

SOUTH AFRICA WEEK 8 2021

OVERVIEW

This report summarises data of COVID-19 cases admitted to hospital in all provinces. The report is based on data collected from 5 March 2020 to 27 February 2021.

HIGHLIGHTS

- As of 27 February 2021, 217,891 COVID-19 admissions were reported from 642 facilities (391 publicsector and 251 private-sector) in all nine provinces of South Africa. DATCOV coverage is now 100% of public and private hospitals that have had COVID-19 admissions. There were 112,392 (51.6%) and 105,499 (48.4%) admissions reported in public and private sector respectively. The majority of COVID-19 admissions were reported from four provinces, Gauteng (59,319, 27.2%), followed by Western Cape (45,011, 20.6%), KwaZulu-Natal (41,943,19.3%) and Eastern Cape (29,488, 13.5%).
- Of the 217,891 admissions, 7,236 (3.3%) patients were in hospital at the time of this report, 162,869 (74.7%) patients were discharged alive or transferred out and 47,786 (21.9%) patients had died.
- Of the 206,470 COVID-19 patients who had recorded in-hospital outcome (died and discharged), the case fatality ratio (CFR) was 23.1%. 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 and past tuberculosis, and obesity. Compared to the Western Cape Province, individuals hospitalised in Eastern Cape, Free State, Gauteng, Limpopo and Northern Cape provinces were more likely to die in-hospital.

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METHODS

DATCOV 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 or a person who had a positive SARS-CoV-2 antigen test who was admitted to 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) or if dead. 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 submitted by public and private hospitals that have agreed to report COVID-19 admissions through DATCOV surveillance in all nine provinces of South Africa. On 15 July 2020, the National Health Council decided that all hospitals should report to DATCOV. As of 27 February 2021, a total of 642 facilities submitted data on hospitalised COVID-19 cases, 391 from public sector and 251 from private sector (Table 1). This reflects 100% coverage of all public and private hospitals that have had COVID-19 admissions to date.

Table 1. Number of hospitals reporting data on COVID-19 admissions by province and sector, South Africa, 5 March 2020 to 27 February 2021

Facilities reporting	Public	Private
Eastern Cape	85	18
Free State	35	20
Gauteng	38	91
KwaZulu-Natal	68	45
Limpopo	41	
Mpumalanga	31	
North West	17	12
Northern Cape	17	8
Western Cape	59	41
South Africa	391	251

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RESULTS

Epidemiological and geographic trends in admissions

From 5 March 2020 to 27 February 2021, a total of 217,891 COVID-19 admissions were reported from 642 facilities in all nine provinces of South Africa. Of these admissions, 112,392 (51.5%) and 105,499 (48.4%) were reported in public and private sector, respectively. There was a resurgence of the second wave in both public and private sector from week 40 2020; the peak weekly numbers of admissions at the peak of the second wave surpassed the numbers during the peak of the first wave in both sectors (Figure 1). Since week 1 2021, there have been decreases in numbers of admissions in both public and private sector. Decreases in the most recent week may reflect delays in data submission.

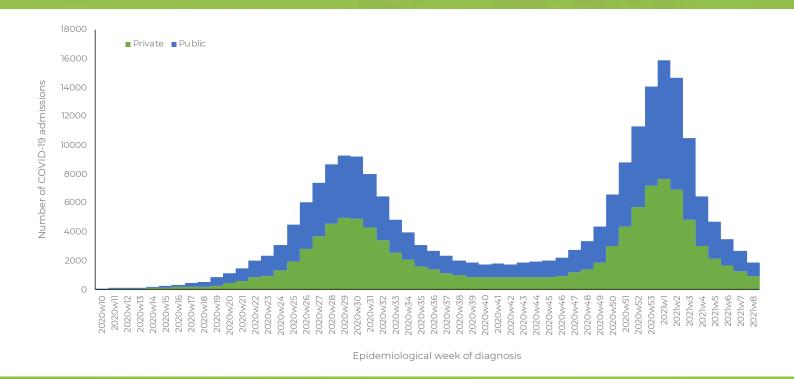


Figure 1. Number of reported COVID-19 admissions by health sector and epidemiological week of diagnosis, 5 March 2020-27 February 2021, n= 217,891

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The majority of admissions (175,761/217,891, 80.5%) were recorded in four provinces, with the highest number reported in Gauteng (59,319, 27.2%), followed by Western Cape (45,011, 20.6%), KwaZulu-Natal (41,943, 19.2%) and Eastern Cape (29,488, 13.5%) provinces (Figure 2).

