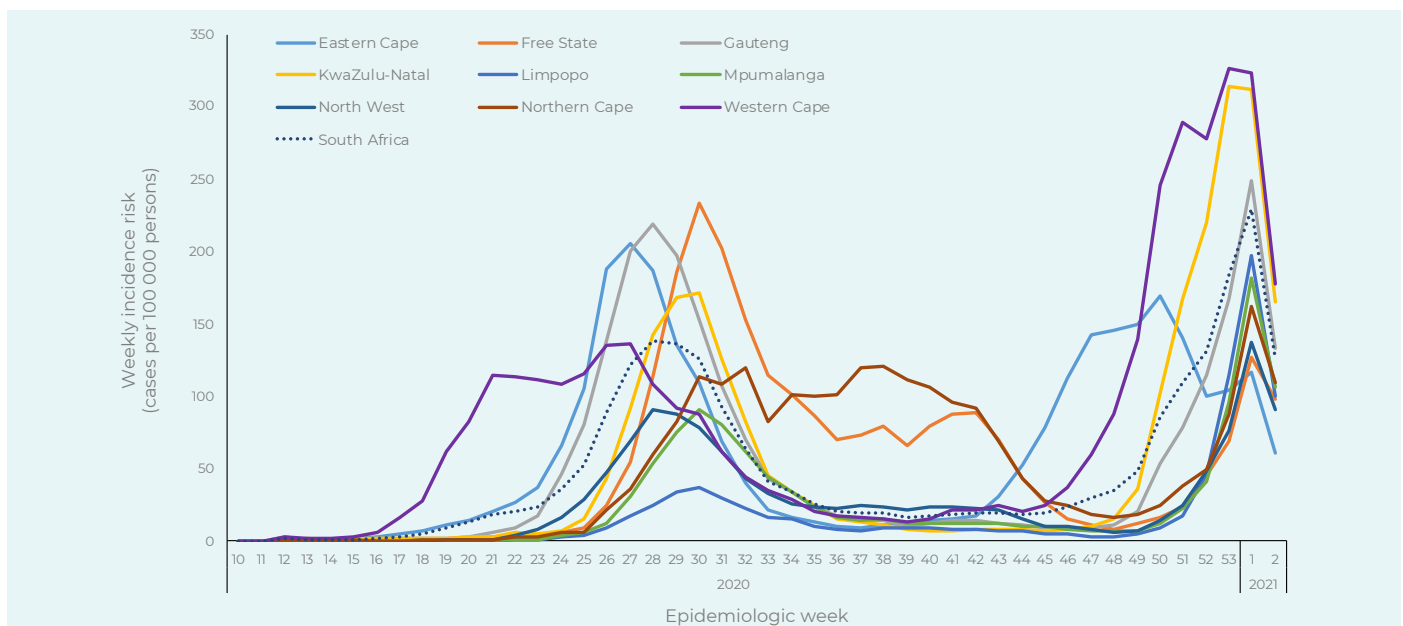


## CORONAVIRUS DISEASE (COVID-19) PANDEMIC

## An update on COVID-19 outbreak in South Africa The first and the second wave of COVID-19 cases in South Africa, January 2021

South Africa, with an estimated population of 59 622 351 people in 2020, reported its first two cases of COVID-19 on 2 March 2020 (epidemiologic week 11 of 2020). From 2 March 2020 through 16 January (week 2 of 2021), there were 1 337 926 cases of COVID-19 reported from South Africa. To date, there have been two periods of increased transmission, the first wave defined as the period from weekly incidence of 30 cases per 100 000 persons to peak weekly incidence (week 24 - week 28), and the second wave, the period from incidence of 30 cases per 100 000 persons to week 1 of 2021. At the start of the pandemic the weekly incidence risk of cases was 0.02 cases per 100 000 persons, increased steadily to peak (138.1 cases per 100 000)

in week 28 (week ending on 11 July 2020). From week 28 there was a steady decline in weekly incidence risk until week 39 (16.1 cases per 100 000 persons). Between week 40 and 46 of 2020 the incidence of cases ranged between 17.7 to 23.9 cases per 100 000 persons. There has been an ongoing resurgence of cases from week 47 of 2020 to week 1 of 2021 (29.9 to 228.9 cases per 100 000 persons), with a steep increase reported from week 50 of 2020 to week 1 of 2021 (Figure 4). Case numbers appear to have peaked in the Eastern Cape and possibly the Western Cape Province. The reduction in numbers in week 2 of 2021 may be as a result of delayed reporting.



