

# COVID-19 WEEKLY EPIDEMIOLOGY BRIEF



NATIONAL INSTITUTE FOR  
COMMUNICABLE DISEASES

Division of the National Health Laboratory Service

SOUTH AFRICA WEEK 30 2020

## CUMULATIVE DATA FROM



CASES

445 432  
IN TOTAL

52 836\*\*  
THIS WEEK

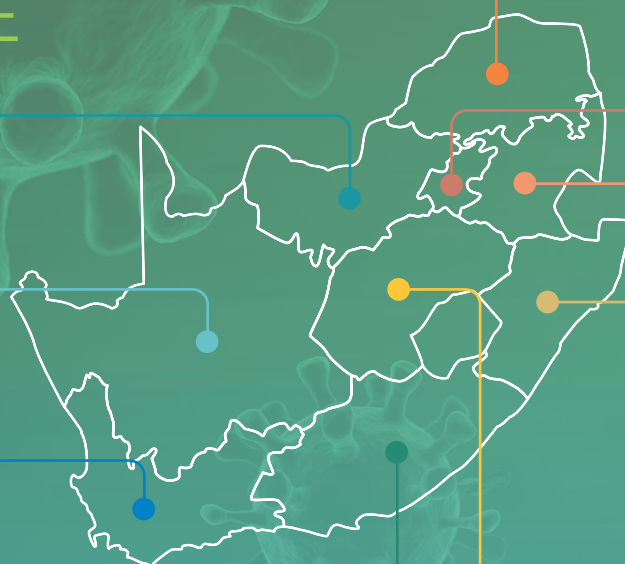
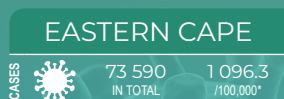
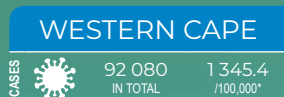
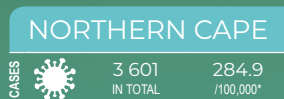


PERSONS

758.2  
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 in South Africa. This report is based on data collected up to 25 July 2020 (week 30 of 2020). Note: COVID-19 is the name of the disease and SARS-CoV-2 is the name of the virus.

### Highlights

- As of 25 July 2020, a total of 445 432 laboratory-confirmed COVID-19 cases had been detected in South Africa. Of these, 81 104 were cases reported since the last report. The number of new cases reported in week 30, 52 836, was lower than the number of new cases reported in week 29, 75 934.
- An additional 1 736 deaths were reported since the last report, case fatality ratio 1.5% (6 769/445 432)
- Four provinces, Gauteng (160 169/445 381, 36.0%), followed by Western Cape (92 082/445 381, 20.7%), Eastern Cape (73 590/445 381, 16.5%) and KwaZulu-Natal (64 045/445 381, 14.4%) continue to contribute the majority (389 884/445 381, 87.5%) of total COVID-19 cases in South Africa. However, of these provinces, only KwaZulu-Natal Province reported an increase in the proportionate contribution of total cases (2% increase) in the past week.
- In week 29, the estimated doubling time of the number of cases increased to 54.9 days in the Western Cape Province, 29.6 days in Gauteng Province, 18.7 days in the Eastern Cape Province and 12.4 days in KwaZulu-Natal Province. A longer doubling time may suggest a slower rate of transmission.
- In the past week, Free State Province reported the highest weekly incidence risk, 159.8 cases per 100 000 persons followed by Gauteng Province, 118.8 cases per 100 000 persons.
- The age and gender distribution of cases remains the same, majority female (57.8%, 255 583/442 929) and the highest percentage in the 35-39-year age group (58 654/445 432, 13.2 %) followed closely by the 30-34-year age group (57 715/445 432, 13.0 %)
- Trends in numbers of new cases by province and age group may be affected by changes in testing practice and delays in the testing of specimens. The numbers reported may change as data becomes available.

# LABORATORY-CONFIRMED CASES OF COVID-19 IN SOUTH AFRICA

## 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 discontinued and testing efforts focussed on areas identified as hot spots and on investigating clusters. Contacts of cases were traced and tested if symptomatic. In some provinces and certain circumstances (e.g. closed settings, workplaces), asymptomatic contacts were tested. 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 the 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 the number of tests conducted in the past week as reported in the 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 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. Previously new cases were defined as all cases reported since the last report, irrespective of when the testing was conducted. In the current report, methods have been changed to reflect new cases as cases reported in the last epidemiologic week based on the 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 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 25 July 2020, a total of 445 432 laboratory-confirmed COVID-19 cases were reported in South Africa. This is 81 104 more cases than the number reported in the last report. The number of new cases reported in week 30, 52 836, was lower than the number of new cases reported in week 29, 75 934. In the past week, Gauteng Province reported the highest percentage of new cases (17 953/52 785, 34.0%), followed by the Eastern Cape Province (5 706/ 52 785; 10.8%), and the Western Cape Province (5 476/52 785, 10.4%) (Table 1). Four provinces, Gauteng (160 169/445 381, 36.0%), followed by Western Cape (92 082/445 381, 20.7%),



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Eastern Cape (73 590/445 381, 16.5%) and KwaZulu-Natal (64 045/445 381, 14.4%) continue to contribute the majority (389 884/ 445 381, 87.5%) of total COVID-19 cases in South Africa. Compared to the previous week, the proportionate contribution of three of these provinces either went down or remained the same except for KwaZulu-Natal Province, which reported a 2% increase in the number of cases in the past week. All other provinces contributed <5% each.