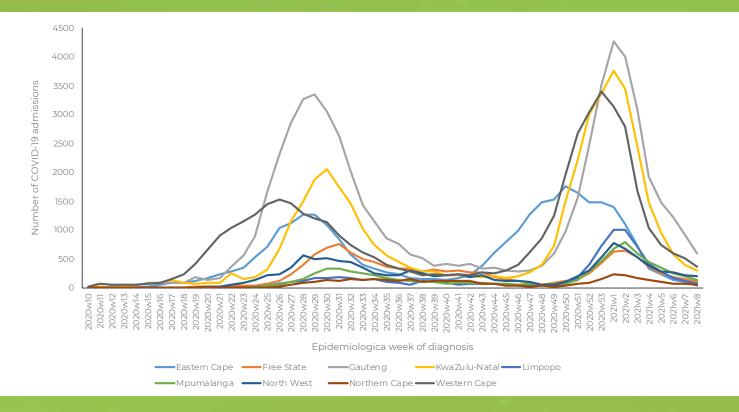


Figure 2. Number of reported COVID-19 admissions, by province and epidemiological week of diagnosis, South Africa, 5 March 2020-27 February 2021, n= 217,891

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DEMOGRAPHIC AND CLINICAL CHARACTERISTICS OF ADMISSIONS

The median age of COVID-19 admissions was 53 years (interquartile range [IQR] 40 - 65). There were 8,505 (3.9%) admissions in patients 18 years and younger and 36,993 (17.0%) in patients older than 70 years. Among admitted individuals with COVID-19, 121,197 (55.6%) were female. Females were more common than males in all age groups except in individuals younger than 10 years (Figure 3).



Figure 3. Number of reported COVID-19 admissions by age, sex and percentage of males, South Africa, 5 March 2020-27 February 2021, n= 217,891

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Of the 145,325 (66.7%) patients for whom race was known, 113,450 (78.0%) were Black African, 10,287 (7.1%) were Coloured, 8,615 (6.0%) were Indian, 12,592 (8.7%) were White and 381 (0.3%) were classified as Other race group. There were 6,988 (3.2%) health care workers (HCW) that were reported to be hospitalised. Among the 121,198 admissions in females of child-bearing age 15-50 years, there were 5,340 (4.4%) females admitted who were pregnant or within 6 weeks post-partum.

Among 166,629 (76.5%) patients for whom comorbid conditions were known, 76,437 (45.9%) had no comorbid condition reported, 47,692 (28.6%) had one comorbid condition reported, 31,697 (19.0%) had two comorbid conditions and 10,803 (6.5%) had three or more comorbid conditions reported. The most commonly reported comorbidities were hypertension (60,247, 27.7%) and diabetes (43,323, 19.9%); there were 13,570 (6.2%) patients who were HIV-infected, 2,670 (1.2%) patients with active tuberculosis (TB) and 4,487 (2.1%) patients with previous history of TB (Table 2). Obesity, defined by body mass index where available or 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 6,096 (2.9%) of all patients hospitalised.

Table 2. Reported comorbid conditions among COVID-19 admissions, South Africa, 5 March 2020 to 27 February 2021, n=166,629 *

Comorbid disease**	N	%	
Hypertension	60,247	27.6	
Diabetes mellitus	43,323	19.9	
Chronic cardiac disease	4,015	1.8	
Chronic pulmonary disease/ Asthma	10,265	4.8	
Chronic renal disease	3,995	1.8	
Malignancy	1,133	0.5	
HIV	13,570		
Active tuberculosis	2,670		
Previous history of tuberculosis	2,998	2.0	

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

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

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OUTCOMES

Of the 217,891 admitted individuals, 7,236 (3.3%) were currently in hospital, 158,684 (72.8%) were discharged alive, 4,185 (1.9%) were transferred out to either higher-level care or step-down facilities, 47,786 (21.9%) had died in hospital. Of the 206,470 COVID-19 patients who had recorded in-hospital outcome (died and discharged), the case fatality ratio (CFR) was 23.1%.

