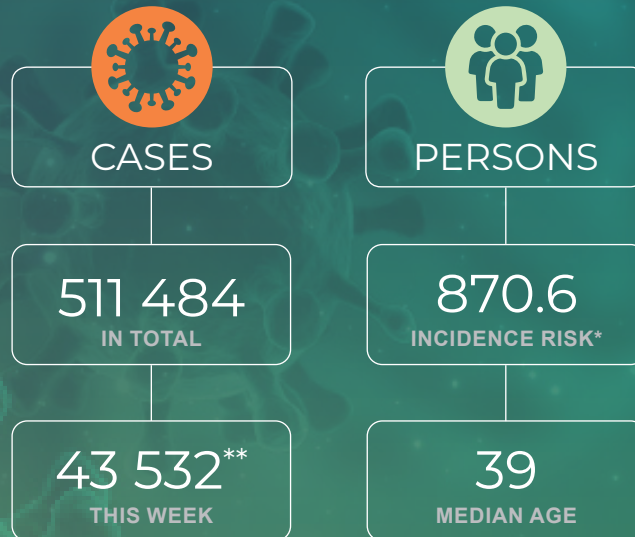
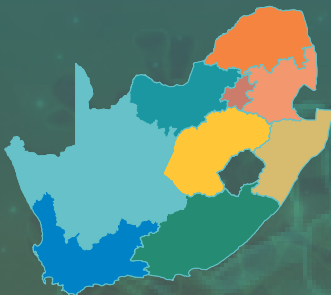


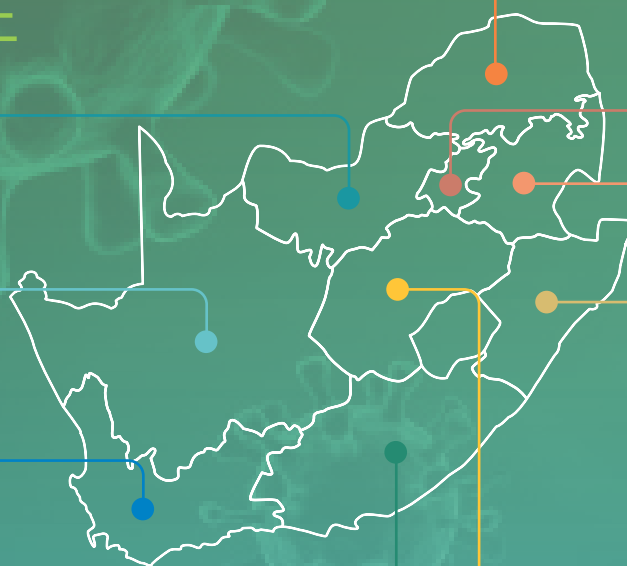
# COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

SOUTH AFRICA WEEK 31 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 1 August 2020 (week 31 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 becomes available.

### Highlights

- As of 1 August 2020, a total of 511 484 laboratory-confirmed COVID-19 cases, including 8 366 deaths (CFR 1.6%), had been reported in South Africa. Of these, 56 052 were cases reported since the last report. The number of new cases detected in week 31, 43 532, was lower than the number of new cases detected in week 30, 52 836.
- An additional 1 597 deaths were reported since the last report, case fatality ratio 1.6% (8 366/511 484),
- In the past week (week 31), Gauteng Province detected the highest percentage of new cases (14 353/43 532, 33.0%), followed by KwaZulu-Natal Province (9 491/43 532; 21.8%), and Free State Province (4 453/43 532, 10.2%).
- All the provinces reported a decline in weekly incidence risk in the past week as compared to week 30, with Free State reporting the largest decline (234 vs 154 cases per 100 000 persons) followed by KwaZulu Natal (145 vs 84 cases per 100 000 persons).
- In week 30, the estimated doubling time of number of cases continued to increase for all four provinces reporting the majority of cases, increased to 62.3 days in Western Cape Province, 41.7 days in Gauteng Province, 29.1 days in Eastern Cape Province and 17.1 days in KwaZulu-Natal Province. A longer case doubling time may suggest a slower rate of transmission and may also indicate a reduction in number of tests conducted.
- In the past week, Free State Province reported the highest weekly incidence risk, 154.2 cases per 100 000 persons followed by Gauteng Province, 94.6 cases per 100 000 persons.
- The age and gender distribution of cases remained the same compared to previous weeks with a majority of females (58.0%, 294 497/507 893) and the highest percentage in the 35-39-year age group (66 645/511 484, 13.0%) followed closely by the 30-34-year age group (65 645/511 484, 12.8 %).
- The cumulative incidence risk has remained consistently higher among females (978.3 cases per 100 000 persons) than in males 744.2 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. We used 2019 mid-year population estimates from Statistics South Africa to calculate the incidence risk (cumulative or weekly incidence), expressed as cases per 100 000 persons. 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. 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 current reporting period) from 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 week 29, new cases were defined as all cases reported since the last report, irrespective of when the sample was collected. 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 1 August 2020, a total of 511 484 laboratory-confirmed COVID-19 cases were reported in South Africa. This is 56 052 more cases than the number reported in the last report. The number of new cases detected in week 31 43 (52 832) was lower than the number of new cases detected in week 30, 52 (52 832). In the past week, Gauteng Province reported the highest percentage of new cases (14 353/ 43 532, 33.0 %), followed by KwaZulu-Natal Province (9 491/ 43 532; 21.8%), and Free State Province (4 453/43 532, 10.2 %) (Table 1). Four provinces, Gauteng Province (180 532/511 433, 35.3%), followed by Western Cape (96 839/511 433, 18.9%), KwaZulu-Natal (82 300/511 433,16.1%) and Eastern Cape (79 410/511 433, 15.5%) provinces continued to contribute the majority (439 081/511 433, 85.9%) of total COVID-19 cases in South Africa. Similar to the previous week, the percentage contribution of KwaZulu-Natal Province increased by 2% and overtook Eastern Cape, whereas the other three provinces decreased by between 1% and 2%. All

# COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

WEEK 31 2020

LABORATORY-CONFIRMED CASES OF COVID-19 IN SOUTH AFRICA

other provinces contributed <5% each of the total cases.

