

# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE



NATIONAL INSTITUTE FOR  
COMMUNICABLE DISEASES

Division of the National Health Laboratory Service

SOUTH AFRICA WEEK 50 2020

## OVERVIEW

This report summarises data of COVID-19 cases admitted to DATCOV hospital surveillance sites in all provinces. The report is based on data collected from 5 March to 12 December 2020.

## HIGHLIGHTS

- As of 12 December, 116,325 COVID-19 admissions and 20,242 deaths were reported from 618 facilities (368 public-sector and 250 private-sector) in all nine provinces of South Africa. DATCOV coverage is now 99% of public and 100% of private hospitals that have had COVID-19 admissions. New hospitals that have enrolled need to capture historical admissions.
- There has been a resurgence in admissions and deaths in Eastern Cape for nine weeks with admissions seeming to have decreased in the past three weeks. The resurgence was located mainly in Nelson Mandela Metro and Buffalo City Metro.
- There has been a resurgence in admissions in Western Cape for six weeks in four out of six districts; increases in admissions in KwaZulu-Natal for the past three weeks in six of 11 districts; and increases in admissions in Gauteng for the past three weeks, in four of five districts.

# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

## METHODS

DATCOV, sentinel hospital surveillance for COVID-19 admissions, was initiated on the 1 April 2020. 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. 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. For the calculation of cumulative incidence rates, StatsSA mid-year population estimates for 2020 were utilised.

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 12 December 2020, a total of 618 facilities submitted data on hospitalised COVID-19 cases, 368 from public sector and 250 from private sector (Table 1). This reflects 99% and 100% coverage of all public and private hospitals respectively that have had COVID-19 admissions. As new hospitals join the surveillance system, they have retrospectively captured all admissions recorded although there may be some backlogs in retrospective data capture.

**Table 1.** Number of hospitals reporting data on COVID-19 admissions by province and sector, South Africa, 5 March-12 December 2020

Name of province	Public Sector	Private Sector
Eastern Cape	84	18
Free State	35	20
Gauteng	38	90
KwaZulu-Natal	62	45
Limpopo	35	7
Mpumalanga	27	9
North West	13	12
Northern Cape	16	8
Western Cape	58	41
<b>South Africa</b>	<b>368</b>	<b>250</b>

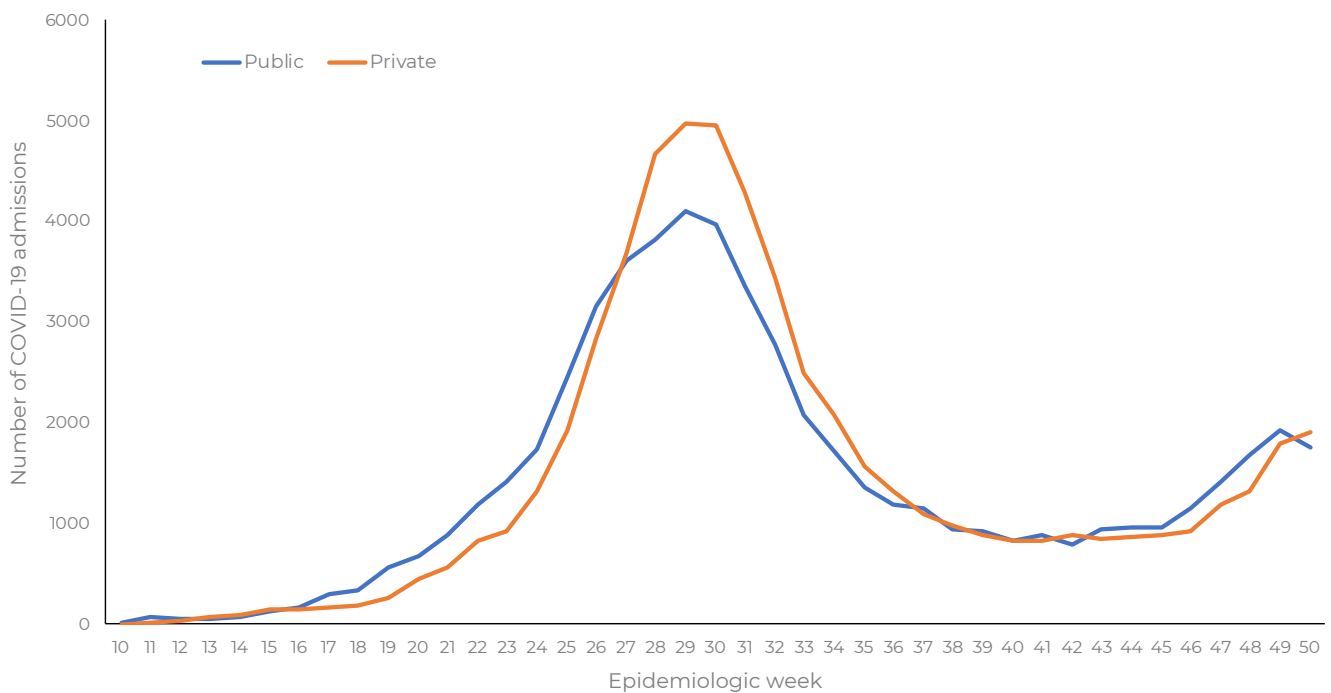
# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

## RESULTS

### Epidemiological and geographic trends in admissions

From 5 March to 12 December, a total of 116,325 COVID-19 admissions were reported from 618 facilities in all nine provinces of South Africa. Reported COVID-19 admissions decreased after the peak in weeks 29 and 30 but in the last nine weeks there has been an increase in admissions in both public and private sector (Figure 1). The decreases in the most recent week may reflect delays in data submission.

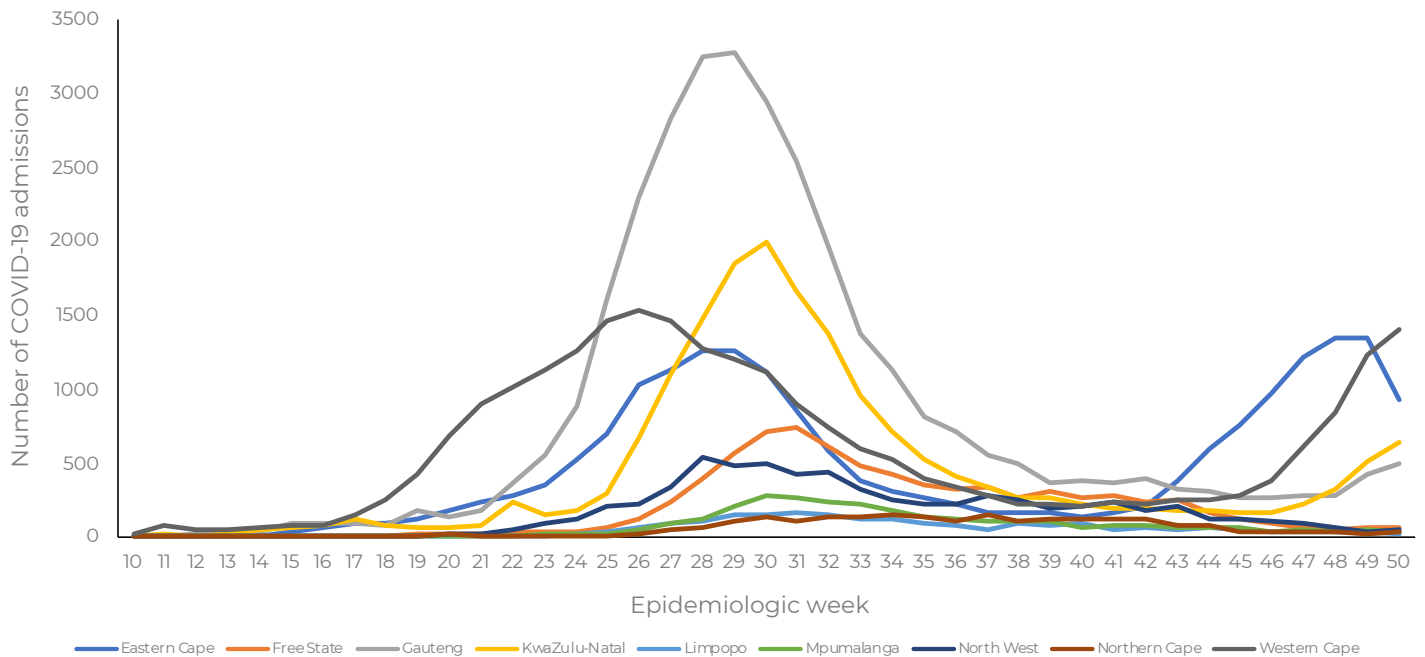


**Figure 1.** Number of reported COVID-19 admissions by health sector and epidemiologic week of diagnosis, South Africa, 5 March-12 December 2020, n=116,325

# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

The majority of admissions were recorded in four provinces, Gauteng (32,654; 28.1%), followed by Western Cape (24,350; 20.9%), Eastern Cape (19,578; 16.8%) and KwaZulu-Natal (18,087; 15.5%) provinces (Figure 2). Admissions have increased in Eastern Cape since week 40, Western Cape since week 43, KwaZulu-Natal since week 46 and Gauteng since week 48.