As in previous weeks, the Western Cape Province had the highest cumulative incidence risk (1 345.4 cases per 100 000 persons), followed by the Eastern Cape (1 096.3 per 100 000 persons) and Gauteng provinces (1 055.4 cases per 100 000 persons). The Limpopo Province remains the province with the lowest cumulative incidence risk (118.4 cases per 100 000 persons) reported to date.

The cumulative incidence risk for the country increased from 620.0 cases per 100 000 persons in week 29 to 758.2 cases per 100 000 persons in week 30. 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, 159.8 cases per 100 000 persons followed by Gauteng Province, 118.8 cases per 100 000 persons. All the provinces reported a decline in weekly incidence risk in the past week as compared to week 29, the decrease in weekly incidence risk varied in magnitude with Gauteng reporting the largest decline (118.8 vs. 196.4 cases per 100 000 persons in the previous week) (Figure 4). Among the four provinces reporting the majority of cases in South Africa to date, doubling time of the number of cases varied with time (Figure 5). In week 29, the estimated doubling time of the number of cases increased to 54.9 days in the Western Cape Province, 29.6 days in Gauteng Province, 18.7 days in the Eastern Cape Province and 12.4 days in KwaZulu-Natal Province.

To date, the case fatality ratio remains below 2% (6 769/445 432, 1.5 %), an additional 1 736 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, 1 736 compared to 954. 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 deaths may be delayed.

