

COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

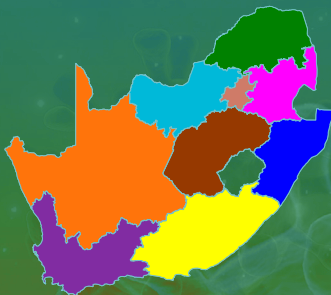


NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES

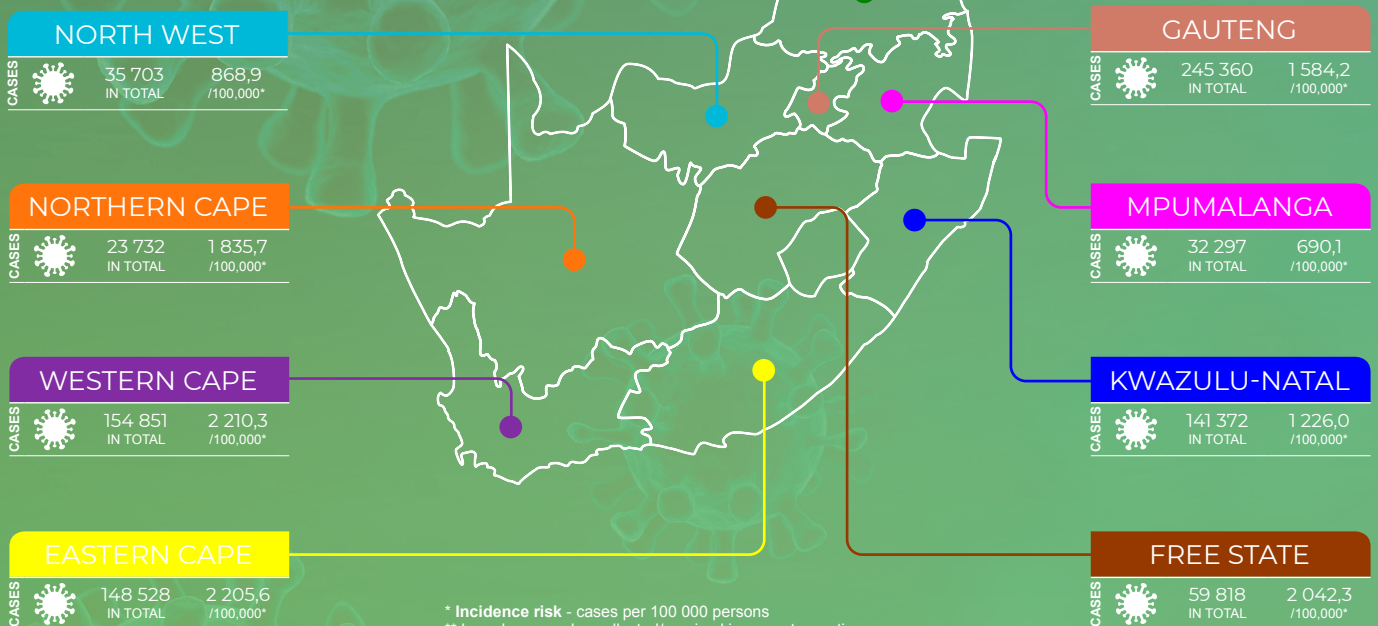
Division of the National Health Laboratory Service

SOUTH AFRICA WEEK 50 2020

CUMULATIVE DATA FROM



PROVINCES AT A GLANCE



* Incidence risk - cases per 100 000 persons
 ** based on samples collected/received in current reporting week

SUMMARY

Overview of report

Disease surveillance is a core function of the National Institute for Communicable Diseases (NICD), a division of the National Health Laboratory Service (NHLS). This report summarises data from a national laboratory-based surveillance system that is used to monitor the coronavirus disease 2019 (COVID-19) pandemic in South Africa. This report is based on data collected up to 12 December 2020 (week 50 of 2020). Note: COVID-19 is the name of the disease and SARS-CoV-2 is the name of the virus. Trends in numbers of new cases by province and age group may be affected by changes in testing practice and delays in testing of specimens. The numbers reported may change as more data become available.

Highlights

- As of 12 December 2020, a total of 860 964 laboratory-confirmed COVID-19 cases had been detected in South Africa. Of these, 46 399 were cases reported since the last report (week 49 report). There was a 38.7% increase in number of new cases detected in week 50 (39 624) compared to the number of new cases detected in week 49 (28 578).
- An additional 1 070 deaths were reported since the last report. The overall case-fatality ratio is 2.7% (23 276/860 964).
- Similar to the previous week, in the past week, the Western Cape Province reported the highest proportion of the new cases detected (12 635/39 624, 31.9%), followed by KwaZulu-Natal Province (9 204/39 624, 23.2%), Eastern Cape Province (8 402/39 624, 21.2%), and Gauteng Province (7 185/39 624, 18.1%).
- Similar to the previous week, in the past week, all provinces reported an increase in weekly incidence risk, except the Eastern Cape Province (24.1 cases per 100 000 persons, 16.2% reduction) which reported a decrease in weekly incidence risk, compared to week 49. The increase ranged from 2.2 cases per 100 000 persons (12.0% increase) in Northern Cape Province to 43.7 cases per 100 000 persons (121.1% increase) in KwaZulu-Natal Province. Delays in reporting could affect these trends.
- In the past week, Western Cape Province (180.4 cases per 100 000 persons) reported the highest weekly incidence risk, which was also higher than that reported for this province during the first wave (136.0 cases per 100 000 persons) in week 27. Eastern Cape Province (124.8 cases per 100 000 persons) reported the second highest weekly incidence risk, followed by KwaZulu-Natal Province (79.8 cases per 100 000 persons), Gauteng Province (46.4 cases per 100 000 persons), and Northern Cape Province (21.0 cases per 100 000 persons).
- The increase in number of cases from the Eastern Cape Province in the past few weeks was mainly due to a resurgence in COVID-19 cases from the Nelson Mandela Bay, Sarah Baartman, Buffalo City and Amathole districts, with peak weekly incidence risk in Nelson Mandela Bay District (369.7 cases per 100 000) in week 47 reaching levels higher than the first wave peak (226.0 cases per 100 000 persons) in week 27. The Sarah Baartman District also reported a higher peak weekly incidence risk in week 47 (386.1 cases per 100 000 persons) compared to the peak in week 27 (218.1 cases per 100 000 persons). The apparent decrease in number of cases and weekly incidence risk reported from these two districts in the past week is possibly due to delays in reporting.
- The increase in number of cases in the Western Cape Province in recent weeks was driven by a resurgence in COVID-19 cases reported mostly from the Garden Route District where the weekly incidence risk increased gradually from week 41 to 43, and sharply from week 43 to week 49. The incidence risk in week 49 (352.3 cases per 100 000 persons) was higher than the peak weekly incidence risk during the first wave (179.9 cases per 100 000 persons) in week 30. The other driver was the Central Karoo District with a weekly incidence risk reported in week 49 (158.4 cases per 100 000 persons) higher than that reported in the first wave (118.5 cases per 100 000 persons) in week 31. The Overberg, City of Cape Town and Cape Winelands districts showed gradual increases in weekly incidence risks from week 45 to week 49.
- The increase in the number of new cases and weekly incidence risk in KwaZulu-Natal Province in the past two weeks was largely driven by a sharp increase in number of new cases in six districts (eThekweni, iLembe, Ugu, Harry Gwala, uMgungundlovu, and King Cetshwayo).
- The Gauteng Province has been reporting a gradual increase in incidence risk since week 48. In week 50, individuals aged 15-19 years reported a weekly incidence risk (121.0 cases per 100 000 persons) higher than that reported for this age group during the first peak (94.2 cases per 100 000 persons) in week 28.
- Provincial graphs by districts and age group (except Eastern Cape Province, Western Cape Province, Gauteng and KwaZulu-Natal which are included in this report) can be accessed [here](#).

INCIDENCE
RISK FOR
WEEK 50

66,5
CASES PER
100 000
PERSONS

31,9%
OF CASES
REPORTED IN
WESTERN CAPE IN
WEEK 50

IN WEEK 50,
THE HIGHEST
WEEKLY
INCIDENCE
RISK WAS IN
CASES AGED 55-
59 YEARS (130,2
CASES PER 100
000 PERSONS)

Methods

Testing for SARS-CoV-2 began on 28 January 2020 at the NICD and after the first case was confirmed in early March 2020, testing was expanded to a larger network of private and NHLS laboratories. Respiratory specimens were submitted from persons under investigation (PUI). Initially, tested individuals were those who had travelled to countries with COVID-19 transmission but the PUI definition was changed over time. Community symptom screening and referral for PCR testing was implemented in April 2020 but the strategy was changed to a more targeted approach in May 2020. Community screening was largely discontinued and testing efforts then focussed on areas identified as hot spots and on investigating clusters. Contacts of cases were traced and tested if symptomatic. In some provinces and in certain circumstances (e.g. closed settings, workplaces), asymptomatic contacts were tested. In recent weeks, testing has been prioritised for healthcare workers and hospitalised patients. Laboratories used any one of several in-house and commercial PCR assays to test for the presence of SARS-CoV-2 RNA. We excluded specimens collected outside South Africa. Date of specimen receipt in the laboratory was used when date of specimen collection was missing. A case of COVID-19 was defined as any person, resident in South Africa, with a single positive SARS-CoV-2 PCR test. For reports published from week 41 onwards we used mid-year population estimates from Statistics South Africa for 2020 to calculate the incidence risk (cumulative or weekly incidence), expressed as cases per 100 000 persons. In historical reports published from epidemiologic week 10 (during the start of COVID-19 epidemic in South Africa) to week 40, 2019 mid-year population estimates were used. Aggregate data on the number of deaths by province were obtained from the Department of Health. Data on number of tests conducted in the past week as reported in the simultaneously-published COVID-19 weekly testing report was used to calculate tests conducted per 100 000 population. Data on province and district allocation was based on geocoding algorithm using in order of priority (i) completeness of patient data, (ii) submitting doctor's address, (iii) registering doctor's address and as final option, (iv) the guarantor's address data. The geocoding algorithm used the most complete data for assigning data on province and district where adequate information was provided on the lab request form at the time of sample collection. Data on district allocation may lag resulting in number of cases in recent weeks missing district allocation. Prevalence and incidence risk by districts should be interpreted with caution.