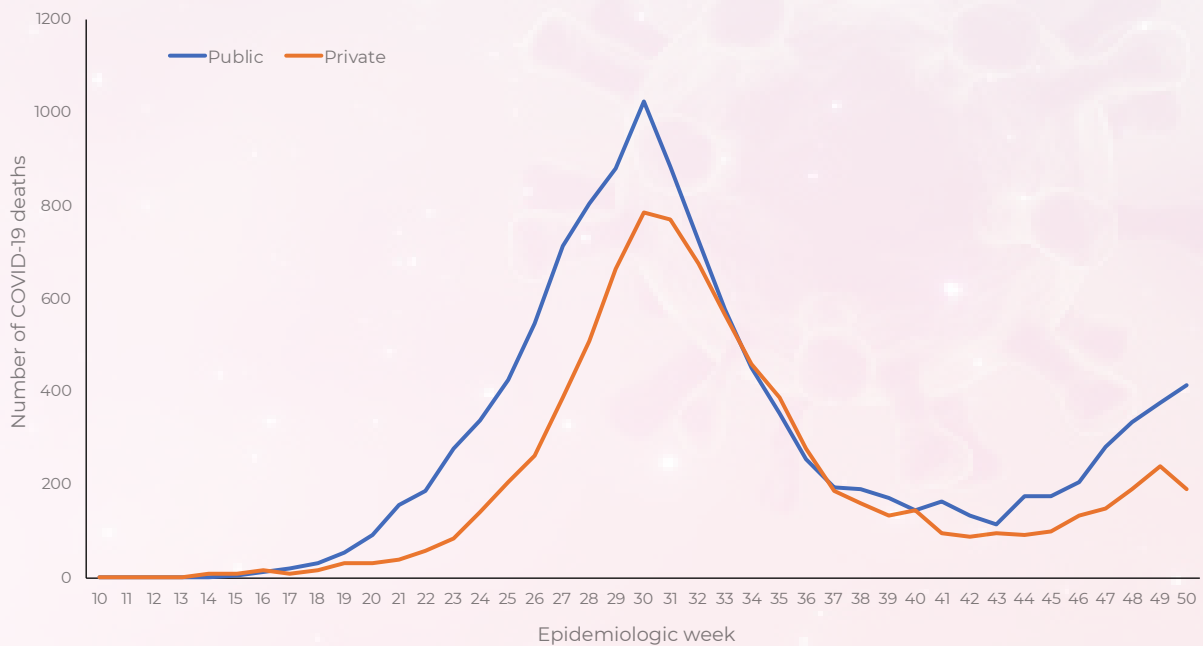
**Figure 2.** Number of reported COVID-19 admissions, by province and epidemiologic week of diagnosis, South Africa, 5 March-12 December 2020, n=116,325

# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

## EPIDEMIOLOGICAL AND GEOGRAPHIC TRENDS IN IN-HOSPITAL MORTALITY

Of the 116,325 COVID-19 admissions, there were 20,242 in-hospital deaths. Most deaths have been reported in the public sector. Reported COVID-19 deaths decreased after the peak in week 30 but in the last seven weeks there has been an increase in deaths in both public and private sector (Figure 3). The decreases in the most recent week may reflect delays in data submission.

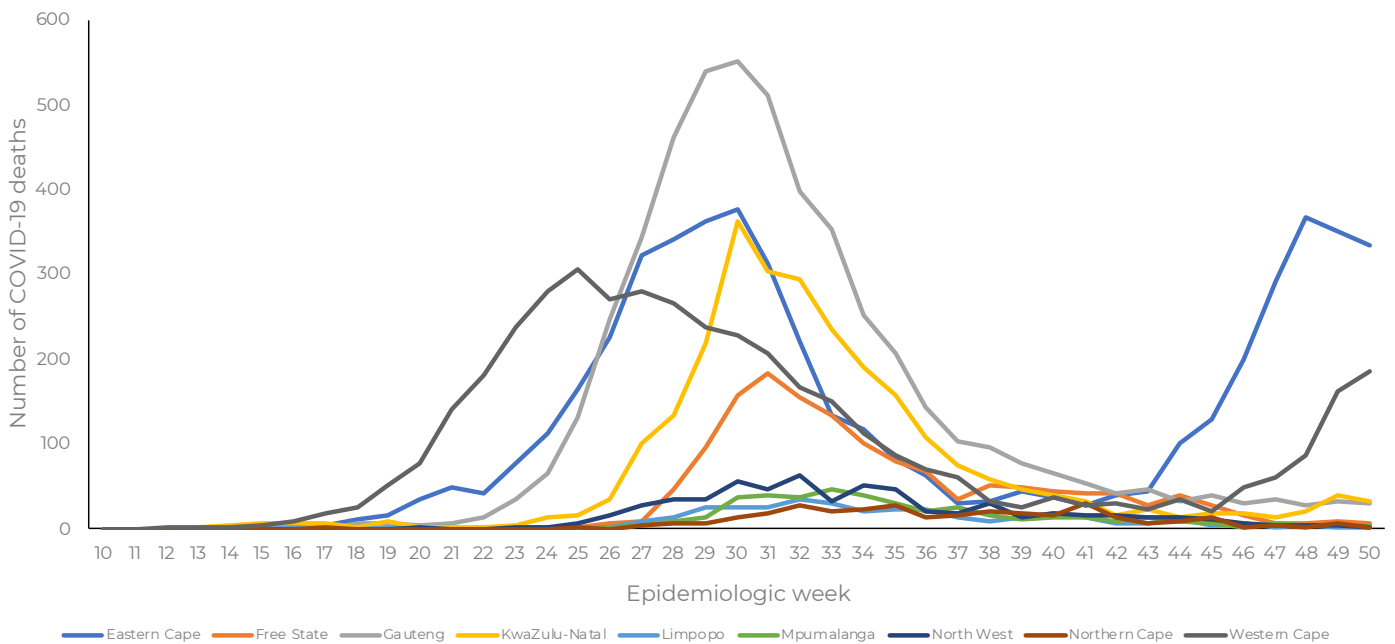


**Figure 3.** Number of COVID-19 deaths reported per week by health sector and epidemiologic week, South Africa, 5 March-12 December 2020, n=20,242

# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

Most deaths were reported in Eastern Cape (5,114; 25.3%), followed by Gauteng (5,007; 24.7%), Western Cape (4,248; 21.0%), and KwaZulu-Natal (2,679; 13.2%) (Figure 4). An increase in deaths was reported in Eastern Cape since week 42, Western Cape since week 45 and KwaZulu-Natal since week 47.



**Figure 4.** Number of reported COVID-19 deaths, by province and epidemiologic week of death, South Africa, 5 March-12 December 2020, n=20,242

# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

The cumulative incidence risks of COVID-19 admissions were highest in Western Cape, Eastern Cape and Free State provinces; and for deaths were highest in Eastern Cape, Western Cape and Free State provinces (Table 2).

