CORONAVIRUS DISEASE (COVID-19) PANDEMIC

An update on COVID-19 outbreak in South Africa

With an estimated population of 59 622 351 in 2020, South Africa, reported its first two cases of COVID-19 on 2 March 2020 (epidemiologic week 11 of 2020). From 2 March 2020 through 19 June 2021 (week 24 of 2021), there were 1 823 319 cases of COVID-19 reported, nationally. To date, there have been three periods of increased transmission (waves). A wave is defined as the period representing a weekly incidence from ≥30 cases per 100 000 persons to a weekly incidence <30 cases per 100 000 persons.

This report describes the upward trend of the three waves, from a weekly incidence of ≥30 cases per 100 000 persons to the peak of the wave. The analysis was restricted to the upward trend of the wave as case characteristics may differ in the up- and downward slopes of the wave. The upward trend of the first wave in South Africa was from week 24 of 2020 (35.7 cases per 100 000 persons) and peaked at week 28 of 2020 (138.1 cases per 100 000 persons); the second wave from week 47 of 2020 (30.2 cases per 100 000 persons), peaking in week 1 of 2021 (240.4 cases per 100 000 persons); and the third wave from week 19 of 2021 (30.8 cases per 100 000 persons) to date (114.1 cases per 100 000 persons) (as at 19 June 2021) (Figure 1).

There has been a steady increase in cases from 21.6 per 100 000 in week 18 of 2021 to 114.1 cases per 100 000 persons to date (week 24). A steep increase was reported from week 23 of 2021, with the Gauteng Province reporting the highest number of new cases in the previous three weeks (Figure 1).

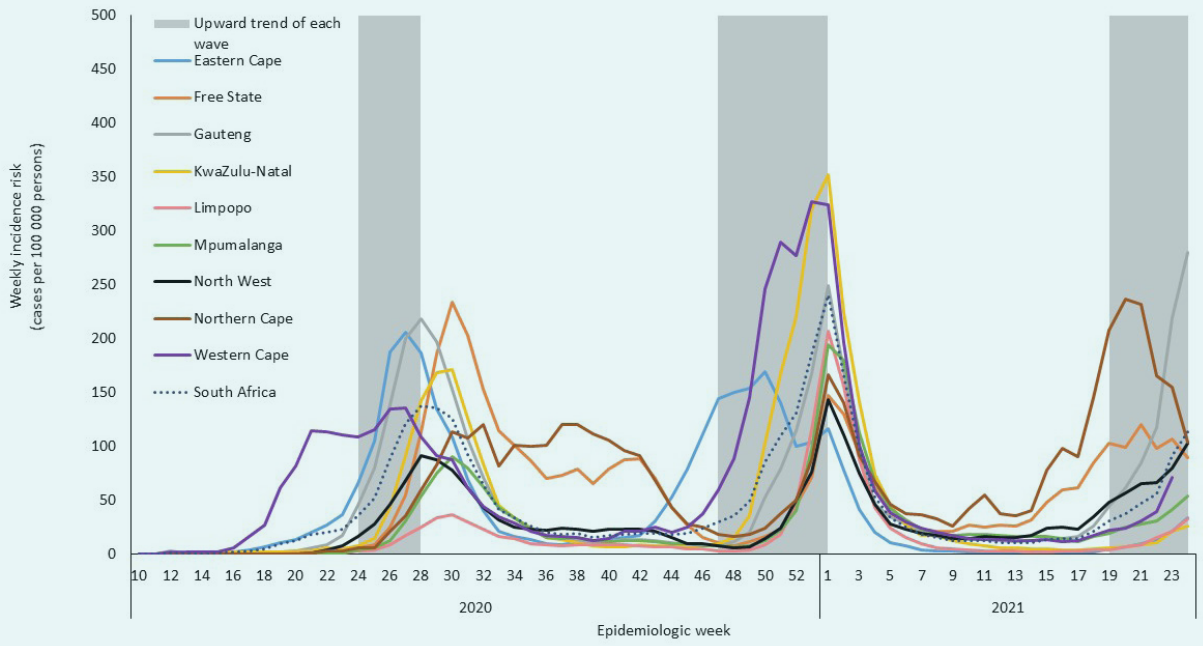

Figure 1. Weekly incidence risk of confirmed cases of COVID-19 by province and epidemiologic week, South Africa, 2 March 2020 – 19 June 2021 (n=1 823 319).