We estimated the time-varying (weekly) doubling time of the COVID-19 epidemic for the provinces with sufficient data and from weeks with sufficient number of cases and complete data (week 12 to the week before the current

reporting period). The unit of analysis (epidemiological week) was defined from Sunday to the following Saturday. We first estimated the weekly growth rate of the epidemic by fitting a linear regression model to the logarithm of the daily cumulative number of laboratory-confirmed COVID-19 cases. We then estimated the doubling time for each week using the following formula $\log(2)/gr$ (where gr is the estimated weekly growth rate). An increase in the doubling time may suggest a slowing of transmission but this may also be affected by changes in testing strategy or care seeking. Until the week 29 report, new cases were defined as all cases reported since the last report, irrespective of when the sample was collected. Subsequent to the week 29 report, new cases are now defined as cases detected in the past epidemiologic week based on date of sample collection or sample receipt. It is therefore possible for numbers reported as new cases for the current reporting week not to tally with total additional cases reported since the last report. This will be the case when there was a delay in reporting of cases.

National and provincial trends of COVID-19 cases in South Africa

As of 12 December 2020, a total of 860 964 laboratory-confirmed COVID-19 cases were reported in South Africa. This is 46 399 more cases than the number reported in the last report. The number of new cases detected in week 50 (39 624) was higher than the number of new cases detected in week 49 (28 578), this represented a 38.7% increase in the number of new cases compared to the previous week. In the past week, the Western Cape Province reported the highest number of new cases (12 635/39 624, 31.9%), followed by the KwaZulu-Natal Province (9 204/39 624, 23.2%), the Eastern Cape Province (8 204/39 624, 21.2%), and the Gauteng Province (7 185/39 624, 18.1%) (Table 1). Five provinces, Gauteng (245 360/860 964, 28.5%), Western Cape (154 851/860 964, 18.0%), Eastern Cape (148 528/860 964, 17.3%), KwaZulu-Natal (141 372/860 964, 16.4%), and Free State (59 818/860 964, 6.9%) continued to report the majority (749 929/860 964, 87.1%) of total COVID-19 cases in South Africa. In keeping with the data reported in the previous weeks, there was minimal change in percent contribution of cases in the different provinces from week 49 to week 50.

The cumulative incidence risk for the country increased from 1 377.6 cases per 100 000 persons in week 49 to 1 444.0 cases per 100 000 persons in week 50. The cumulative incidence risk varied by province over time (Figure 3). This is partly explained by testing differences by province (Table 1). The Western Cape Province reported the highest cumulative incidence risk (2 210.3 cases per 100 000 persons), replacing the Eastern Cape Province (2 205.6 cases per 100 000) which reported the highest cumulative incidence risk in the past two weeks. The Eastern Cape Province was followed by the Free State Province (2 042.3 cases per 100 000 persons), Northern Cape Province (1 835.7 cases per 100 000 persons), Gauteng Province (1 584.2 cases per 100

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000 persons), and KwaZulu-Natal Province (1 226.0 cases per 100 000 persons). The other provinces continued to report cumulative incidence risk below 1 000 cases per 100 000 persons, with Limpopo Province reporting the lowest cumulative incidence risk (329.8 cases per 100 000 persons).

The Western Cape Province reported the highest weekly incidence risk (180.4 cases per 100 000 persons) in week 50, followed by Eastern Cape Province (124.8 cases per 100 000 persons), KwaZulu-Natal Province (79.8 cases per 100 000 persons), Gauteng Province (46.4 cases per 100 000 persons), and Northern Cape Province (21.0 cases per 100 000 persons), this is similar to the previous week. The weekly incidence risk in all the other provinces remained below 20 cases per 100 000 persons. In the past week, all provinces reported an increase in weekly incidence risk, except Eastern Cape Province which reported a reduction in weekly incidence (24.1 cases per 100 000 persons, 16.2% reduction), compared to the previous week. The increase in weekly incidence risk ranged from 2.2 cases per 100 000 persons (12.0% increase) in Northern Cape Province to 43.7 cases per 100 000 persons (121.1% increase) in KwaZulu-Natal Province (Figure 4). Some of the reductions in week 50 weekly incidence risk could be as a result of reporting delays.

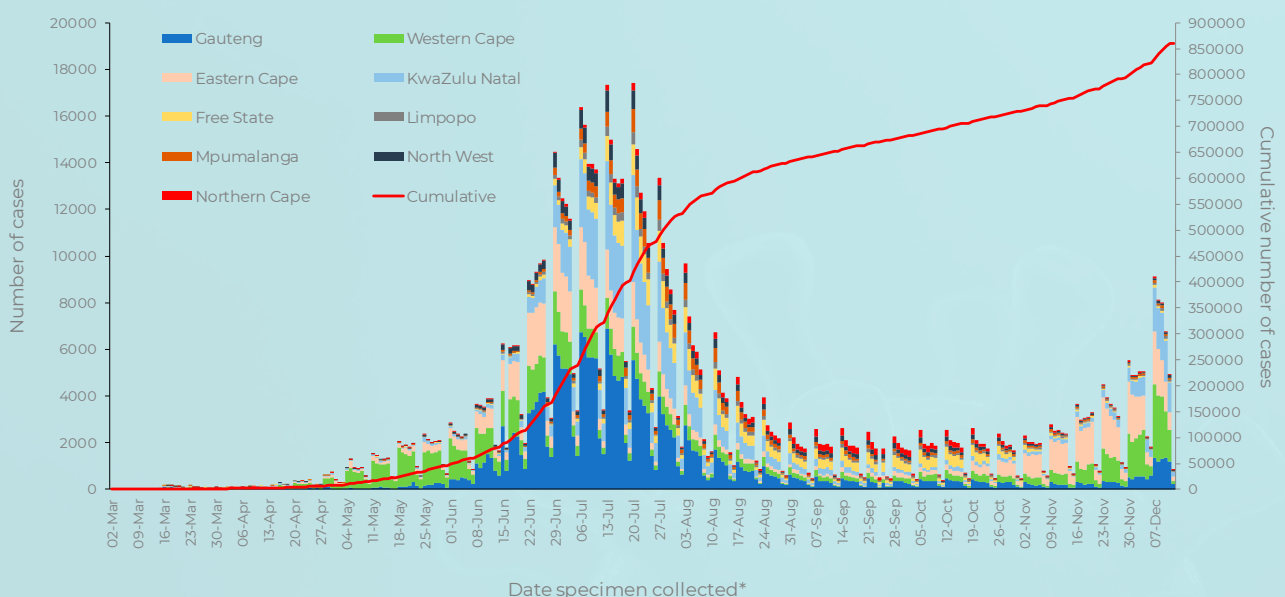
Since the peak of weekly incidence risk experienced at different levels and weeks by the different provinces in July (Western Cape and Eastern Cape peaked earlier in week 27 and Northern Cape peaked last in week 30), all the provinces except for Western Cape, Eastern Cape, KwaZulu-Natal and Gauteng have been reporting an overall gradual decline in weekly incidence risk. The Eastern Cape Province reported a steep increase in number of new cases and weekly incidence risk from week 43 to 49. The Western Cape Province has shown a gradual

increase in number of new cases and weekly incidence risk from week 44 to week 46 when it increased sharply from week 47 to date. The KwaZulu-Natal Province reported a gradual increase from week 47 to week 48 when it increased sharply from week 49 to date. Gauteng Province also showed a steady increase in number of new cases and weekly incidence risk from week 48 to date.

Among the five provinces reporting the majority of cases in South Africa to date, doubling time of number of cases varied with time. In week 49, the estimated doubling time of number of cases decreased in four provinces, Gauteng Province (from 556.6 days to 317.8 days, 42.9% decrease), Western Cape Province (from 88.1 days to 58.0 days, 34.1% decrease), Free State Province (from 1 101.1 days to 722.5 days, 34.4% decrease), and KwaZulu-Natal Province (from 304.2 days to 130.8 days, 57.0% decrease) compared to week 48 (Figure 5). In week 49, the Eastern Cape Province has reported a slight increase in doubling time (from 54.0 days to 57.0 days, 5.5% increase) compared to week 48.

The case-fatality ratio is 2.7% (23 276/860 964); an additional 1 070 deaths were reported since the last report. The number of deaths reported in the past week was higher than the number reported in the previous week, 1 070 compared to 729. A crude case-fatality ratio (CFR) calculated in this way (number of deaths/number of diagnosed cases) is subject to numerous limitations. Because deaths are delayed in relation to cases, as case numbers decrease rapidly, the crude case fatality ratio may increase as a result of a more rapid reduction in the denominator compared to the numerator. The CFR may be an underestimate as deaths in hospital are more likely to be reported than deaths out of hospital. In addition, occurrence and reporting of deaths may be delayed to several weeks after case diagnoses.

