221/7 917 (15.4)	1.3 (1.2-1.4)	<0.001		
Hypertension					
No	4 553/29 281 (15.6)	Reference		Reference	
Yes	4 012/15 113 (26.6)	2.0 (1.9-2.1)	<0.001	1.2 (1.1-1.2)	<0.001
Diabetes mellitus					
No	4 937/31 724 (15.6)	Reference		Reference	
Yes	3 629/12 672 (28.6)	2.2 (2.1-2.3)	<0.001	1.5 (1.4-1.6)	<0.001
Chronic cardiac disease					
No	8245/43373 (19.0)	Reference		Reference	
Yes	318/1020 (31.2)	1.9 (1.7-2.2)	<0.001	1.2 (1.0-1.4)	0.019

Characteristic	Case-fatality ratio n/N (%)	Unadjusted OR (95% CI)	p-value	Adjusted OR* (95% CI)	p-value
Chronic pulmonary disease/Asthma					
No	7 864/41 314 (19.0)	Reference			
Yes	699/3 078 (22.7)	1.2 (1.1-1.4)	<0.001		
Chronic renal disease					
No	8 027/43 114 (18.6)	Reference		Reference	
Yes	538/1 280 (42.0)	3.2 (2.8-3.6)	<0.001	1.6 (1.4-1.8)	<0.001
Malignancy					
Yes	8 420/44 010 (19.1)	Reference		Reference	
No	143/382 (37.4)	2.5 (2.1-3.1)	<0.001	2.1 (1.7-2.6)	<0.001
HIV					
No	7 490/39 686 (18.9)	Reference		Reference	
Yes	774/3 540 (21.9)	1.2 (1.1-1.3)	<0.001	1.6 (1.4-1.7)	<0.001
Tuberculosis					
No	8 185/42 945 (19.1)	Reference		Reference	
Previous	2 16/811 (26.6)	1.5 (1.3-1.8)	<0.001	1.2 (1.0-1.4)	0.073
Current	63/255 (24.7)	1.4 (1.0-1.9)	0.023	1.8 (1.3-2.4)	<0.001
Current and previous	99/381 (26.0)	1.5 (1.2-1.9)	0.001	1.9 (1.5-2.5)	<0.001
Obesity					
No	7120/38 402 (18.5)	Reference		Reference	
Yes	547/1 376 (39.8)	2.9 (2.6-3.2)	<0.001	2.5 (2.2-2.8)	<0.001
Unknown	2125/12 579 (16.9)	0.9 (0.8-0.9)	<0.001	1.0 (0.9-1.1)	0.554
Month of admission					
March	24/198 (12.1)	Reference		Reference	0.301
April	172/1 021 (16.9)	1.5 (0.9-2.3)	0.099	1.3 (0.8-2.2)	0.276
May	950/5 068 (18.8)	1.8 (1.2-2.7)	0.020	1.3 (0.8-2.1)	0.160
June	2 684/13 605 (19.7)	1.9 (1.2-2.9)	0.008	1.4 (0.9-2.2)	0.145
July	4 857/25 447 (19.1)	1.7 (1.1-2.6)	0.014	1.4 (0.9-2.3)	0.620
August	1 105/7 016 (15.8)	1.4 (0.9-2.1)	0.167	1.1 (0.7-1.8)	
Health sector					
Private sector	5 554/35 486 (15.7)	Reference		Reference	
Public sector	4 238/16871 (25.1)	1.8 (1.7-1.9)	<0.001	1.6 (1.5-1.7)	<0.001
Province					
Western Cape	3 233/15 947 (20.3)	Reference		Reference	
Eastern Cape	1 696/6 174 (27.5)	1.5 (1.4-1.6)	<0.001	1.8 (1.6-2.0)	<0.001
Free State	665/3 263 (20.4)	1.0 (0.9-1.1)	0.890	1.4 (1.2-1.5)	<0.001
Gauteng	2 275/14 054 (16.2)	0.8 (0.7-0.8)	<0.001	1.2 (1.1-1.3)	0.001
KwaZulu-Natal	1 258/8 259 (15.2)	0.7 (0.7-0.8)	<0.001	1.1 (1.0-1.2)	0.118
Limpopo	114/710 (16.1)	0.8 (0.6-0.9)	0.006	1.3 (1.0-1.6)	0.048
Mpumalanga	130/1 242 (10.5)	0.5 (0.4-0.6)	<0.001	0.8 (0.7-1.0)	0.070
North West	321/2 068 (15.5)	0.7 (0.6-0.8)	<0.001	1.2 (1.0-1.4)	0.012
Northern Cape	100/640 (15.6)	0.7 (0.6-0.9)	0.004	1.1 (0.8-1.4)	0.503