In week 24 of 2021, South Africa reported a cumulative incidence risk of 3 058.1 cases per 100 000 persons. The highest weekly incidence risk of 240.4 cases per 100 000 persons was reported in week 1 of 2021. Western Cape and Eastern Cape provinces were the first to reach a peak in the first and second wave respectively, with other provinces following within one to two weeks.

The first wave in South Africa peaked in week 28 of 2020, with an incidence risk of 138.1 cases per 100 000 persons. The highest incidence risk was reported in Gauteng Province (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.

The second wave peaked in week 1 of 2021 (240.4 cases per 100 000 persons), with the highest weekly incidence reported in KwaZulu-Natal Province (351.7 cases per 100 000 persons), followed by Western Cape (326.8 cases per 100 000 persons), Gauteng (249.3 cases per 100 000 persons), and Limpopo (207.3 cases per 100 000 persons) provinces.

The third wave is ongoing at the time of reporting and the weekly incidence is currently below that reported in the first and second wave peaks. However, Northern Cape and Free State provinces appear to have reached their peaks in weeks 20 and 21 of 2021, respectively. Two provinces have reported a weekly incidence risk higher than that reported in the first and second wave peaks: Northern Cape Province (236.3 compared to 120.0 and 167.0 cases per 100 000 persons in the first and

CORONAVIRUS DISEASE (COVID-19) PANDEMIC

second wave, respectively) and Gauteng Province (279.7 compared to 218.8 and 249.3 cases per 100 000 persons in the first and second wave, respectively).

The majority of cases were in the 20-39-year age group in the first wave (103 431/259 859, 40%) and the second wave (188 815/517 155, 37%). However, in the third wave (week 19-24 of 2021), most cases were in the 40-59-year age group (76 438/225 013, 34%). The majority of cases were female in all three waves.

On multivariable analysis, when comparing the age distributions of reported cases between the waves, more cases in extremes of age were reported than those aged 20-39 years in both the second and the third waves as compared to the first wave (Table 2). During second wave compared to first wave, cases were more likely to be reported from Limpopo, KwaZulu-Natal, Mpumalanga, Northern Cape and Western Cape provinces; whereas in the third wave compared to the first wave were more likely to be reported from Northern Cape, Free State, Mpumalanga and Limpopo provinces than from the Eastern Cape Province.

Table 1: Number and incidence risk (cumulative/weekly) of laboratory-confirmed cases of COVID-19 per 100 000 population during the upward trend of the first wave (week 24-28 of 2020), second wave (week 47 of 2020 – week 1 of 2021), and third wave (week 19-24 of 2021) by province, South Africa, 2 March 2020 –19 June 2021 (N=1 002 027)

	Number of cases					Weekly cases per 100 000 persons		
Province	**Cumulative number**	**Wave 1**	**Wave 2**	**Wave 3**	**Population mid-2020**	**Wave 1**	**Wave 2**	**Wave 3**
Eastern Cape	202 494	50 572	72 763	6 197	6 734 001	186.8	117.0	34.0
Free State	110 296	6 071	9 818	18 090	2 928 903	113.3	147.6	89.7
Gauteng	553 908	105 87	109 194	125 136	15 488 137	218.8	249.3	279.7
KwaZulu-Natal	346 813	34 634	141 136	9 382	11 531 628	142.5	351.7	26.6
Limpopo	69 537	3 385	23 890	5 297	5 852 553	24.9	207.3	32.9
Mpumalanga	88 537	5 024	18 246	9 376	4 679 786	54.0	194.7	53.9
North West	86 680	10 349	13 520	17 232	4 108 816	91.2	143.4	102.8
Northern Cape	56 678	1 668	5 440	14 221	1 292 786	59.6	167.0	103.9
Western Cape	308 376	42 281	123 148	20 082	7 005 741	108.4	323.7	96.0
Grand Total	**1 823 319**	**259 859**	**517 155**	**225 013**	**59 622 351**	**138.1**	**240.4**	**114.1**

