

COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

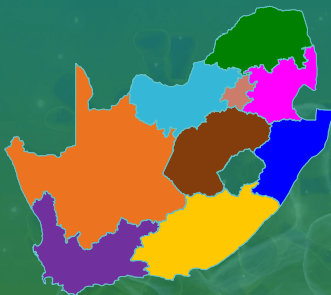


NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES

Division of the National Health Laboratory Service

SOUTH AFRICA WEEK 48 2021

CUMULATIVE DATA FROM



CASES

3 031 694
IN TOTAL

67 507
THIS WEEK**

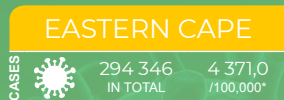
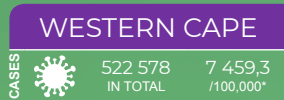


PERSONS

5 084,8
INCIDENCE RISK*

39
MEDIAN AGE

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, caused by the SARS-CoV-2 virus, in South Africa. This report is based on data collected up to 4 December 2021 (week 48 of 2021). Note: 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 and numbers are updated weekly as new data become available. The methods and data sources can be found at the end of the report. As of week 36 of 2021, the format of this report has been simplified, more detailed reports will be produced at regular interval.

Highlights

- As of 4 December 2021, a total of 3 031 694 laboratory-confirmed COVID-19 cases had been detected in South Africa. Of these, 70 288 were cases reported since the last report (week 47 of 2021). There was a 314.6% increase in the number of new cases detected in week 48 of 2021 (67 507) compared to the number of new cases detected in week 47 of 2021 (16 282).
- In the past week, the Gauteng Province reported the highest number of cases detected (48 363/67 507, 71.6%), and other provinces reported below 10% of all reported cases each.
- In the past week, all provinces reported an increase in weekly incidence risk, compared to the previous week. The increase ranged from 14.9 cases per 100 000 persons (623.6% increase) in the Eastern Cape Province to 228.3 cases per 100 000 persons (271.7% increase) in the Gauteng Province.
- In the past week, all the districts reported an increase in weekly incidence risk, except the Namaqua and ZF Mgcawu districts in the Northern Cape Province, which reported a decrease compared to the previous week.
- In the past week, the Gauteng Province reported the highest weekly incidence risk (312.3 cases per 100 000 persons), followed by North West Province (70.6 cases per 100 000 persons), and the Western Cape Province (62.8 cases per 100 000 persons), and other provinces reported below 60 cases per 100 000 persons.
- The highest weekly incidence risk among cases detected in week 48 of 2021 was reported in the 35-39-year age group (183.1 cases per 100 000 persons), and the lowest weekly incidence risk was in the 0-4-year age group (19.3 cases per 100 000 persons).

INCIDENCE
RISK FOR
CURRENT WEEK

113,2
CASES PER
100 000
PERSONS

71,6%
OF CASES
REPORTED IN
GAUTENG IN
CURRENT WEEK

IN CURRENT
WEEK, THE
HIGHEST
WEEKLY
INCIDENCE
RISK WAS IN
CASES AGED 35-
39 YEARS (183,1
CASES PER 100
000 PERSONS)

COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

WEEK 48 2021

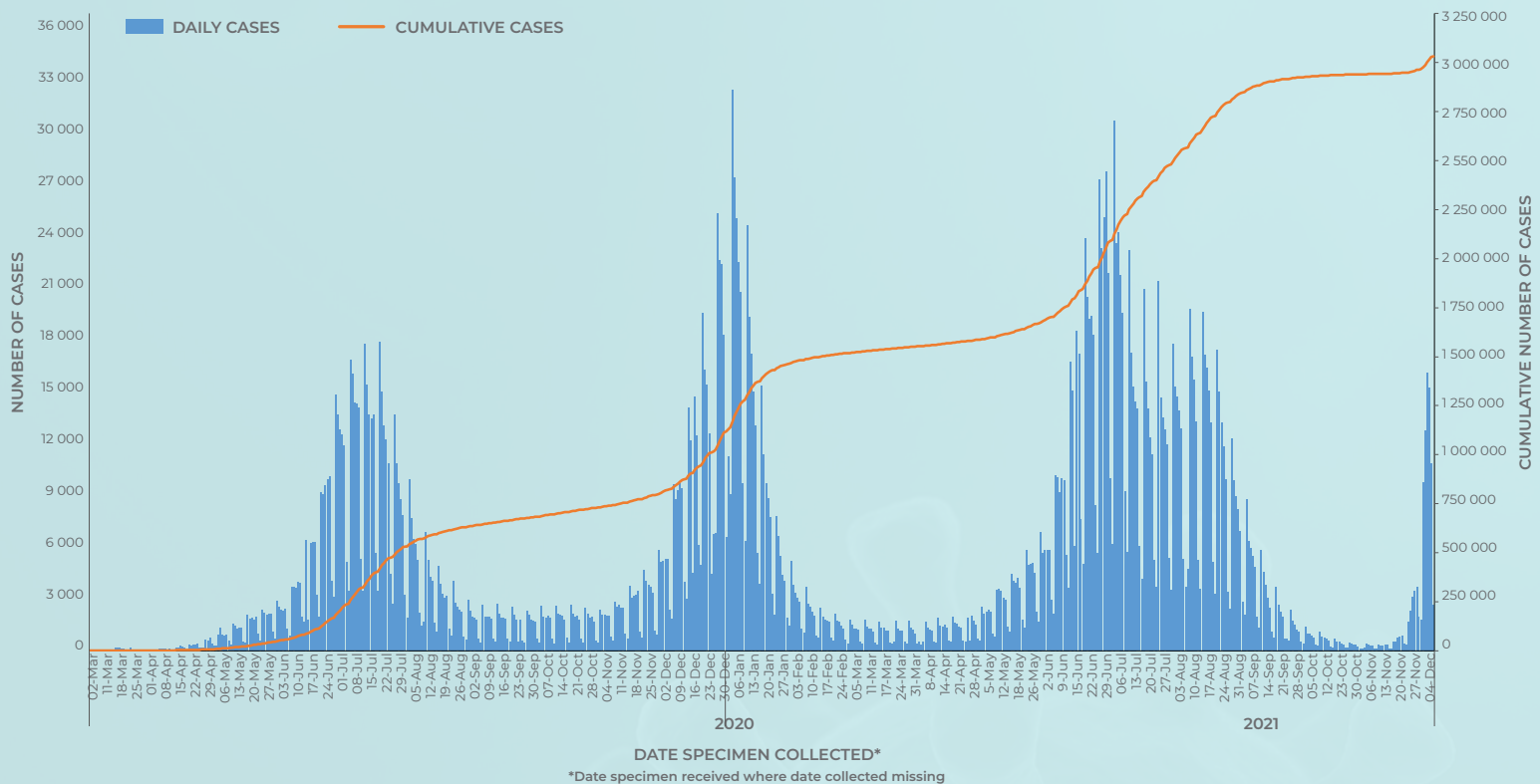


Figure 1. Number and cumulative number of laboratory-confirmed cases of COVID-19 by date of specimen collection, South Africa, 3 March 2020 –4 December (n=3 031 694)

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 2020 –4 December 2021 (n=3 031 694)

Province	Cumulative cases (n) (percentage, n/total cases in South Africa)	New cases ¹ detected in week 48 (28 Nov-4 Dec 2021), 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 48 of 2021 (cases/100 000 persons)	Tests ⁴ per 100 000 persons, 28 Nov- 4 Dec 2021
Eastern Cape	294 346 (9.7)	1 165 (1.7)	6 734 001	4 371.0	17.3	349.7
Free State	166 869 (5.5)	1 331 (2.0)	2 928 903	5 697.3	45.4	405.7
Gauteng	992 410 (32.7)	48 363 (71.6)	15 488 137	6 407.5	312.3	1 080.3
KwaZulu-Natal	522 286 (17.2)	3 880 (5.7)	11 531 628	4 529.2	33.6	376.4
Limpopo	125 908 (4.2)	2 330 (3.5)	5 852 553	2 151.3	39.8	146.8
Mpumalanga	156 594 (5.2)	2 761 (4.1)	4 679 786	3 346.2	59.0	279.8
North West	157 000 (5.2)	2 902 (4.3)	4 108 816	3 821.1	70.6	341.4
Northern Cape	93 703 (3.1)	372 (0.6)	1 292 786	7 248.1	28.8	357.3
Western Cape	522 578 (17.2)	4 403 (6.5)	7 005 741	7 459.3	62.8	613.0
Unknown						
Total	3 031 694	67 507	59 622 350	5 084.8	113.2	553.0

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

COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

WEEK 48 2021

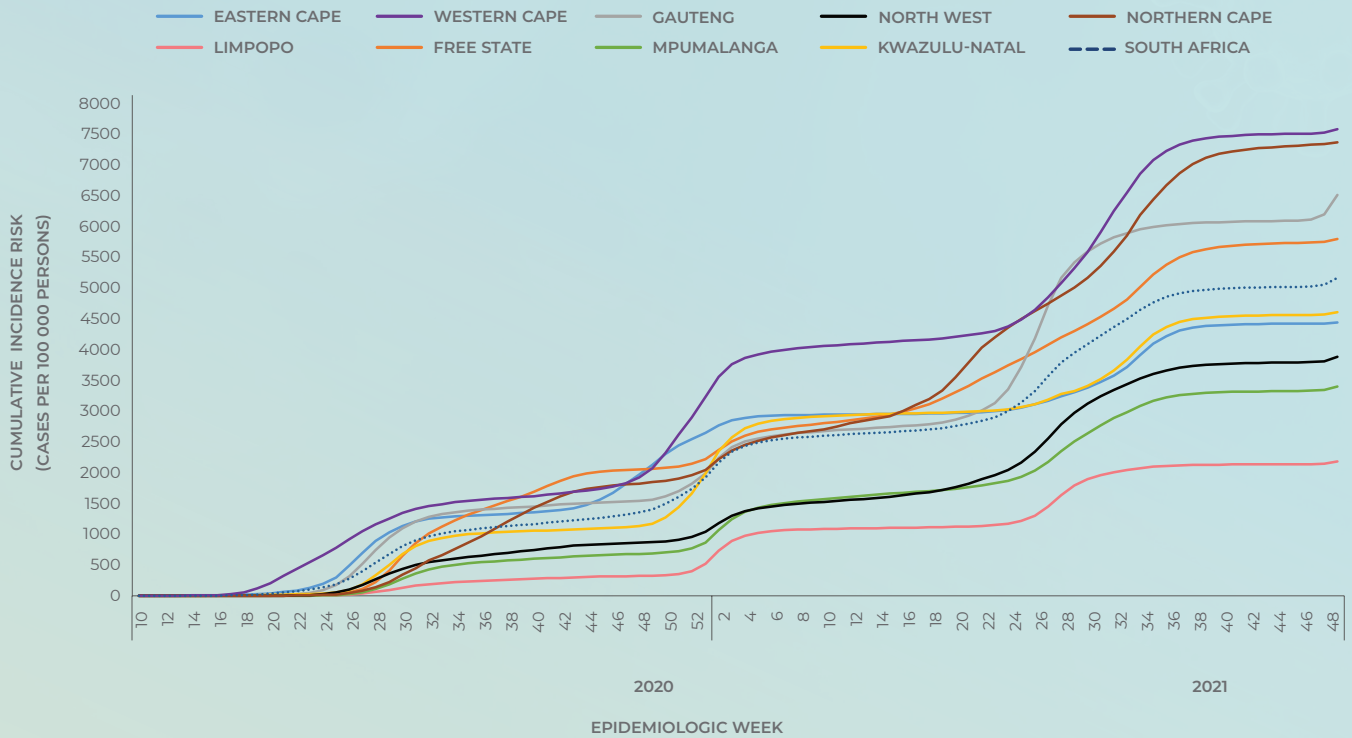


Figure 2. Cumulative incidence risk of laboratory-confirmed cases of COVID-19 by province and epidemiologic week, South Africa, 3 March 2020 –4 December 2021 (n=3 031 694)