EPIDEMIOLOGICAL AND GEOGRAPHIC TRENDS IN MORTALITY

The peak numbers of weekly deaths were higher in the second wave than the first wave. The CFR was higher in the public health sector (25.5%) than in the private health sector (18.1%) (p<0.001). There has been a decrease in reported COVID-19 deaths since week 1 of 2021 (Figure 4).

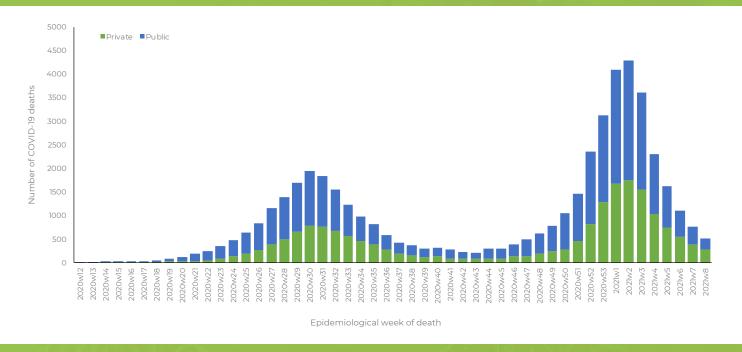


Figure 4. Number of COVID-19 deaths reported per week by health sector and epidemiologic week, South Africa, 5 March 2020-27 February 2021, n= 47,786

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Most deaths were reported in Gauteng (11,162, 23.4%), followed by Western Cape (9,505, 19.9%), Eastern Cape (9,271, 19.4%) and KwaZulu-Natal (9,194, 19.2%) (Figure 5).

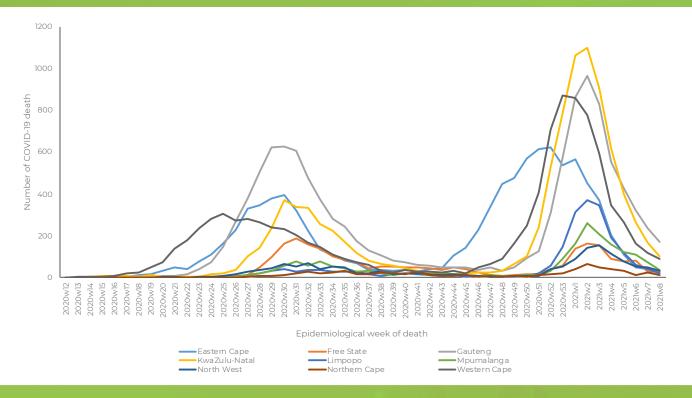


Figure 5: Number of reported COVID-19 deaths, by province and epidemiological week of death, South Africa, 5 March 2020-27 February 2021, n= 47,786

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DEMOGRAPHIC CHARACTERISTICS OF DEATHS

The median age of patients who died was 63 (IQR 54 – 72) years, and for those who were discharged alive was 50 (IQR 37 – 61) years. There were 269 (0.6%) deaths in children aged \leq 18 years, many of these deaths were in children with serious underlying comorbid conditions. There were 3,154 (6.6%) deaths in patients younger than 40 years (Figure 6). The CFR was higher in males (25.2%) than females (21.5%) (p<0.001).

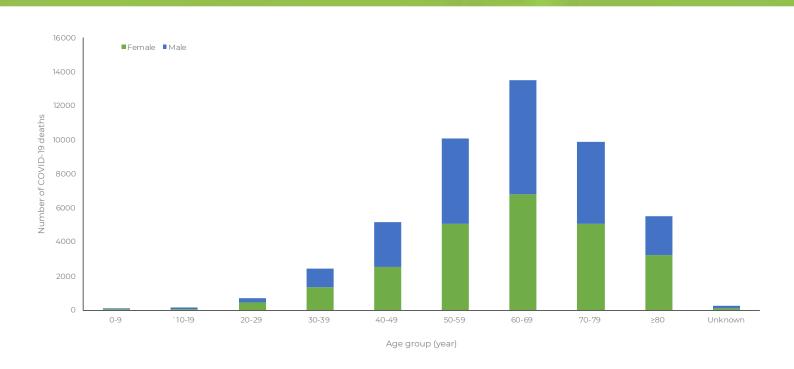


Figure 6: Number of reported COVID-19 deaths by age and gender, South Africa, 5 March 2020-27 February 2021, n=47,786

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COMMON COMORBIDITIES REPORTED AMONG DEATHS

In all age groups older than 40 years, hypertension and diabetes were most commonly reported comorbidities among patients who died. In patients between 20 and 60 years, HIV, tuberculosis and obesity were commonly reported (Figure 7).