**Figure 4.** Weekly incidence risk of PCR-confirmed cases of COVID-19 by province and epidemiologic week, South Africa, 2 March 2020 – 16 January 2021 (n=1 337 926)

In week 2 of 2021, South Africa reported the cumulative incidence risk of 2 244.0 cases per 100 000 persons, and the highest weekly incidence risk of 228.9 cases per 100 000 persons was reported in week 1 of 2021. Western Cape was the first province to reach a peak during the first wave, followed by Eastern Cape. The first wave in South Africa peaked in week 28 of 2020, incidence risk 138.1 cases per 100 000 persons, with highest incidence risk reported in Gauteng (218.8 cases per 100 000), followed by Eastern Cape (186.8 cases per 100 000), KwaZulu-Natal (142.5 cases per 100 000), Free State (113.3 cases per 100 000) and Western Cape (108.4 cases per 100 000) provinces. Although it is unclear when the second wave of infections will peak in South Africa, the overall weekly

incidence risk of cases in week 1 of 2021 was higher (228.9 cases per 100 000) than the first peak in week 28 of 2020. The weekly incidence risk in three provinces that contributed the most to the second wave was higher compared to the first wave; Western Cape (322.9 vs 108.4 cases per 100 000), KwaZulu-Natal (312.3 vs 142.5 cases per 100 000) and Gauteng (248.5 vs 218.8 cases per 100 000 persons) (Table 1).

The majority of cases in the first wave (week 24-28 of 2020) were in the 30-34- (34 000/259 834, 13.1%) and 35-39- year (34 319/259 834, 13.2%) age groups. Similarly during the resurgence in the second wave (week 47 of 2020 – week 1 of 2021), the majority of cases were in the 30-34- (55 633/507 821, 11.0%) and 35-39-year (57 087/507 821, 11.2%) age groups.

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**Table 1.** Number and incidence risk (cumulative/weekly) of laboratory-confirmed cases of COVID-19 per 100 000 population during the first wave (week 24-28 of 2020) and second wave (week 47 of 2020 – week 1 of 2021) by province, South Africa, 2 March 2020 – 9 January 2021 (n=767 655)

District	Cumulative number of cases in South Africa to 16 January 2021	Number of cases in wave 1 (weeks 24-28 of 2020)	Number of cases in wave 2 (week 47 of 2020-week 1 of 2021)	Population mid-2020*	First wave peak weekly incidence risk of cases per 100 000 population (week 28 of 2020)	Second wave peak weekly incidence risk of cases per 100 000 population (week 1 of 2021)**
Eastern Cape	186 772	50 561	71 884	6 734 001	186.8	116.6
Free State	705 12	6 071	9 139	2 928 903	113.3	126.8
Gauteng	361 901	105 870	109 140	15 488 137	218.8	248.5
KwaZulu-Natal	280 018	34 629	135 810	11 531 628	142.5	312.3
Limpopo	47 297	3 383	23 161	5 852 553	24.9	197.5
Mpumalanga	53 314	5 024	17 550	4 679 786	54.0	181.6
North West	51 318	10 348	13 206	4 108 816	91.2	137.2
Northern Cape	29 558	1 668	5 377	1 292 786	59.6	162.1
Western Cape	257 236	42 280	122 554	7 005 741	108.4	322.9
<b>Grand Total</b>	<b>1 337 926</b>	<b>259 834</b>	<b>507 821</b>	<b>59 622 351</b>	<b>138.1</b>	<b>228.9</b>

\*2020 Mid-year population Statistics South Africa; \*\*Numbers of cases may still increase in future weeks in some provinces

When comparing characteristics of COVID-19 cases between the first and second waves of infection on multivariable analysis, individuals in the older age groups ( $\geq 60$  years) had increased odds of being diagnosed with COVID-19 in the second wave (Table 2). In the second wave, cases were more likely to

be reported from Limpopo, Mpumalanga, KwaZulu-Natal, Northern Cape and Western Cape. Cases were more likely to be diagnosed with COVID-19 in the public sector in the second wave compared to the first wave (Table 2).

**Table 2.** Comparison of characteristics of new COVID-19 cases between first wave and second wave in South Africa, N=767 655