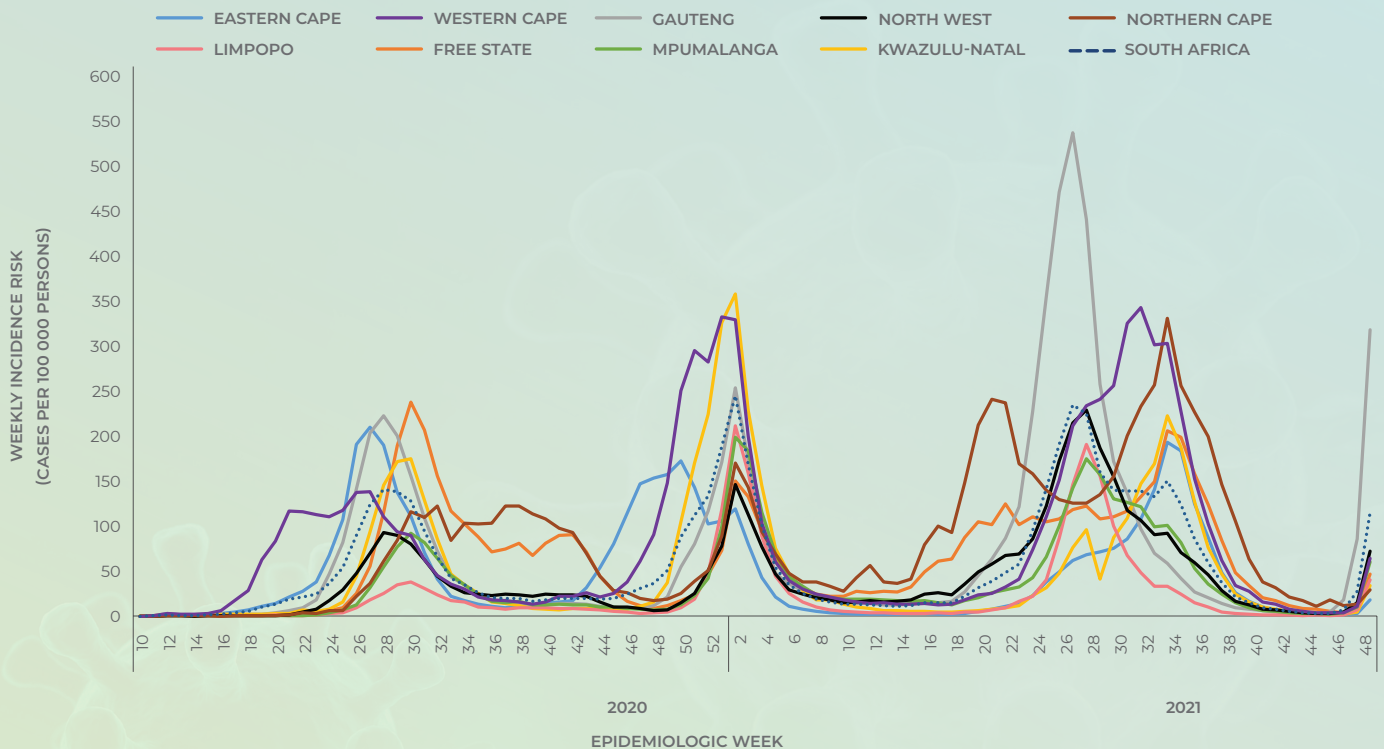


Figure 3. Weekly incidence risk of laboratory-confirmed cases of COVID-19 by province and epidemiologic week, South Africa, 3 March 2020 –4 December 2021 (n=3 031 694)

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

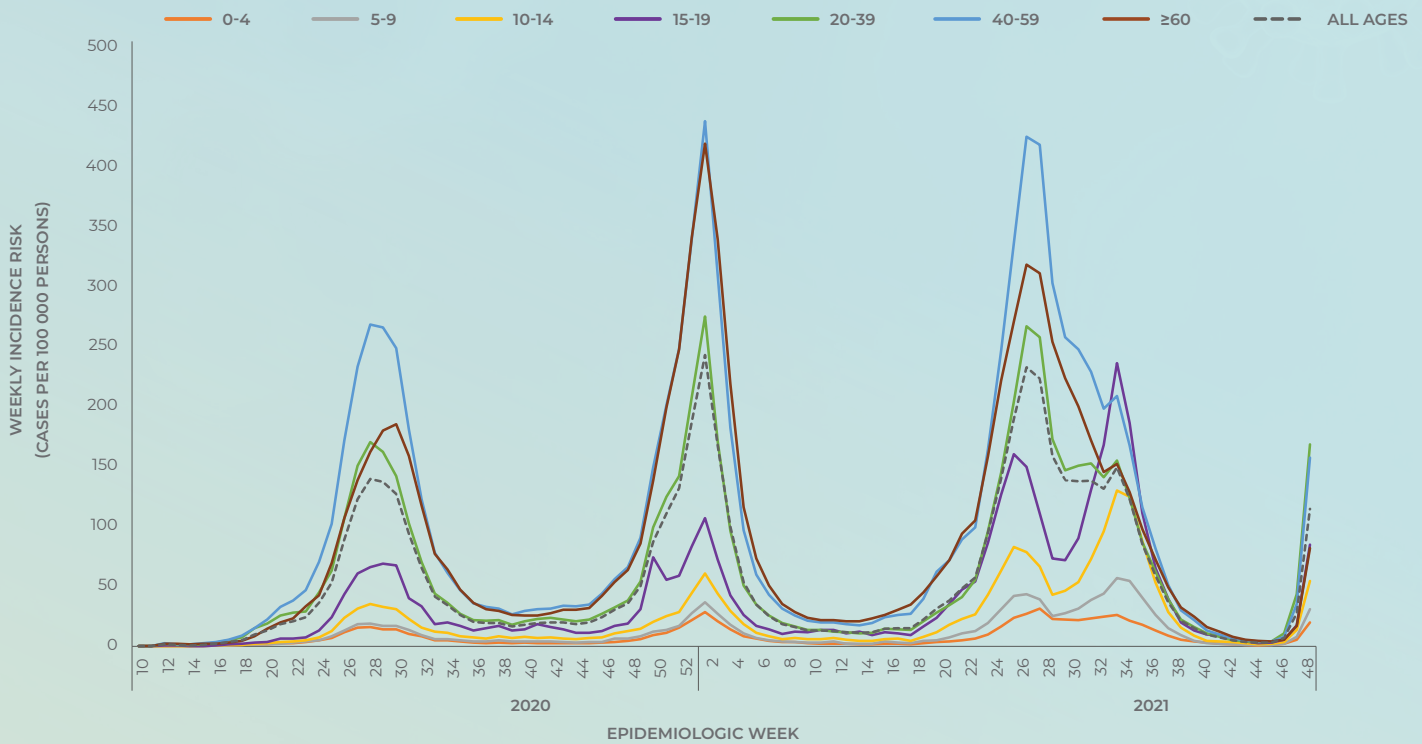


Figure 4. Weekly incidence risk of laboratory-confirmed cases of COVID-19 by age group in years and epidemiologic week, South Africa, 3 March 2020 -4 December 2021 (n=3 003 554, 28 140 missing age)

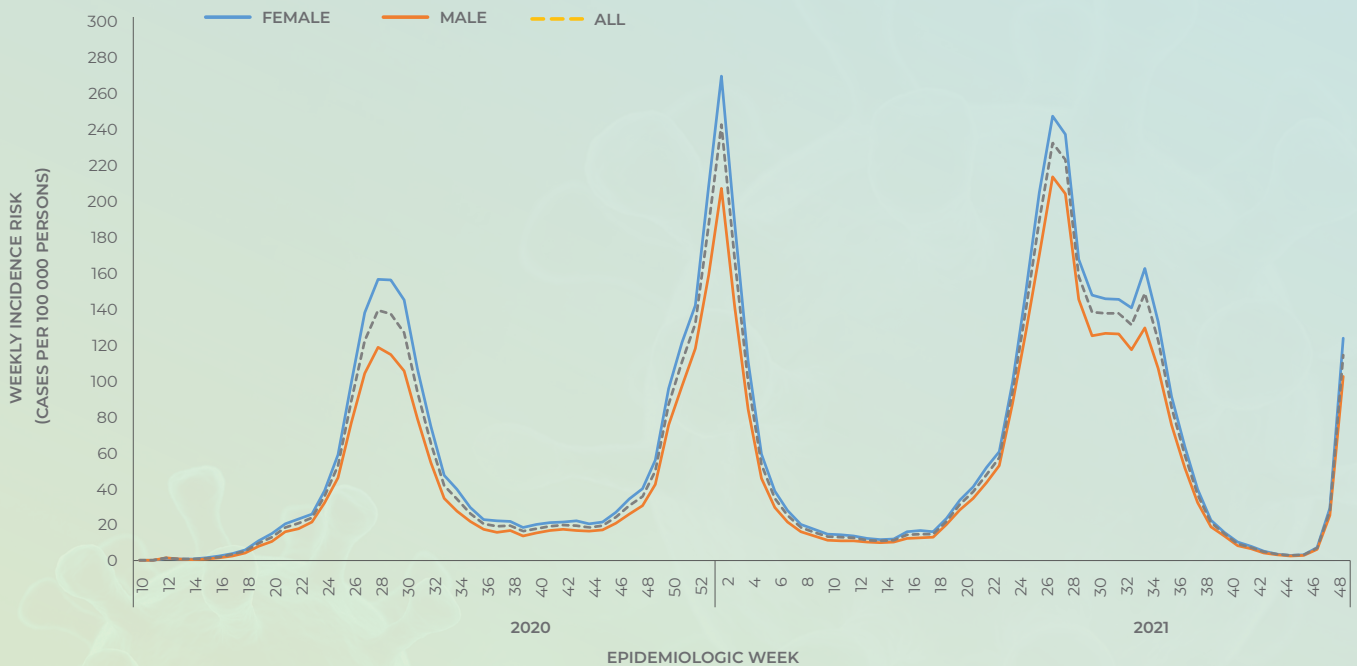


Figure 5. Weekly incidence risk of laboratory-confirmed cases of COVID-19 by sex and epidemiologic week, South Africa, 3 March 2020 -4 December 2021 (n=2 998 645, sex missing for 33 049)

COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

WEEK 48 2021

Table 2. Number of laboratory-confirmed cases of COVID-19 and cumulative/weekly incidence risk by age group, South Africa, 3 March 2020 –4 December 2021, n=3 003 554, 28 140 missing age)

Age group (years)	Cumulative cases (n) (percentage, n/total cases in South Africa)	New cases ¹ detected in week 48 (28 Nov-4 Dec 2021), 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 48 of 2021 (cases/100 000 persons)
0-4	40 328 (1.3)	1 111 (1.7)	5 743 450	702.2	19.3
5-9	59 599 (2.0)	1 749 (2.6)	5 715 952	1 042.7	30.6
10-14	110 411 (3.7)	3 013 (4.5)	5 591 553	1 974.6	53.9
15-19	167 924 (5.6)	4 014 (6.0)	4 774 579	3 517.0	84.1
20-24	195 784 (6.5)	6 211 (9.3)	4 823 367	4 059.1	128.8
25-29	287 838 (9.6)	9 674 (14.4)	5 420 754	5 309.9	178.5
30-34	335 069 (11.2)	9 831 (14.7)	5 641 750	5 939.1	174.3
35-39	342 968 (11.4)	8 788 (13.1)	4 798 293	7 147.7	183.1
40-44	293 160 (9.8)	6 374 (9.5)	3 733 942	7 851.2	170.7
45-49	282 372 (9.4)	5 293 (7.9)	3 169 648	8 908.6	167.0
50-54	256 065 (8.5)	3 852 (5.8)	2 571 263	9 958.7	149.8
55-59	213 345 (7.1)	2 685 (4.0)	2 211 309	9 647.9	121.4
60-64	146 600 (4.9)	1 817 (2.7)	1 796 316	8 161.1	101.2
65-69	99 878 (3.3)	1 056 (1.6)	1 408 665	7 090.3	75.0
70-74	71 951 (2.4)	700 (1.0)	1 007 174	7 143.9	69.5
75-79	46 208 (1.5)	423 (0.6)	637 062	7 253.3	66.4
≥80	54 054 (1.8)	395 (0.6)	577 273	9 363.7	68.4
Unknown	28 140	521			
Total	3 031 694	67 507	59 622 350	5 084.8	113.2

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

Provincial trends of COVID-19 cases

Eastern Cape Province

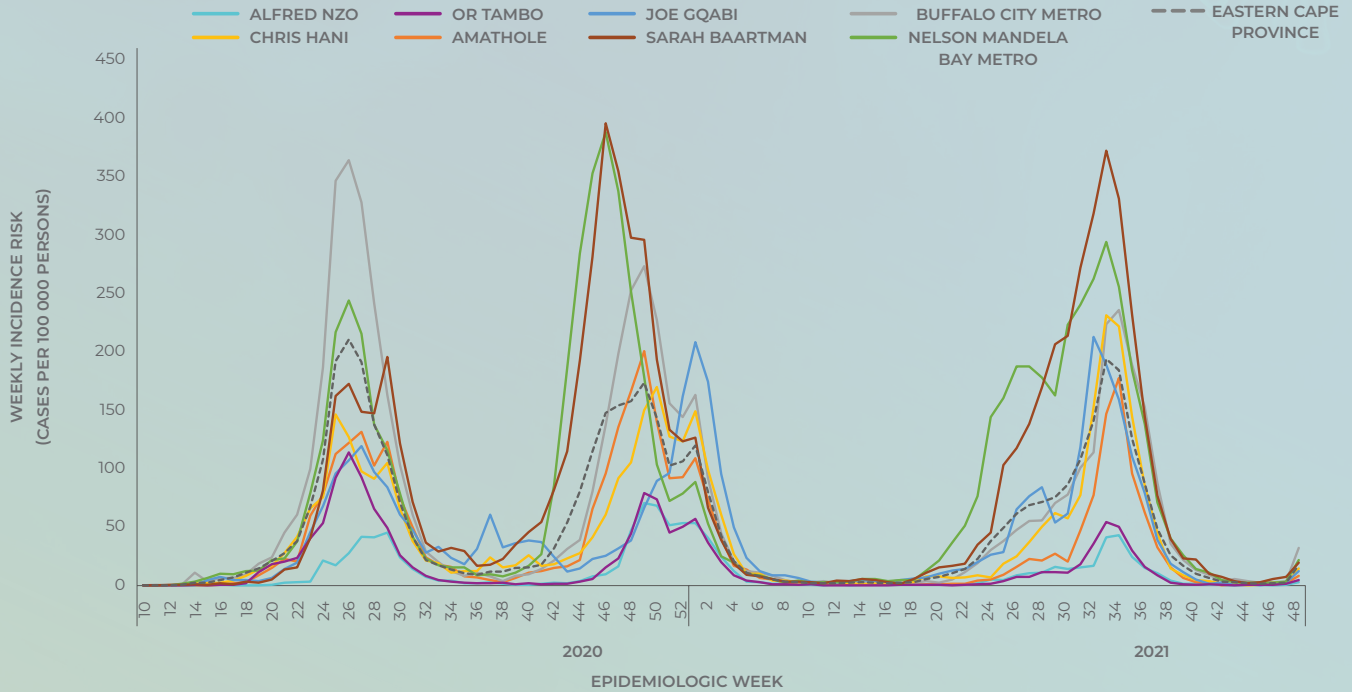


Figure 6. Weekly incidence risk of laboratory-confirmed cases of COVID-19 by district and epidemiologic week, Eastern Cape Province, 3 March 2020 –4 December 2021 (n=257 608, 36 738 missing district)

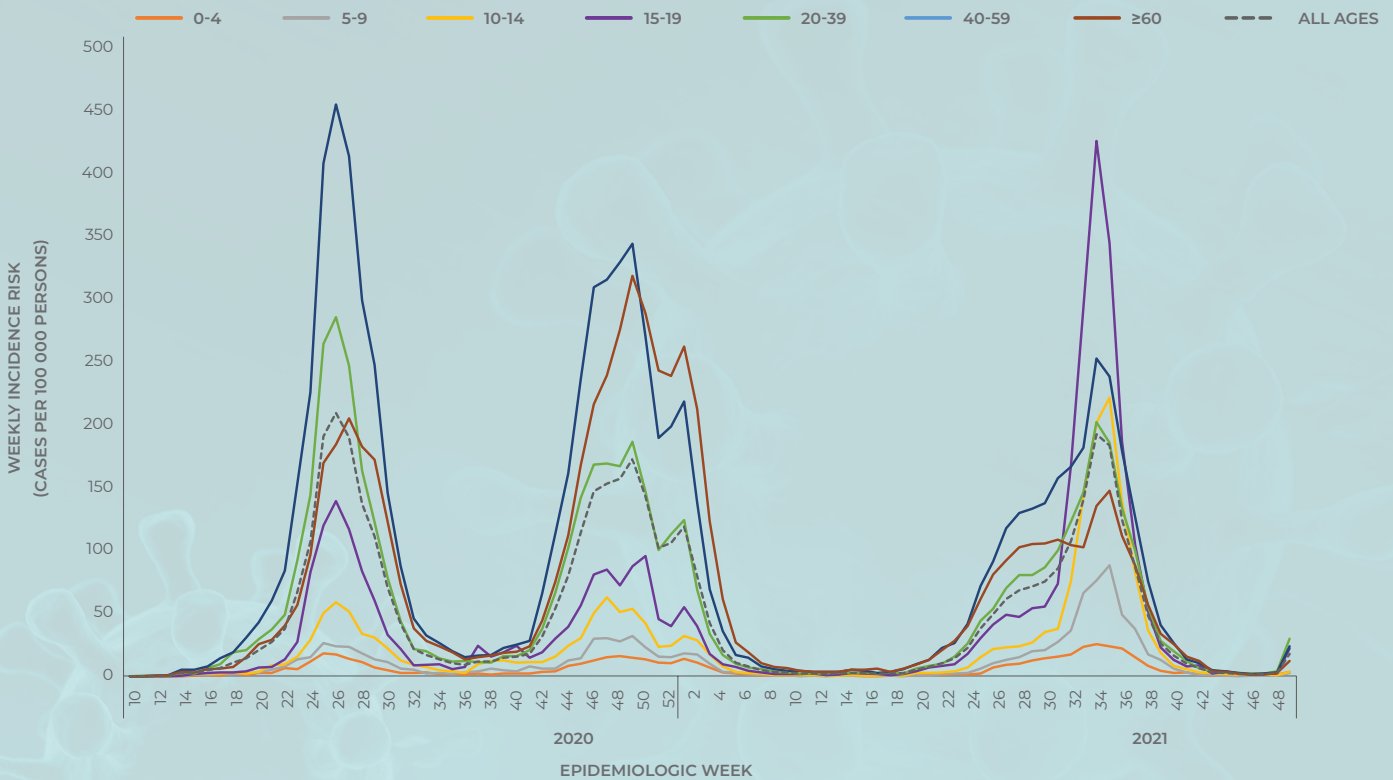


Figure 7. Weekly incidence risk of laboratory-confirmed cases of COVID-19 by age group in years and epidemiologic week, Eastern Cape Province, 3 March 2020 –4 December 2021 (n=291 231, 3 115 missing age)

COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

WEEK 48 2021

Western Cape Province

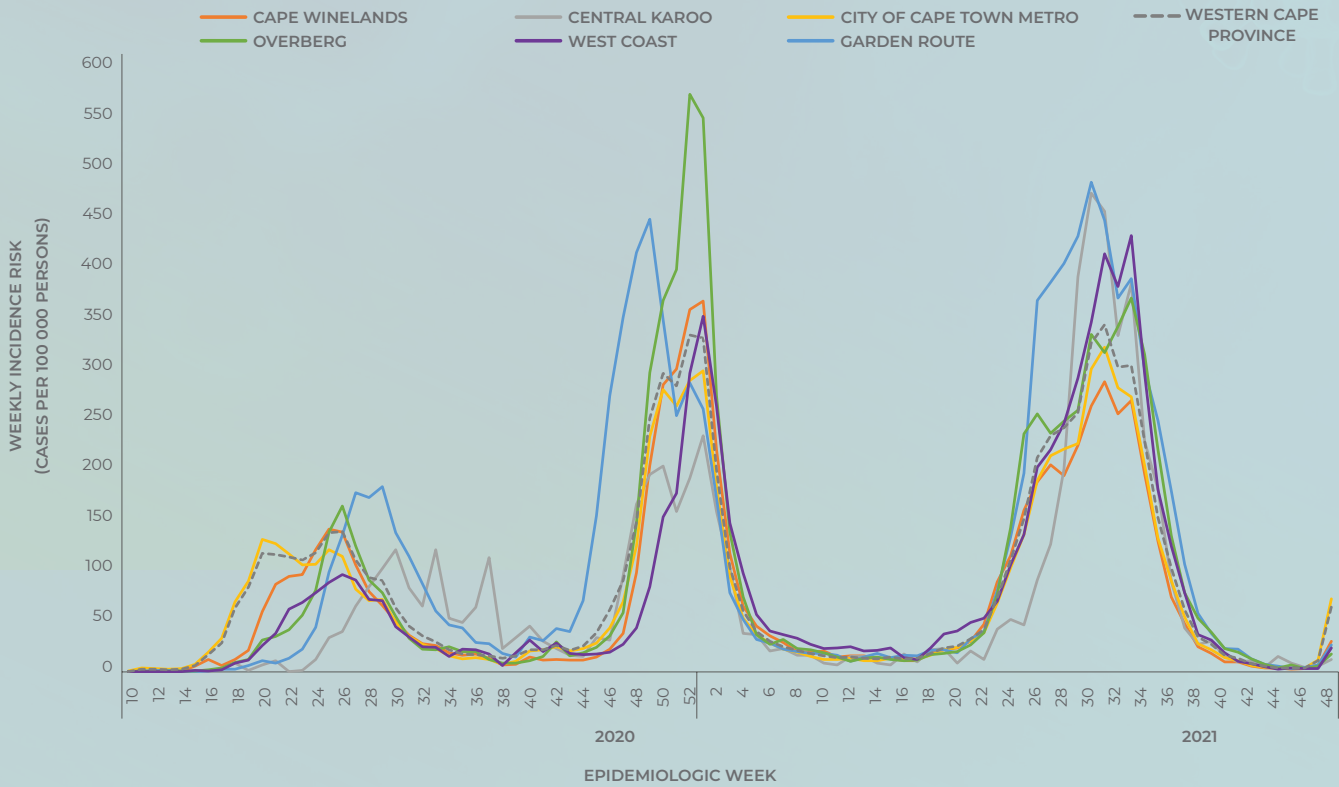


Figure 8. Weekly incidence risk of laboratory-confirmed cases of COVID-19 by district and epidemiologic week, Western Cape Province, 3 March 2020 –4 December 2021 (n=492 763, 29 815 missing district)

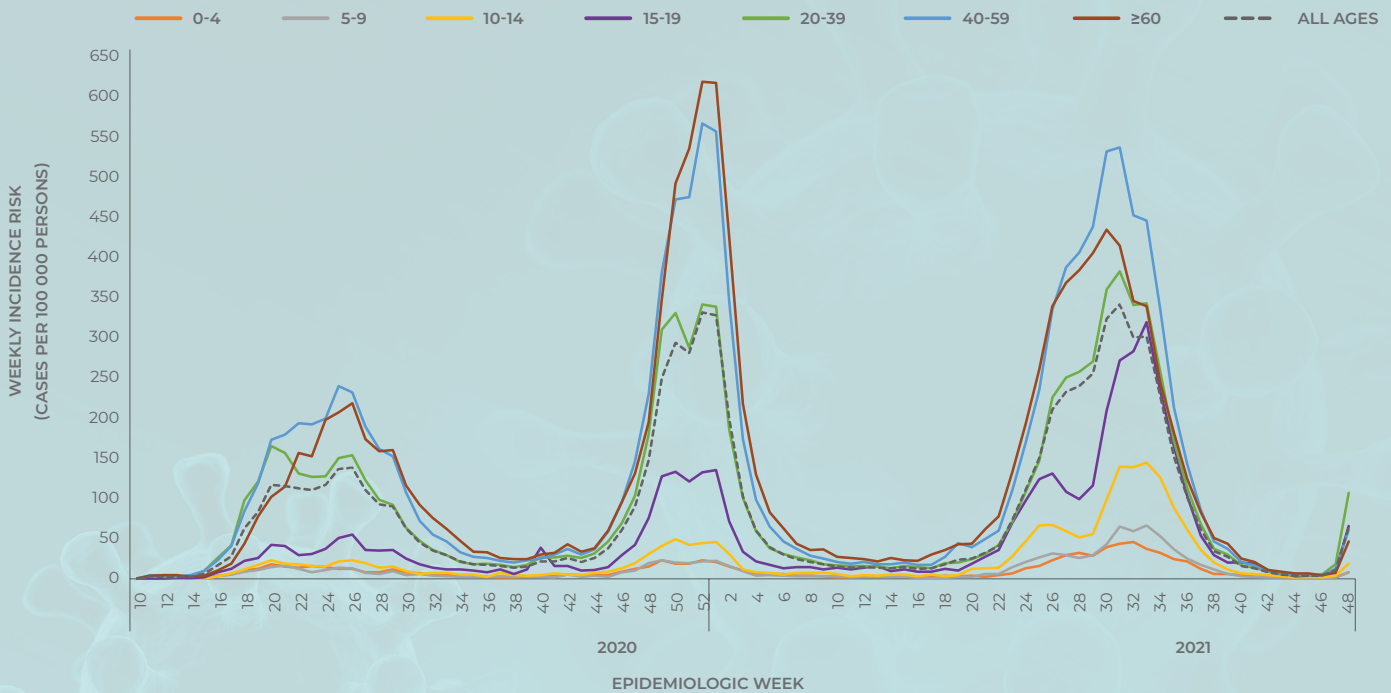


Figure 9. Weekly incidence risk of laboratory-confirmed cases of COVID-19 by age group in years and epidemiologic week, Western Cape Province, 3 March 2020 –4 December 2021 (n=521 077, 1 501 missing age)

COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

WEEK 48 2021

Gauteng Province

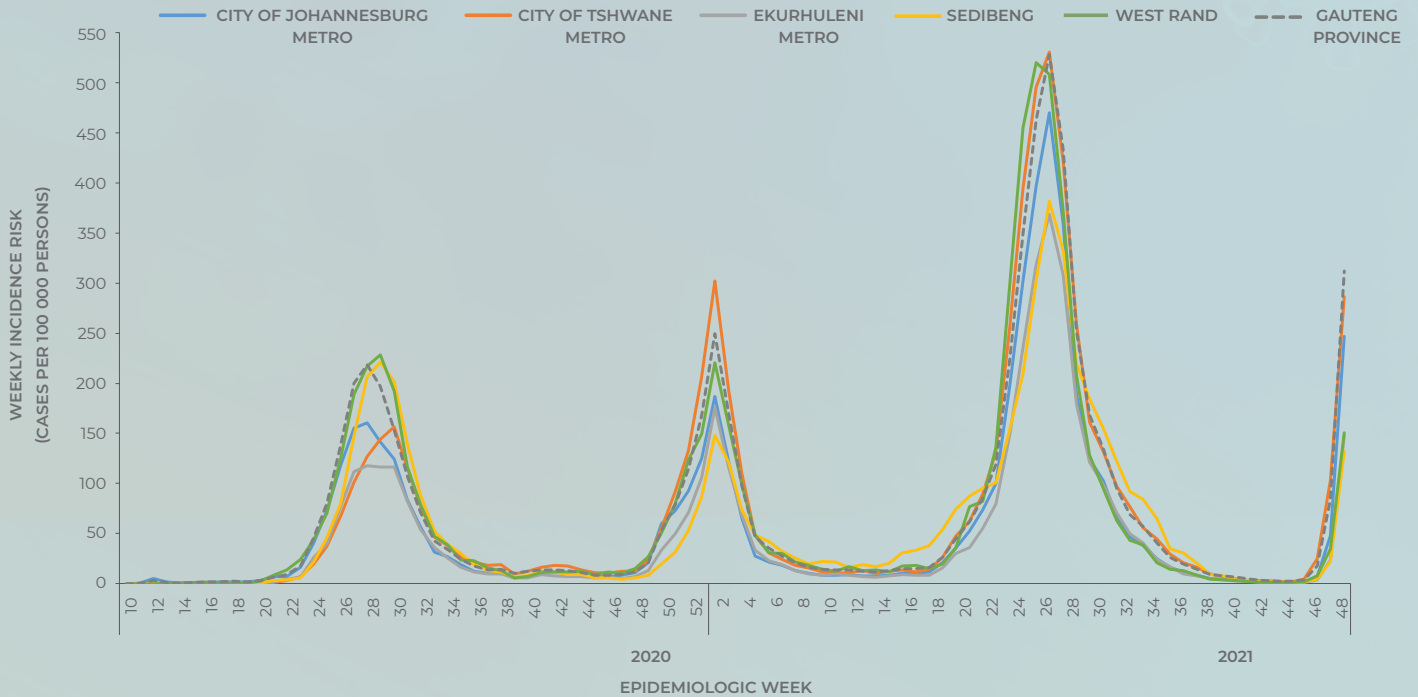


Figure 10. Weekly incidence risk of laboratory-confirmed cases of COVID-19 by district and epidemiologic week, Gauteng Province, 3 March 2020 –4 December 2021 (n=808 342, 184 068 missing district)

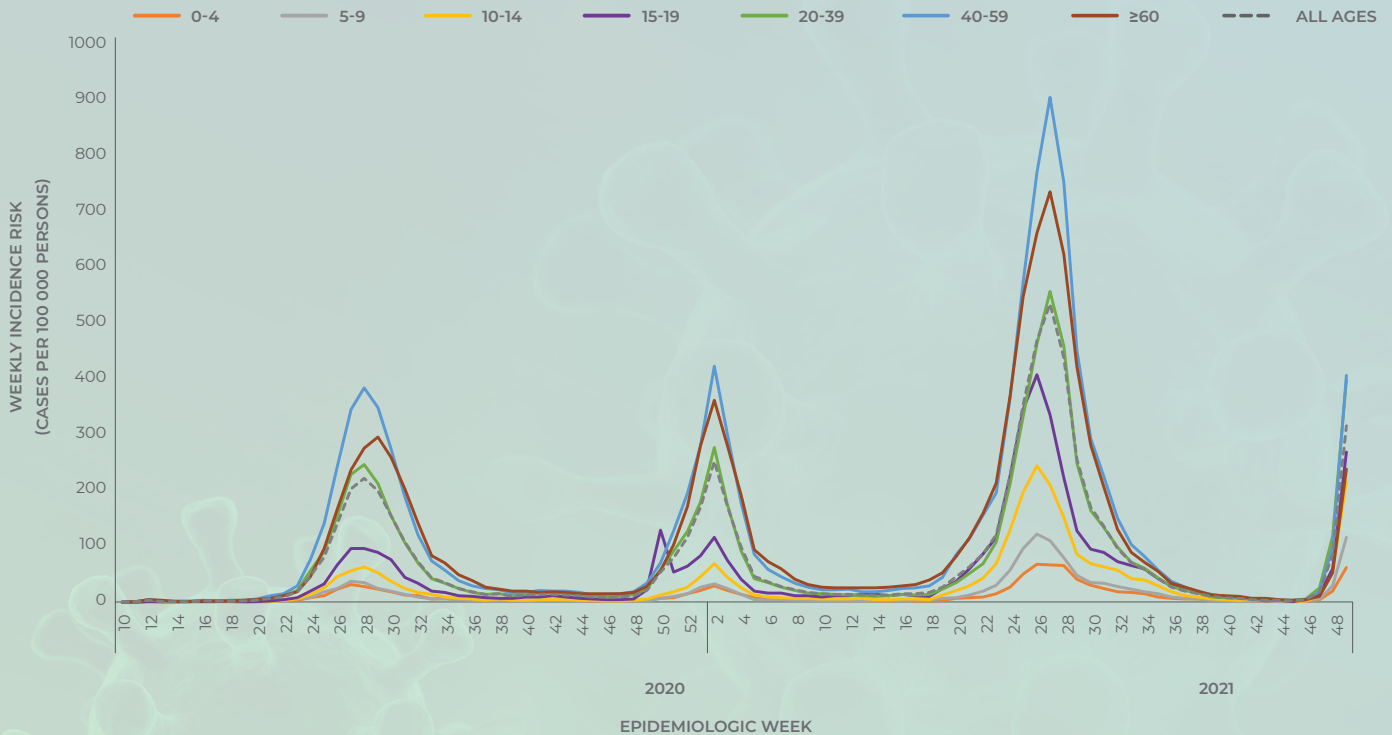


Figure 11. Weekly incidence risk of laboratory-confirmed cases of COVID-19 by age group in years and epidemiologic week, Gauteng Province, 3 March 2020 –4 December 2021 (n=982 575, 9 835 missing age)

COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

WEEK 48 2021

KwaZulu-Natal Province

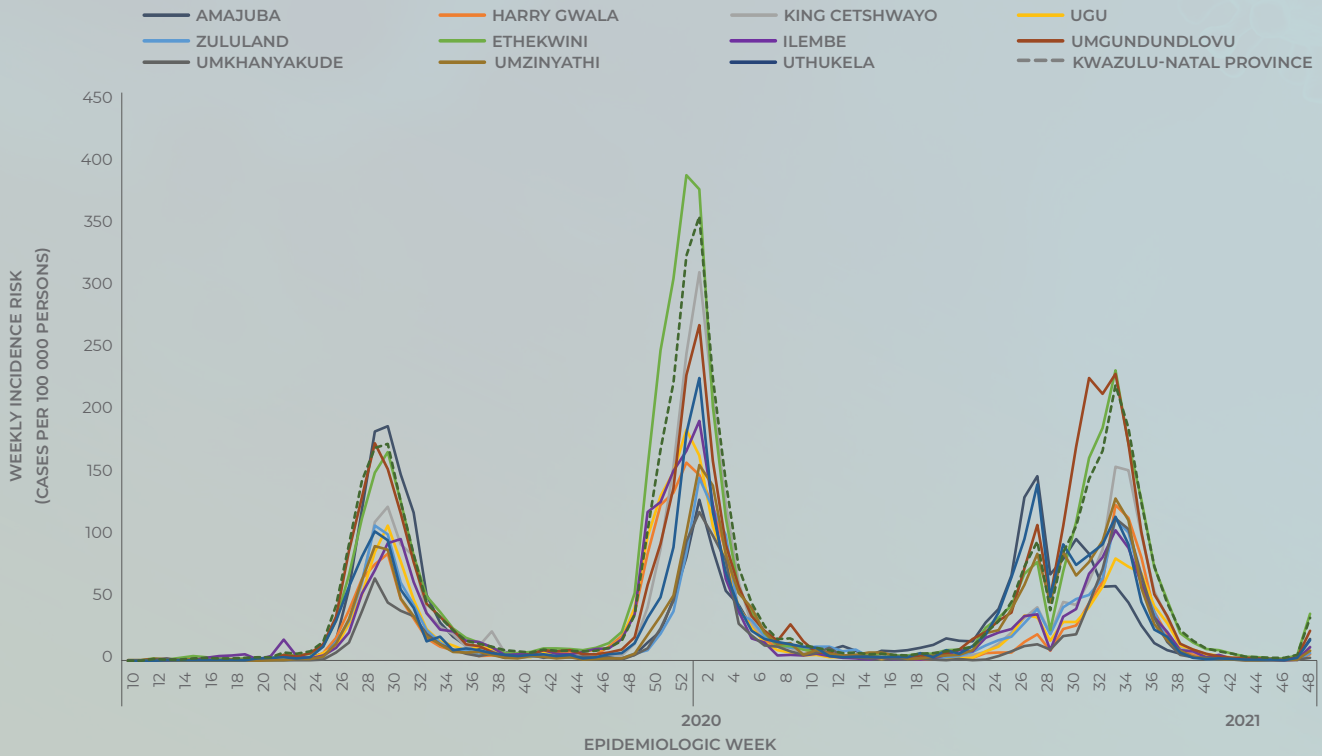


Figure 12. Weekly incidence risk of laboratory-confirmed cases of COVID-19 by district and epidemiologic week, KwaZulu-Natal Province, 3 March 2020 –4 December 2021 (n=380 895, 141 391 missing district)

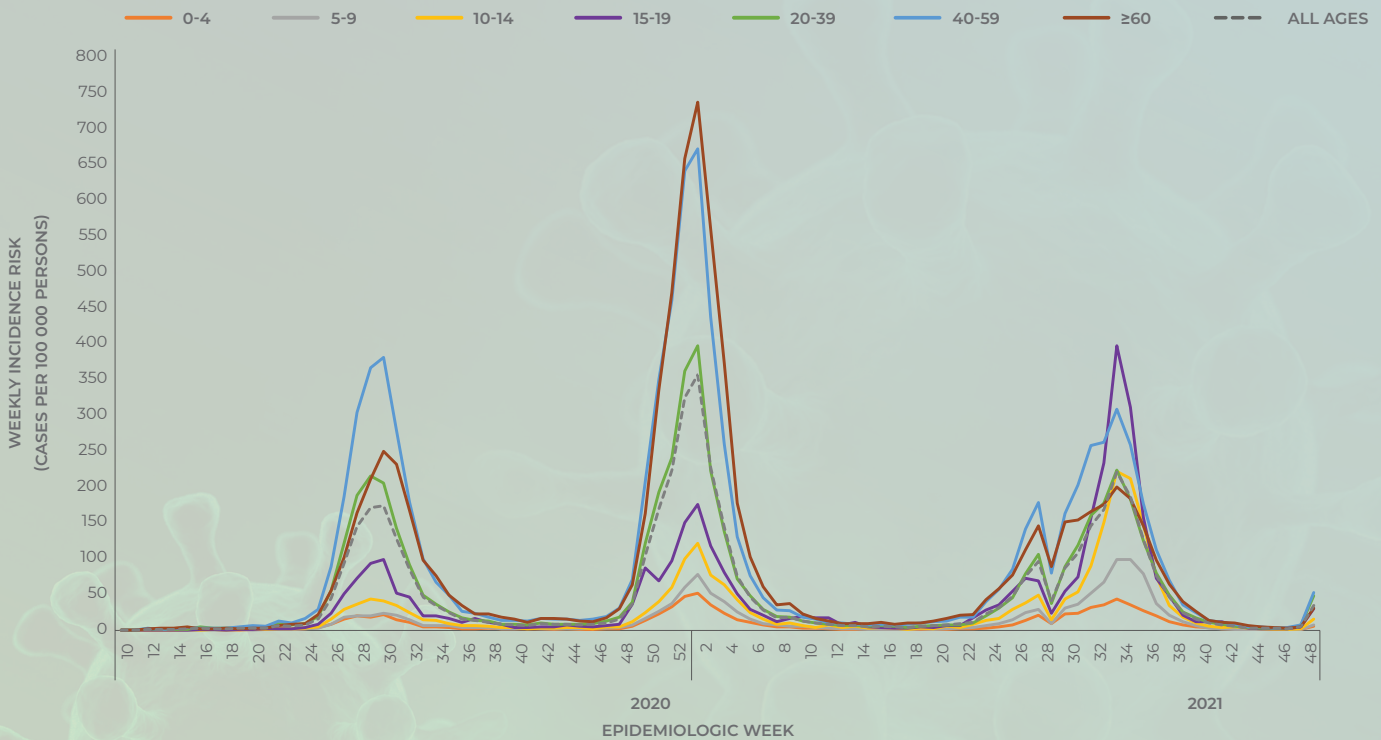


Figure 13. Weekly incidence risk of laboratory-confirmed cases of COVID-19 by age group in years and epidemiologic week, KwaZulu-Natal Province, 3 March 2020 –4 December 2021 (n=515 829, 6 457 missing age)

COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

WEEK 48 2021

Free State Province

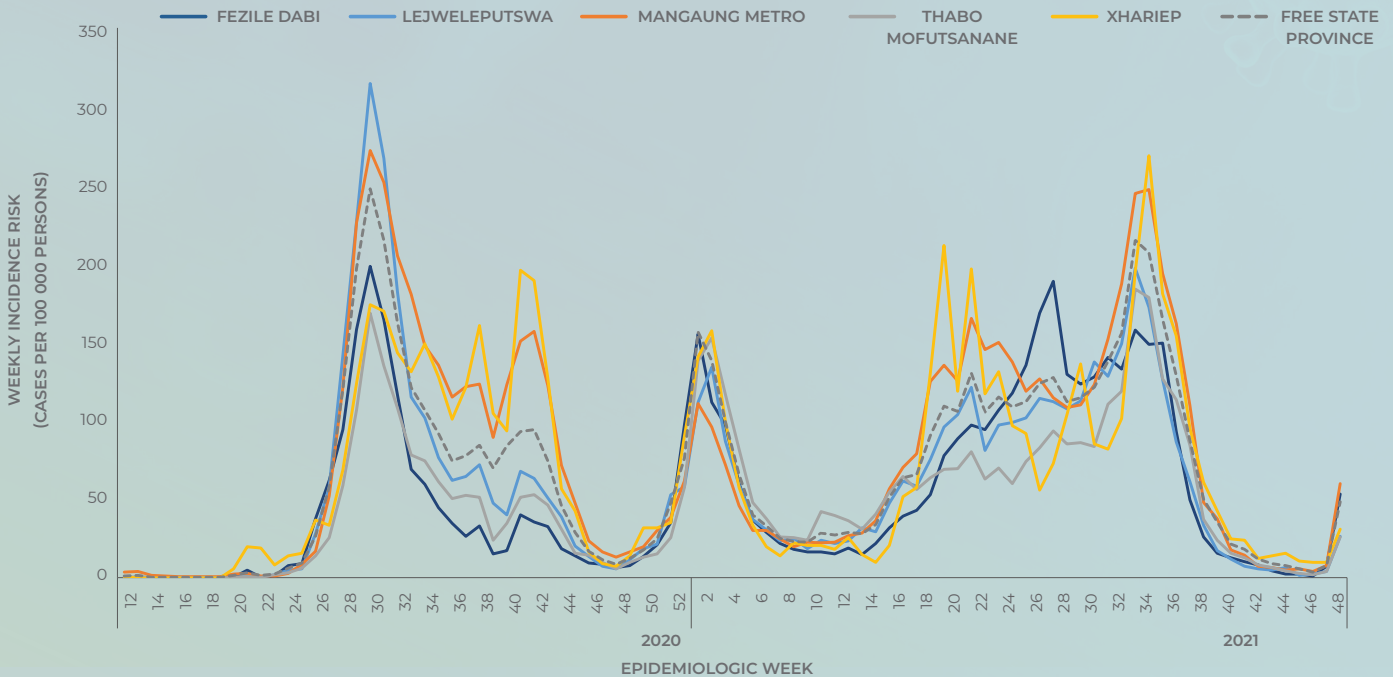


Figure 14. Weekly incidence risk of laboratory-confirmed cases of COVID-19 by district and epidemiologic week, Free State Province, 3 March 2020–4 December 2021 (n=153 801, 13 068 missing district)