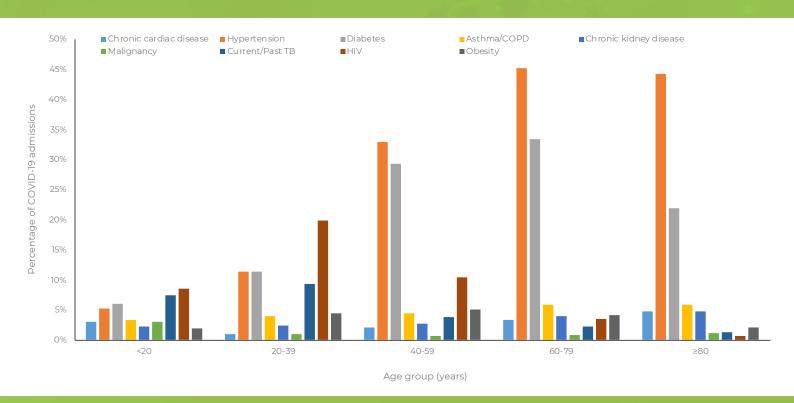


Figure 7. NFrequency of comorbid conditions for reported COVID-19 deaths by age group, South Africa, 5 March 2020-27 February 2021, n= 47,786

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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 March 2020, CFR increased to the peak of wave 1 in July, decreased post-wave, then increased to the peak of wave 2 in January 2021, then decreased again. Compared to the Western Cape Province, individuals hospitalised in Eastern Cape, Free State, Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga, North West and Northern Cape provinces were more likely to die inhospital (Table 3 and Figure 8).

Characteristic	Case-fatality ratio	Unadjusted	OR p-value		p-value
	n/N (%)	(95% CI)		(95% CI)	
Age group					
<20 years	269/7,730 (3.5)	Reference		Reference	
20-39 years	3,154/ 41,543 (7.6)	2.3 (2.0-2.6)	<0.001	2.7 (2.2-3.3)	<0.001
40-59 years	15,258/81,734(18.7)	6.4 (5.6-7.2)	<0.001	7.4 (6.0-8.9)	<0.001
60-79 years	23,372/62,183(37.6)	16.7 (14.7-18.9)	<0.001	17.7 (14.5-21.6)	<0.001
≥80 years	5,498 /11,753 (46.8)	24.4 (21.4-27.7)	<0.001	31.2 (25.5-38.2)	<0.001
Unknown age	235/1,527 (15.4)	5.0 (4.2-6.1)	<0.001	3.6 (1.5-8.4)	0.004
Sex					
Female	24,720/114,859 (21.5)	Reference		Reference	
Male	23,047 / 91,436 (25.2)	1.2 (1.2-1.3)	<0.001	1.3 (1.3-1.4)	<0.001
Race					
White	2,552 / 12,033 (21.2)	Reference		Reference	
Black	26,048 /105,816 (24.6)	1.2 (1.2-1.3)	<0.001	1.3 (1.2-1.4)	<0.001
Coloured	2,212 / 9,724 (22.8)	1.1 (1.0-1.2)	0.006	1.2 (1.1-1.4)	<0.001
Indian	1,875/ 8,204 (22.9)	1.1 (1.0-1.2)	0.005	1.3 (1.2-1.4)	<0.001
Other	67/334 (20.1)	0.9 (0.7-1.2)	0.612	1.1 (0.7-1.7)	0.783
Unknown	15,032 /70,359 (21.4)	1.0 (0.9-1.1)	0.699	1.5 (1.4-1.6)	0.004
Healthcare worker					
No	46,961/199,694 (23.5)	Reference			
	825 /6,776 (12.2)	0.5 (0.4-0.5)	<0.00		
Peri-partum					
No	24,548/109,732 (22.4)	Reference			
Yes	172/ 5,128 (3.4)	0.1 (0.1-0.1-0.4)	<0.001		