As in previous weeks, the Western Cape Province had the highest cumulative incidence risk (1414.9 cases per 100 000 persons), however, Gauteng Province (1 189.6 cases per 100 000 persons) replaced the Eastern Cape (1183.1 cases per 100 000 persons) as the province with the second highest cumulative incidence risk. The Limpopo Province remained the province with the lowest cumulative incidence risk (151 cases per 100 000 persons) reported to date.

The cumulative incidence risk for the country increased from 758.2 cases per 100 000 persons in week 30 to 870.6 cases per 100 000 persons in week 31. The cumulative incidence risk varied by province over time (Figure 3). This is partly explained by testing differences by province (Table 1). In the past week, Free State Province reported the highest weekly incidence risk 154.2 cases per 100 000 persons followed by Gauteng Province (94.6 cases per 100 000 persons). All the provinces reported a decline in weekly incidence risk in the past week as compared to week 30, the decrease in weekly incidence risk varied in magnitude, with Free State reporting the largest decline (234 vs 154 cases per 100 000 persons) followed by KwaZulu-Natal (145 vs 84 cases per 100 000 persons). (Figure 4). Among the four provinces reporting the majority of cases in South Africa to date, doubling time of number of cases varied with time (Figure 5). In week 30, the estimated doubling time of number of cases continued to increase for all four provinces, increased to 62.3 days in Western Cape Province, 41.7 days in Gauteng Province, 29.1 days in Eastern Cape Province and 17.1 days in KwaZulu-Natal.

To date, the case fatality ratio remained below 2% (8 366/511 484, 1.6 %); an additional 1 597 deaths were reported since the last report. The number of deaths reported in the past week was lower than the number reported in the previous week, 1 597 compared to 1 736. A crude case-fatality ratio (CFR) calculated in this way (number of deaths/number of diagnosed cases) is subject to numerous limitations. The CFR may be an underestimate because deaths are more likely to be reported if a patient with COVID-19 died in hospital and deaths out of hospital may be missed; in addition occurrence and reporting of deaths may be delayed to several weeks after diagnosis.