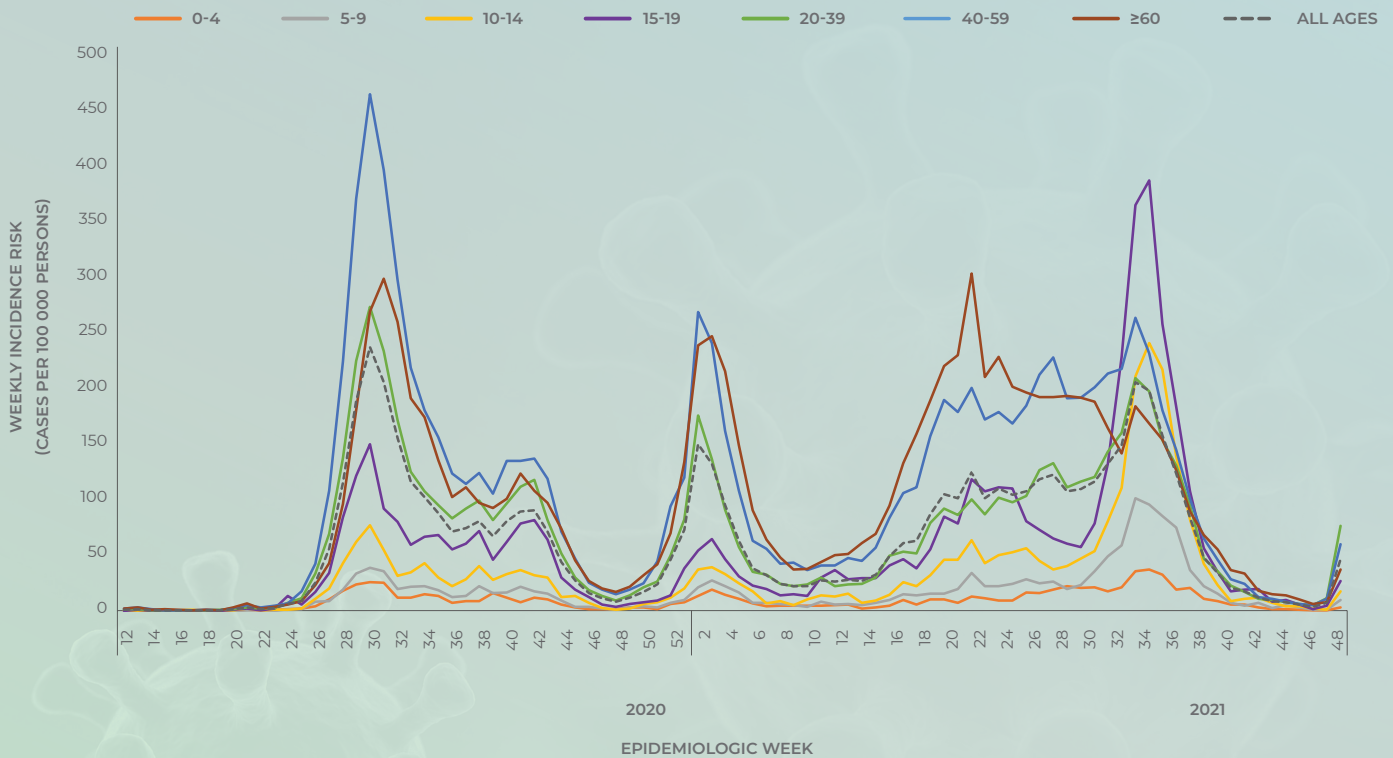


Figure 15. Weekly incidence risk of laboratory-confirmed cases of COVID-19 by age group in years and epidemiologic week, Free State Province, 3 March 2020–4 December 2021 (n=166 209, 661 missing age)

COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

WEEK 48 2021

Limpopo Province

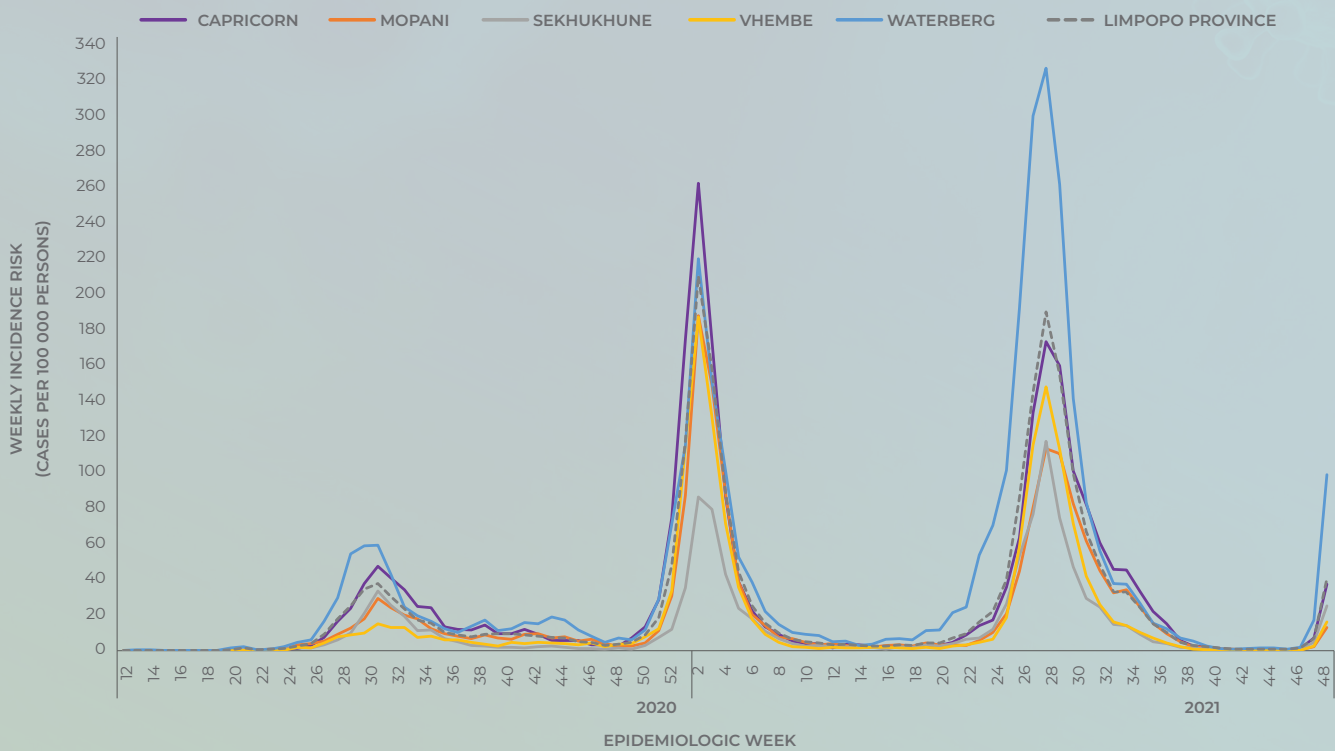


Figure 16. Weekly incidence risk of laboratory-confirmed cases of COVID-19 by district and epidemiologic week, Limpopo Province, 3 March 2020 –4 December 2021 (n=108 557, 17 351 missing district)

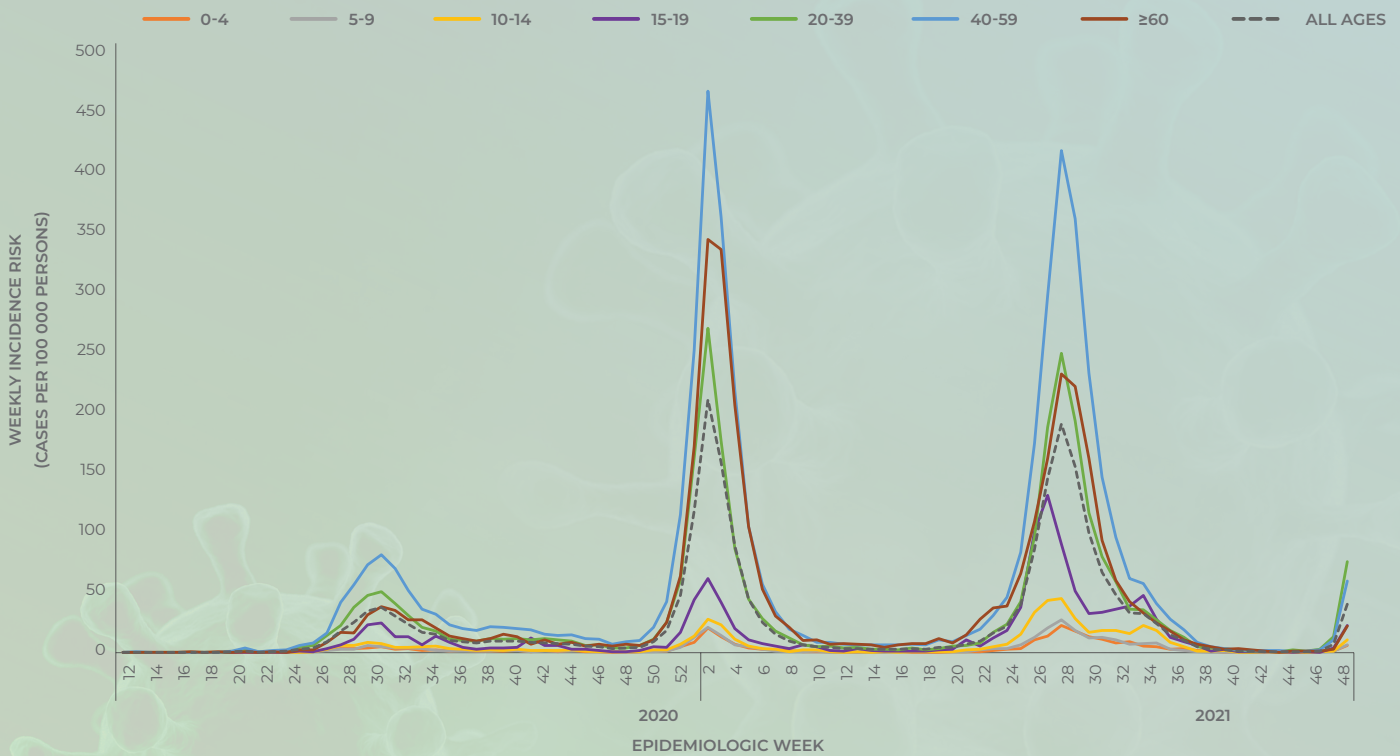


Figure 17. Weekly incidence risk of laboratory-confirmed cases of COVID-19 by age group in years and epidemiologic week, Limpopo Province, 3 March 2020 –4 December 2021 (n=125 228, 680 missing age)

COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

WEEK 48 2021

Mpumalanga Province

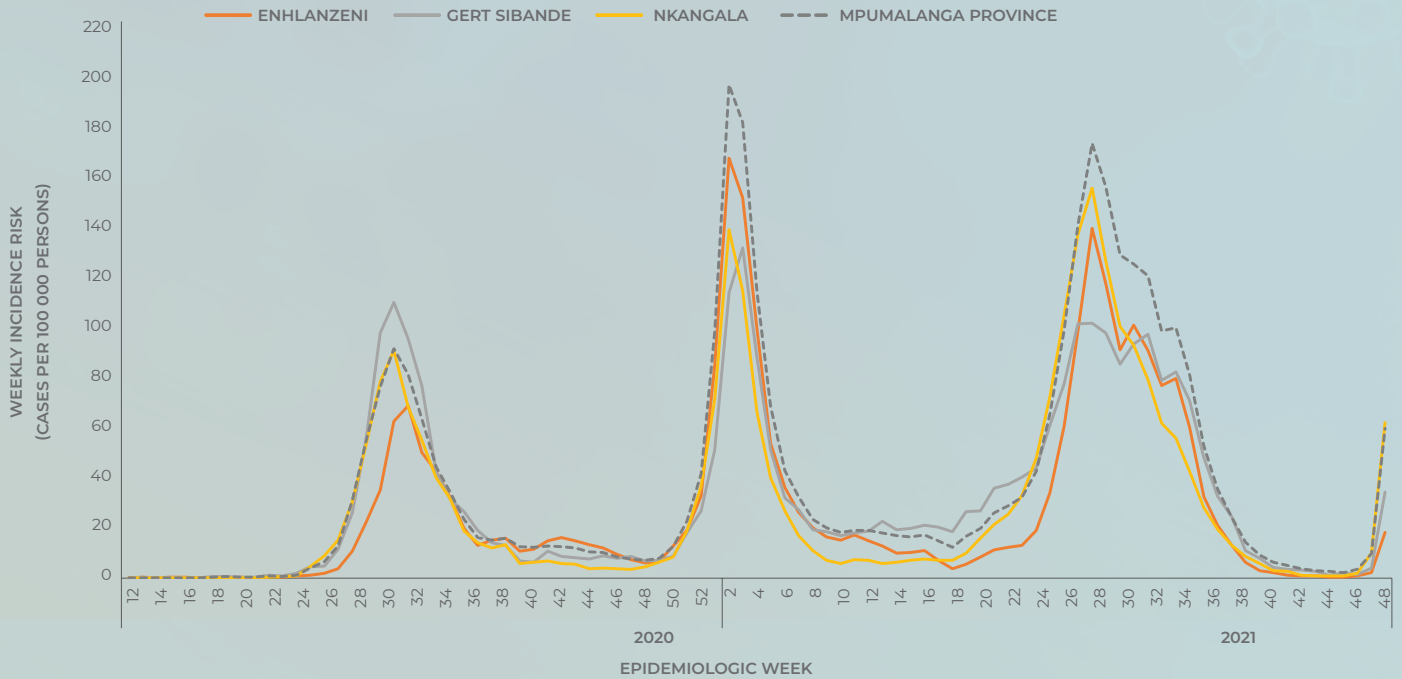


Figure 18. Weekly incidence risk of laboratory-confirmed cases of COVID-19 by district and epidemiologic week, Mpumalanga Province, 3 March 2020 -4 December 2021 (n=119 782, 36 812 missing district)

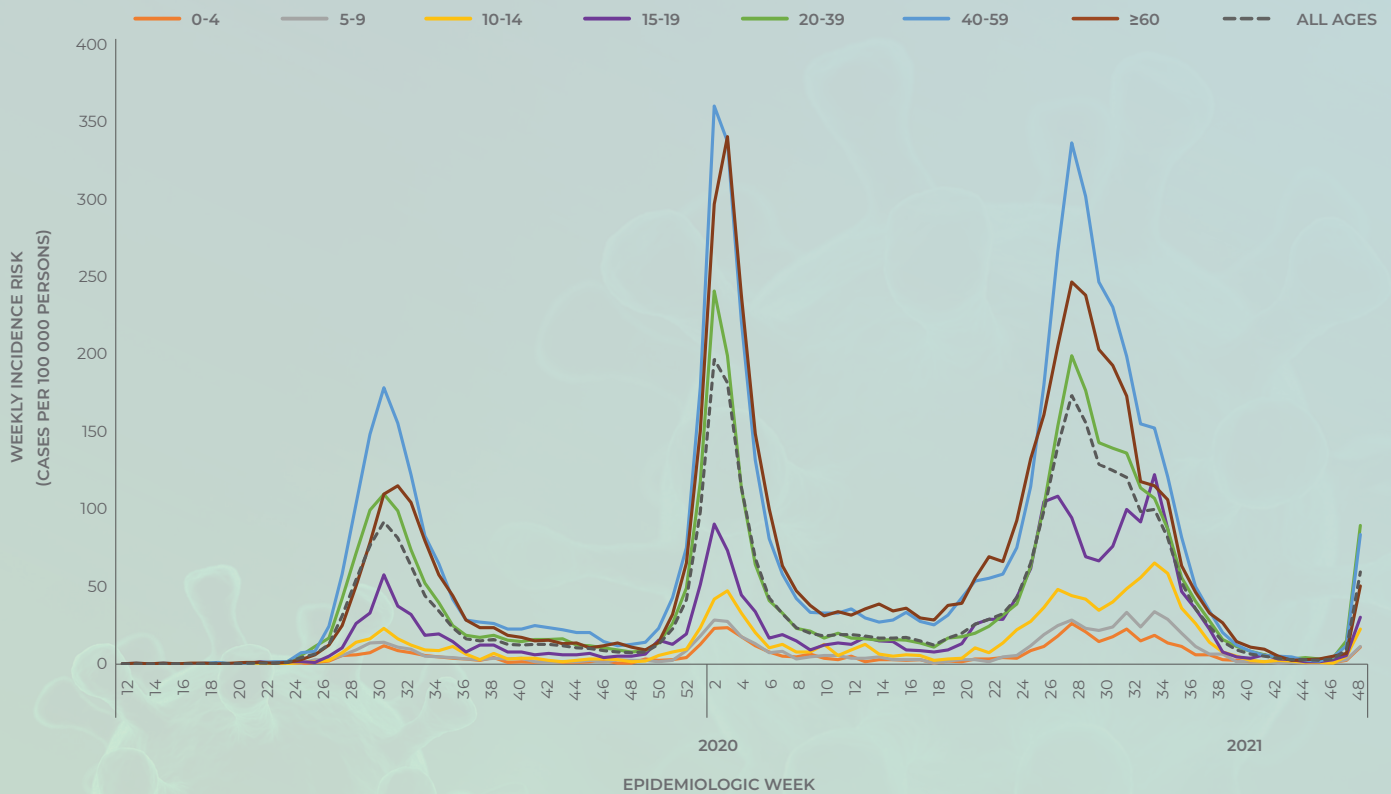


Figure 19. Weekly incidence risk of laboratory-confirmed cases of COVID-19 by age group and epidemiologic week, Mpumalanga Province, 3 March 2020-4 December 2021 (n=153 364, 3 230 missing age)

COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

WEEK 48 2021

North West Province

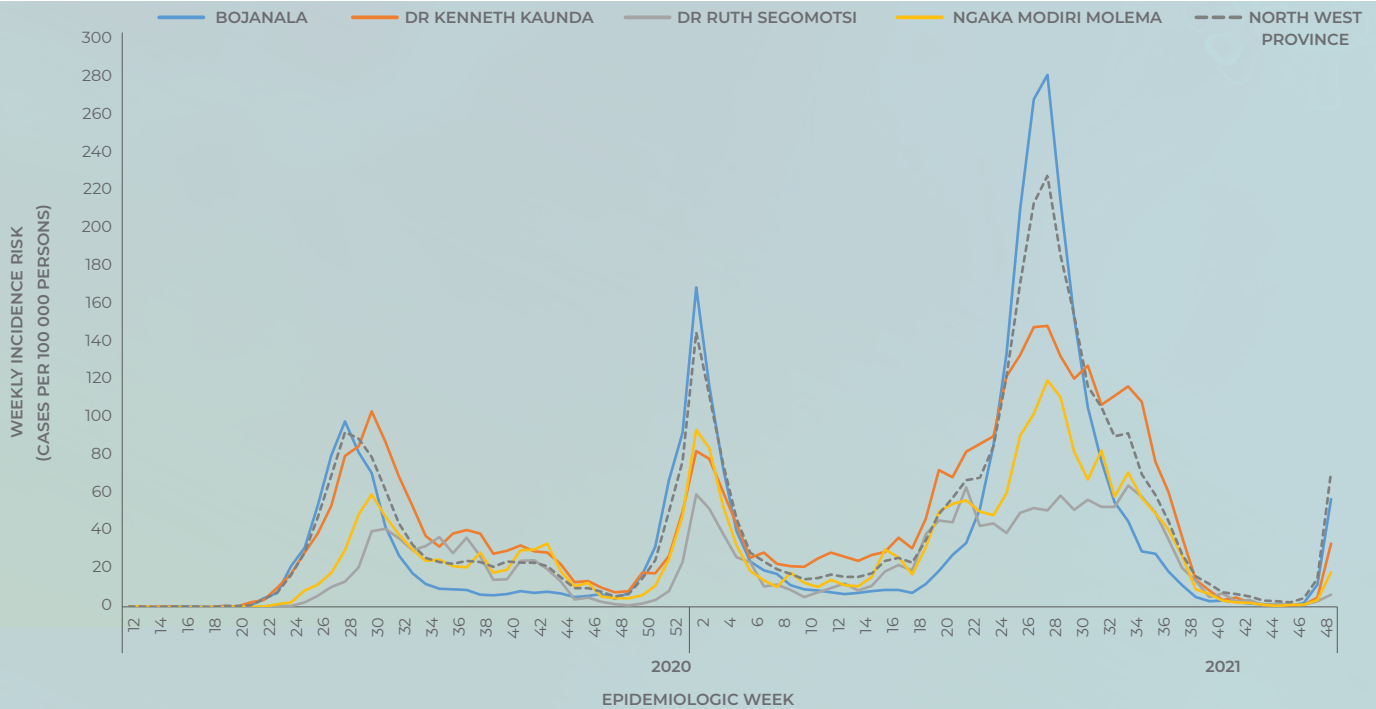


Figure 20. Weekly incidence risk of laboratory-confirmed cases of COVID-19 by district and epidemiologic week, North West Province, 3 March 2020 -4 December 2021 (n=126 126, 30 874 missing district)