Characteristic	Wave 1 (week 24-28 of 2020)	Wave 2 (week 47 of 2020-1 of 2021)	Univariable OR (95% CI)	Multivariable OR (95% CI)
	(N=259 834)	(N=507 821)		
<b>Age group (years)</b>				
0-4	3 104 (1.2)	5 465 (1.1)	1	1
5-9	3 577 (1.4)	6 927 (1.4)	1.1 (1.0 - 1.2)	1.1 (1.1 - 1.2)
10-14	6 099 (2.4)	11 542 (2.3)	1.1 (1.0 - 1.1)	1.1 (1.1 - 1.2)
15-19	9 758 (3.8)	20 582 (4.1)	1.2 (1.1 - 1.3)	1.3 (1.2 - 1.4)
20-24	14 149 (5.5)	33 556 (6.6)	1.3 (1.3 - 1.4)	1.4 (1.3 - 1.5)
25-29	27 332 (10.5)	49 157 (9.7)	1.0 (1.0 - 1.1)	1.1 (1.0 - 1.1)
30-34	34 000 (13.1)	55 633 (11.0)	0.9 (0.9 - 1.0)	1.0 (1.0 - 1.1)
35-39	34 319 (13.2)	57 087 (11.2)	0.9 (0.9 - 1.0)	1.0 (1.0 - 1.1)
40-44	29 273 (11.3)	49 730 (9.8)	1.0 (0.9 - 1.0)	1.1 (1.0 - 1.1)
45-49	26 766 (10.3)	48 283 (9.5)	1.0 (1.0 - 1.1)	1.1 (1.1 - 1.2)
50-54	23 305 (9.0)	44 507 (8.8)	1.1 (1.0 - 1.1)	1.2 (1.1 - 1.2)
55-59	18 502 (7.1)	38 675 (7.6)	1.2 (1.1 - 1.2)	1.2 (1.2 - 1.3)
60-64	11 088 (4.3)	29 589 (5.8)	1.5 (1.4 - 1.6)	1.6 (1.5 - 1.7)

Source: Centre for Respiratory Diseases and Meningitis, NICD-NHLS; cherylc@nicd.ac.za

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Characteristic	Wave 1 (week 24-28 of 2020)	Wave 2 (week 47 of 2020-1 of 2021)	Univariable OR (95% CI)	Multivariable OR (95% CI)
	(N=259 834)	(N=507 821)		
65-69	6 250 (2.4)	20 337 (4.0)	1.8 (1.8 - 1.9)	1.9 (1.8 - 2.0)
70-74	4 106 (1.6)	14 503 (2.9)	2.0 (1.9 - 2.1)	2.0 (1.9 - 2.2)
75-79	2 704 (1.0)	8 665 (1.7)	1.8 (1.7 - 1.9)	1.9 (1.8 - 2.0)
>=80	3 783 (1.5)	8 954 (1.8)	1.3 (1.3 - 1.4)	1.4 (1.3 - 1.5)
unknown	1 719 (0.7)	4 629 (0.9)	1.5 (1.4 - 1.6)	1.5 (1.4 - 1.7)
<b>Sex, (n, %)</b>				
Female	148 599 (57.19)	287 054 (56.53)	1	
Male	109 097 (41.99)	214 736 (42.29)	1.0 (1.0 - 1.0)	1.1 (1.0 - 1.1)
Unknown	2 138 (0.82)	6 031 (1.19)	1.5 (1.4 - 1.5)	1.1 (1.0 - 1.2)
<b>Province, (n, %)</b>				
Eastern Cape	50 561 (19.5)	71 884 (14.2)	1.1 (1.1-1.1)	1.0 (1.1-1.1)
Free State	6 071 (2.3)	9 139 (1.8)	1.2 (1.1 - 1.2)	1.1 (1.0 - 1.1)
Gauteng	105 870 (40.8)	109 140 (21.5)	0.8(0.8 - 0.8)	0.8 (0.8 - 0.8)
KwaZulu-Natal	34 629 (13.3)	135 810 (26.7)	3.1 (2.9 - 3.2)	2.9 (2.8 - 3.0)
Limpopo	3 383 (1.3)	23 161 (4.6)	5.4 (5.1 - 5.6)	5.3 (5.1 - 5.5)
Mpumalanga	5 024 (1.9)	17 550 (3.5)	2.7 (2.6 - 2.9)	2.6 (2.5- 2.8)
North West	10 348 (4.0)	13 206 (2.6)	1	1
Northern Cape	1 668 (0.6)	5 377 (1.1)	2.5 (2.4-2.7)	2.2 (2.1-2.2)
Western Cape	42 280 (16.3)	122 554 (24.1)	2.3 (2.2-2.3)	2.1 (2.0 - 2.2)
<b>Sector, (n, %)</b>				
Private	163 502 (63.0)	274 196 (54.0)	1	1
Public	96 332 (37.0)	233 625 (46.0)	1.4 (1.4 - 1.5)	1.3 (1.3 - 1.3)

This summary highlights an increase in the burden of COVID-19 cases in South Africa currently, mainly driven by Western Cape, KwaZulu-Natal and Gauteng provinces, with incidence risk of cases exceeding those reported during the first wave in all provinces except the Eastern Cape. Cases diagnosed in the second wave were more likely to be in the older age group and from the public sector, possibly related to changes in health

seeking, testing or other factors. With increasing numbers of cases, strengthening the capacity of the country to cope with increasing demand for admissions is recommended.

## References

<https://www.nicd.ac.za/wp-content/uploads/2021/01/COVID-19-Weekly-Epidemiology-Brief-week-1-2021.pdf>