**Table 2.** Number and cumulative incidence risk of COVID-19 hospitalisations and deaths per 100,000 persons by province, South Africa, 5 March-12 December 2020

Province	Provincial Population mid 2020*	Cumulative admissions	Cumulative Admissions / 100,000	Cumulative deaths	Cumulative deaths / 100,000
Eastern Cape	6,734,001	19578	290,7	5114	75,9
Free State	2,928,903	7780	265,6	1467	50,1
Gauteng	15,488,137	32 654	210,8	5003	32,3
KwaZulu-Natal	11,531,628	18087	156,8	2675	23,2
Limpopo	5,852,553	2093	35,8	352	6,0
Mpumalanga	4,679,786	2881	61,6	428	9,1
North West	4,108,816	6 646	161,7	619	15,1
Northern Cape	1,292,786	2 256	174,5	328	25,4
Western Cape	7,005,741	24 350	347,6	4244	60,6
<b>South Africa</b>	<b>59,622,350</b>	<b>116 325</b>	<b>195,1</b>	<b>20 230</b>	<b>33,9</b>

\*StatsSA mid-year population estimates 2020



# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

## MONITORING FOR RESURGENCE

The number of COVID-19 admissions increased in five provinces from week 49 to week 50, Gauteng, KwaZulu-Natal, North West, Northern Cape and Western Cape provinces. The highest proportion of new admissions and the highest incidence risk of new admissions were in Eastern Cape and Western Cape (Table 3).

**Table 3.** Percentage change in COVID-19 admissions, epidemiological week 49 to week 50, by province, South Africa

Province	Hospital admissions		Percentage change in admissions	Percentage of total new admissions	Incidence risk of new admissions /100,000 persons
	Week 49	Week 50			
Eastern Cape	1339	928	-31	25,3	13,8
Free State	69	57	-17	1,6	1,9
Gauteng	421	499	19	13,6	3,2
KwaZulu-Natal	512	639	25	17,4	5,5
Limpopo	34	26	-24	0,7	0,4
Mpumalanga	48	34	-29	0,9	0,7
North West	37	53	43	1,4	1,3
Northern Cape	23	33	43	0,9	2,6
Western Cape	1226	1402	14	38,2	20,0
<b>South Africa</b>	<b>3 709</b>	<b>3 671</b>	<b>-1</b>	<b>100,0</b>	<b>6,2</b>

\* Reporting of new admissions in the most recent week may be delayed



# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

There were 23 districts across the country that reported increased number of admissions from week 49 to week 50 (Table 4), including six districts from KwaZulu-Natal and four each from Western Cape and Gauteng.

**Table 4.** Districts with positive increases in admissions, epidemiologic week 49 to week 50, South Africa

Districts	Province	Cumulative hospital admissions	Hospital admissions		Percentage change in admissions
			Week 49	Week 50	
ZF Mgcawu	Northern Cape	156,8	2	17	750
iLembe	KwaZulu-Natal	56,9	5	22	340
Zululand	KwaZulu-Natal	17,1	0	2	200
West Coast	Western Cape	136,3	12	25	108
Sedibeng	Gauteng	198,4	10	20	100
King Cetshwayo	KwaZulu-Natal	192,3	21	39	86
Bojanala Platinum	North West	99,6	17	30	76
Joe Gqabi	Eastern Cape	69,0	2	3	50
Amajuba	KwaZulu-Natal	142,0	4	6	50
Vhembe	Limpopo	10,1	2	3	50
Dr Ruth Segomotsi Mompati	North West	79,9	2	3	50
uMgungundlovu	KwaZulu-Natal	198,2	49	71	45
eThekweni Metro	KwaZulu-Natal	258,4	292	398	36
City of Johannesburg Metro	Gauteng	225,5	160	218	36
Dr Kenneth Kaunda	North West	511,0	16	20	25
City of Cape Town Metro	Western Cape	388,7	744	908	22
West Rand	Gauteng	282,8	58	66	14
Central Karoo	Western Cape	262,3	23	26	13
Cape Winelands	Western Cape	261,4	134	149	11
Ekurhuleni Metro	Gauteng	183,9	58	63	9

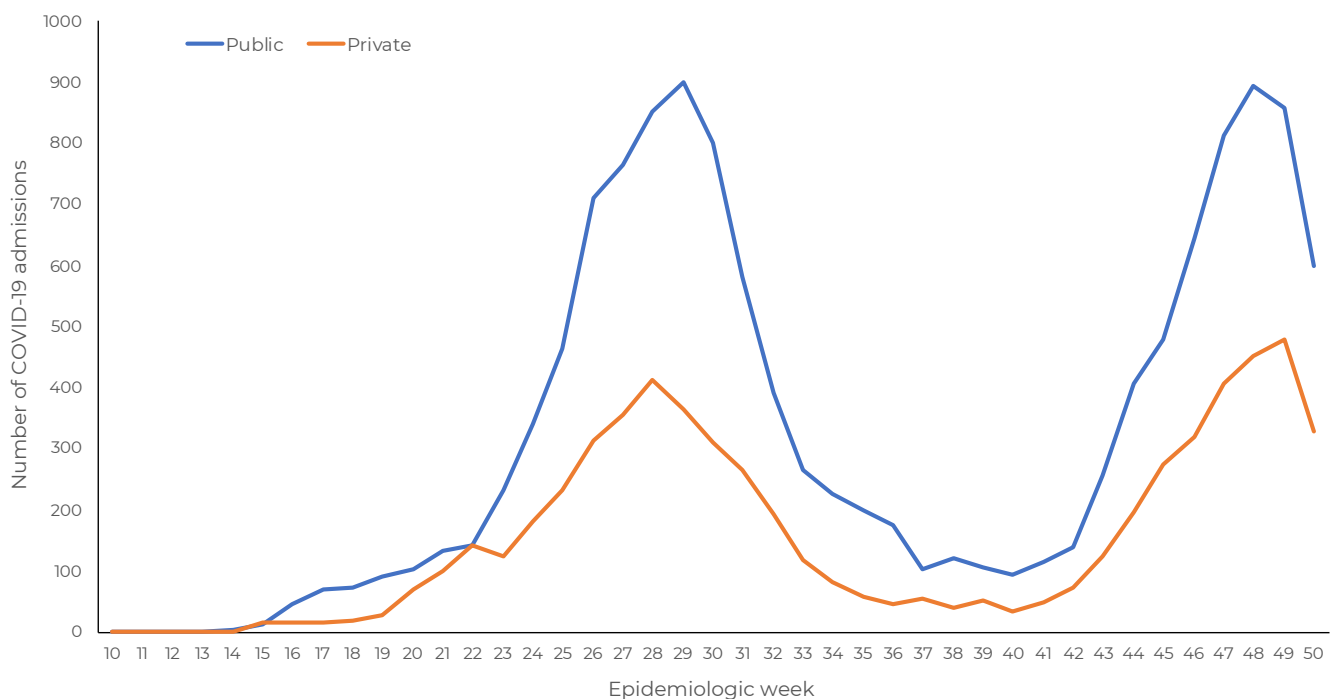
\* Reporting of new admissions in the most recent week may be delayed

# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

## EASTERN CAPE

Since week 40 there has been an increase in admissions reported in the Eastern Cape, seen across both public and private sectors, with decreased admissions observed in the past three weeks (Figure 5).