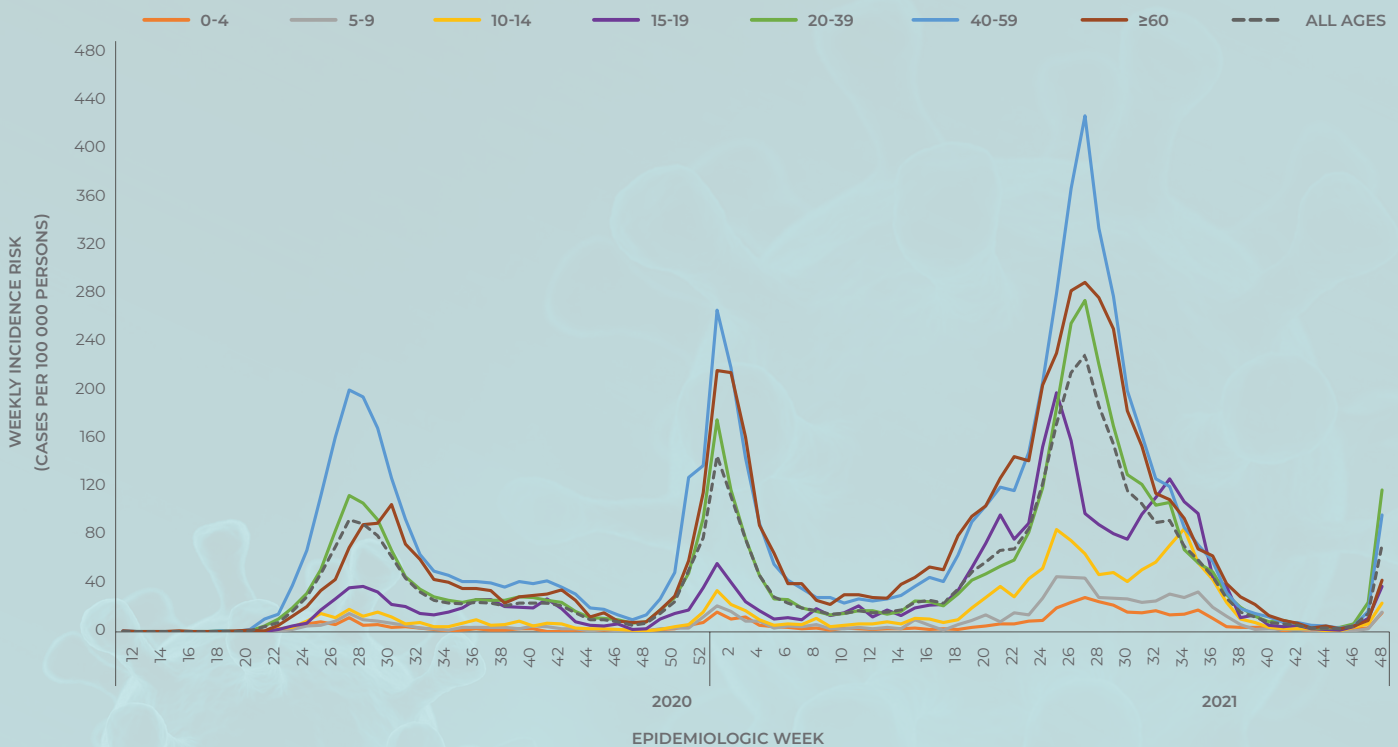


Figure 21. Weekly incidence risk of laboratory-confirmed cases of COVID-19 by age group in years and epidemiologic week, North West Province, 3 March 2020 -4 December 2021 (n=154 967, 2 033 missing age)

COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

WEEK 48 2021

Northern Cape Province

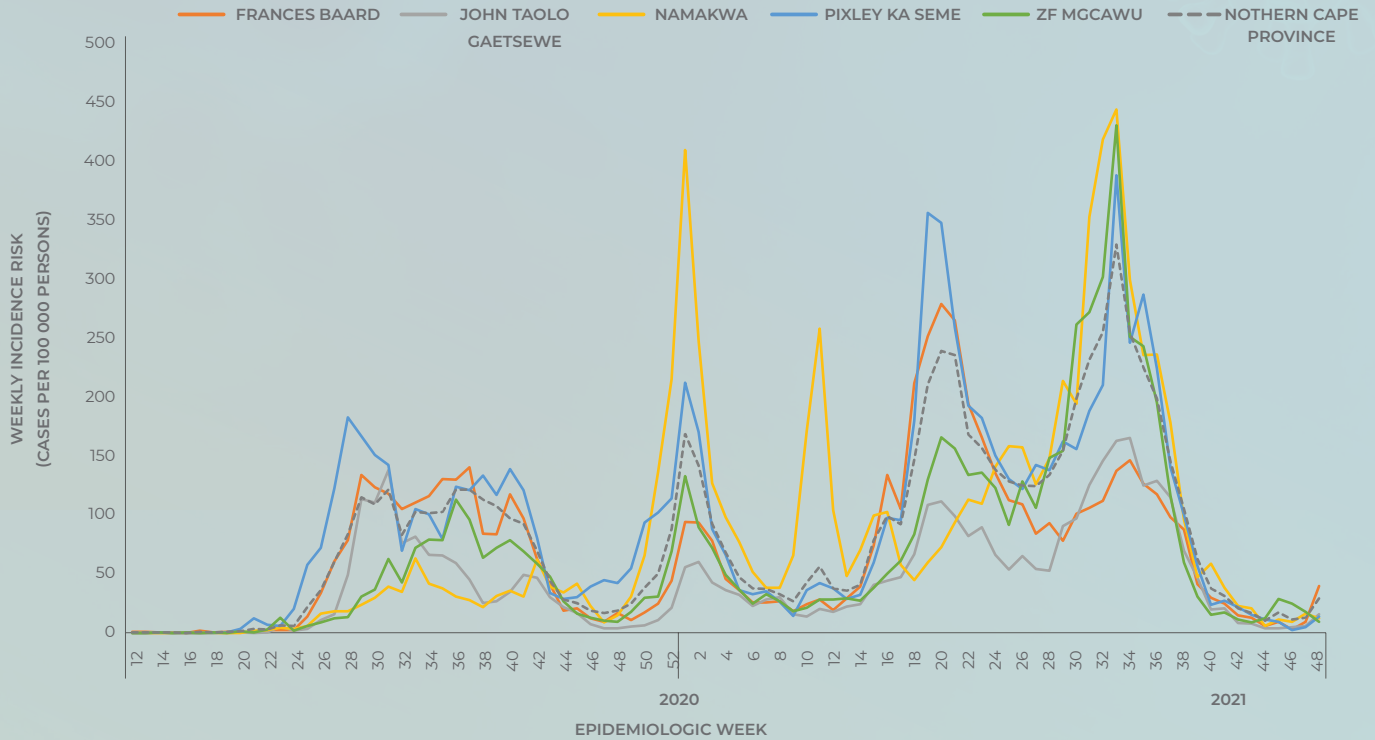


Figure 22. Weekly incidence risk of laboratory-confirmed cases of COVID-19 by district and epidemiologic week, Northern Cape Province, 3 March 2020–4 December 2021 (n=77 600, 16 103 missing district)

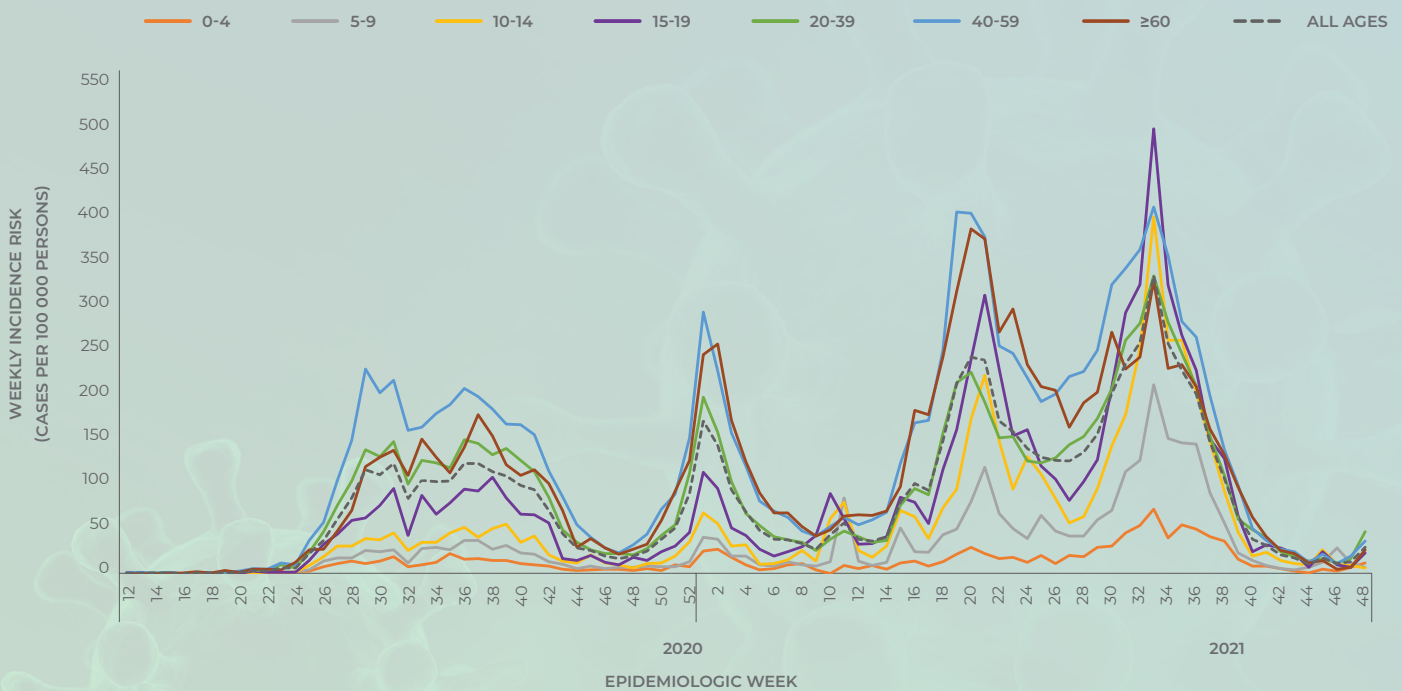


Figure 23 Weekly incidence risk of laboratory-confirmed cases of COVID-19 by age group in years and epidemiologic week, Northern Cape Province, 3 March 2020 –4 December 2021 (n=93 074, 629 missing age)

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. Testing for SARS-CoV-2 using rapid antigen-based tests was implemented during November 2020. 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 or antigen test. For reports published from week 41 of 2020 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 of 2020, 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 of 2020 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.

Limitations

This report is based on laboratory-based surveillance of laboratory-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 CFR (number of deaths/number of diagnosed cases) reported here is subject to numerous limitations: it is likely to be an underestimation as reporting of deaths may be delayed because deaths are delayed in relation to cases, as case numbers decrease rapidly, the crude CFR may increase as a result of a more rapid reduction in the denominator compared to the numerator. 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. Differences in health-seeking behaviour by age group and sex could also contribute to the 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. Changes in testing strategy during the different times of the epidemic may also affect the number of cases reported, leading to a decrease in number of positive cases if testing is only conducted for severe cases or certain risk groups.