57.8%

OVERALL  
MAJORITY OF  
CASES REPORTED  
ARE FEMALE

758.2  
/100 000  
OVERALL  
INCIDENCE RISK

34.0%

CASES REPORTED IN  
GAUTENG PROVINCE  
IN THE PAST WEEK

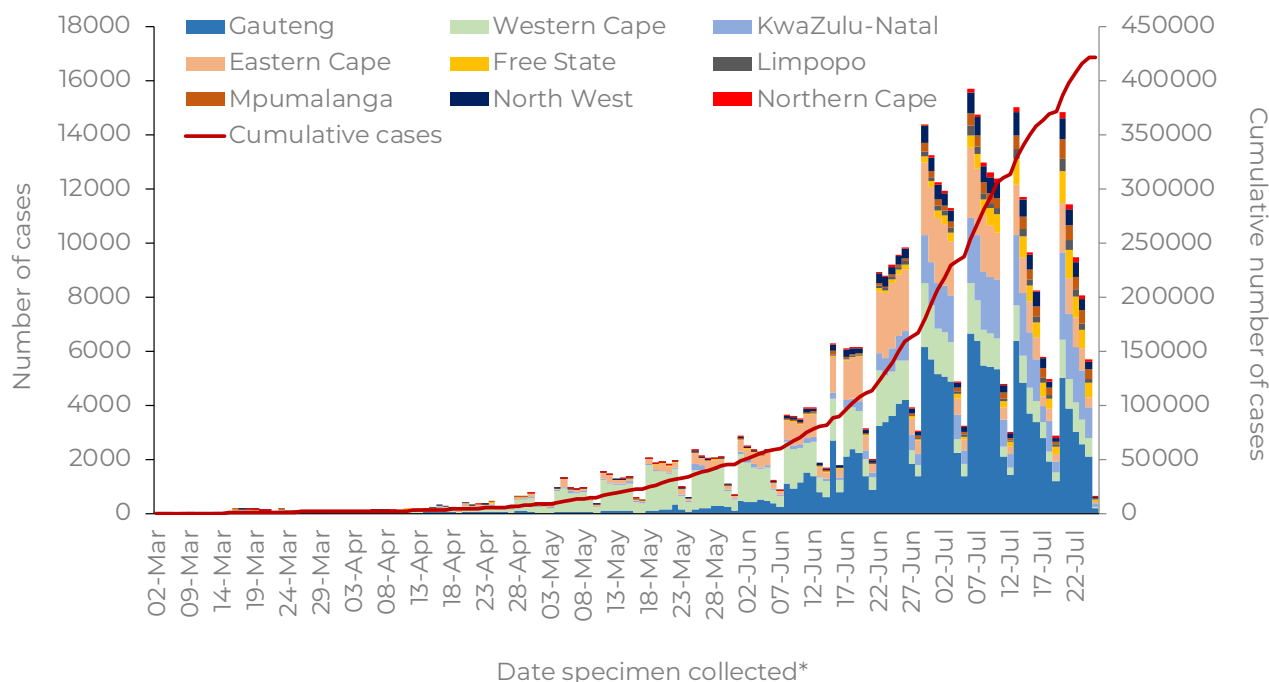
≥80

YEAR AGE  
GROUP  
HAS THE HIGHEST  
CUMULATIVE  
INCIDENCE RISK

# COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

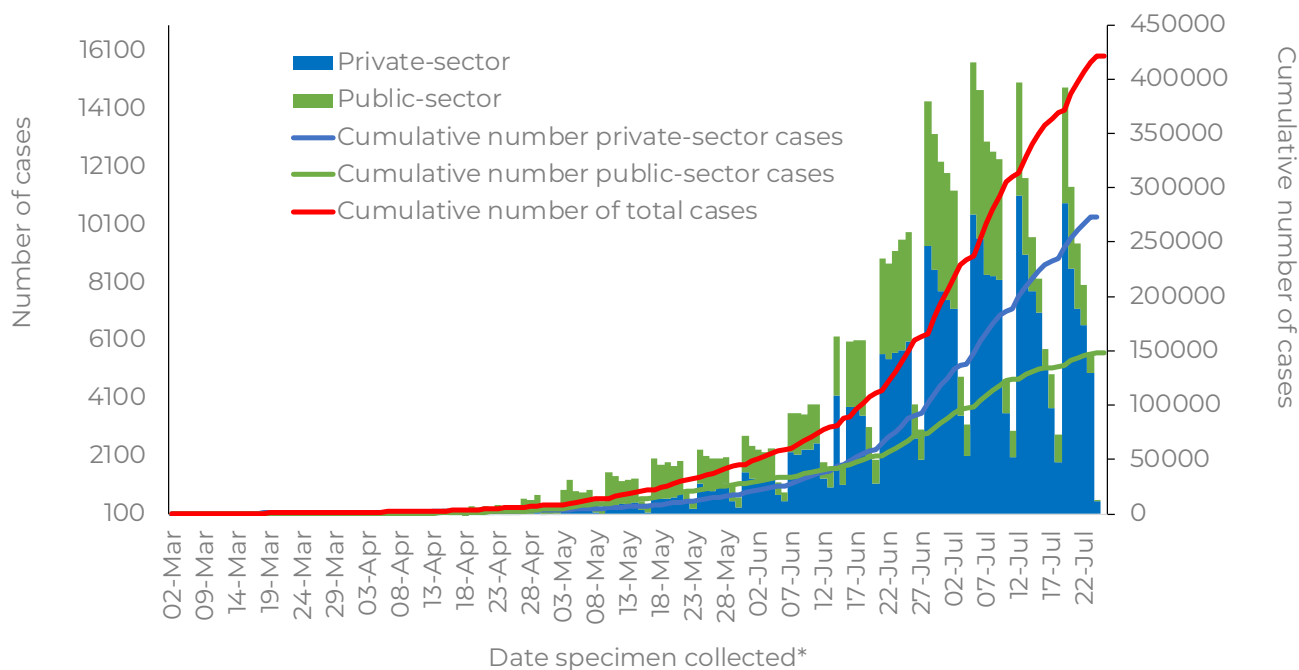
WEEK 30 2020

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-25 July 2020 (n=445 164, 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-25 July 2020 (n=445 164, 268 missing dates of specimen collection/sector allocation)

# COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

WEEK 29 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-25 July 2020 (n=445 432)

Province	Cumulative number of cases (% of total for South Africa)	New cases* (19-25 July 2020), n (percentage,% of total cases in week 30)	Population in mid-2019** (n)	Cumulative incidence risk (cases/100 000 persons)	Week 30 (19-25 July) incidence risk (cases/100 000 persons)	Tests <sup>‡</sup> per 100 000 persons, 19-25 July 2020
Eastern Cape	73 590 (16.5)	5 706 (10.8)	6 712 276	1 096.3	85.0	252.9
Free State	16 479 (3.7)	4 615 (8.8)	2 887 465	570.7	159.8	538.2
Gauteng	160 169 (36.0)	17 953 (34.0)	15 176 115	1 055.4	118.3	398.6
KwaZulu-Natal	64 045 (14.4)	1 121 (2.1)	11 289 086	567.3	9.9	304.7
Limpopo	7 082 (1.6)	1 506 (2.9)	5 982 584	118.4	25.2	94.7
Mpumalanga	10 996 (2.5)	2 804 (5.3)	4 592 187	239.5	61.1	220.4
North West	17 339 (3.9)	2 809 (5.3)	4 027 160	430.6	69.8	186.2
Northern Cape	3 601 (0.8)	757 (1.4)	1 263 875	284.9	59.9	207.1
Western Cape	92 080 (20.7)	5 476 (10.4)	6 844 272	1 345.4	80.0	367.9
Not allocated	51					
<b>South Africa</b>	<b>445 432</b>	<b>52 836 (100)</b>	<b>58 750 220</b>	<b>758.2</b>	<b>89.9</b>	<b>307.2</b>

\*New cases refer to cases whose samples were collected or received in the current reporting week \*\*2019 Mid-year population Stats SA

<sup>‡</sup>Data on number of tests conducted sourced from COVID-19 weekly testing report



# COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

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LABORATORY-CONFIRMED CASES OF COVID-19 IN SOUTH AFRICA

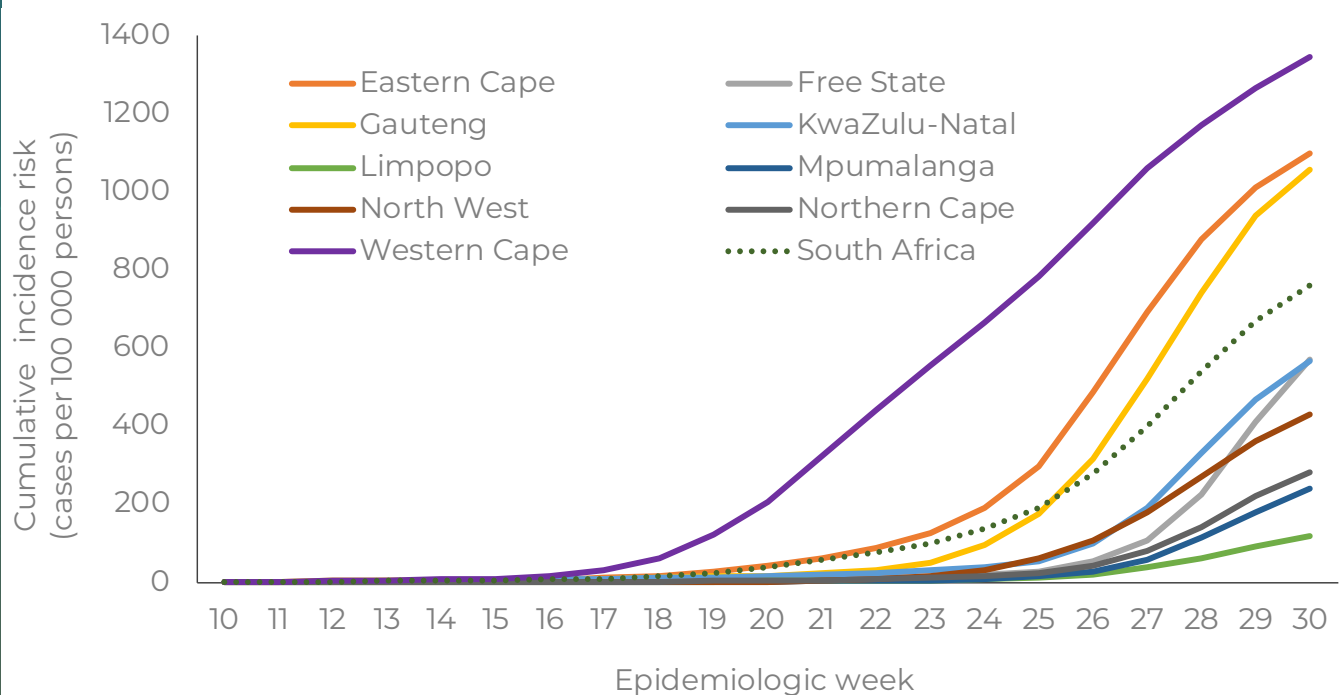


Figure 3. Cumulative incidence risk of PCR-confirmed cases of COVID-19 by province and epidemiological week, South Africa, 3 March-25 July 2020 (n=445 164, 268 missing dates of specimen collection/province allocation)