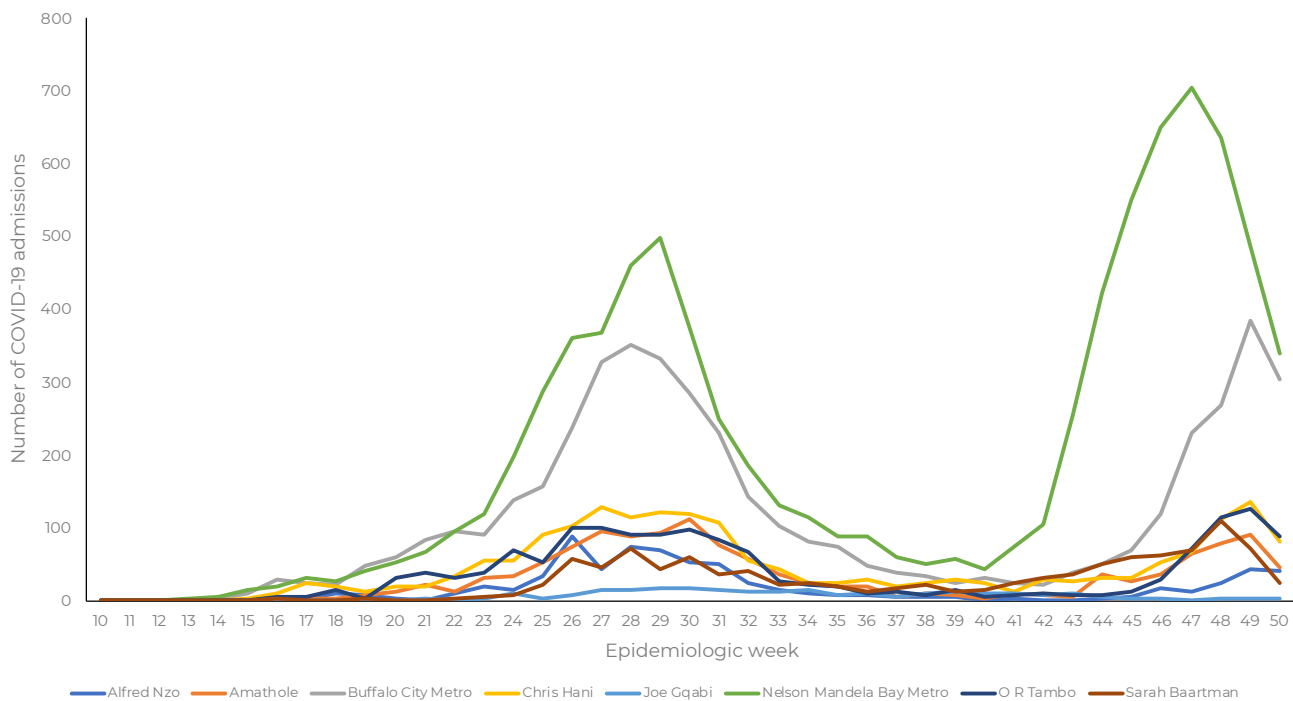


**Figure 5:** Number of reported COVID-19 admissions by health sector and epidemiologic week of diagnosis, Eastern Cape, 5 March-12 December 2020

# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

The increase in admissions in Eastern Cape was driven predominantly by admissions in Nelson Mandela Metro and Buffalo City Metro, which have exceeded the numbers of admissions at the previous peak (Figure 6). Admissions have decreased or shown a slower rate of increase in all districts in the last two weeks.



**Figure 6.** Number of reported COVID-19 admissions, by district and epidemiologic week, Eastern Cape, 5 March-12 December 2020

# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

The only districts with an increase in the number of COVID-19 admissions was Joe Gqabi district from week 49 to week 50. The highest proportion of new admissions and the highest incidence risk of new admissions were in Nelson Mandela Metro and Buffalo City Metro (Table 5).

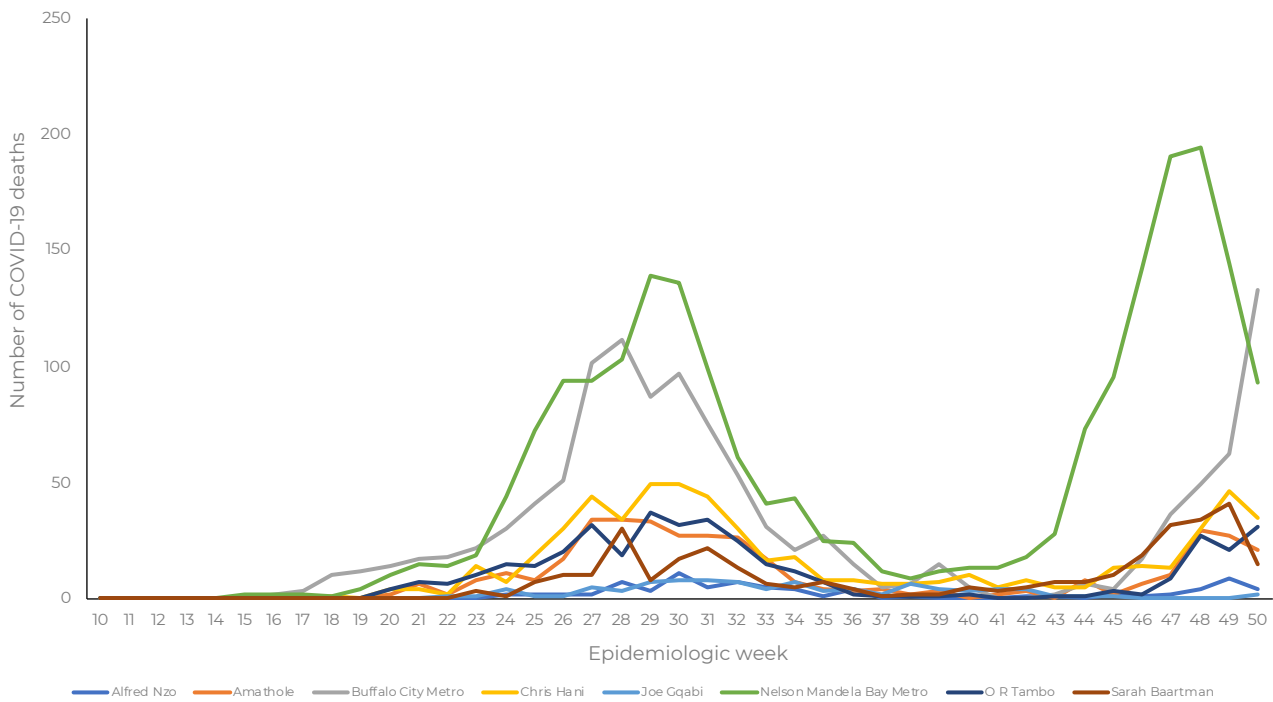
**Table 5:** Percentage change in COVID-19 admissions and deaths, epidemiologic week 49 to week 50, by district, Eastern Cape

District	Cumulative hospital admissions	Admissions Week 49	Admissions Week 50	Percentage change in admissions	Percentage of total new admissions	Incidence risk of new admissions /100 000 persons
Alfred Nzo	695	42	41	-2	4,4	0,5
Amathole	1290	91	45	-51	4,8	0,6
Buffalo City Metro	4598	384	305	-21	32,9	4,1
Chris Hani	1872	136	82	-40	8,8	1,2g
Joe Gqabi	238	2	3	50	0,3	0,1
Nelson Mandela Bay Metro	8308	487	339	-30	36,5	3,0
O R Tambo	1506	125	89	-29	9,6	0,6
Sarah Baartman	1071	72	24	-67	2,6	0,5

# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

There has been an increase in deaths in Eastern Cape, driven predominantly by deaths in Nelson Mandela Metro and Buffalo City Metro which have exceeded the numbers of deaths at the previous peak (Figure 7). The numbers of deaths in Buffalo City continue to increase while others have decreased in the most recent weeks.



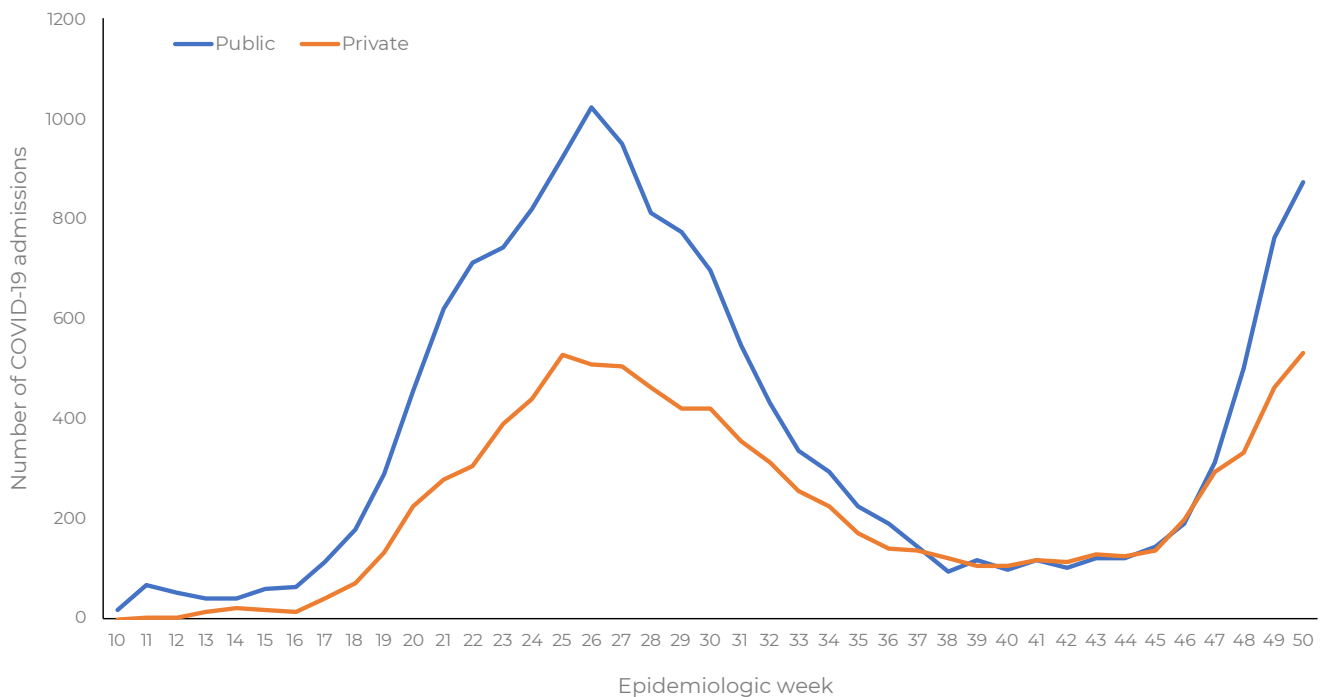
**Figure 7.** Number of reported COVID-19 deaths, by district and epidemiologic week, Eastern Cape, 5 March-12 December 2020

# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

## WESTERN CAPE

Since week 43 there has been an increase in admissions reported in the Western Cape, seen across both public and private sectors (Figure 8).

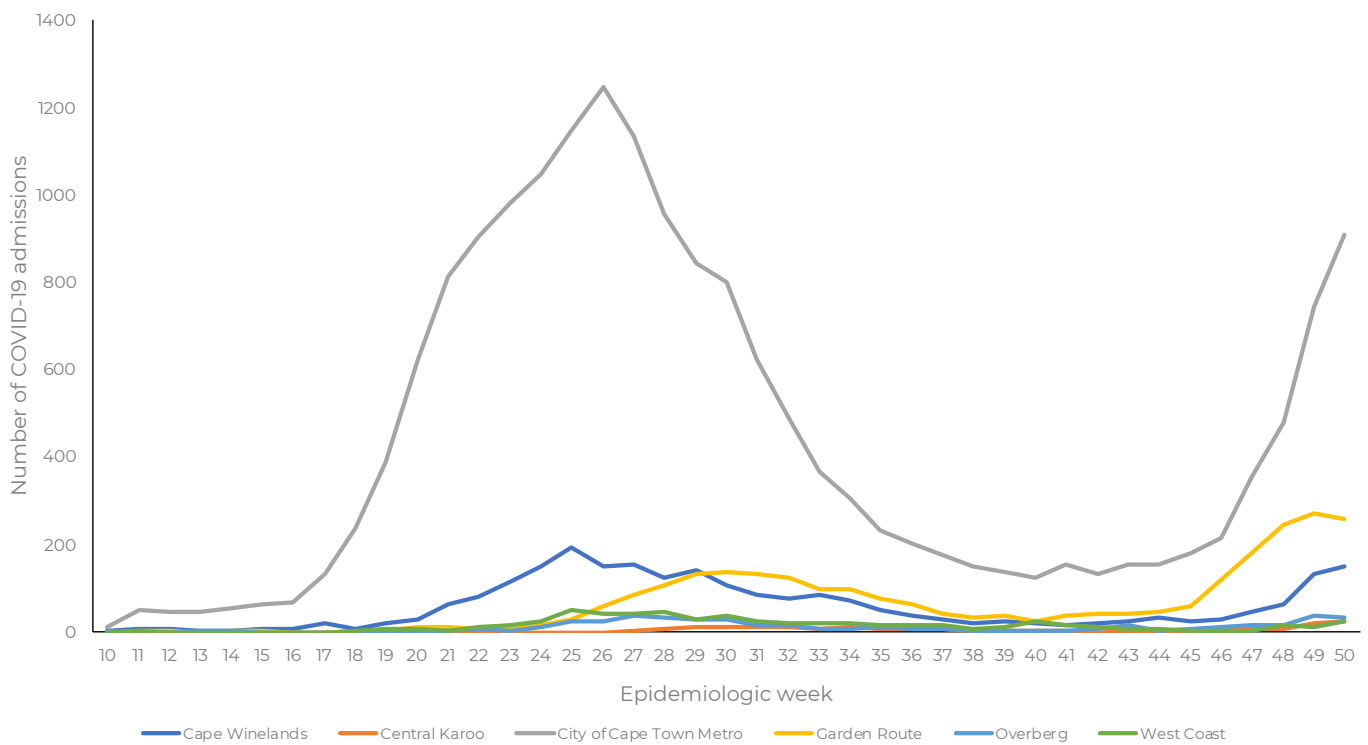


**Figure 8:** Number of reported COVID-19 admissions by health sector and epidemiologic week of diagnosis, Western Cape, 5 March-12 December 2020

# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

The increase in admissions in Western Cape is driven predominantly by admissions in Garden Route and City of Cape Town Metro (Figure 9).



**Figure 9:** Number of reported COVID-19 admissions, by district and epidemiologic week, Western Cape, 5 March-12 December 2020



# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

The number of COVID-19 admissions increased in four districts from week 49 to week 50, Cape Winelands, Central Karoo, City of Cape Town and West Coast districts. The highest proportion of new admissions were in City of Cape Town and Garden Route (Table 6).

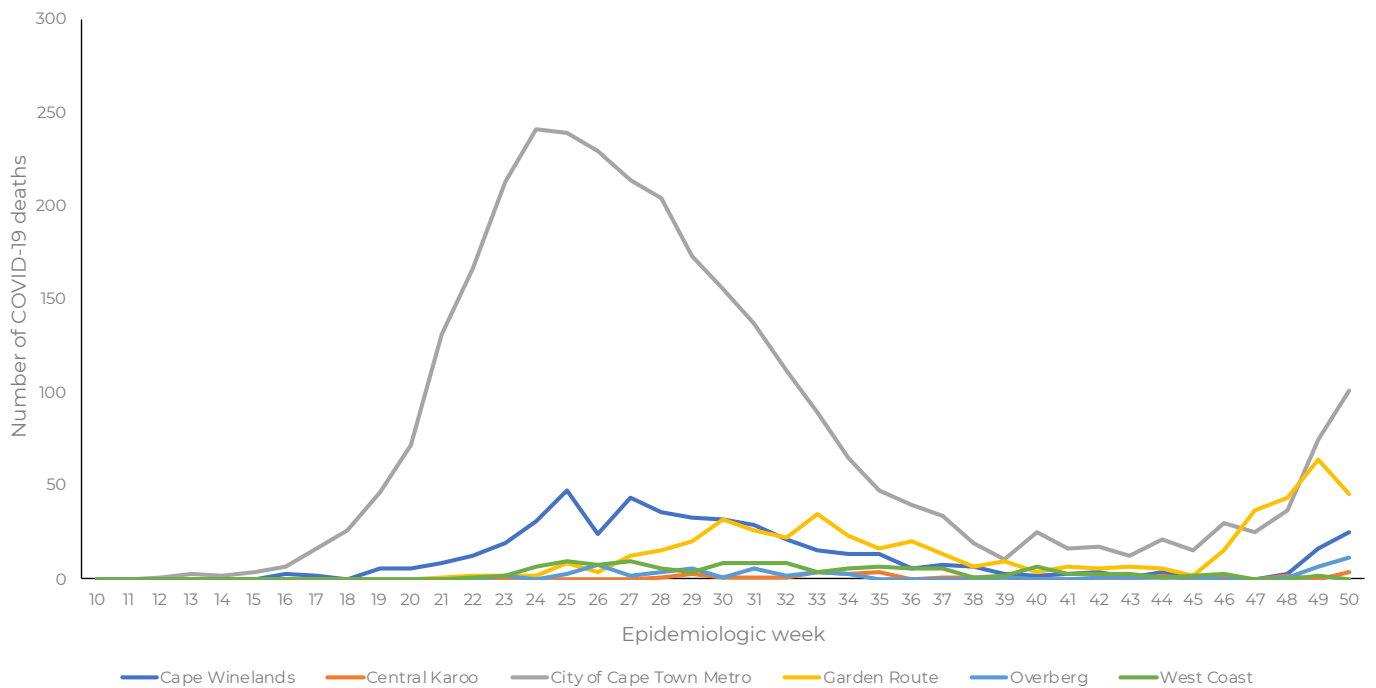
**Table 6:** Percentage change in COVID-19 admissions and deaths, epidemiologic week 49 to week 50, by district, Eastern Cape

District	Cumulative hospital admissions	Admissions Week 49	Admissions Week 50	Percentage change in admissions	Percentage of total new admissions	Incidence risk of new admissions /100 000 persons
Cape Winelands	2460	134	149	11	10,6	1,1
Central Karoo	197	23	26	13	1,9	2,5
City of Cape Town Metro	17898	744	908	22	64,8	1,4
Garden Route	2685	274	259	-5	18,5	3,0
Overberg	482	39	35	-10	2,5	0,8
West Coast	628	12	25	108	1,8	0,4

# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

There has been an increase in deaths in Western Cape, predominantly in Garden Route and City of Cape Town (Figure 10).