Table 2: Comparison of characteristics of new COVID-19 cases between the upward trend of the first wave and second wave, and first and third wave in South Africa, N=1 002 027

				COVID-19 Cases	
Characteristics	**Wave 1**	**Wave 2**	**Wave 3**	**Multivariate wave1 vs wave2**	**Multivariate wave1 vs wave3**
(n/%)	**259 859**	**517 155**	**225 013**	**adjusted OR (95% CI)**	**adjusted OR (95% CI)**
Age group					
0-4	3 104 (1.2)	5 636 (1.1)	2 343 (1.0)	0.9 (0.9-0.96)	1.1 (1.0-1.1)
5-9	3 578 (1.4)	7 197 (1.4)	4 483 (2.0)	1.0 (0.99-1.1)	1.7 (1.7-1.8)
10-14	6 099 (2.4)	11 960 (2.3)	9 511 (4.2)	1.0 (0.99-1.1)	2.3 (2.2-2.4)
15-19	9 759 (3.8)	21 050 (4.1)	16 192 (7.2)	1.2 (1.2-1.2)	2.6 (2.5-2.7)
20-39	103 431 (39.8)	188 815 (36.5)	71 206 (31.7)	1	1
40-59	94 746 (36.5)	177 168 (34.3)	76 438 (34.0)	1.0 (1.0-1.0)	1.2 (1.2-1.2)
60-69	16 328 (6.3)	47 331 (9.2)	19 253 (8.6)	1.5 (1.5-1.6)	1.8 (1.8-1.9)
>=70	10 594 (4.1)	32 587 (6.3)	15 290 (6.8)	1.6 (1.6-1.7)	2.2 (2.1-2.2)
Unknown	12 220 (4.7)	25 411 (4.9)	10 297 (4.6)	1.1 (1.1-1.1)	1.2 (1.2-1.3)

CORONAVIRUS DISEASE (COVID-19) PANDEMIC

				COVID-19 Cases	
Characteristics	**Wave 1**	**Wave 2**	**Wave 3**	**Multivariate wave1 vs wave2**	**Multivariate wave1 vs wave3**
Sex, (n, %)					
Female	148 611 (57.2)	292 631 (56.6)	122 668 (54.5)	1	1
Male	109 110 (42.0)	218 138 (42.2)	100 962 (44.9)	1.1 (1.0-1.1)	1.1 (1.1-1.1)
Unknown	2 138 (0.8)	6 386 (1.2)	1 383 (0.6)	1.1 (1.1-1.2)	0.8 (0.7-0.8)
Province (n, %)					
Eastern Cape	50 572 (19.5)	72 763 (14.1)	6 197 (2.8)	1	1
Free State	6 071 (2.3)	9 818 (1.9)	18 090 (8.0)	1.2 (1.1-1.2)	24.1 (23.2-25.1)
Gauteng	105 875 (40.7)	109 194 (21.1)	125 136 (55.6)	0.8 (0.8-0.8)	9.9 (9.6-10.1)
KwaZulu-Natal	34 634 (13.3)	141 136 (27.3)	9 382 (4.2)	3.0 (2.9-3.0)	2.2 (2.2-2.3)
Limpopo	3 385 (1.3)	23 890 (4.6)	5 297 (2.4)	5.4 (5.2-5.7)	12.8 (12.2-13.5)
Mpumalanga	5 024 (1.9)	18 246 (3.5)	9 376 (4.2)	2.7 (2.6-2.8)	15.5 (14.8-16.2)
North West	10 349 (4.0)	13 520 (2.6)	17 232 (7.7)	1.0 (0.99-1.1)	13.6 (13.1-14.1)
Northern Cape	1 668 (0.6)	5 440 (1.1)	14 221 (6.3)	2.3 (2.1-2.4)	70.3 (66.3-74.4)
Western Cape	42 281 (16.3)	123 148 (23.8)	20 082 (8.9)	2.1 (2.1-2.2)	3.9 (3.8-4.1)
Sector (n, %)					
Public	96 335 (37.1)	241 791 (46.8)	74 623 (33.2)	1	1
Private	163 524 (62.9)	275 364 (53.3)	150 390 (66.8)	0.7 (0.7-0.7)	1.1 (1.1-1.1)

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