Characteristic	Case-fatality ratio n/N (%)	Unadjusted OR (95% CI)	p-value	Adjusted OR* (95% CI)	p-value
Type of facility					
National central	1 060/4 069 (26.1)	Reference			
Community Health	3/6 (50.0)	2.8 (0.6-14.1)	0.202		
District hospital	1 444/5 986 (24.1)	0.9 (0.8-0.9)	0.028		
Field hospital	44/511 (8.6)	0.3 (0.2-0.4)	<0.001		
Long-term facility	4/89 (4.5)	0.1 (0.0-0.4)	<0.001		
Military hospital	25/167 (15.0)	0.5 (0.3-0.8)	0.002		
Private general	5 546/35 441 (15.7)	0.5 (0.5-0.6)	<0.001		
Provincial tertiary	572/1 925 (29.7)	1.2 (1.1-1.4)	0.003		
Regional hospital	781/2 862 (27.5)	1.1 (0.9-1.2)	0.186		
Specialised TB hospital	21/226 (9.3)	0.3 (0.2-0.5)	<0.001		
Ever ICU					
No	5 964/44 726 (13.3)	Reference			
Yes	3 828/7 631 (50.2)	6.5 (6.2-6.9)	<0.001		
Ever High Care					
No	8 543/47 424 (18.0)	Reference			
Yes	1 249/4 933 (25.3)	1.5 (1.4-1.7)	<0.001		
Ever ventilated					
No	7 499/49 056 (15.3)	Reference			
Yes	2 293/3 301 (69.5)	12.6 (11.7-13.6)	<0.001		
Ever on oxygen					
No	7 163/43 161 (16.6)	Reference			
Yes	2 629/9 196 (28.6)	2.0 (1.9-2.1)	<0.001		

* MULTIVARIABLE MODEL EXCLUDED ALL INDIVIDUALS WITH UNKNOWN COMORBID CONDITIONS

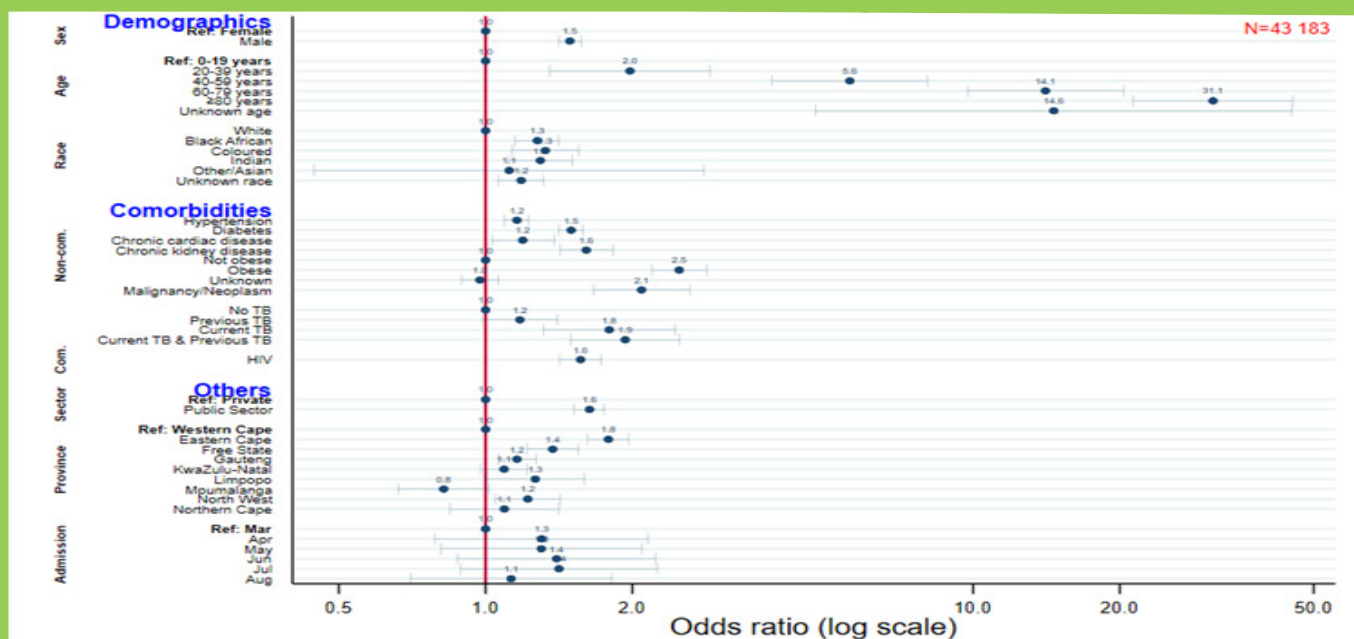


Figure 9: Multivariable analysis of factors associated with mortality among 43 183 individuals with in-hospital outcome (discharges and deaths), South Africa, 5 March-22 August 2020

DISCUSSION

DATCOV currently includes 58 594 admissions from 414 public and private hospitals in all nine provinces in South Africa. It also includes 9 792 deaths that have occurred to date.