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Comorbid condition					
No co-morbidity	12,386/72,669 (17.0)	Reference			
1 co-morbid condition	12,024 /45,355 (26.5)	1.8 (1.7-1.8)	<0.001		
2 comorbid conditions	10,047/ 30,200 (33.3)	2.4 (2.4-2.5)	<0.001		
≥3 comorbid conditions	3537/10,334 (33.9)	2.5 (2.4-2.6)	<0.001		
Unknown	9,817/47,912 (20.5)	1.3 (1.2-1.3)	<0.001		
Hypertension					
No	18,247 /96,849 (18.8)	Reference		Reference	
Yes	18,366/ 57,472 (32.0)	2.0 (1.9-2.1)	<0.001	1.1 (1.1-1.2)	<0.001
	10,300/ 37,472 (32.0)	2.0 (1.9-2.1)	<u> </u>	1.1 (1.1-1.2)	<0.001
Diabetes mellitus					
No	21,649/109,815 (19.7)	Reference		Reference	
Yes	13,827/ 41,580 (33.3)	2.0 (2.0-2.1)	<0.001	1.4 (1.3-1.4)	<0.001
Chronic cardiac disease					
No	31,155/138,804 (22.5)	Reference		Reference	
Yes	1,391/3,750 (37.1)	2.0 (1.9-2.2)	<0.001	1.2 (1.1-1.3)	0.001
103	(37.1)	2.0 (1.3 2.2)		1.2 (1.1 1.3)	0.001
Chronic pulmonary					
disease/Asthma					
No	29,825/132,225 (22.3)	Reference			
Yes	2,490/9,891 (25.2)	1.2 (1.1-1.2)	0.001		
Chronic renal disease					
No	30,648 / 138,119 (22.2)	Reference		Reference	
Yes	1,691 / 3,825 (44.2)	2.7 (2.6-3.0)	<0.001	1.6 (1.5-1.7)	<0.001
103	1,03173,023 (++.2)	2.7 (2.0 3.0)	10.001	1.0 (1.5 1.7)	10.001
Malignancy					
No	31.695/140.378 (22.3)	Reference		Reference	
No Yes	31,695/140,378 (22.3) 407/1066 (39.0)	Reference 21 (19-24)	<0.001	Reference	<0.001
No Yes	31,695/ 140,378 (22.3) 407/ 1,066 (39.0)	Reference 2.1 (1.9-2.4)	<0.001	Reference 1.7 (1.5-2.0)	<0.001
Yes			<0.001 		<0.001
Yes	407/ 1,066 (39.0)	2.1 (1.9-2.4)	<0.001		<0.001
Yes HIV No	407/ 1,066 (39.0) 29,341 / 131,319 (22.3)	2.1 (1.9-2.4) Reference		1.7 (1.5-2.0) Reference	
Yes HIV	407/ 1,066 (39.0)	2.1 (1.9-2.4)	<0.001 <0.001	1.7 (1.5-2.0)	<0.001
Yes HIV No Yes	407/ 1,066 (39.0) 29,341 / 131,319 (22.3)	2.1 (1.9-2.4) Reference		1.7 (1.5-2.0) Reference	
Yes HIV No Yes Tuberculosis	407/ 1,066 (39.0) 29,341 / 131,319 (22.3) 3,106/ 12,643 (24.6)	2.1 (1.9-2.4) Reference 1.1 (1.1-1.2)		1.7 (1.5-2.0) Reference 1.3 (1.3-1.4)	
Yes HIV No Yes Tuberculosis No	407/ 1,066 (39.0) 29,341 / 131,319 (22.3) 3,106/ 12,643 (24.6) 29,950 /134,417 (22.3)	2.1 (1.9-2.4) Reference 1.1 (1.1-1.2) Reference	<0.001	1.7 (1.5-2.0) Reference 1.3 (1.3-1.4) Reference	<0.001
Yes HIV No Yes Tuberculosis No Previous	407/1,066 (39.0) 29,341 / 131,319 (22.3) 3,106/12,643 (24.6) 29,950 /134,417 (22.3) 741 / 2,869 (25.8)	2.1 (1.9-2.4) Reference 1.1 (1.1-1.2) Reference 1.2 (1.1-1.3)	<0.001	1.7 (1.5-2.0) Reference 1.3 (1.3-1.4) Reference 1.1 (0.9-1.2)	<0.001 0.190
Yes HIV No Yes Tuberculosis No Previous Current	407/1,066 (39.0) 29,341 / 131,319 (22.3) 3,106/12,643 (24.6) 29,950 /134,417 (22.3) 741 / 2,869 (25.8) 228 / 898 (25.4)	2.1 (1.9-2.4) Reference 1.1 (1.1-1.2) Reference 1.2 (1.1-1.3) 1.2 (1.0-1.3)	<0.001 <0.001 0.026	1.7 (1.5-2.0) Reference 1.3 (1.3-1.4) Reference 1.1 (0.9-1.2) 1.3 (1.1-1.6)	<0.001 0.190 0.001