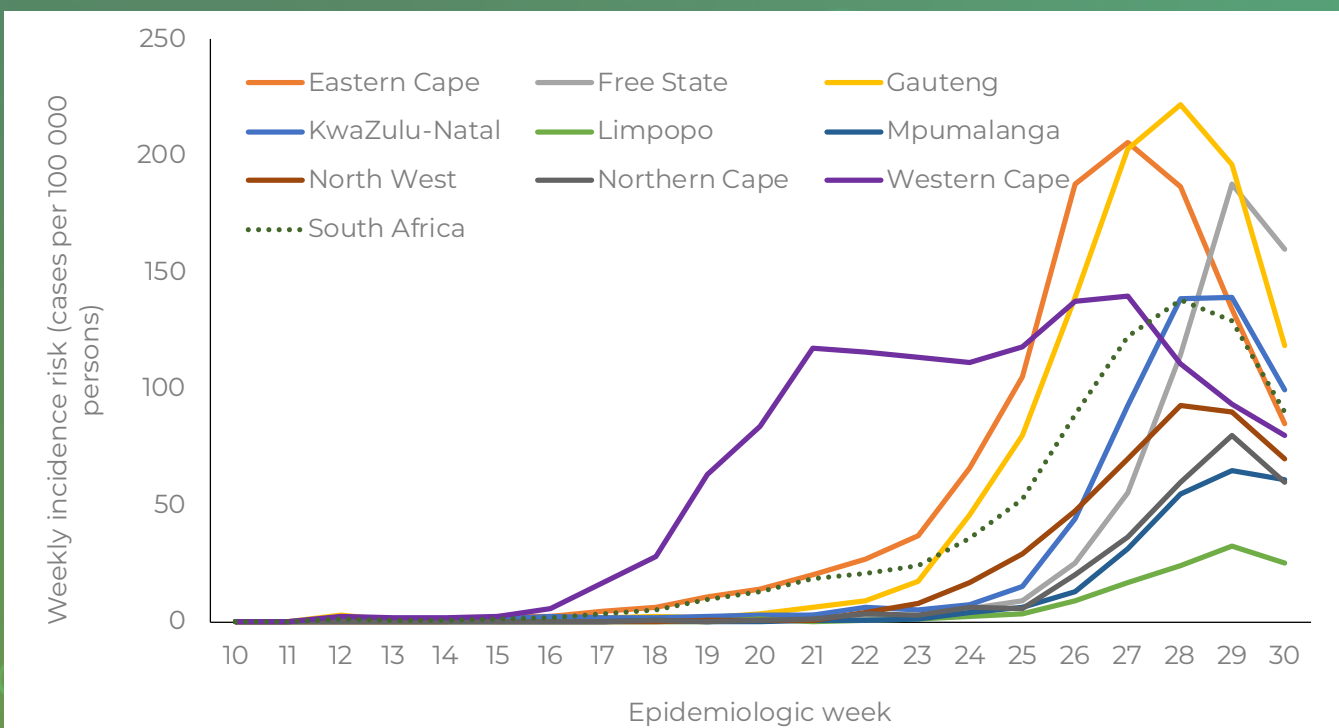


Figure 4. Weekly incidence risk of PCR-confirmed cases of COVID-19 by province and epidemiological week, South Africa, 3 March-25 July 2020 (n=445 164, 268 missing dates of specimen collection/province allocation)

# COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

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CHARACTERISTICS OF CASES BY AGE AND SEX

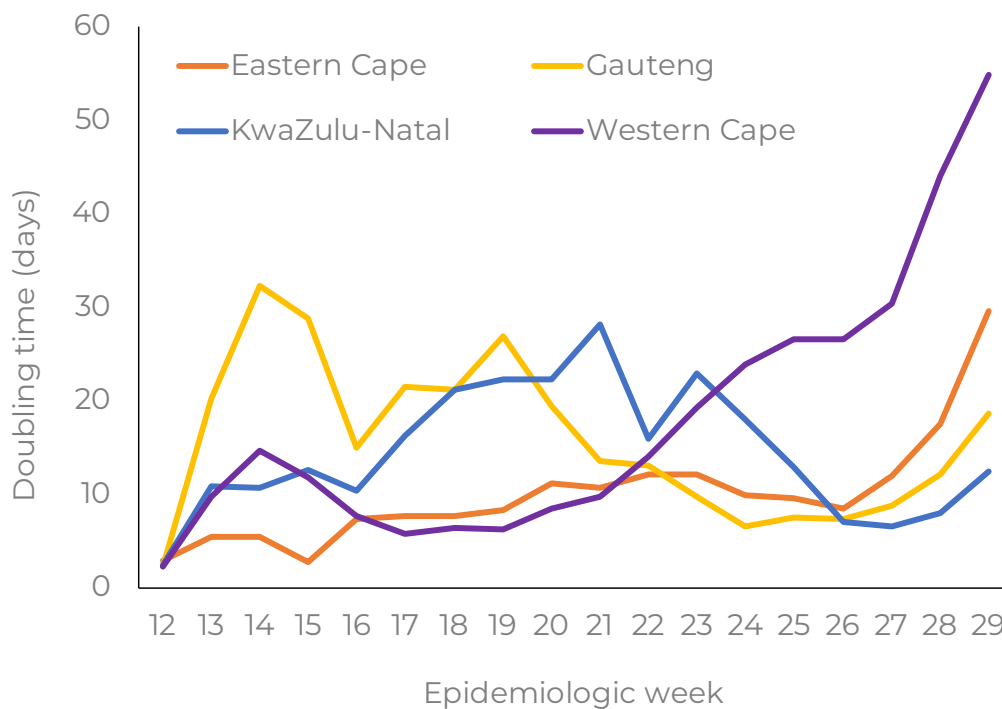


Figure 5. Doubling time of number of PCR-confirmed cases of COVID-19 by province (4 provinces with the majority of cases) and epidemiologic week, South Africa, 23 March-25 July 2020 (n=(389 884)

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

The median age of COVID-19 cases in South Africa to date remains at 39 years, interquartile range (IQR) 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 (58 654/445 432, 13.2 %) followed closely by the 30-34-year age group (57 715/445 432, 13.0 %) (Figure 6). Similarly, among the cases reported in the past week, the highest percentage of cases was in the 35-39-year age group (6 687/ 52 836, 12.7%) followed by the 30-34-year age group (6 237/52 836). The median age for cases reported in week 30 was slightly older, 41 years (IQR 31-53), than that of total cases (39 years). The cumulative incidence risk reported to date was 758.0 cases per 100 000 persons and varied by age group, the highest cumulative incidence risk was reported among those in the ≥80-year age group (1 602.1 cases per 100 000 persons), followed by those in the 50-54-year age group (1 581.1 cases per 100 000 persons). The lowest cumulative incidence

**41**  
THE MEDIAN  
AGE OF CASES IN THE  
PAST WEEK



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

risk was reported in the younger age-groups, 89.6 cases per 100 000 persons and 101.0 cases per 100 000 persons in the 0-4 and 5-9-year age groups, respectively (Figure 7 and Table 2). In the past week, the highest increase in cumulative incidence risk was among individuals in the 50-59-year age group, 211.0 cases per 100 000 persons, followed by the individuals in the  $\geq 80$ -year-age group, 200.5 cases per 100 000 persons and the lowest increase in cumulative incidence risk was in the 0-4-year age group, 9.5 cases per 100 000 persons. To date, the majority of COVID-19 cases reported were female (57.8%, 255 583/442 929). This was similar to the percentage reported in the past week (57.4%, 30 222/52 621). The cumulative incidence risk has remained constantly higher among females than in males 849.0 cases per 100 000 persons versus 651.9 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 increase in cumulative incidence risk from week 29 to week 30 was among females (100.0 cases per 100 000 persons 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.