Figure 1. Number and cumulative number of laboratory-confirmed cases of COVID-19 by province and date of specimen collection, South Africa, 3 March-12 December 2020 (n=860 964)

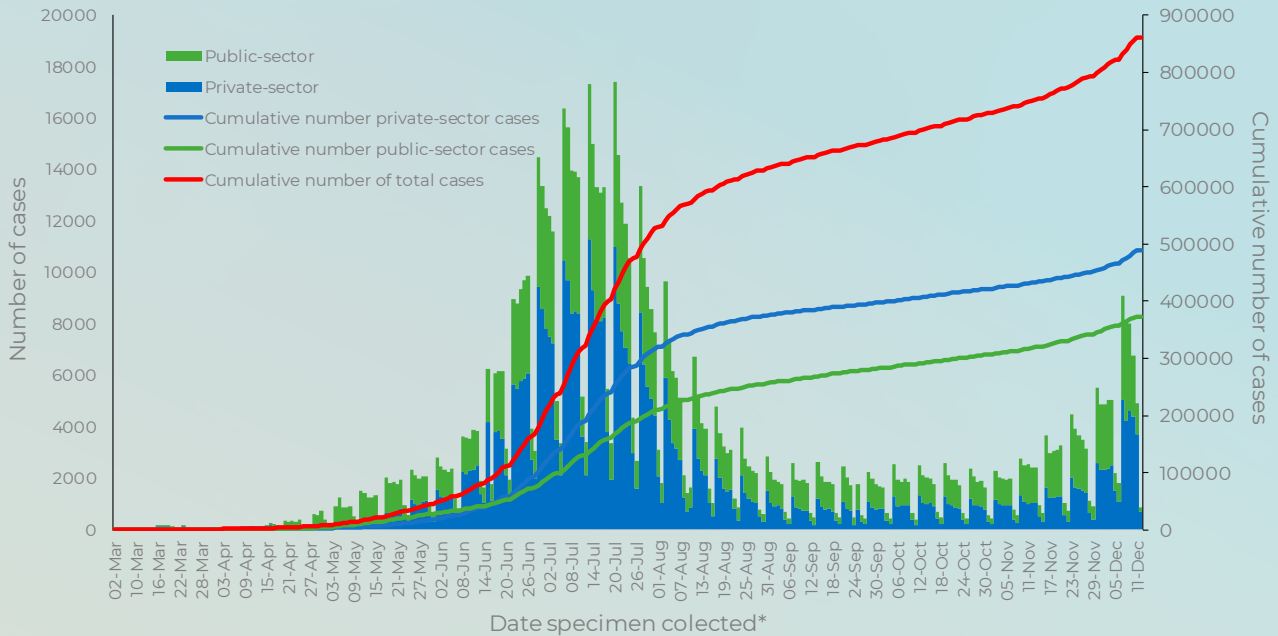


*Date specimen received where date collected missing

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Figure 2. Number and cumulative number of laboratory-confirmed cases of COVID-19, by testing laboratory sector and date of specimen collection, South Africa, 3 March-12 December 2020 (n=860 964)



*Date specimen receipt where collection date missing

Table 1. Number and cumulative/weekly incidence risk of laboratory-confirmed cases of COVID-19 and testing per 100 000 persons by province, South Africa, 3 March-12 December 2020 (n=860 964)

Province	Cumulative cases (n) (percentage, n/ total cases in South Africa)	New cases ¹ detected in 50 (6-12 December 2020), n (percentage ² , n/total)	Population in mid-2020 ³ , n	Cumulative incidence risk (cases per 100 000 persons)	Incidence risk of new cases detected in week 50 (cases/100 000 persons)	Tests ⁴ per 100 000 persons, 6-12 December 2020
Eastern Cape	148 528 (17.3)	8 402 (21.2)	6 734 001	2 205.6	124.8	357.6
Free State	59 818 (6.9)	438 (1.1)	2 928 903	2 042.3	15.0	198.5
Gauteng	245 360 (28.5)	7 185 (18.1)	15 488 137	1 584.2	46.4	365.1
KwaZulu-Natal	141 372 (16.4)	9 204 (23.2)	11 531 628	1 226.0	79.8	343.0
Limpopo	19 303 (2.2)	441 (1.1)	5 852 553	329.8	7.5	45.9
Mpumalanga	32 297 (3.8)	513 (1.3)	4 679 786	690.1	11.0	135.5
North West	35 703 (4.1)	535 (1.4)	4 108 816	868.9	13.0	82.9
Northern Cape	23 732 (2.8)	271 (0.7)	1 292 786	1 835.7	21.0	207.5
Western Cape	154 851 (18.0)	12 635 (31.9)	7 005 741	2 210.3	180.4	581.7
Unknown	0	0	0			
Total	860 964	39 624	59 622 350	1 444.0	66.5	305.0

¹New cases refer to cases whose samples were collected or received in the current reporting week; ²Percentage=n/total number of new cases (specimen collected or received in current reporting week); ³2020 Mid-year population Statistics South Africa ⁴Data on number of tests conducted sourced from COVID-19 weekly testing report of the same reporting week

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Figure 3. Cumulative incidence risk of PCR-confirmed cases of COVID-19 by province and epidemiologic week, South Africa, 3 March-12 December 2020 (n=860 964)

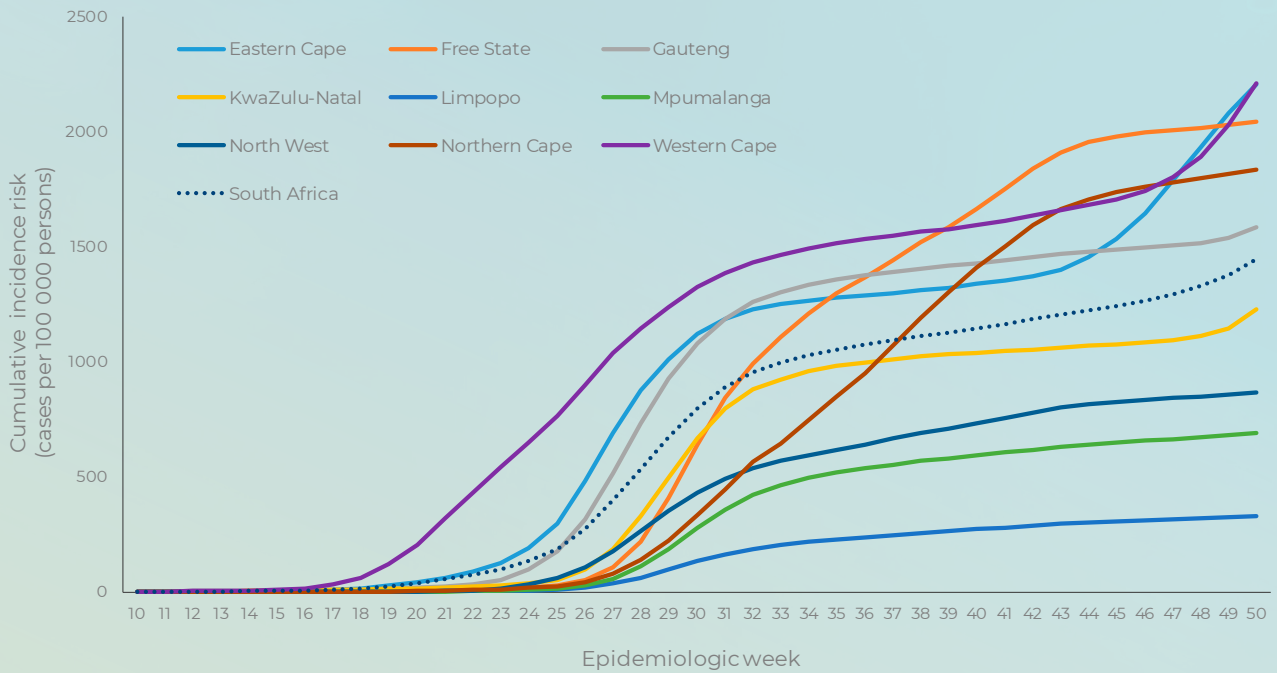


Figure 4. Weekly incidence risk of PCR-confirmed cases of COVID-19 by province and epidemiologic week, South Africa, 3 March-12 December 2020 (n=860 964)

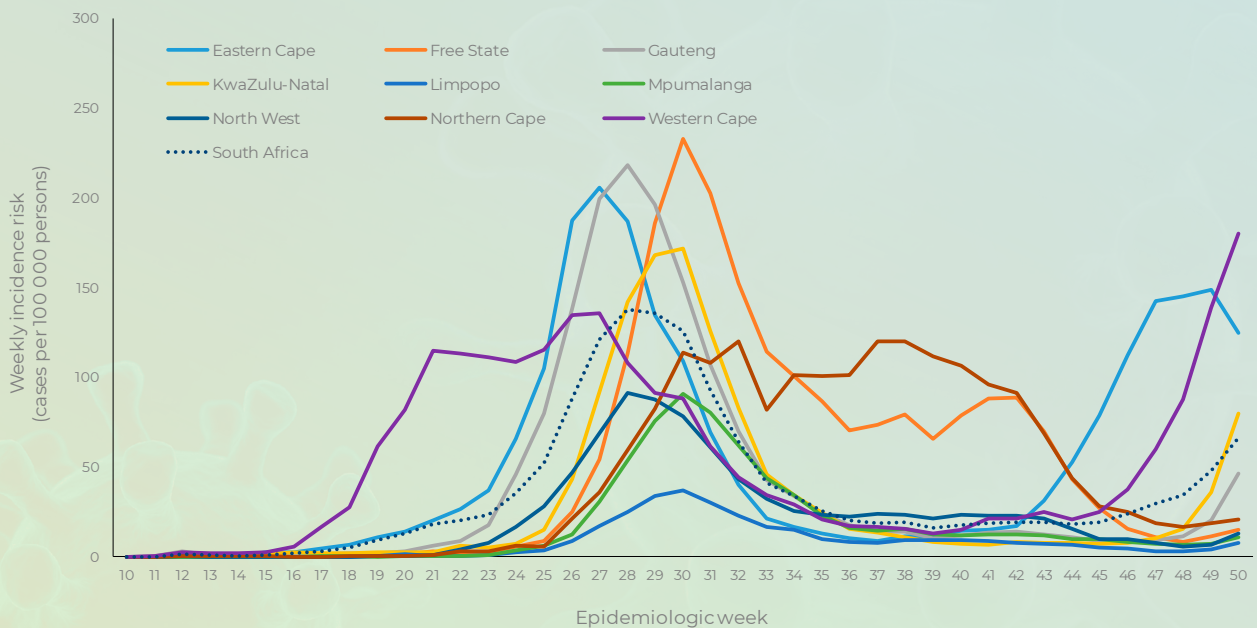
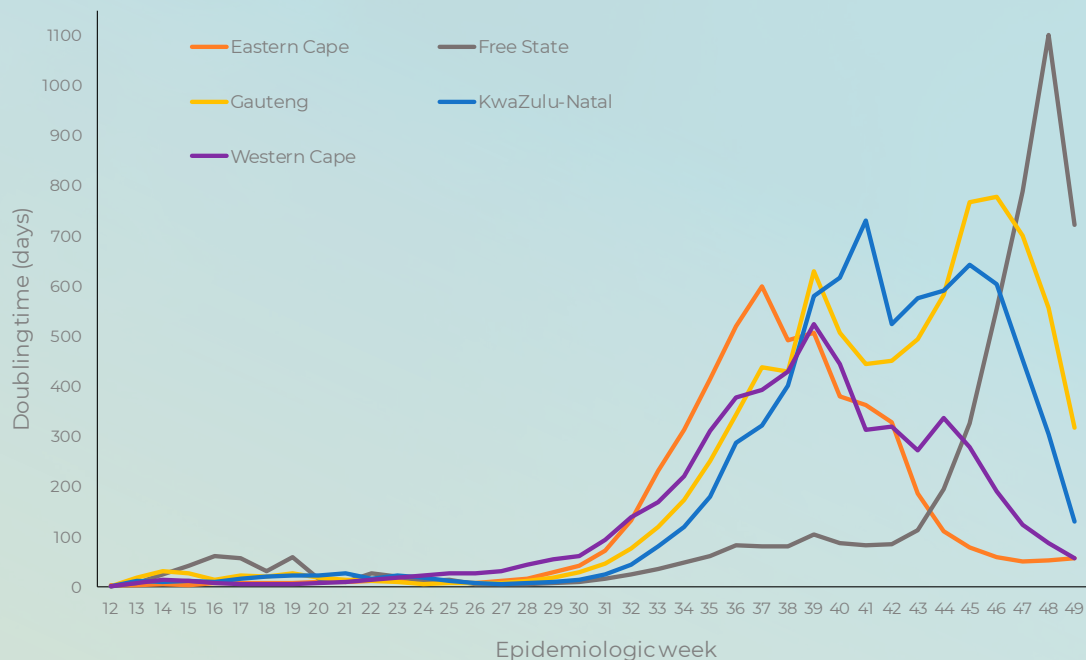