57.8%

OVERALL  
MAJORITY OF  
CASES REPORTED  
ARE FEMALE

870.6

/100 000  
OVERALL  
INCIDENCE RISK

33.0%

CASES REPORTED IN  
GAUTENG PROVINCE  
IN THE PAST WEEK

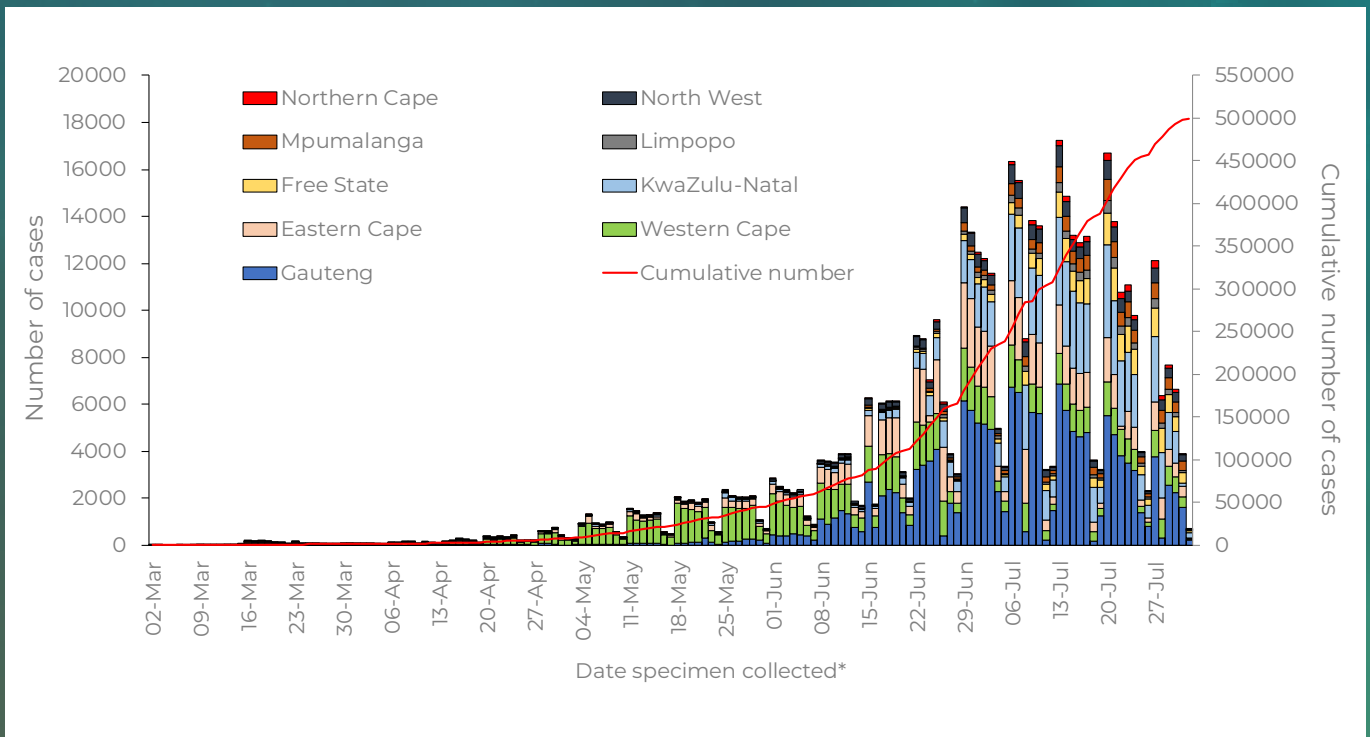
≥80

YEAR AGE  
GROUP  
HAS THE HIGHEST  
CUMULATIVE  
INCIDENCE RISK

# COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

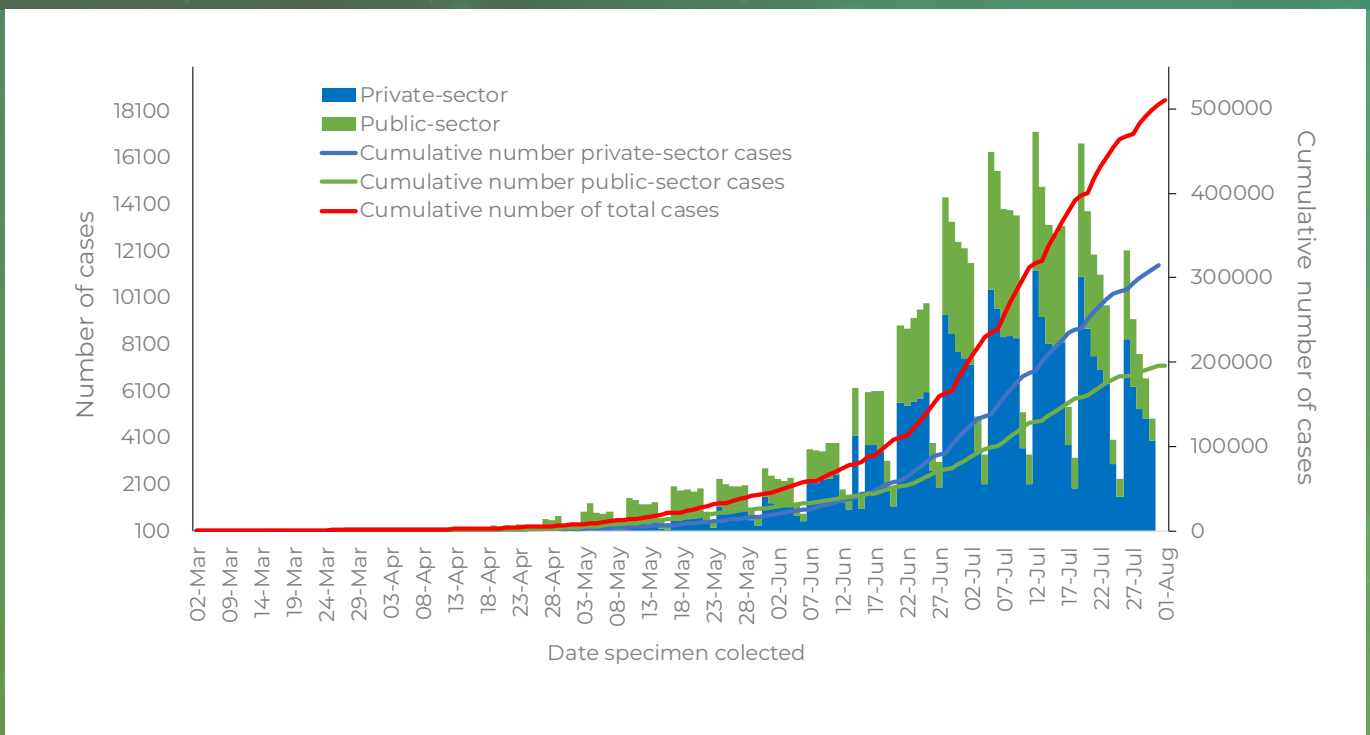
WEEK 31 2020

LABORATORY-CONFIRMED CASES OF COVID-19 IN SOUTH AFRICA



\*Date of specimen receipt used where date of collection was missing

Figure 1. Number and cumulative number of laboratory-confirmed cases of COVID-19 by province and date of specimen collection, South Africa, 3 March-1 August 2020 (n=511 216, 268 missing dates of specimen collection/province allocation).



\*Date of specimen receipt used where date of collection was missing

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-1 August 2020 (n=511 216, 268 missing dates of specimen collection/sector allocation).

# COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

WEEK 31 2020 | LABORATORY-CONFIRMED CASES OF COVID-19 IN SOUTH AFRICA

Table 1. Number and cumulative incidence risk of laboratory-confirmed cases of COVID-19 and testing per 100 000 persons by province, South Africa, 3 March-1 August 2020 (n=551 484)

Province	Cumulative number of cases (% of total for South Africa)	New cases detected in week 31 (26 July-01 August 2020), n (percentage,% n/total cases detected in week 31)	Population in mid-2019** (n)	Cumulative incidence risk (cases/100 000 persons)	Incidence risk of new cases detected in week 31 (cases/100 000 persons)	Tests <sup>f</sup> per 100 000 persons, 26 July-01 August 2020
Eastern Cape	79 410 (15.5)	4 105 (9.4)	6 712 276	1 183.3	61.2	204.5
Free State	23 087 (4.5)	4 453 (10.2)	2 887 465	799.6	154.2	482.3
Gauteng	180 532 (35.3)	14 353 (33.0)	15 176 115	1 189.6	94.6	340.8
KwaZulu-Natal	82 300 (16.1)	9 491 (21.8)	11 289 086	729.0	84.1	297.1
Limpopo	9 044 (1.8)	1 291 (3.0)	5 982 584	151.2	21.6	86.0
Mpumalanga	15 120 (3.0)	2 687 (6.2)	4 592 187	329.3	58.5	206.8
North West	19 966 (3.9)	2 245 (5.2)	4 027 160	495.8	55.7	152.3
Northern Cape	5 135 (1.0)	848 (1.9)	1 263 875	406.3	67.1	330.3
Western Cape	96 839 (18.9)	4 059 (9.3)	6 844 272	1 414.9	59.3	295.3
Province not allocated	51					
<b>South Africa</b>	<b>511 484</b>	<b>43 532 (100)</b>	<b>58 750 220</b>	<b>870.6</b>	<b>74.1</b>	<b>273.5</b>

\*New cases refer to cases whose samples were collected or received in the current reporting week \*\*2019 Mid-year population Stats SA <sup>f</sup>Data on number of tests conducted sourced from COVID-19 weekly testing report of the same reporting week

# COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

WEEK 31 2020

LABORATORY-CONFIRMED CASES OF COVID-19 IN SOUTH AFRICA

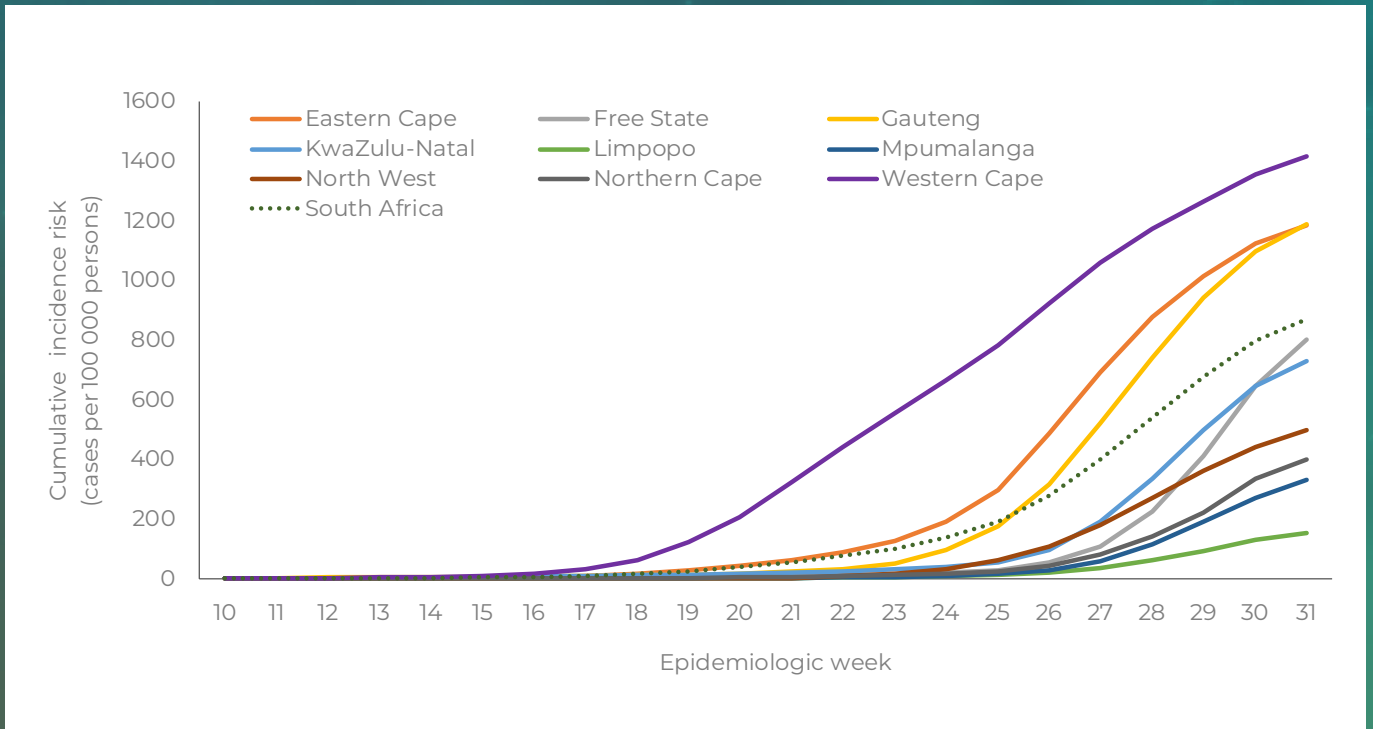


Figure 3. Cumulative incidence risk of PCR-confirmed cases of COVID-19 by province and epidemiological week, South Africa, 3 March-1 August 2020 (n=511 216, 268 missing dates of specimen collection/province allocation)