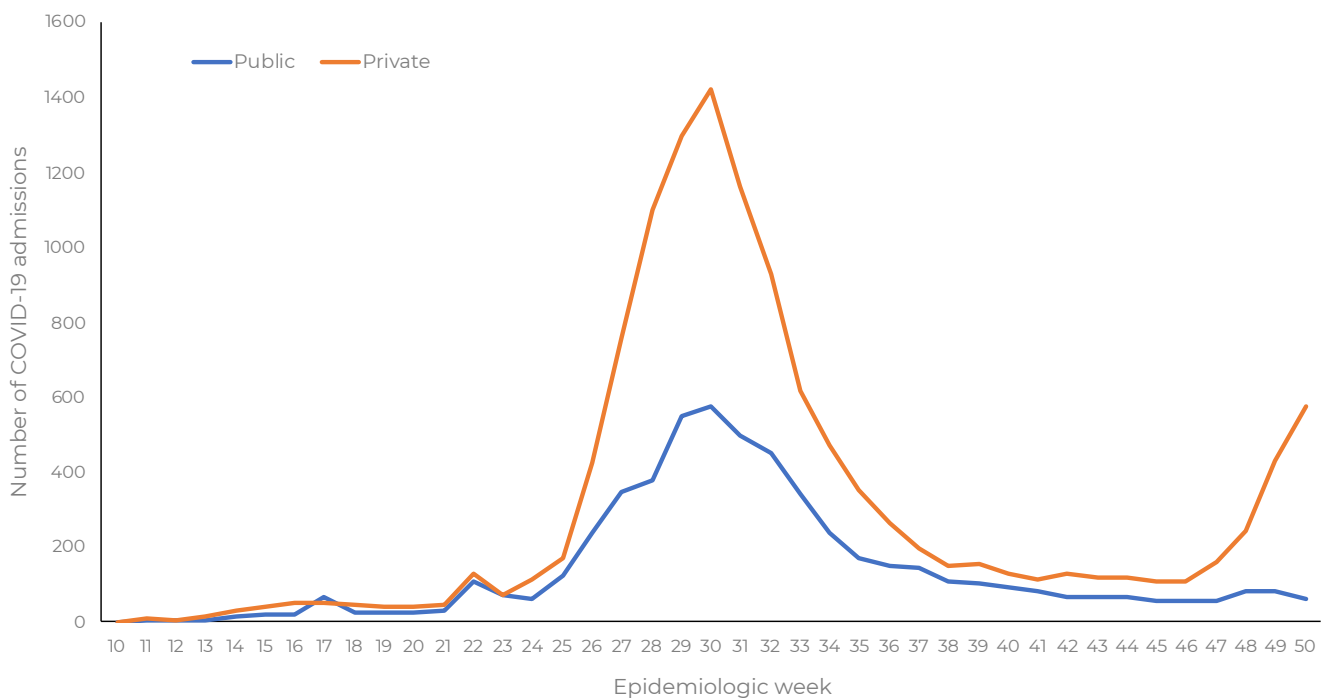
**Figure 10:** Number of reported COVID-19 deaths, by district and epidemiologic week, Western Cape, 5 March-12 December 2020

# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

## KWAZULU-NATAL

Since week 46 there has been an increase in admissions reported in the KwaZulu-Natal, in the private sector (Figure 11).

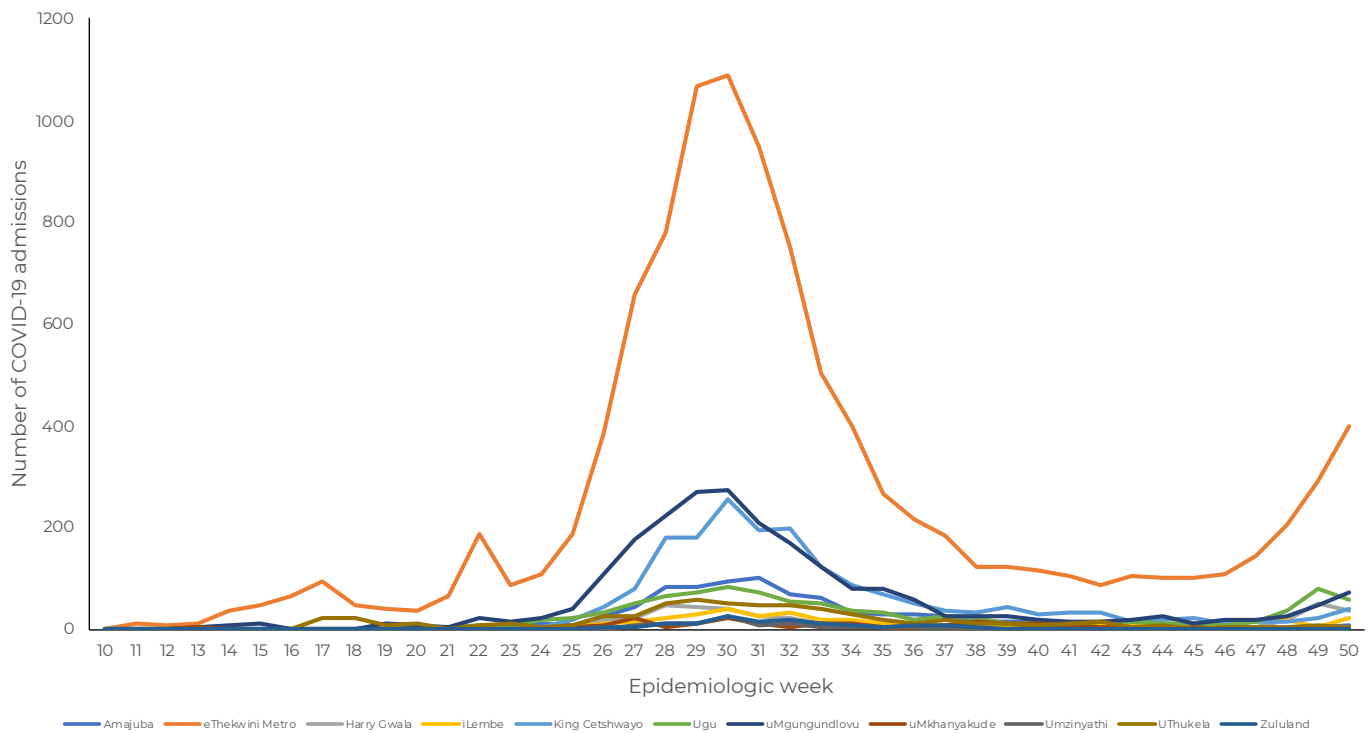


**Figure 11:** Number of reported COVID-19 admissions by health sector and epidemiologic week of diagnosis, KwaZulu-Natal, 5 March-12 December 2020

# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

The increase in admissions in KwaZulu-Natal is driven predominantly by admissions in eThekweni Metro (Figure 12).



**Figure 12:** Number of reported COVID-19 admissions, by district and epidemiologic week, KwaZulu-Natal, 5 March-12 December 2020

# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

The number of COVID-19 admissions increased in five districts from week 49 to week 50, Amajuba, eThekweni Metro, iLembe, King Cetshwayo, uMgungundlovu and Zululand districts. The highest proportion of new admissions were in eThekweni Metro and uMgungundlovu districts (Table 7).