Figure 5. Doubling time of number of PCR-confirmed cases of COVID-19 by province (for 5 provinces with the majority of cases) and epidemiologic week, South Africa, 23 March-5 December 2020 (n= 821 255)



Characteristics of COVID-19 cases in South Africa by age and sex

Cases of COVID-19 were reported across all age groups. The median age of COVID-19 cases in South Africa to date was 39 years with an interquartile range (IQR) of 29-52 years. The distribution of cases varied by age, with highest number of all cases to date in the 35-39-year (105 337/854 343, 12.3%) and 30-34-year (103 114/854 343, 12.1%) age groups (Figure 6). Similarly, among the cases reported in the past week, the highest number of cases was in the 35-39-year-age group (4 224/39 287, 10.8%) followed by the 30-34-year age group (4 146/39 287, 10.6%). The median age for cases reported in week 50 was the same (39 years, IQR 27-52), to that of total cases (39 years). The highest cumulative incidence risk remained among cases aged 50-54 years (2 949.3 cases per 100 000 persons), followed by cases aged 55-59 years (2 827.9 cases per 100 000 persons) and 45-49 years (2 686.3 cases per 100 000 persons). The lowest cumulative incidence risk was reported in the younger age-groups, 175.6 cases per 100 000 persons and 217.0 cases per 100 000 persons in the 0-4- and 5-9-year age groups, respectively (Figure 7 and Table 2). The highest weekly incidence risk among cases detected in week 50 was reported in cases aged 55-59 years (130.2 cases per 100 000 persons), followed by cases in the 50-54-year-age group (127.6 cases per 100 000 persons) and the lowest weekly incidence risk was in

the 0-4-year age group (6.8 cases per 100 000 persons). To date, the majority of COVID-19 cases reported were female (58.1%, 495 743/853 569). This trend continued in the past week where 56.4% (22 164/39 330) of cases were female. The cumulative incidence risk has remained consistently higher among females (1 614.2 cases per 100 000 persons) than among males (1 220.1 cases per 100 000 persons) (Figure 8). The peak cumulative incidence risk was in the 50-54-year-age group (3 114.2 cases per 100 000 persons) for females, and in the 55-59 (2 732.2 cases per 100 000 persons) and 50-54-year-age group (2 722.1 cases per 100 000 persons) for males (Figure 9). In week 50, the highest weekly incidence risk for females was in the 50-54-year-age group (134.1 cases per 100 000 persons), and for males in the 55-59-year-age group (124.5 cases per 100 000 persons). The high prevalence and incidence risk among females could be explained by the fact that females are likely to be more represented in occupations, which put them in close proximity to others and thus exposing them to a higher risk of infection (e.g. teaching and health). This may also be partly explained by varying testing practices by age and sex (data not shown) and by different health seeking behaviour.

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Figure 6. Number of laboratory-confirmed cases of COVID-19 by age group and sex, South Africa, 3 March-12 December 2020 (n= 847 613, sex/age missing for 13 351)

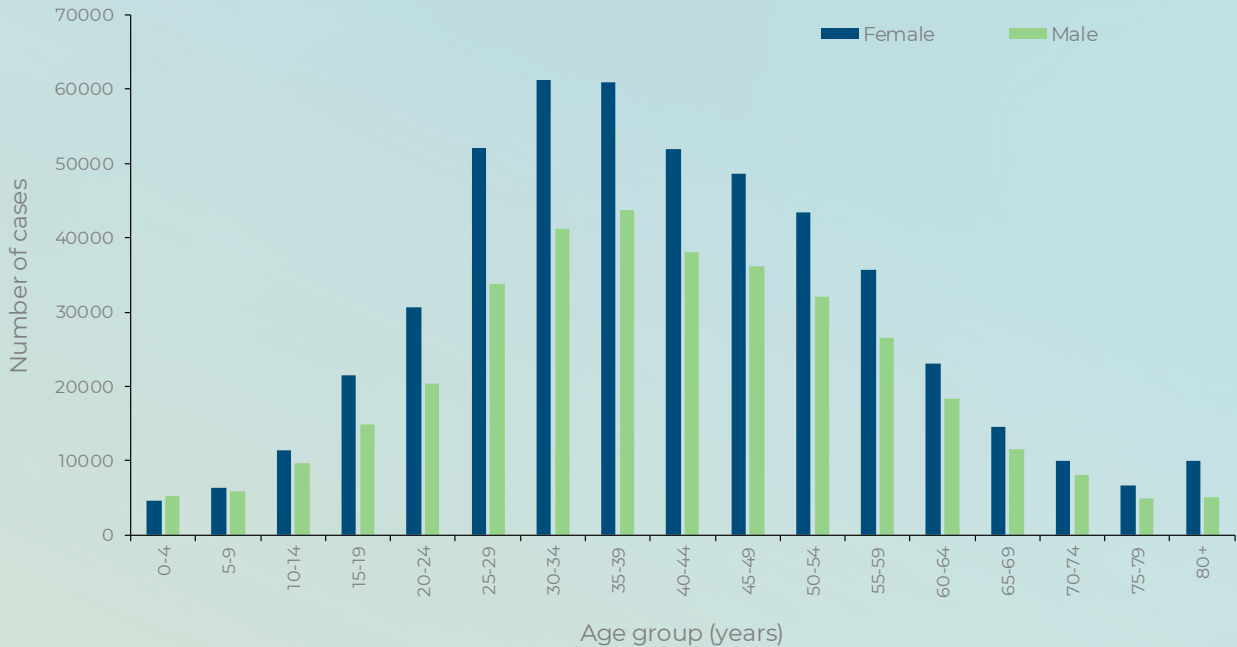
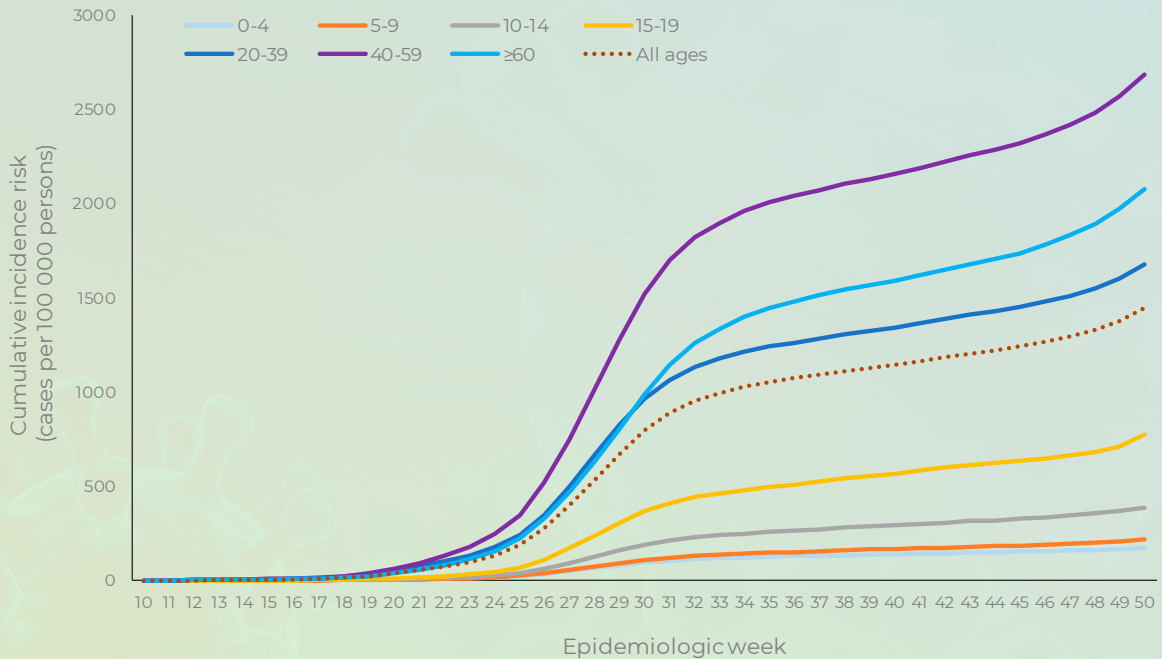


Figure 7. Cumulative incidence risk of PCR-confirmed cases of COVID-19 by age group in years and epidemiologic week, South Africa, 3 March-12 December 2020 (n=854 343, 6 621 missing age)



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Figure 8. Cumulative incidence risk by sex and epidemiologic week, South Africa, 3 March-12 December 2020 (n= 853 569, sex missing for 7 395)