Yes HIV No Yes Tuberculosis No Previous	407/1,066 (39.0) 29,341 / 131,319 (22.3) 3,106/12,643 (24.6) 29,950 /134,417 (22.3) 741 / 2,869 (25.8)	2.1 (1.9-2.4) Reference 1.1 (1.1-1.2) Reference 1.2 (1.1-1.3)	<0.001	1.7 (1.5-2.0) Reference 1.3 (1.3-1.4) Reference 1.1 (0.9-1.2)	<0.001 0.190
Yes HIV No Yes Tuberculosis No Previous Current Current and previous	407/1,066 (39.0) 29,341 / 131,319 (22.3) 3,106/12,643 (24.6) 29,950 /134,417 (22.3) 741 / 2,869 (25.8) 228 / 898 (25.4)	2.1 (1.9-2.4) Reference 1.1 (1.1-1.2) Reference 1.2 (1.1-1.3) 1.2 (1.0-1.3)	<0.001 <0.001 0.026	1.7 (1.5-2.0) Reference 1.3 (1.3-1.4) Reference 1.1 (0.9-1.2) 1.3 (1.1-1.6)	<0.001 0.190 0.001
Yes HIV No Yes Tuberculosis No Previous Current Current and previous Obesity	407/1,066 (39.0) 29,341 / 131,319 (22.3) 3,106/12,643 (24.6) 29,950 /134,417 (22.3) 741 / 2,869 (25.8) 228 / 898 (25.4) 289 / 1,177 (24.6)	2.1 (1.9-2.4) Reference 1.1 (1.1-1.2) Reference 1.2 (1.1-1.3) 1.2 (1.0-1.3) 1.1 (1.0-1.3)	<0.001 <0.001 0.026	1.7 (1.5-2.0) Reference 1.3 (1.3-1.4) Reference 1.1 (0.9-1.2) 1.3 (1.1-1.6) 1.6 (1.4-1.9)	<0.001 0.190 0.001
Yes HIV No Yes Tuberculosis No Previous Current Current and previous Obesity No	407/1,066 (39.0) 29,341 / 131,319 (22.3) 3,106/12,643 (24.6) 29,950 /134,417 (22.3) 741 / 2,869 (25.8) 228 / 898 (25.4) 289 / 1,177 (24.6) 11,835 / 50,490 (23.4)	2.1 (1.9-2.4) Reference 1.1 (1.1-1.2) Reference 1.2 (1.1-1.3) 1.2 (1.0-1.3) 1.1 (1.0-1.3)	<0.001 <0.001 0.026 0.062	1.7 (1.5-2.0) Reference 1.3 (1.3-1.4) Reference 1.1 (0.9-1.2) 1.3 (1.1-1.6) 1.6 (1.4-1.9) Reference	<0.001 0.190 0.001 <0.001
Yes HIV No Yes Tuberculosis No Previous Current Current and previous Obesity No Yes	407/1,066 (39.0) 29,341 / 131,319 (22.3) 3,106/12,643 (24.6) 29,950 /134,417 (22.3) 741 / 2,869 (25.8) 228 / 898 (25.4) 289 / 1,177 (24.6) 11,835 / 50,490 (23.4) 2,008/5,638 (35.6)	2.1 (1.9-2.4) Reference 1.1 (1.1-1.2) Reference 1.2 (1.1-1.3) 1.2 (1.0-1.3) 1.1 (1.0-1.3) Reference 1.8 (1.7-1.9)	<0.001 <0.001 0.026 0.062	1.7 (1.5-2.0) Reference 1.3 (1.3-1.4) Reference 1.1 (0.9-1.2) 1.3 (1.1-1.6) 1.6 (1.4-1.9) Reference 1.5 (1.4-1.6)	<0.001 0.190 0.001 <0.001
Yes HIV No Yes Tuberculosis No Previous Current Current and previous Obesity No	407/1,066 (39.0) 29,341 / 131,319 (22.3) 3,106/12,643 (24.6) 29,950 /134,417 (22.3) 741 / 2,869 (25.8) 228 / 898 (25.4) 289 / 1,177 (24.6) 11,835 / 50,490 (23.4)	2.1 (1.9-2.4) Reference 1.1 (1.1-1.2) Reference 1.2 (1.1-1.3) 1.2 (1.0-1.3) 1.1 (1.0-1.3)	<0.001 <0.001 0.026 0.062	1.7 (1.5-2.0) Reference 1.3 (1.3-1.4) Reference 1.1 (0.9-1.2) 1.3 (1.1-1.6) 1.6 (1.4-1.9) Reference	<0.001 0.190 0.001 <0.001