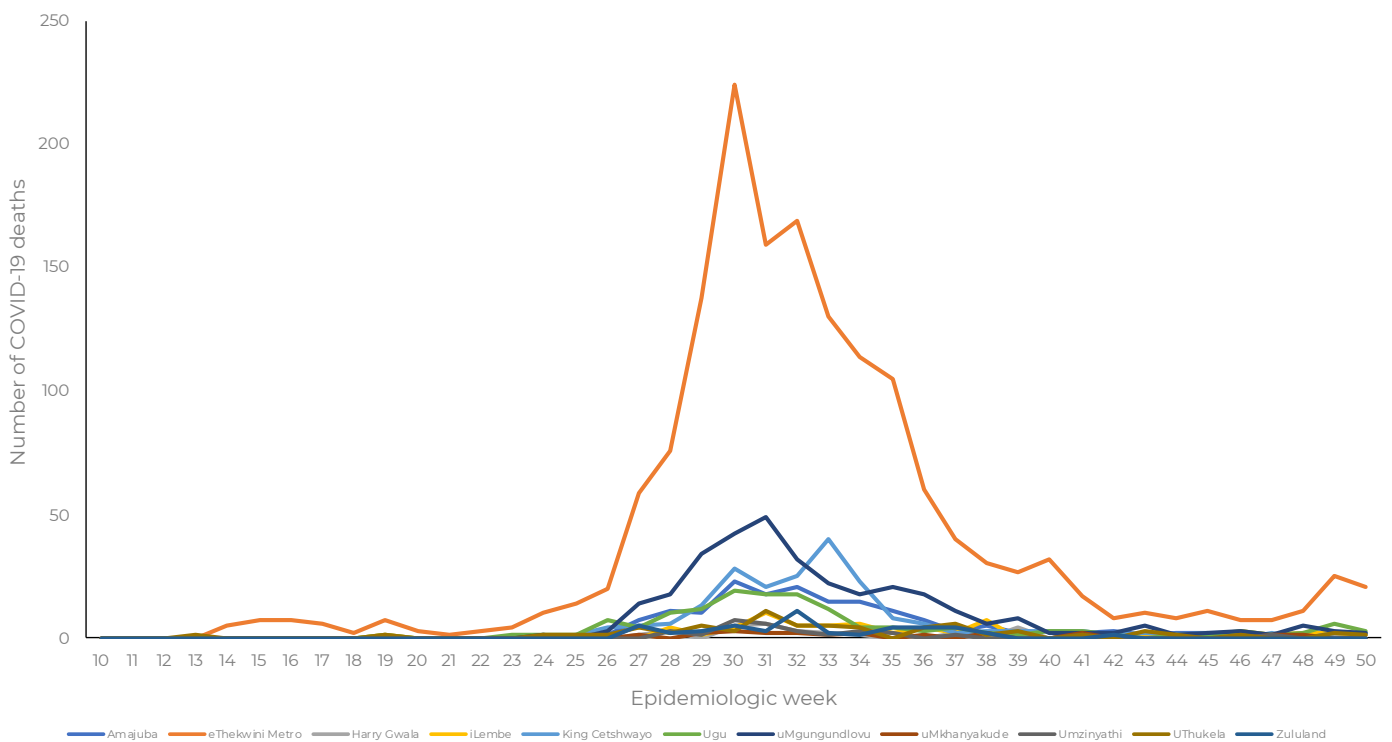
**Table 7:** Percentage change in COVID-19 admissions and deaths, epidemiologic week 49 to week 50, by district, KwaZulu-Natal

District	Cumulative hospital admissions	Admissions Week 49	Admissions Week 50	Percentage change in admissions	Percentage of total new admissions	Incidence risk of new admissions /100 000 persons
Amajuba	810	4	6	50	0,9	0,2
eThekweni Metro	10287	292	398	36	62,3	1,6
Harry Gwala	397	51	38	-25	5,9	1,2
iLembe	395	5	22	340	3,4	0,5
King Cetshwayo	1867	21	39	86	6,1	0,6
Ugu	968	80	59	-26	9,2	1,2
uMgungundlovu	2278	49	71	45	11,1	1,0
uMkhanyakude	200	1	0	-100	0,0	0,0
Umzinyathi	107	1	0	-100	0,0	0,0
UThukela	627	8	4	-50	0,6	0,1
Zululand	151	0	2	200	0,3	0,0

# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

There has been a small increase in deaths in KwaZulu-Natal, predominantly in eThekweni (Figure 13).



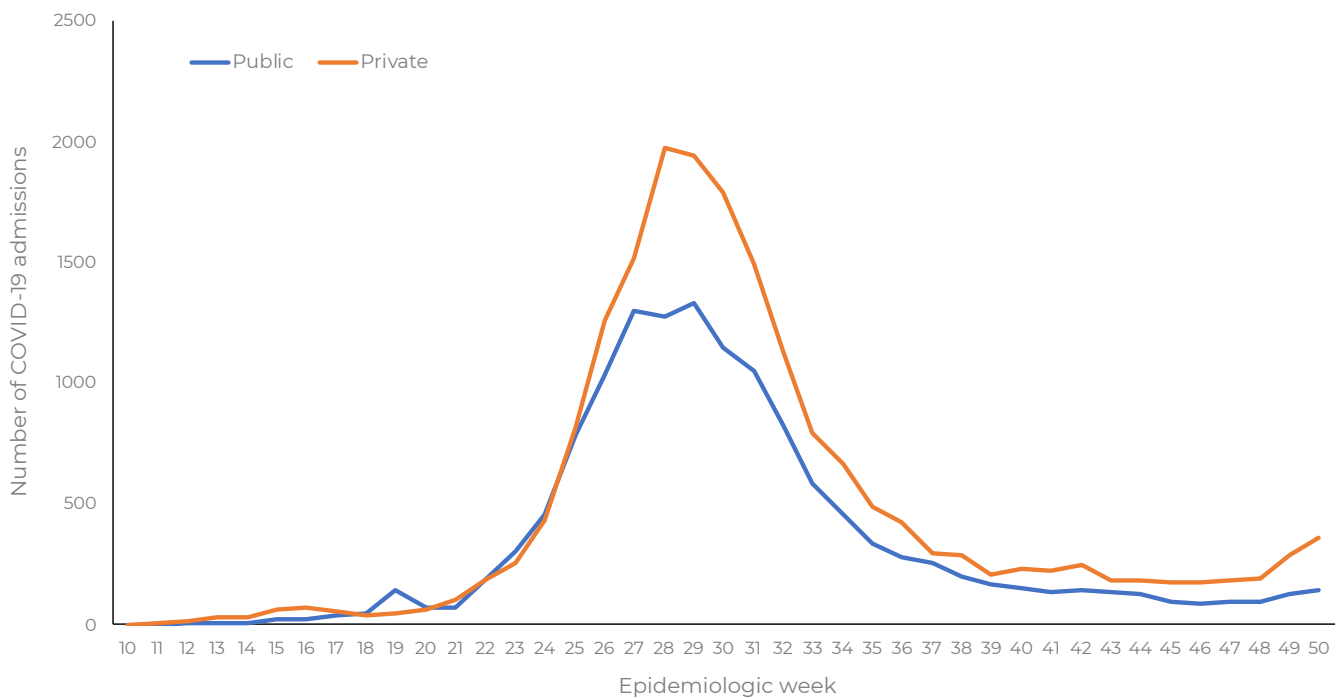
**Figure 13:** Number of reported COVID-19 deaths, by district and epidemiologic week, KwaZulu-Natal, 5 March-12 December 2020

# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

## GAUTENG

Since week 48 there has been an increase in admissions reported in the Gauteng, in the private sector (Figure 14).