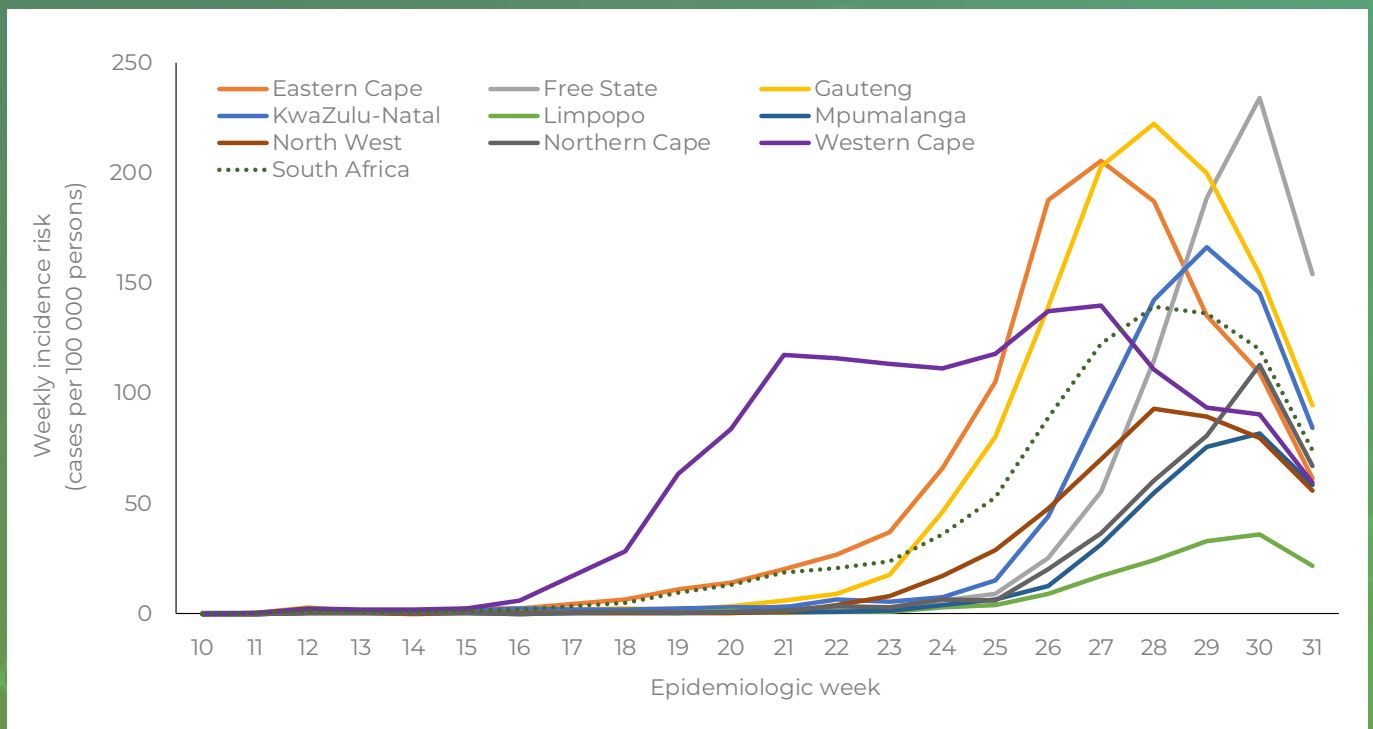


Figure 4. Weekly incidence risk of PCR-confirmed cases of COVID-19 by province and epidemiological week, South Africa, 3 March-1 August 2020 (n=511 216, 268 missing dates of specimen collection/province allocation)

# COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

WEEK 31 2020

CHARACTERISTICS OF CASES BY AGE AND SEX

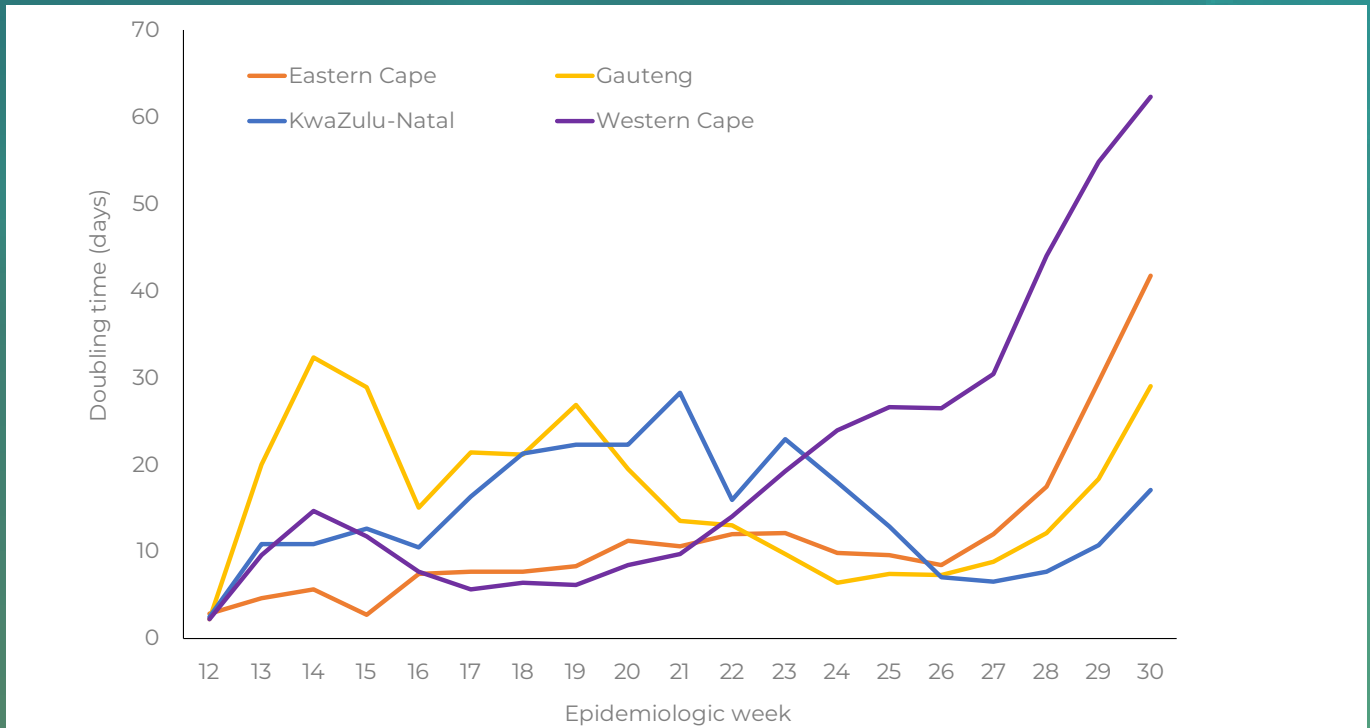


Figure 5. Doubling time of number of PCR-confirmed cases of COVID-19 by province (4 provinces with the majority of cases) and epidemiologic week, South Africa, 23 March-25 July 2020 (n=439 081)

## CHARACTERISTICS OF COVID-19 CASES IN SOUTH AFRICA BY AGE AND SEX

The median age of COVID-19 cases in South Africa to date remained at 39 years, with an interquartile range (IQR) of 30-51 years. The distribution of cases varied by age, with highest percentage of all cases to date in the 35-39-year age group (66 645/511 484, 13.0%) followed closely by the 30-34-year age group (65 645/511 484, 12.8%) (Figure 6). Similarly, among the cases reported in the past week, the highest percentage of cases was in the 35-39-year age group (5 428/ 43 532, 12.5%) followed by the 30-34-year age group (5 003/43 532, 11.5%). Similar to the previous week, the median age for cases reported in week 31 was slightly older, (42 years IQR 31-54), than that of total cases (39 years). The highest cumulative incidence risk was reported among those in the  $\geq 80$ -year age group (1928.6 cases per 100 000 persons), followed by those in the 50-54-year age group (1813.3 cases per 100 000 persons). The lowest cumulative incidence risk was reported in the younger age-groups (101.4 cases per 100 000 persons)