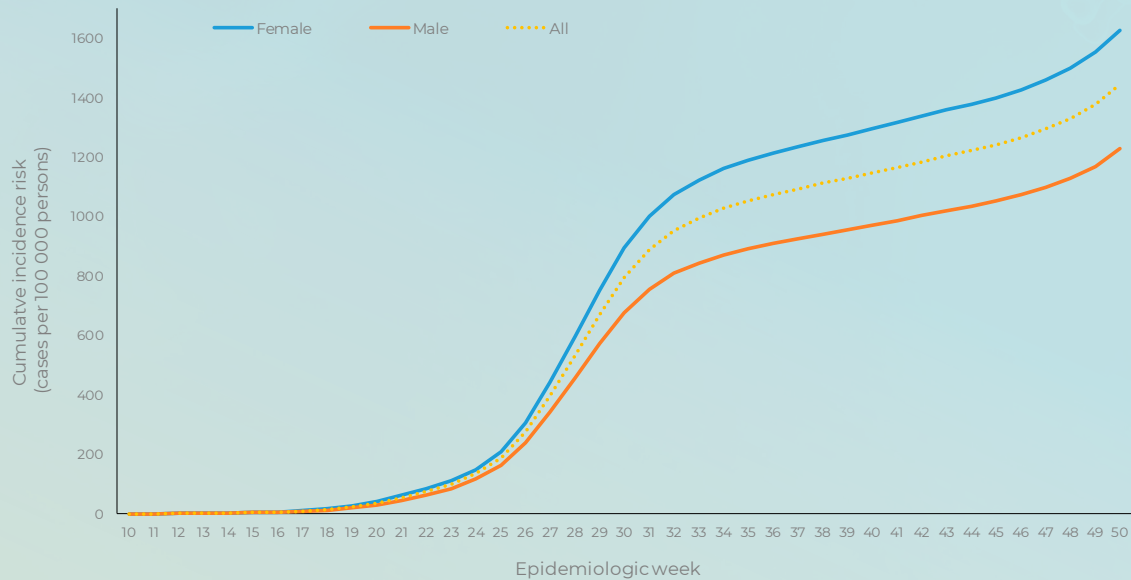
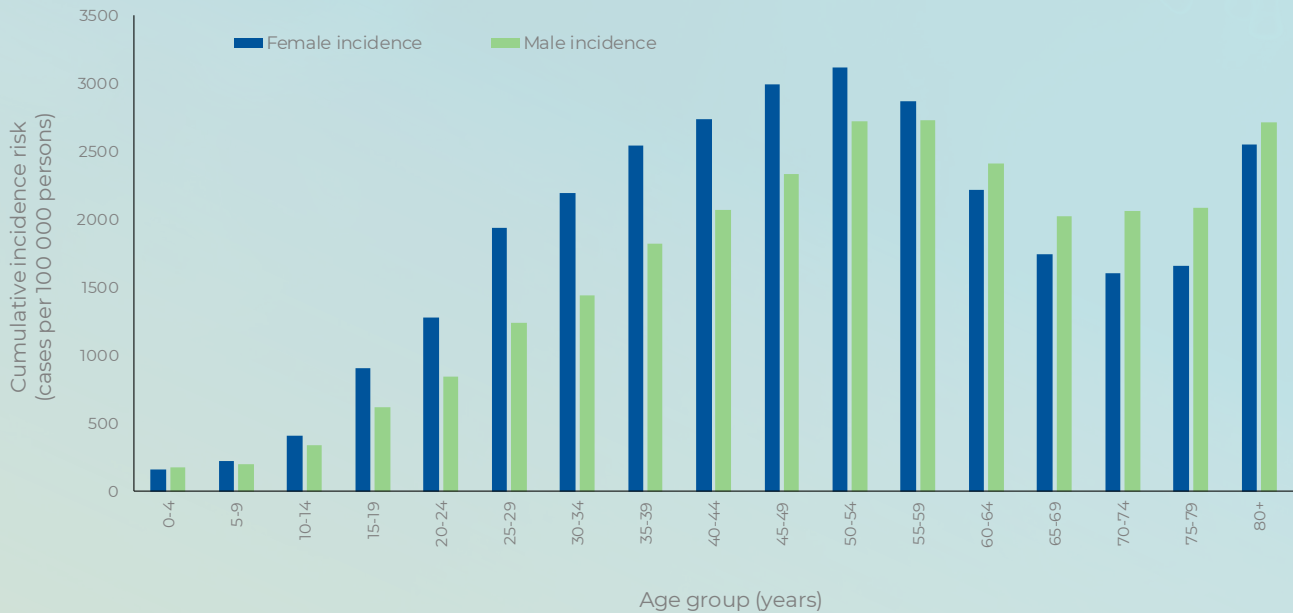


Table 2. Number of laboratory-confirmed cases of COVID-19 and cumulative/weekly incidence risk by age group, South Africa, 3 March-12 December 2020, n= 854 343, 6 621 missing age)

Age group (years)	Cumulative cases (n) (percentage, n/ total cases in South Africa)	New cases ¹ detected in week 50 (6-12 December 2020), n (percentage ² , n/ total)	Population in mid-2020 ³ , n	Cumulative incidence risk (cases per 100 000 persons)	Incidence risk of new cases detected in week 50 (cases/100 000 persons)
0-4	10 083 (1.2)	389 (1.0)	5743 450	175.6	6.8
5-9	12 403 (1.5)	442 (1.1)	5715 952	217.0	7.7
10-14	21 529 (2.5)	805 (2.0)	5591 553	385.0	14.4
15-19	37 046 (4.3)	2 961 (7.5)	4774 579	775.9	62.0
20-24	51 572 (6.0)	3 304 (8.4)	4823 367	1 069.2	68.5
25-29	86 557 (10.1)	3 934 (10.0)	5420 754	1 596.8	72.6
30-34	103 114 (12.1)	4 146 (10.6)	5641 750	1 827.7	73.5
35-39	105 337 (12.3)	4 224 (10.8)	4798 293	2 195.3	88.0
40-44	90 393 (10.6)	3 684 (9.4)	3733 942	2 420.8	98.7
45-49	85 147 (10.0)	3 651 (9.3)	3169 648	2 686.3	115.2
50-54	75 833 (8.9)	3 282 (8.4)	2571 263	2 949.3	127.6
55-59	62 533 (7.3)	2 880 (7.3)	2211 309	2 827.9	130.2
60-64	41 622 (4.9)	2 016 (5.1)	1796 316	2 317.1	112.2
65-69	26 309 (3.1)	1 411 (3.6)	1408 665	1 867.7	100.2
70-74	18 062 (2.1)	979 (2.5)	1007 174	1 793.3	97.2
75-79	11 640 (1.4)	587 (1.5)	637 062	1 827.1	92.1
≥80	15 163 (1.8)	592 (1.5)	577 273	2 626.7	102.6
Unknown	6 621	337			
Total	860 964	39 624	59 622 350	1 444.0	66.5

¹New cases refer to cases whose samples were collected or received in the current reporting week; ²Percentage=n/total number of new cases (specimen collected or received in current reporting week); ³2020 Mid-year population Statistics South Africa

Figure 9. Cumulative incidence risk by age group and sex, South Africa, 3 March-12 December 2020 (n= 847 613, sex/age missing for 13 351)



Trends of COVID-19 cases in Eastern Cape, Western Cape Province, KwaZulu-Natal Province and Gauteng Province

Eastern Cape Province, Western Cape Province, KwaZulu-Natal Province and Gauteng Province have contributed 80.2% (690 111/860 964) of total cases in South Africa to date. In the past few weeks, these provinces have reported an increase in number of new cases and weekly incidence risk. However, Eastern Cape Province reported a decline in weekly incidence risk, which could be due to delays in reporting or a reduction in transmission in the past week.

Eastern Cape Province

Of the 148 528 cases reported from the Eastern Cape Province, 131 405 (88.5%) had allocation by district. The Nelson Mandela Bay District (41 055/131 405, 31.2%) followed by the Buffalo City District (23 597/131 405, 18.0%) contributed the majority of cases in the Eastern Cape Province. In the past week, the Buffalo City (174.7 cases per 100 000 persons), followed by the Sarah Baartman (141.8 cases per 100 000 persons), Nelson Mandela Bay (119.5 cases per 100 000 persons), Amathole (91.3 cases per 100 000 persons), Chris Hanani (86.7 cases per 100 000 persons), and O.R Tambo (40.9 cases per 100 000 persons) districts reported the highest weekly incidence risk. In week 50, all districts, reported a decline in weekly

incidence risk, compared to week 49. The decline in weekly incidence risk ranged from 1.5 cases per 100 000 persons (3.5% reduction) in O.R Tambo District to 147.4 cases per 100 000 persons (51.0% reduction) in Sarah Baartman District (Figure 10).

The weekly incidence risk for the Nelson Mandela Bay District increased sharply from week 42 to week 47. The Sarah Baartman District showed a gradual increase from week 39 to week 42, then increased sharply to week 47. The Buffalo City District showed a gradual increase from week 44 to week 45 and increased sharply from week 46 to week 49. Amathole District's weekly incidence risk increased sharply from week 46 to week 49, and Chris Hanani District showed a gradual increase in weekly incidence risk from week 45 to week 49. The peak in weekly incidence risk (369.7 cases per 100 000 persons) reported in Nelson Mandela Bay District in week 47 was much higher than that reported during the first peak (226.0 cases per 100 000 persons) in week 27. Similarly, the current peak incidence risk (386.1 cases per 100 000 persons) reported in the Sarah Baartman in week 47 was higher than that reported during the first peak (218.1 cases per 100 000 persons) in week 27. All other districts continued reporting weekly incidence risks below those reported during first peaks. However, testing practices may have changed since the first peaks making it difficult to make an assessment of whether the current increase in number of cases and incidence risk is truly higher than that experienced during the first peak. The apparent decrease of number of cases and weekly incidence risk reported in week 50

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by the five districts (Nelson Mandela Bay, Buffalo City, Sarah Baartman, Amathole, and Chris Hani) that showed an increase in the past three weeks is possibly due to delays in reporting.