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Month of admission					
March 2020	43 /394 (11.0)	Reference		Reference	
April 2020	183/1,432 (12.8)	1.2 (0.8-1.7)	0.320	1.3 (0.8-2.0)	0.248
May 2020	1,069/ 5,767 (18.5)	1.9 (1.3-2.6)	<0.001	1.5 (1.1-2.2)	0.022
June 2020	3,671/18,075 (20.3)	2.0 (1.2-2.6)	<0.001	1.6 (1.1-2.2)	0.017
July 2020	8,167/ 37,769 (21.6)	2.3 (1.6-3.1)	<0.001	1.5 (0.9-2.5)	0.037
August 2020	3,644/19,469 (18.7)	1.8 (1.4-2.6)	<0.001	1.2 (0.8-1.7)	0.424
September 2020	1,293 / 8,744 (14.8)	1.4 (1.0-2.0)	0.034	0.9 (0.6-1.3)	0.498
October 2020	1,149/ 7,552 (15.2)	1.5 (1.1-2.0)	0.020	0.9 (0.6-1.3)	0.633
November 2020	2,490/10,981 (22.7)	2.4 (1.7-3.3)	<0.001	1.4 (0.9-2.0)	0.099
December 2020	10,200/ 38,449 (26.5)	2.9 (2.1-4.0)	<0.001	2.0 (1.4-2.8)	<0.001
January 2021	14,172/ 49,058 (28.9)	3.3 (2.4-4.6)	<0.001	2.1 (1.5-3.0)	<0.001
February 2021	1,699/ 8,730 (19.5)	1.9 (1.4-2.7)	<0.001	1.2 (0.9-1.8)	0.251
Health sector					
Private sector	19,079/101,424 (18.8)	Reference		Reference	
Public sector	28,707/105,046 (27.3)	1.6 (1.6-1.7)	<0.001	1.4 (1.3-1.4)	<0.001
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Western Cape	9,505/ 43,815 (21.7)	Reference		Reference	
Eastern Cape	9,271/28,366 (32.7)	1.8 (1.7-1.8)	<0.001	2.0 (2.0-2.2)	<0.001
Free State	2,444/11,020 (22.2)	1.0 (0.9-1.1)	0.271	1.3 (1.2-1.4)	<0.001
Gauteng	11,162 / 55,671 (20.1)	0.9 (0.9-0.9)	<0.001	1.2 (1.1-1.3)	<0.001
KwaZulu-Natal	9,194/39,128 (23.5)	1.1 (1.0-1.1)	<0.001	1.5 (1.4-1.6)	<0.001
Limpopo	2,123 / 7,215 (29.4)	1.5 (1.4-1.6)	<0.001	1.7 (1.6-1.9)	<0.001
Mpumalanga	1,928/7,481 (25.8)	1.2 (1.2-1.3)	<0.001	1.3 (1.2-1.4)	<0.001
North West	1,495 / 10,465 (14.3)	0.6 (0.6-0.6)	<0.001	1.1 (1.0-1.2)	0.008
Northern Cape	664/3,309 (20.1)	0.9 (0.8-0.9)	0.028	1.4 (1.2-1.5)	<0.001
Ever ICU					
No	33,530/ 178,209 (18.8)	Reference			
Yes	14,256 / 28,261 (50.4)	4.4 (4.3-4.5)	<0.001		
163	11,230 / 20,201 (30.1)	1.1 (1.5 1.5)	10.001		
Ever High Care					
Ever High Care No	42,307/189,636 (22.3)	Reference			
Yes	5,479 / 16,834 (32.6)	1.7 (1.6-1.7)	<0.001		
res	3,479 / 10,034 (32.0)	1.7 (1.0-1.7)	<0.001		
Ever ventilated	33000/00 000 /3 (0)	5.6			
No	11899/80,008 (14.9)	Reference			
Yes	3715/5,549 (67.0)	11.6 (10.9-12.3)	<0.001		
Ever on oxygen					
No	22,025 /121,570 (18.1)	Reference			
Yes	25,761/84,900 (30.3)	2.0 (1.9-2.0)	<0.001		