**39**  
THE MEDIAN  
AGE OF CASES IN THE  
PAST WEEK



# COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

WEEK 31 2020

CHARACTERISTICS OF COVID-19 CASES IN SOUTH AFRICA BY AGE AND SEX

and (116.6 cases per 100 000 persons) in the 0-4- and 5-9-year age groups, respectively (Figure 7 and Table 2). Among cases detected in week 31, the highest weekly incidence risk was among cases aged  $\geq 80$ -years (220.1 cases per 100 000 persons) and the lowest incidence risk was in the 0-4-year age group (7.1 cases per 100 000 persons). To date, the majority of COVID-19 cases reported were female (58.0%, 294 497/507 893). This was similar to the percentage reported in the past week (57.49%, 25 061/43 286). The cumulative incidence risk has remained consistently higher among females (978.3 cases per 100 000 persons) than among males (744.2 cases per 100 000 persons) (Figure 7). However, this varied by age group with the peak cumulative incidence risk among females aged 45-49 years and males aged  $\geq 80$  years (Figure 8 and Figure 9). The highest weekly incidence in week 31 was among females (100.0 cases per 100 000 cases vs 89.9 cases per 100 000 persons) in men. This may be partly explained by varying testing practices by age and sex (data not shown) and by health seeking behaviour.

# 13.0%

OVERALL HIGHEST PERCENTAGE OF CASES IN THE 35-39-YEAR AGE GROUP

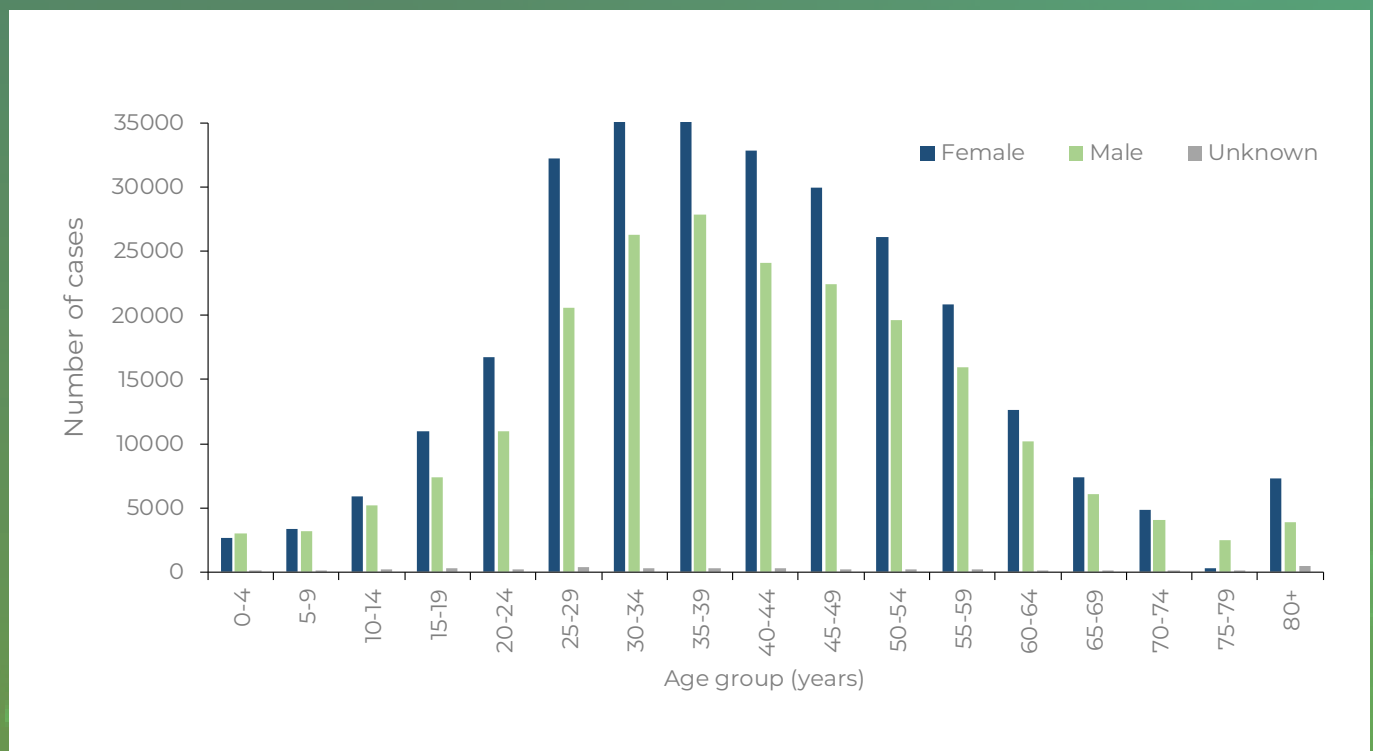


Figure 6. Number of laboratory-confirmed cases of COVID-19 by age group and sex, South Africa, 3 March-1 August 2020 (n= 507 893, sex/age missing for 3591)

# COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

WEEK 31 2020

CHARACTERISTICS OF COVID-19 CASES IN SOUTH AFRICA BY AGE AND SEX

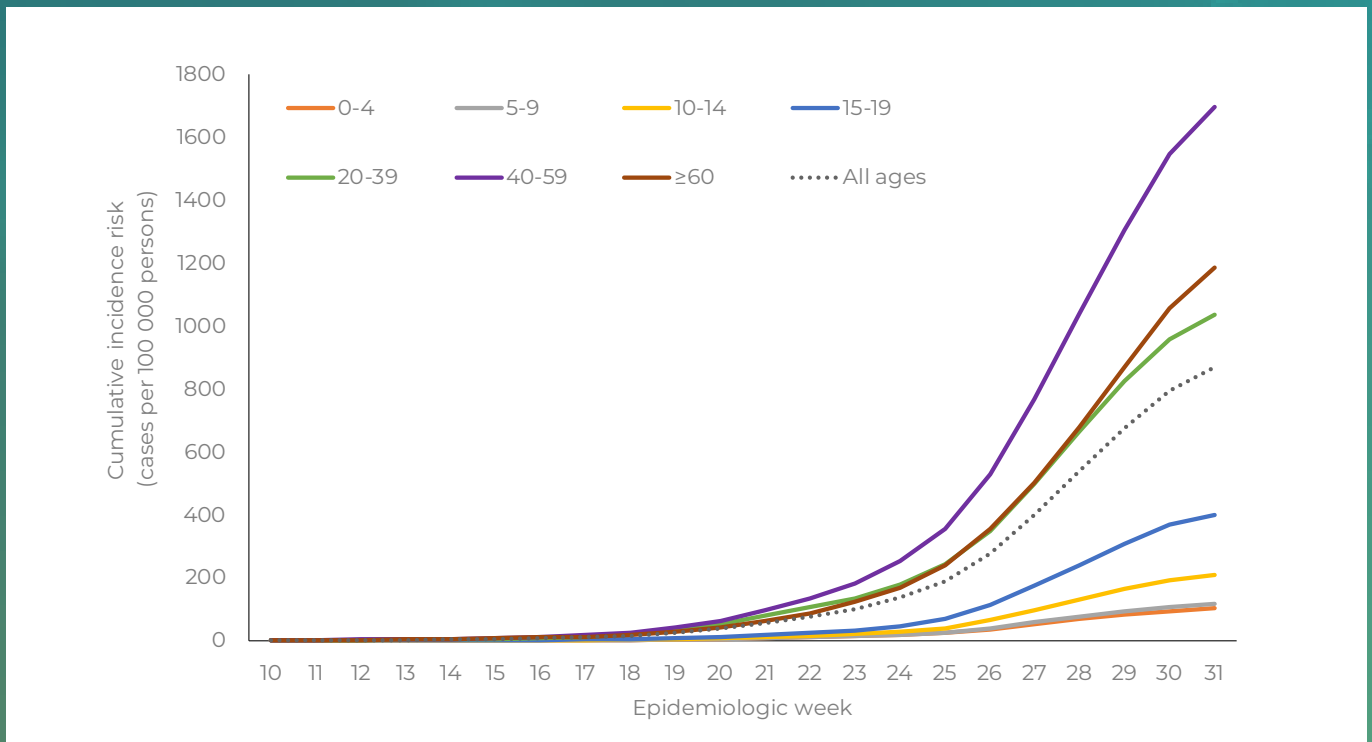


Figure 7. Cumulative incidence risk of PCR-confirmed cases of COVID-19 by age group in years and epidemiologic week, South Africa, 3 March-1 August 2020 (n=511 266, 218 missing dates of specimen collection)

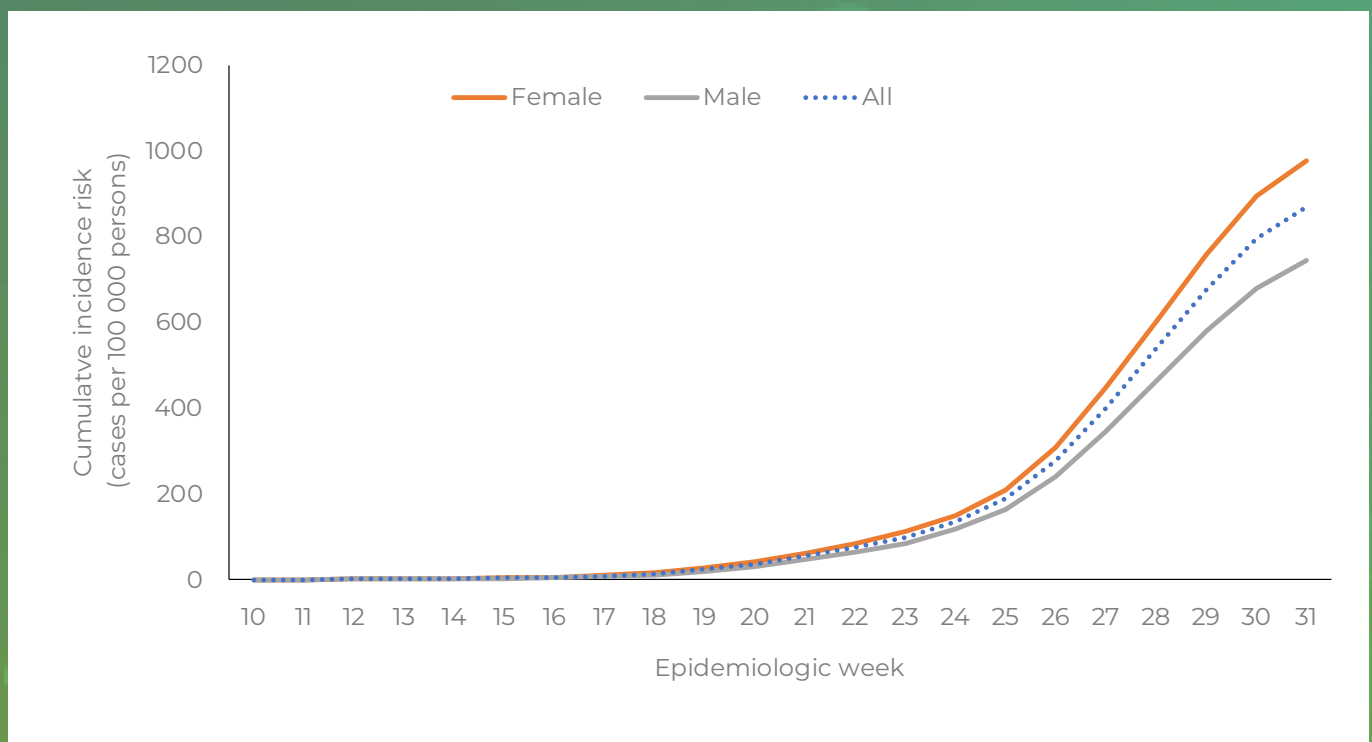


Figure 8. Cumulative incidence risk by sex and epidemiological week, South Africa, 3 March-1 August 2020 (n=507 759, sex/specimen collection date missing for 3 725)

# COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

WEEK 31 2020

CHARACTERISTICS OF COVID-19 CASES IN SOUTH AFRICA BY AGE AND SEX

Table 2. Number of cases and cumulative/weekly incidence risk by age group, South Africa, 3 March-1 August 2020, n= 511 484