The majority of cases from Eastern Cape Province were in the 40-59-year-age group (55 138/147 258, 37.4%) followed by the 20-39-year-age group (52 761/147 258, 35.8%). In the past week, individuals in the 40-59-year age group (259.7 cases per 100 000 persons), followed by ≥60-year-age group (230.6 cases per 100 000 persons), 20-39-year-age group (133.1 cases per 100 000 persons), 15-19-year-age group (58.4 cases per 100 000 persons), and 10-14-year-age group (33.7 cases per 100 000 persons) reported the highest weekly incidence risk, the other age groups reported weekly incidence risk below 20 cases per 100 000 persons. Compared to the previous week, all age groups reported a decline in weekly incidence risk, the decline ranged from 4.1 cases per 100 000 persons in the 0-4-year-age group (27.4% reduction) to 53.0 cases per 100 000 persons (16.9% reduction) in the 40-59-year-age group (Figure 11).

Figure 10. Weekly incidence risk of PCR-confirmed cases of COVID-19 by district and epidemiologic week, Eastern Cape Province, 3 March-12 December 2020 (n= 131 405, 17 123 missing district)

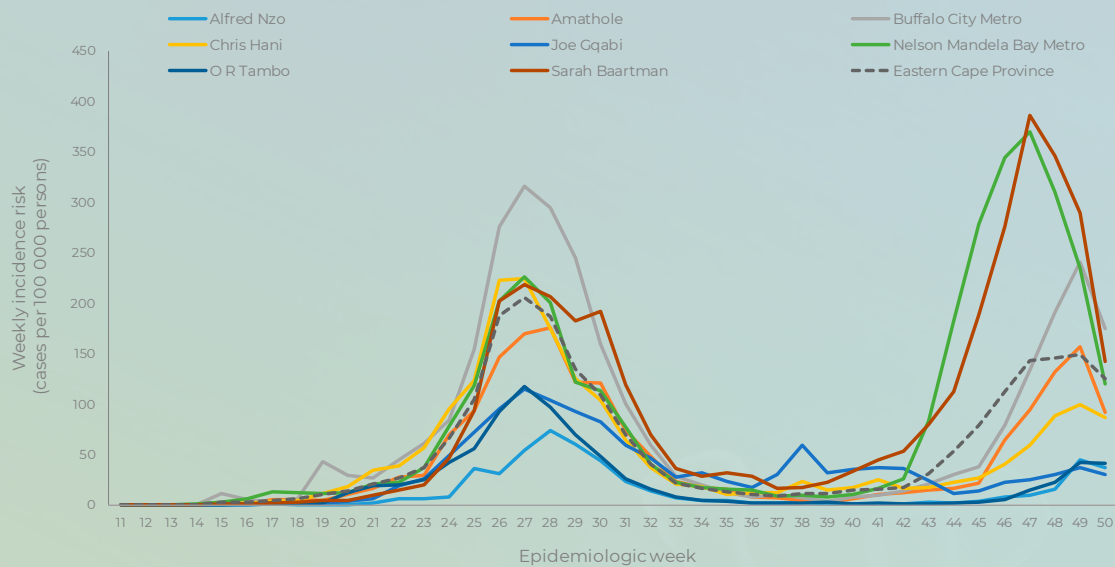
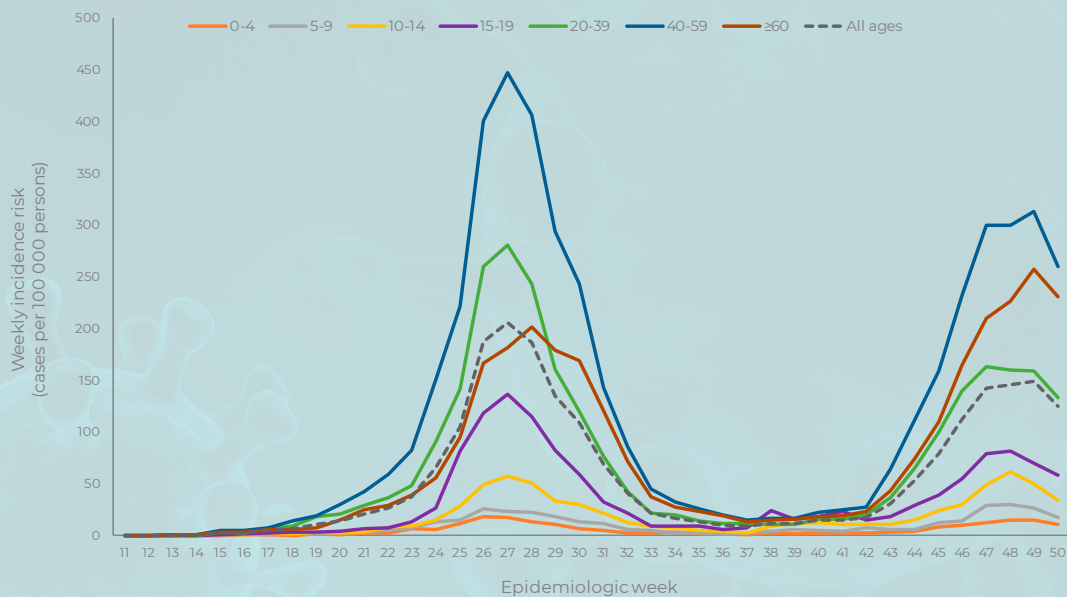


Figure 11. Weekly incidence risk of PCR-confirmed cases of COVID-19 by age group in years and epidemiologic week, Eastern Cape Province, 3 March-12 December 2020 (n= 148 528, 1 270 missing age)



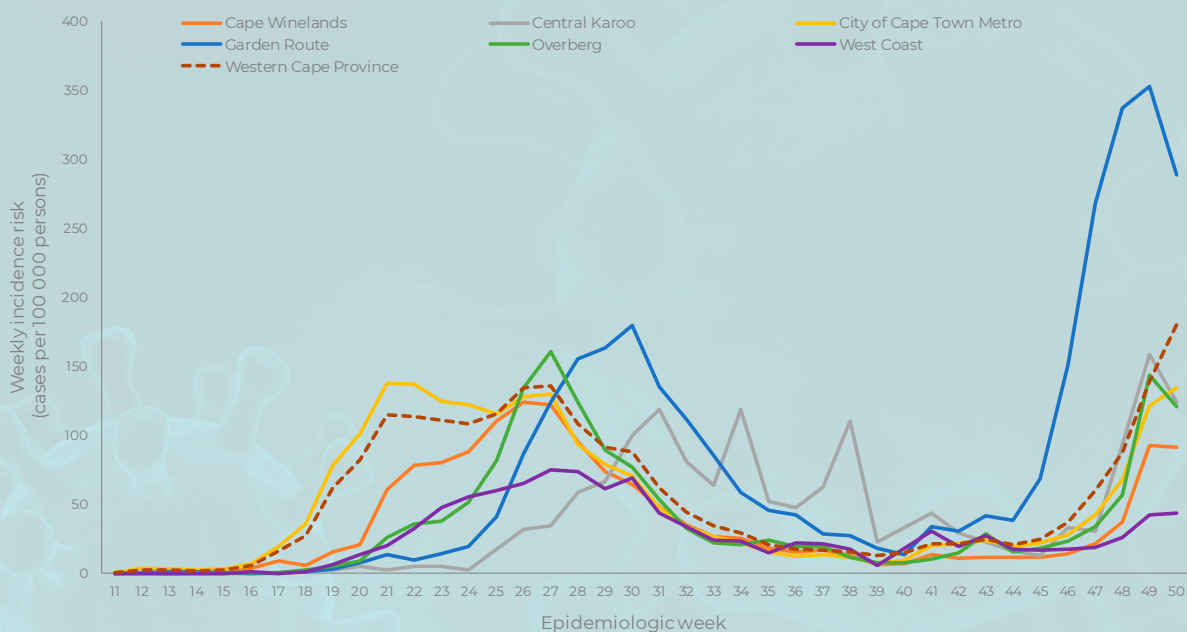
Western Cape Province

Of the 154 851 cases reported from the Western Cape Province, 139 790 (90.3%) of cases had allocation by district. The City of Cape Town District (96 421/139 790, 69.0%) followed by the Garden Route District (18 709/139 790, 13.4%), and the Cape Winelands District (13 965/139 790, 10.0%) contributed the majority of cases, all other districts contributed <10% each. As in the previous six weeks, the highest weekly incidence risk in week 50 was reported by the Garden Route District (288.6 cases per 100 000 persons) followed by the City of Cape Town (134.5 cases per 100 000 persons), Central Karoo (123.8 cases per 100 000 persons), and Overberg (121.0 cases per 100 000 persons) districts (Figure 12). The number of new cases and weekly incidence risk in the Garden Route District increased gradually from week 41 and sharply from week 44 to 49, whereas the number of new cases and weekly incidence risk in the City of Cape Town District increased gradually from week 45 to week 47, and sharply from week 48 to date. The Overberg District increased gradually from week 46 to week 49, and the Cape Winelands District from week 46 to week 49. In the Central Karoo District, the number of new cases and weekly incidence risk showed a gradual increase from week 46 and increased sharply from week 48 to week 49. The weekly incidence risk (352.3 cases per 100 000 persons) reported in the Garden Route District in week 49 was higher than that reported during the first peak (179.9 cases per 100 000 persons) in week 30.

Similarly, the weekly incidence risk (158.4 cases per 100 000 persons) reported in the Central Karoo in week 49 was higher than that reported during the first peak (118.5 cases per 100 000 persons) in week 31. All other districts continued reporting weekly incidence risks below those reported during the first peaks. However, testing practices may have changed since the first peak making it difficult to make an assessment of whether the current increase in number of cases and incidence risk is truly higher than that experienced during the first peak.