The findings confirm factors associated with in-hospital mortality were older age groups; male sex; Black, Indian and Coloured race; and having comorbid hypertension, diabetes, chronic cardiac disease, chronic renal disease, malignancy, HIV, current tuberculosis alone or both current and previous tuberculosis, and obesity.

The increased risk of mortality in Blacks and Hispanics were described in studies in the United States. Increased risks for mortality have been observed in COVID-19 cases with lower socio-economic status. Trends in CFR over time and provincial differences may be affected by many factors such as hospital admission criteria, timeousness of closing cases, testing criteria in different provinces, and the severity of illness in admitted cases.

The availability of reliable surveillance data is of critical importance to gain a better understanding of the epidemiology of COVID-19 in South Africa, to monitor the COVID-19 epidemic and to respond with adequate control measures. It has been suggested that when local transmission is widespread and testing strategies change, hospital admission or mortality surveillance systems provide a more reliable picture of the epidemic progression than overall confirmed case numbers.

DATCOV provides real-time data and summary analyses, which inform modelling and reporting at a national level. It also addresses a knowledge gap, in the lack of data from low and middle income countries (LMIC), allowing for analysis of COVID-19 epidemiology in a country with a younger population, unique disease profile with epidemics of both infectious (HIV and tuberculosis) and non-communicable diseases, and an overburdened public health system.

LIMITATIONS

DATCOV is a sentinel surveillance system and does not include all hospitals with COVID-19 admissions and therefore may not be truly representative of hospital admissions for COVID-19 throughout South Africa. DATCOV only reports hospital-based admissions and deaths and therefore does not include deaths occurring outside hospitals. Data quality in a surveillance system is dependent on the information submitted by healthcare institutions. It is not possible for the NICD to verify or check the quality of all these data, however, the NICD has built-in data quality checks.

In patients with non-communicable diseases, the current data collection platform is not able to distinguish between those that had pre-existing disease and those that were newly-diagnosed; and between those with well or poorly controlled disease. New variables are being introduced to allow for this analysis. For obesity, the platform currently only allows for capture of the subjective opinion of the attending HCW that the patient is obese. The platform will soon include fields to collect height and weight where available, to allow calculation of Body Mass Index (BMI).

Data on socioeconomic status are not collected. Data on treatment and medical interventions have not been analysed because the data were incomplete.

Efforts are ongoing to improve the quality and completeness of data on symptom of these data will be included in future reports.

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	

ACKNOWLEDGEMENTS

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	

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ACKNOWLEDGEMENTS

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 platforms

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

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ACKNOWLEDGEMENTS

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	

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APPENDIX

TABLE 4: NUMBER OF REPORTED COVID-19 ADMISSIONS AND DEATHS BY AGE AND GENDER, SOUTH AFRICA, 5 MARCH-22 AUGUST 2020

Age (years)	ADMISSIONS				DEATHS			
	Female	Male	Unknown	Total	Female	Male	Unknown	Total
0-4	338	443	0	781	9	9	0	18
5-9	86	118	0	204	0	3	0	3
10-14	144	134	0	278	4	7	0	11
15-19	408	221	0	629	7	14	0	21
20-24	768	383	0	1151	16	22	0	38
25-29	1 679	655	0	2 334	57	29	0	86
30-34	2 483	1 326	0	3 809	100	65	0	165
35-39	2 877	1 922	0	4 799	163	151	0	314
40-44	2 765	2 329	0	5 094	209	251	0	460
45-49	3 145	2 876	0	6 021	292	372	0	664
50-54	3 633	3 334	0	6 967	441	494	0	935
55-59	3 625	3 567	0	7 192	605	737	0	1 342
60-64	2 839	2 916	0	5 755	577	800	0	1 377
65-69	2 172	2 094	0	4 266	558	633	0	1 191
70-74	1 648	1 655	0	3 303	452	545	0	997
75-79	1 337	1 182	0	2 519	418	438	0	856
80-84	1 002	759	0	1 761	312	293	0	605
85-89	629	419	0	1 048	240	195	0	435
90-94	302	185	0	487	125	94	0	219
>95	60	29	0	89	28	10	0	38
Unknown	50	57	0	107	8	9	0	17
	31 990	26 604	0	58 594	4 621	5 171	0	9 792