Age group (years)	Number cumulative cases (n) (percentage*, n/total cases in South Africa)	New cases 26 July-1 August 2020, n (percentage%, n/total)	Population in mid-2019**, n	Cumulative incidence risk (cases per 100 000 persons)	Week 31 incidence risk (cases /100 1000 persons)
0-4	5 816 (1.1)	408 (0.9)	5 733 946	101.4	7.1
5-9	6 692 (1.3)	531 (1.2)	5 737 439	116.6	9.3
10-14	11 259 (2.2)	810 (1.9)	5 427 902	207.4	14.9
15-19	18 634 (3.6)	1 389 (3.2)	4 660 002	399.9	29.8
20-24	27 915 (5.5)	2 134 (4.9)	4 914 186	568.0	43.4
25-29	53 142 (10.4)	3 801 (8.7)	5 528 571	961.2	68.8
30-34	65 409 (12.8)	5 003 (11.5)	5 537 963	1 181.1	90.3
35-39	66 645 (13.0)	5 428 (12.5)	4 571 175	1 457.9	118.7
40-44	57 246 (11.2)	4 876 (11.2)	3 585 408	1 596.6	136.0
45-49	52 654 (10.3)	4 504 (10.3)	3 045 617	1 728.8	147.9
50-54	45 969 (9.0)	4 100 (9.4)	2 535 048	1 813.3	161.7
55-59	37 107 (7.3)	3 636 (8.4)	2 192 512	1 692.4	165.8
60-64	22 970 (4.5)	2 410 (5.5)	1 784 476	1 287.2	135.1
65-69	13 519 (2.6)	1 460 (3.4)	1 370 121	986.7	106.6
70-74	8 976 (1.8)	1 016 (2.3)	949 812	945.0	107.0
75-79	5 902 (1.2)	699 (1.6)	597 874	987.2	116.9
≥80	11 629 (2.3)	1 327 (3.0)	602 969	1 928.6	220.1
Unknown	0	0 (0)	0	0	0
<b>Total</b>	<b>511 484</b>	<b>43 532 (100.0)</b>	<b>58 775 022</b>	<b>870.0</b>	<b>74.1</b>

\*Percentage=n/total number of new cases (specimen collected or received in current reporting week) \*\*2019 mid-year population Statistics SA

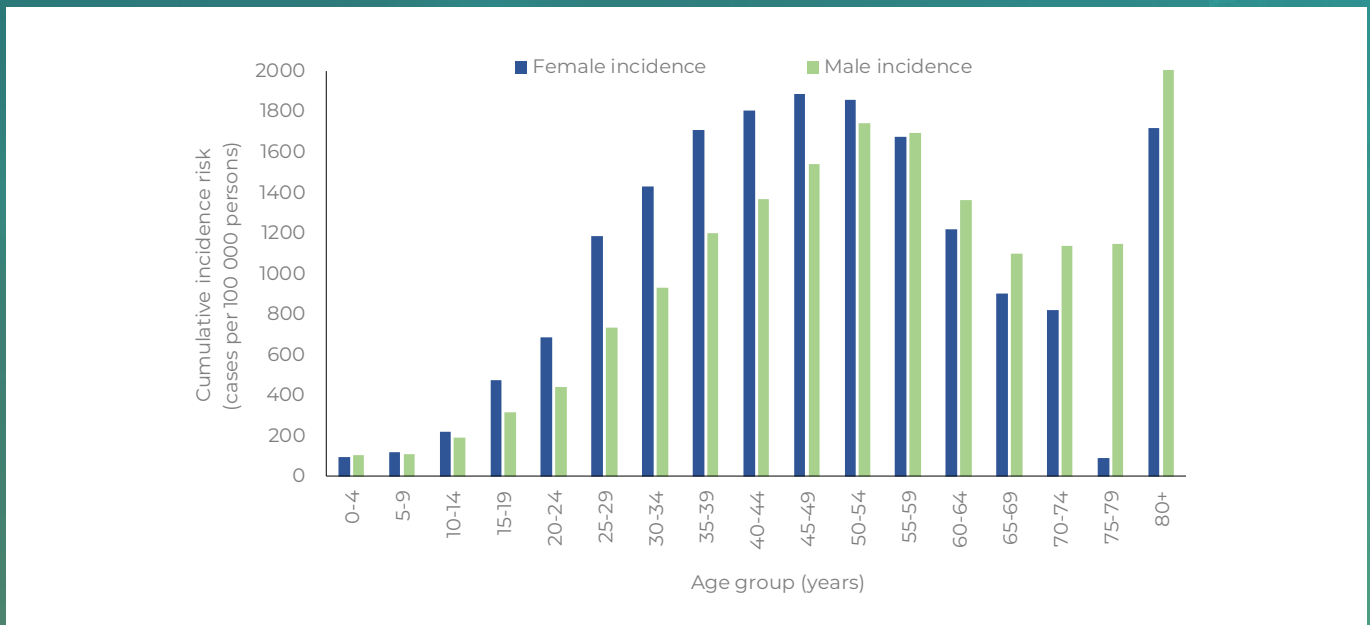


Figure 9. Cumulative incidence risk by age group and sex, South Africa, 3 March- 1 August 2020 (n=507 893, gender missing for 3 591 cases).

## 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.

## CONCLUSIONS

The number of laboratory-confirmed cases of COVID-19 in South Africa continue to increase, even though the numbers detected per week are lower compared to numbers reported in earlier weeks. To date, 511 484 cases, including 7 698 deaths have been reported. In the past week (week 31), the incidence risk of cases per 100 000 persons detected for all provinces, was lower than that reported for week 30. The proportional contribution of the four provinces which contribute a majority of cases (Gauteng, Eastern Cape, Western Cape and KwaZulu-Natal) continued to decrease compared to previous weeks. The decline in number of cases and incidence risk together with prolonged doubling time of number of cases reported from the four provinces which contribute the majority of cases may reflect a true slowing down of transmission in these provinces. In addition, changes in testing practices and/or access to testing could also contribute to changes in numbers of confirmed cases.