The majority of cases from Western Cape Province were in the 20-39-year old age group (64 816/154 298, 42.0%) followed by the 40-59-year age group (56 678/154 298, 36.7%). In the past week, the 40-59-year age group (278.5 cases per 100 000 persons), followed by ≥60-year age group (246.8 cases per 100 000 persons), 20-39-year age group (224.1 cases per 100 000 persons), 15-19-year-age group (89.2 cases per 100 000 persons), and 10-14-year-age group (29.3 cases per 100 000 persons) reported the highest weekly incidence risk. The weekly incidence risk in all other age groups was below 20 cases per 100 000 persons. Similar to the past three weeks, in the past week, all age groups reported an increase in weekly incidence risk, except 5-9-year-age group (4.0 cases per 100 000 persons, 21.5% reduction) which reported a decline in weekly incidence risk, compared to week 49. The increase ranged from 0.7 cases per 100 000 persons (2.4% increase) in 10-14-year age group to 60.8 cases per 100 000 persons (27.9% increase) in 40-59-year-age group (Figure 13).

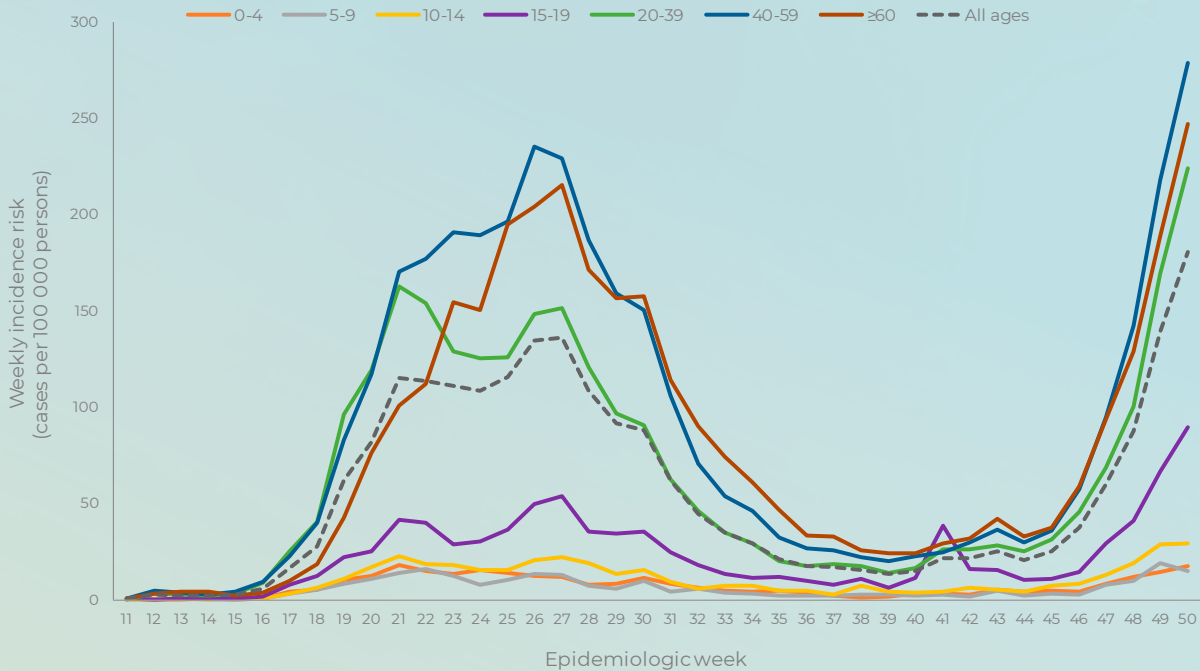
Figure 12. Weekly incidence risk of PCR-confirmed cases of COVID-19 by district and epidemiologic week, Western Cape Province, 3 March-12 December 2020 (n= 139 790, 15 061missing district)



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Figure 13. Weekly incidence risk of PCR-confirmed cases of COVID-19 by age group in years and epidemiologic week, Western Cape Province, 3 March-12 December 2020 (n= 154 298, 553 missing age)



Gauteng Province

Of the 245 360 cases reported from the Gauteng Province, 219 309 (89.4%) had allocation by district. The City of Johannesburg Metro (89 187/219 309, 40.7%), followed by the City of Tshwane Metro (51 212/219 309, 23.4%), and the Ekurhululeni Metro (46 277/219 309, 21.1%) contributed the majority of cases, all other district contributed below 15% each. In week 50, the City of Johannesburg Metro (45.6 cases per 100 000 persons), followed by the City of Tshwane Metro (39.0 cases per 100 000 persons), and the West Rand District (33.0 cases per 100 000 persons) reported the highest weekly incidence risk. All the districts reported a gradual increase in number of new cases and weekly incidence risk from week 48 to date, with the City of Johannesburg Metro showing sharp increase in week 50. The increase in numbers and incidence risk reported recently from all the districts remained far below that reported during the first peak (Figure 14).

The majority of cases from Gauteng Province were in the 20-39-year-age group (104 547/242 835, 43.1%), followed by 40-59-year-age group (88 795/242 835, 36.6%). In week 50, 15-19-year-age group (121.0 cases per 100 000 persons), followed by 40-59-year-age group (58.8 cases per 100 000 persons), 20-39-year-age group (49.2 cases per 100 000 persons), and ≥60-year-age group (47.6 cases per 100 000 persons) reported the highest weekly incidence risk. In the past week, all age groups reported an increase in weekly incidence risk, the increase ranged from 2.1 cases per 100 000 persons (77.8% increase) in 0-4-year-age group to 99.8 cases per 100 000 persons (471.6% increase) in 15-19-year-age group, compared to week 49 (Figure 15). The incidence risk (121.0 cases per 100 000 persons) in week 50 for the 15-19-year-age group was much higher than that reported for this age group during the peak in week 28 (94.2 cases per 100 000 persons).

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Figure 14. Weekly incidence risk of PCR-confirmed cases of COVID-19 by district and epidemiologic week, Gauteng Province, 3 March-12 December 2020 (n= 219 309, 26 051 missing district)

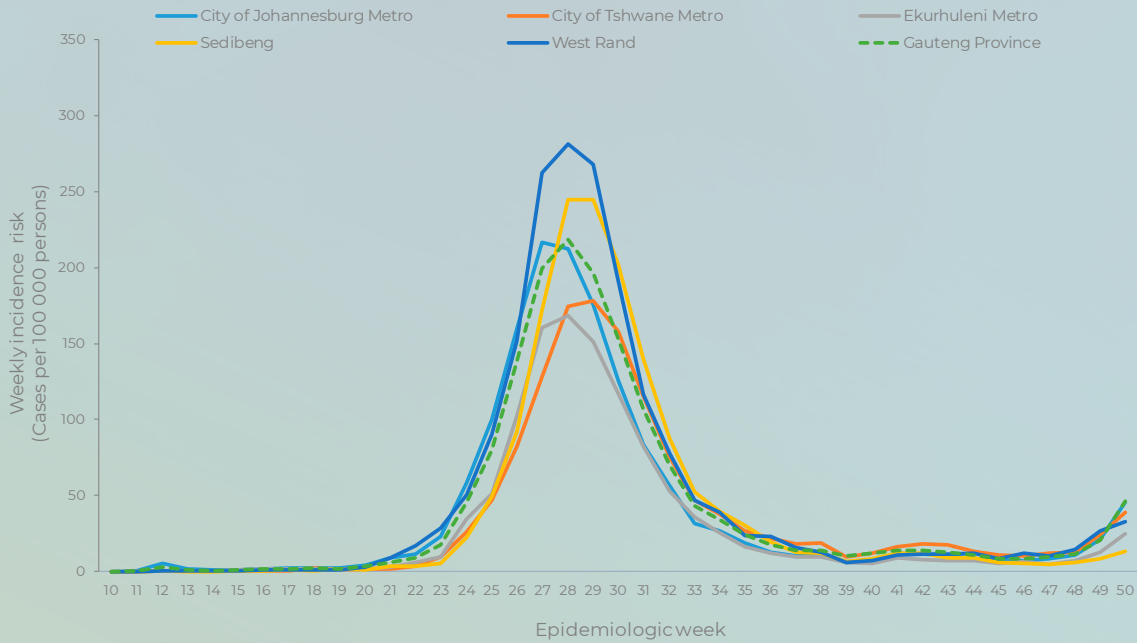
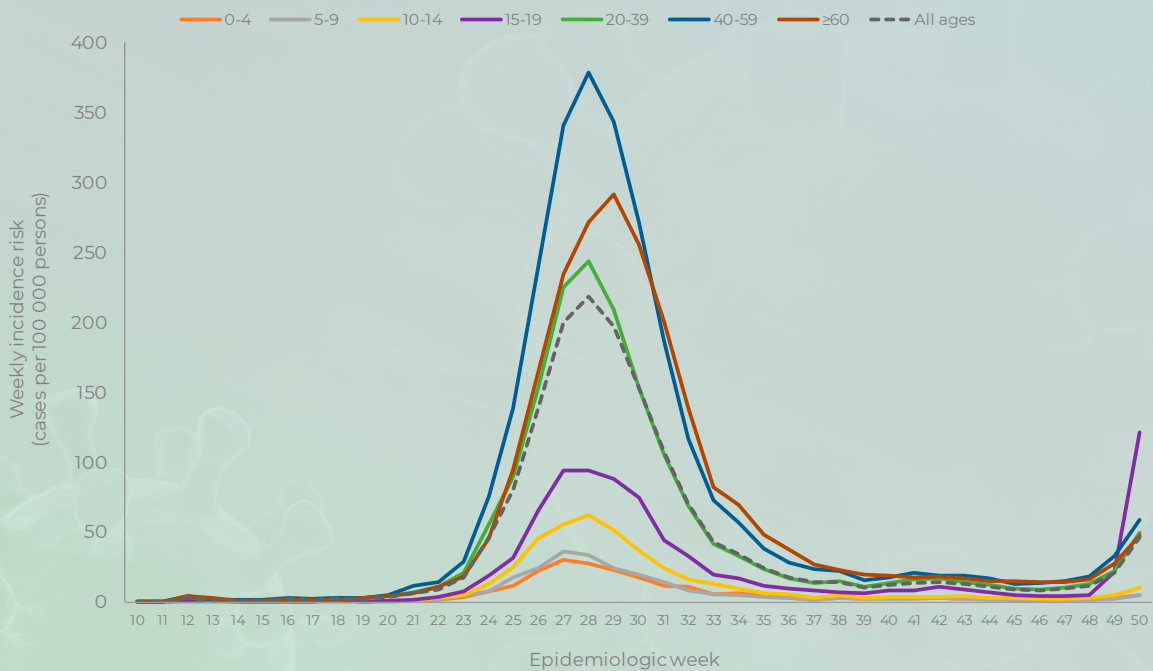