^{*} Multivariable model excluded all individuals with unknown comorbid conditions

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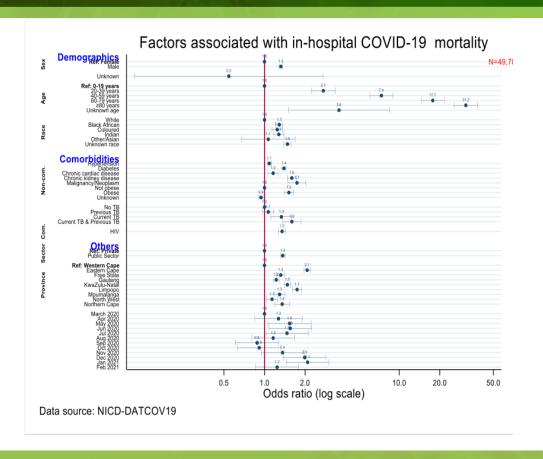


Figure 8: Multivariable analysis of factors associated with mortality among 206,470 individuals with inhospital outcome (discharges and deaths), South Africa, 5 March 2020 to 27 February 2021

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DISCUSSION

DATCOV currently includes 217,891 admissions from 642 public and private hospitals in all nine provinces in South Africa. It also includes 47,786 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 and previous tuberculosis, and obesity. Increased risks for mortality have similarly been observed in non-white patients and in those from lower socio-economic groups in other countries (1)(2).

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.

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LIMITATIONS

DATCOV now includes reporting from all hospitals with COVID-19 admissions but many hospitals are yet to reach complete submission of historic data. 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. Delays in reporting of admissions and deaths may affect the numbers reported in the most recent week. The National Department of Health have recruited data capturers in six provinces to support hospitals to improve data submission.

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 have been introduced to allow for this analysis. For obesity, the platform now also captures weight, height and 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.

As hospitals reached capacity, admission criteria may change and therefore influence trends and inferences about the progression of the epidemic. DATCOV only reports hospital-based admissions and deaths and therefore does not include deaths occurring outside hospitals. DATCOV now has a module to record out-of-hospital deaths.

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REFERENCES

- 1. Williamson E, Walker AJ, Bhaskaran KJ, Bacon S, Bates C, Morton CE, et al. OpenSAFELY: factors associated with COVID-19-related hospital death in the linked electronic health records of 17 million adult NHS patients. medRxiv. 2020:2020.05.06.20092999.
- 2. Pan D, Sze S, Minhas JS, Bangash MN, Pareek N, Divall P, et al. The impact of ethnicity on clinical outcomes in COVID-19: A systematic review. EClinicalMedicine. 2020;23.

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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)

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APPENDIX

Table 4: Number of reported COVID-19 admissions and deaths by age and gender, South Africa, 5 March 2020 to 27 February 2021

	ADMISSIONS			DEATHS				
Age (years)	Female	Male	Unknown	Total	Female	Male	Unknown	Total
0-4	1597	1887		3491	53	48		102
	418	555		976	9	12	0	21
10-14	717	651	0	1368	16	18	0	34
15-19	2180	1179		3362	63	54	0	117
20-24	3884	1905		5792	139	98	0	237
25-29	6736	3052		9792	307	182	0	489
30-34	9321	5405		14729	564	423	0	987
35-39	10444	7416		17866	787	695	0	1482
40-44	10091	8842		18937	1022	1060		2083
45-49	11601	10680	8	22289	1544	1591		3137
50-54	13607	11998		25608	2104	2135		4240
55-59	14821	12828	8	27657	3048	2918		5967
60-64	13223	11874		25108	3440	3553		6994
65-69	10812	9450	8	20270	3430	3195		6627
70-74	8622	7606	12	16240	2912	2834		5750
75-79	6169	4986		11160	2202	2013		4216
80-84	4445	3113		7562	1686	1301		2988
85-89	2333	1450		3784	925	675	0	1600
90-94	1038	492		1531	472	246	0	718
>=95	356	213	0	569	148	75	0	223
Unknown	846	668	101	1615	111	123	4	238