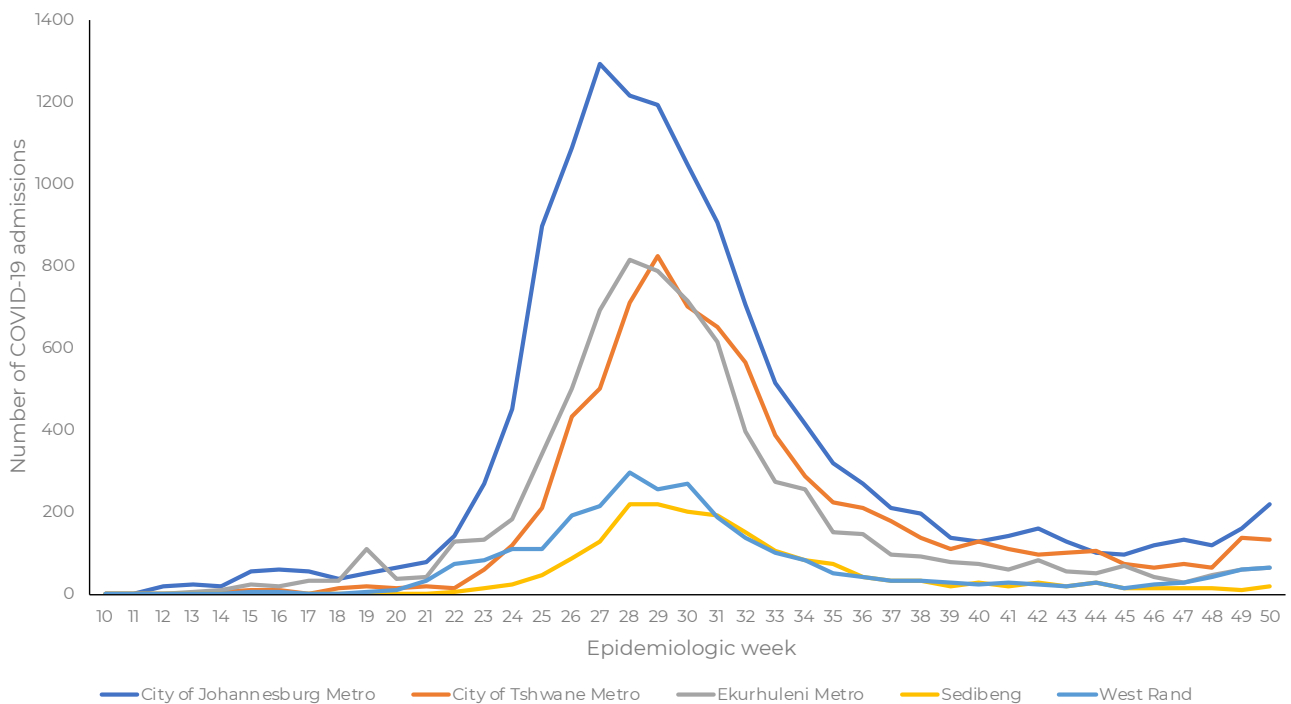
**Figure 14:** Number of reported COVID-19 admissions by health sector and epidemiologic week of diagnosis, Gauteng, 5 March-12 December 2020



# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

The increase in admissions in Gauteng is driven predominantly by admissions in City of Johannesburg and Tshwane Metros (Figure 15).



**Figure 15:** Number of reported COVID-19 admissions, by district and epidemiologic week, Gauteng, 5 March-12 December 2020

# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

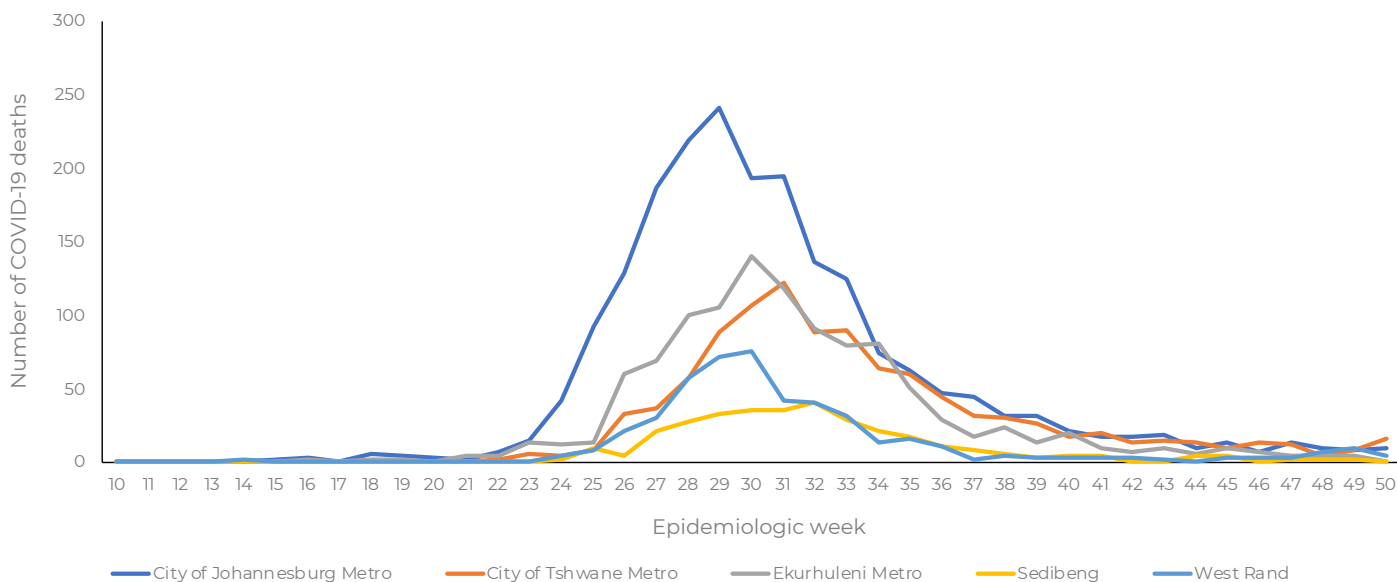
WEEK 50 2020

The number of COVID-19 admissions increased in four districts from week 49 to week 50, City of Johannesburg, Ekurhuleni, Sedibeng and West Rand districts. The highest proportion of new admissions were in City of Johannesburg and City of Tshwane Metros (Table 8).

**Table 8:** Percentage change in COVID-19 admissions and deaths, epidemiologic week 49 to week 50, by district, Gauteng

District	Cumulative hospital admissions	Admissions Week 49	Admissions Week 50	Percentage change in admissions	Percentage of total new admissions	Incidence risk of new admissions /100 000 persons
City of Johannesburg Metro	13230	160	218	36	43,7	0,7
City of Tshwane Metro	7506	135	132	-2	26,5	0,7
Ekurhuleni Metro	7322	58	63	9	12,6	0,3
Sedibeng	1896	10	20	100	4,0	0,4
West Rand	2700	58	66	14	13,2	1,4

There has been no large increase in deaths in Gauteng (Figure 16).



**Figure 16:** Number of reported COVID-19 deaths, by district and epidemiologic week, Gauteng, 5 March-12 December 2020

# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

## 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 are in the process of recruiting data capturers to support hospitals to improve data submission.

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.

# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

## 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)

# COVID-19 SENTINEL HOSPITAL SURVEILLANCE UPDATE

WEEK 50 2020

## APPENDIX

**Table 9:** Number of reported COVID-19 admissions and deaths by age and gender, South Africa, 5 March-12 December 2020

Age (years)	ADMISSIONS				DEATHS			
	Female	Male	Unknown	Total	Female	Male	Unknown	Total
0-4	729	903	2	1634	22	17	0	39
5-9	214	283	0	497	2	7	0	9
10-14	410	359	0	769	7	9	0	16
15-19	1264	674	2	1940	26	29	0	55
20-24	2037	1051	3	3091	49	45	0	94
25-29	3706	1700	2	5408	136	77	1	214
30-34	5060	2866	0	7926	246	169	0	415
35-39	5572	3731	0	9303	335	307	0	642
40-44	5346	4391	1	9738	422	479	0	901
45-49	5946	5225	3	11174	626	664	1	1291
50-54	6754	5904	0	12658	881	955	0	1836
55-59	6923	6021	3	12947	1247	1306	0	2553
60-64	5781	5383	1	11165	1336	1549	0	2885
65-69	4550	4095	2	8647	1305	1337	0	2642
70-74	3601	3253	4	6858	1077	1148	1	2226
75-79	2600	2228	0	4828	866	875	0	1741
80-84	1933	1363	2	3298	660	561	0	1221
85-89	1150	701	0	1851	434	326	0	760
90-94	515	272	1	788	223	146	0	369
>95	179	108	0	287	66	30	0	96
Unknown	778	635	105	1518	113	120	4	237
	<b>65048</b>	<b>51146</b>	<b>131</b>	<b>116325</b>	<b>10079</b>	<b>10156</b>	<b>7</b>	<b>20242</b>