Figure 15. Weekly incidence risk of PCR-confirmed cases of COVID-19 by age group in years and epidemiologic week, Gauteng Province, 3 March-12 December 2020 (n= 242 835, 2 525 missing age)



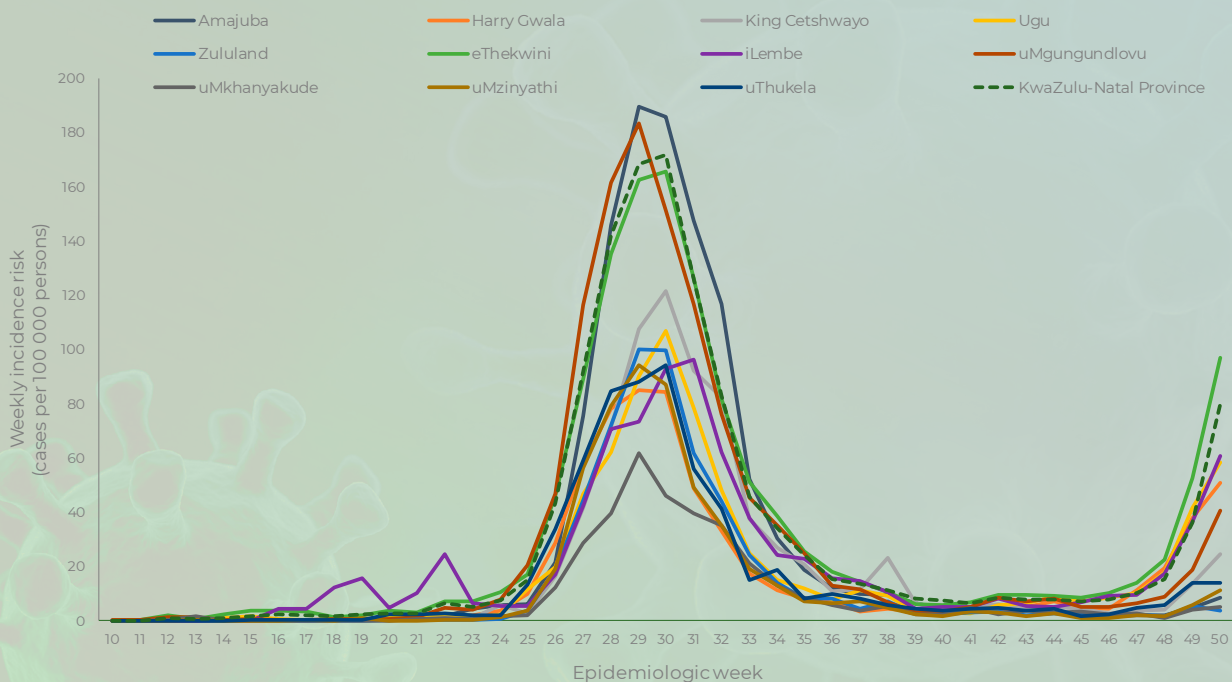
KwaZulu-Natal Province

Of the 141 372 cases reported from KwaZulu-Natal Province, 107 780 (76.2%) had allocation by district. The eThekweni Metro (51 156 /107 780, 47.5%) followed by uMgungundlovu Metro (13 263/107 780, 12.3%) contributed the majority of cases. In week 50, six districts, eThekweni Metro (96.9 cases per 100 000 persons), followed by iLembe District (60.6 cases per 100 000 persons), Ugu District (58.4 cases per 100 000 persons), Harry Gwala District (51.0 cases per 100 000 persons), uMgungundlovu (40.5 cases per 100 000 persons), and King Cetshwayo (24.5 cases per 100 000 persons) reported the highest weekly incidence risk. In the past week, all the districts reported an increase in weekly incidence risk, except Zululand District (1.6 cases per 100 000 persons, 29.2% reduction) which reported a decline in weekly incidence risk, compared to week 49. These increases ranged from 0.1 cases per 100 000 persons (1.0% increase) in uThukela District to 44.5 cases per 100 000 persons (84.7% increase) in eThekweni Metro. The increase in weekly incidence varied by district. The

eThekweni Metro showed a gradual increase from week 46 to week 48 and increased sharply in week 49 to date. In iLembe District, and Harry Gwala District the weekly incidence risk increased sharply from week 48 to date, whereas the weekly incidence risk for uMgungundlovu District and King Cetshwayo District increased sharply from weekly 49 to date. All the districts continued reporting weekly incidence risks below those reported during the first peaks (Figure 16).

The majority of cases from KwaZulu-Natal Province were in the 20-39-year-age group (56 670/140 247, 40.4%), followed by 40-59-year-age group (50 035/140 247, 35.7%). In week 50, 40-59-year-age group (161.6 cases per 100 000 persons), followed by ≥60-year-age group (121.5 cases per 100 000 persons), 20-39-year-age group (92.1 cases per 100 000 persons), and 15-19-year-age group (74.4 cases per 100 000 persons) reported the highest weekly incidence risk. In the past week, all the age groups reported an increase in weekly incidence risk, compared to the previous week. The increase ranged from 3.1 cases per 100 000 persons (41.9% increase) in 5-9-year-age group to 91.8 cases per 100 000 persons (131.4% increase) in 40-59-year-age group.

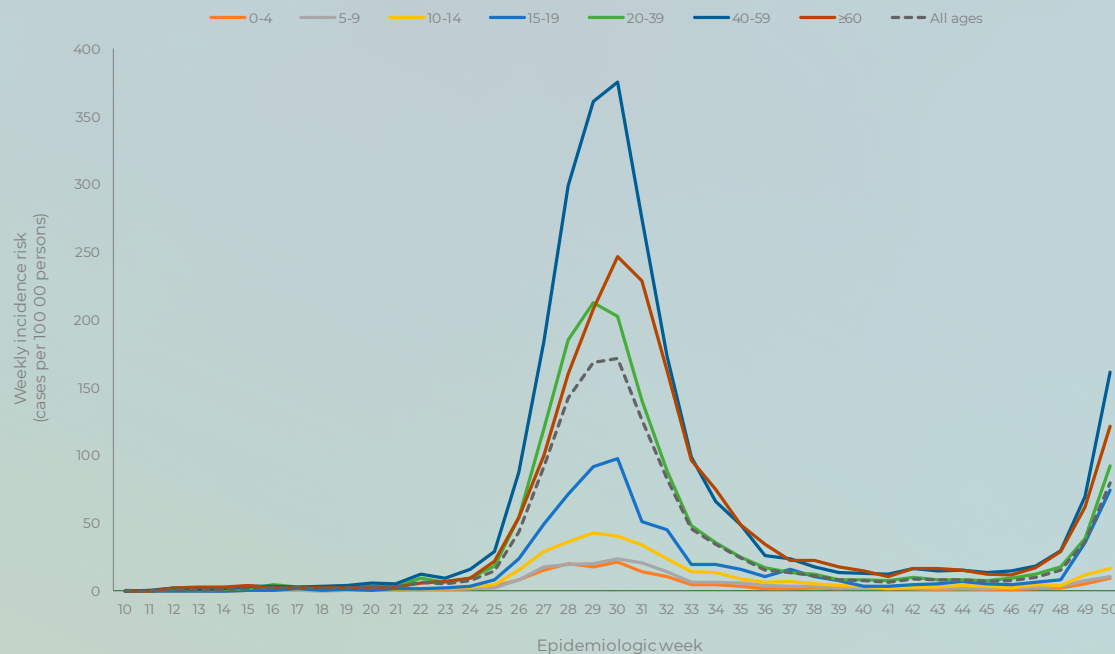
Figure 16. Weekly incidence risk of PCR-confirmed cases of COVID-19 by district and epidemiologic week, KwaZulu-Natal Province, 3 March-12 December 2020 (n= 107 780, 33 592 missing district)



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Figure 17. Weekly incidence risk of PCR-confirmed cases of COVID-19 by age group in years and epidemiologic week, KwaZulu-Natal Province, 3 March-12 December 2020 (n= 140 247, 1 125 missing age)



Limitations

This report is based on laboratory-based surveillance of PCR-confirmed cases. The number of reported cases is heavily dependent on testing practices. Although trends over time and comparisons by geographic area are presented in this report, changes in testing practices over time or differences by region may partially explain the results. The crude case-fatality ratio reported here is subject to numerous limitations: it is likely to be an underestimation as reporting of deaths may be delayed and deaths which occurred outside health facilities may be missed. Differences in health-seeking behaviour by age group and sex could also contribute to observed differences in case numbers between groups. The reported doubling time estimates are affected by the number of tests conducted; if fewer tests are performed, this will also increase the doubling time estimate.

Delays in reporting may result in incomplete data for recent weeks, leading to an apparent reduction in number of cases.

Conclusions

To date, 860 964 cases, including 23 276 deaths have been reported. Nationally, the weekly incidence risk of cases per 100 000 persons has been increasing gradually since week 46, due to an increase in number of new cases reported from Western Cape Province, Eastern Cape, KwaZulu-Natal and to a lesser extent Gauteng Province. In the Eastern Cape Province a steep increase in number of new cases and weekly incidence risk, due to a resurgence of cases mostly in the Nelson Mandela Bay, Sarah Baartman, Buffalo City District, Amathole and Chris Hani districts reported from week 43 to week 49. Numbers reported from the Eastern Cape stabilised in week 49, possibly related to reporting delays. From week 40, the Western Cape Province showed a gradual increase in number of new cases and weekly incidence risk driven by an increase in cases largely reported from Garden Route District, and to a lesser extent by Central Karoo District, Overberg District and City of Cape Town Metro. The KwaZulu-Natal Province has shown a sharp increase in number of new cases and weekly incidence risk in the past two weeks, due to increase in five districts (eThekweni, iLembe, Ugu, Harry Gwala, uMgungundlovu and King Cetshwayo). In Gauteng, the increase in weekly numbers and incidence risk started in week 49, mostly driven by cases reported from City of Johannesburg, City of Tshwane and West Rand.