## 13.2%

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

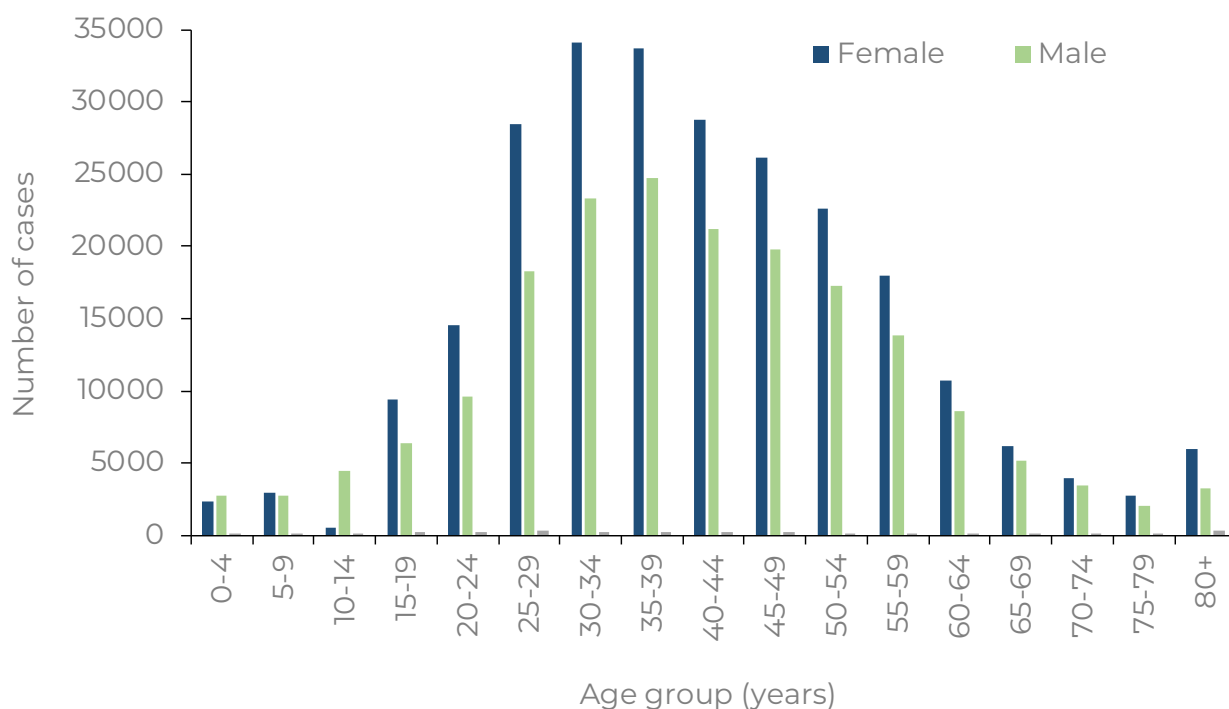


Figure 6. Number of laboratory-confirmed cases of COVID-19 by age group and sex, South Africa, 3 March-25 July 2020 (n=442 512, sex/age missing for 2 920)

# COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

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

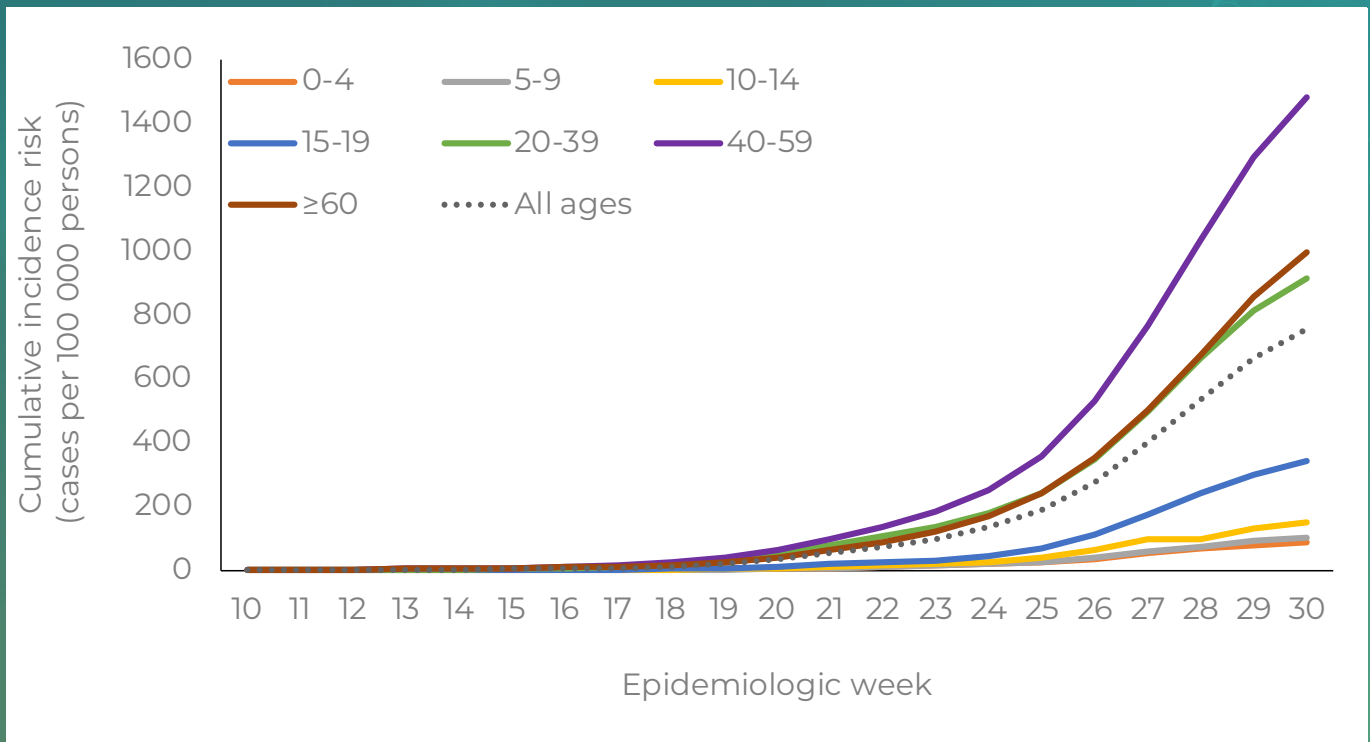


Figure 7. Cumulative incidence risk of PCR-confirmed cases of COVID-19 by age group in years and epidemiologic week, South Africa, 3 March-25 July 2020 (n=445 214, 218 missing dates of specimen collection)

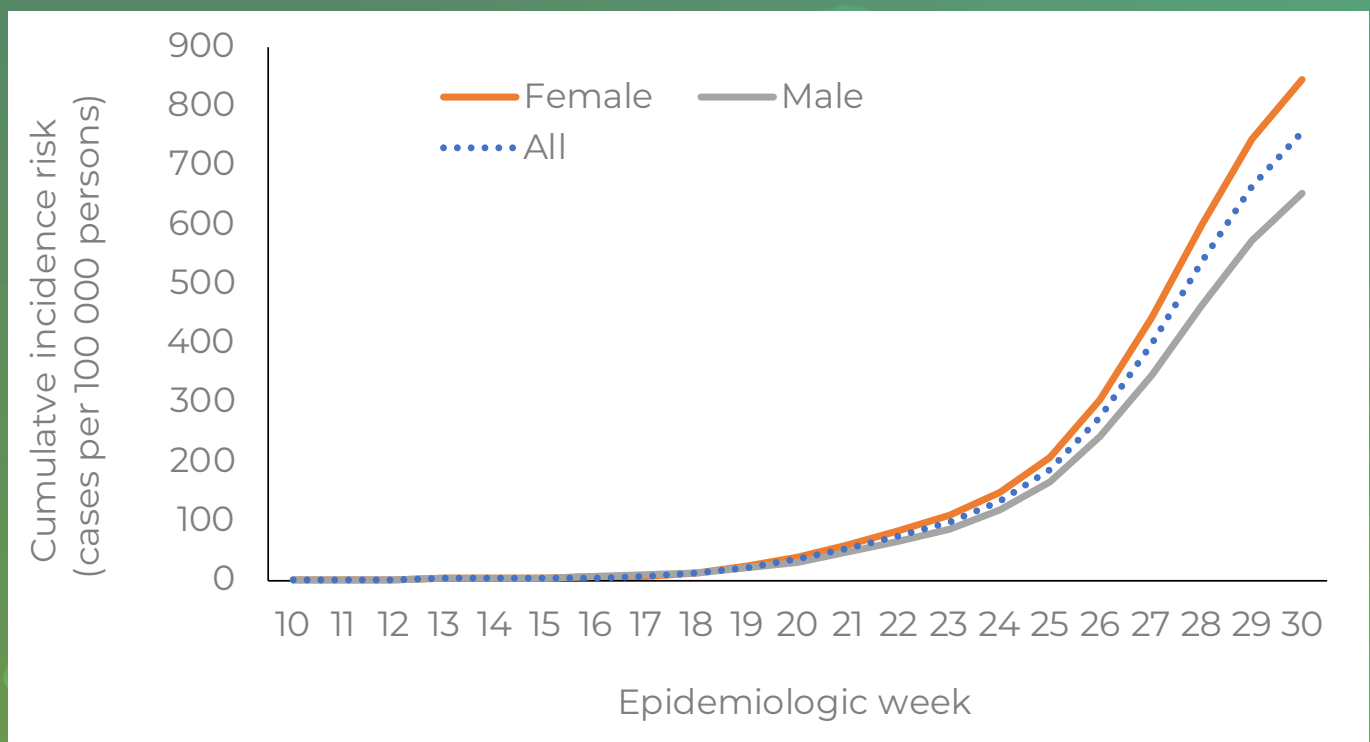


Figure 8. Cumulative incidence risk by sex and epidemiological week, South Africa, 3 March-25 July 2020 (n=442 378, sex/specimen collection date missing for 3 054)

# COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

WEEK 29 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- 25 July 2020, n= 445 432

Age group (years)	Cumulative number of cases (n) (percent-age (% of total in South Africa))	Week 30 cases* (19-25 July), n (percentage,% of total week 30 cases)	Population in mid-2019**, n	Cumulative incidence risk (cases per 100 000 persons)	Change in cumulative incidence risk (cases /100 000 persons), week 29 to week 30
0-4	5 138 (1.2)	546 (1.0)	5 733 946	89.6	9.5
5-9	5 797 (1.3)	598 (1.1)	5 737 439	101.0	10.4
10-14	9 759 (2.2)	1 015 (1.9)	5 427 902	179.8	18.7
15-19	15 941 (3.6)	1 901 (3.6)	4 660 002	342.1	40.8
20-24	24 345 (5.5)	2 457 (4.7)	4 914 186	495.4	50.0
25-29	46 951 (10.5)	484 (0.9)	5 528 571	849.2	8.8
30-34	57 715 (13.0)	6 237 (11.8)	5 537 963	1 042.2	112.6
35-39	58 654 (13.2)	6 687 (12.7)	4 571 175	1 283.1	146.3
40-44	50 157 (11.3)	5 891 (11.1)	3 585 408	1 398.9	164.3
45-49	46 117 (10.4)	5 739 (10.9)	3 045 617	1 514.2	188.4
50-54	40 081 (9.0)	5 348 (10.1)	2 535 048	1 581.1	211.0
55-59	31 935 (7.2)	431 (0.8)	2 192 512	1 456.5	19.7
60-64	19 498 (4.4)	2 673 (5.1)	1 784 476	1 092.6	149.8
65-69	11 378 (2.6)	1 636 (3.1)	1 370 121	830.4	119.4
70-74	7 432 (1.7)	1 044 (2.0)	949 812	782.5	109.9
75-79	4 874 (1.1)	705 (1.3)	597 874	815.2	117.9
≥80	9 660 (2.2)	1 209 (2.3)	602 969	1 602.1	200.5
Unknown	0	0 (0)	0	0	0
<b>Total</b>	<b>445 432</b>	<b>52 836 (100.0)</b>	<b>58 775 022</b>	<b>758.0</b>	<b>89.9</b>

\*New cases refer to cases whose samples were collected or received in the current reporting week

\*\*2019 Mid-year population Stats SA



# COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

WEEK 29 2020

LIMITATIONS AND CONCLUSIONS

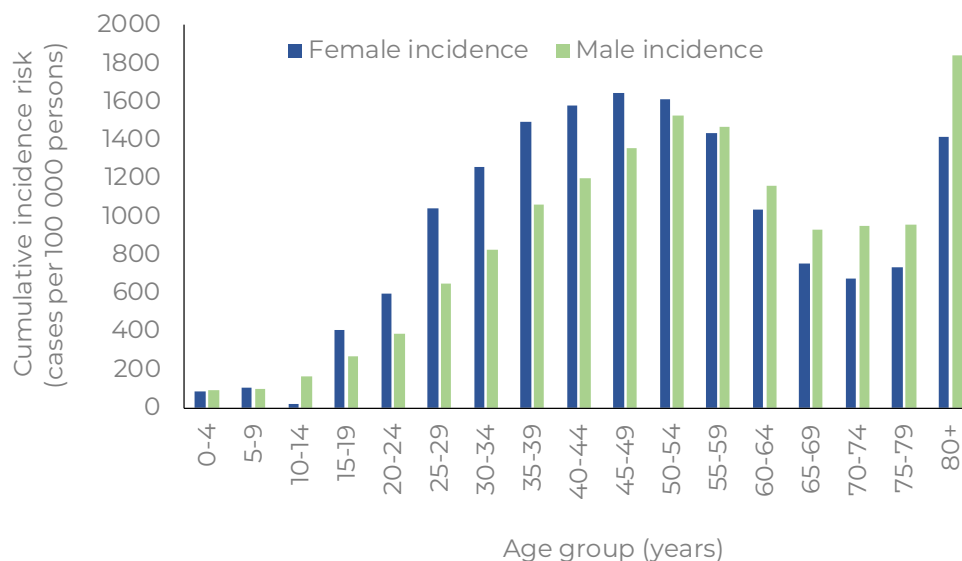


Figure 9. Cumulative incidence risk by age group and sex, South Africa, 3 March- 25 July 2020 (n=442 512, gender missing for 2 920 cases)

## 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 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 increase the doubling time estimate.

## CONCLUSIONS

The number of laboratory-confirmed cases of COVID-19 continue to increase in South Africa, with 445 432 cases, including 6 769 deaths reported to date. Four provinces (Gauteng, Eastern Cape, Western Cape and KwaZulu-Natal) continued to contribute the majority of cases. However, the proportionate contribution of these provinces to the total number of cases is going down steadily. In the last week, the increase in numbers of new cases and the incidence risk was lower than in previous weeks. The decline in the number of cases together with a prolonged doubling time of the number of cases reported from the four provinces, which contribute the majority of cases may reflect a true slowing down of transmission. In addition, changes in testing practices and/or access to testing could also contribute to changes in numbers of confirmed cases.