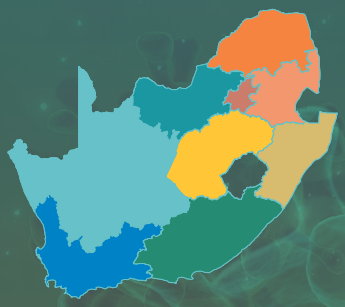
COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES
Division of the National Health Laboratory Service

SOUTH AFRICA | WEEK 21 2020

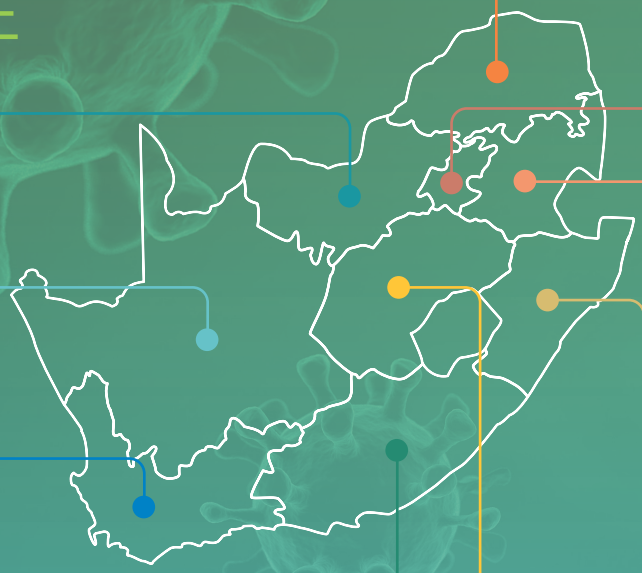
CUMULATIVE DATA FROM

31 JANUARY 2020 ▶ 23 MAY 2020



CASES	TESTS	PERSONS
22 583 IN TOTAL	583 855 IN TOTAL	38.4 INCIDENCE RISK*
7 069 THIS WEEK	122 982 THIS WEEK	38 MEDIAN AGE

PROVINCES AT A GLANCE



NORTH WEST

		IN TOTAL	
CASES		94	7 4 /100,000*
TESTS		10 092	798 /100,000**

NORTHERN CAPE

		IN TOTAL	
CASES		40	0.9 /100,000*
TESTS		5 529	137 /100,000**

WESTERN CAPE

		IN TOTAL	
CASES		14 740	215.4 /100,000*
TESTS		132 618	1 938 /100,000**

EASTERN CAPE

		IN TOTAL	
CASES		2 690	40.1 /100,000*
TESTS		58 278	868 /100,000**

LIMPOPO

		IN TOTAL	
CASES		128	2.1 /100,000*
TESTS		13 039	218 /100,000**

GAUTENG

		IN TOTAL	
CASES		2 773	18.3 /100,000*
TESTS		191 859	1 264 /100,000**

MPUMALANGA

		IN TOTAL	
CASES		101	2.2 /100,000*
TESTS		16 896	368 /100,000**

KWAZULU-NATAL

		IN TOTAL	
CASES		1 815	16.1 /100,000*
TESTS		99 371	880 /100,000**

FREE STATE

		IN TOTAL	
CASES		202	7.0 /100,000*
TESTS		27 757	961 /100,000**

* **Incidence risk** - cases per 100,000 persons
** Tests per 100,000 persons
Note: 28 416 tests have not been allocated to a province

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 information from several surveillance systems that are used to monitor the coronavirus disease 2019 (COVID-19) pandemic in South Africa. This report is based on data collected up to 23 May 2020 (week 21 of 2020). Note: COVID-19 is the name of the disease and SARS-CoV-2 is the name of the virus.

Highlights

- As of 23:59 on 23 May 2020, a total of 22 583 laboratory-confirmed COVID-19 cases had been detected in South Africa. Of these, 7 069 were reported in this reporting period. A total of 469 cases died with a case fatality ratio of 2%.
- The public-sector continues to report more cases than the private-sector. This may reflect the ongoing increasing access to testing in the public sector as well as transmission of COVID-19.
- Laboratory PCR testing for SARS-CoV-2 increased week-on-week. In the last week, an additional 122 982 tests were performed; this was 3 445 more tests than the number of tests performed in the previous week.
- Three provinces (Western Cape, Eastern Cape and Gauteng) reported the majority of cases. Western Cape Province continued to report the highest total number of cases, 65% (14 740/ 22 583) of total cases, an increase of 5% since the last report. The incidence risk (cumulative incidence) was highest in the Western Cape Province (215.4 cases per 100 000 persons; 95% confidence interval [CI] 211.9-218.9) followed by Eastern Cape (40.1 per 100 000 persons; 95% CI 38.6-41.6) and Gauteng (18.3 per 100 000 persons; 95% CI 17.6-19.0). In the last week, incidence risk increased by 79.6, 11.3 and 2.9 cases per 100 000 persons in Western Cape, Eastern Cape and Gauteng respectively.
- The median age of laboratory-confirmed cases was 38 years (interquartile range [IQR], 29-49 years). Children aged <10 years accounted for 3.0% (607/22 476). The incidence risk was highest among females in the 40-44-year age group (83.2 cases per 100 000 person).

122 982
TESTS PERFORMED THIS WEEK

58%
OVERALL CASES WERE FEMALE

38.4
/100 000
OVERALL INCIDENCE RISK

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. 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. Laboratories used any one of several in-house and commercial PCR assays to test for the presence of SARS-CoV-2 RNA. Test results were automatically fed into a data warehouse. 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 first positive SARS-CoV-2 PCR test. We used 2019 mid-year population estimates from Statistics South Africa to calculate the incidence risk or cumulative incidence (expressed as cases per 100 000 persons). Aggregate data on the number of deaths was obtained from the National Department of Health.

National and provincial trends

As of 23 May 2020, 583 855 tests were performed (122 982 additional tests since the last report). In total, 22 583 cases were detected in South Africa (7 069 new cases since the last report) (Figure 1). The overall proportion positive increased from 3% to 4%. The Western Cape Province continued to report the highest proportion of cases (14 740/22 583, 65.3 %), followed by Gauteng 2 773/22 583, 12.3 %) and Eastern Cape provinces (2 690/22 583, 12%) (Table 1). The Western Cape Province had the highest incidence risk (215.4 cases per 100 000 persons) followed by the Eastern Cape (40.1 per 100 000 persons) and Gauteng provinces (18.3 per 100 000 persons). The Northern Cape Province had the lowest incidence risk (0.9 cases per 100 000 persons). The Western Cape Province had the highest increase in incidence risk over the last week, increased by 79.6 cases per 100 000 persons (Table 1 and Figure 5). The cumulative incidence risk for the country was 38.4 per 100 000 persons. However, the cumulative incidence risk varied by province over time (Figure 4). This is partly explained by testing differences by province (Table 1). The number of tests performed per 100 000 persons ranged from 137 in the Northern Cape Province to 1 938 in the Western Cape Province. To date, a total of 469 of 22 583 (2%) cases were reported to have died (Figure 9). A crude case-fatality ratio calculated in this way (number of deaths/ number of diagnosed cases) is subject to numerous limitations. For instance, the CFR may be underestimated 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.

3%
OVERALL PROPORTION POSITIVE

30-34
YEAR AGE GROUP
HAD THE LARGEST PROPORTION OF CASES

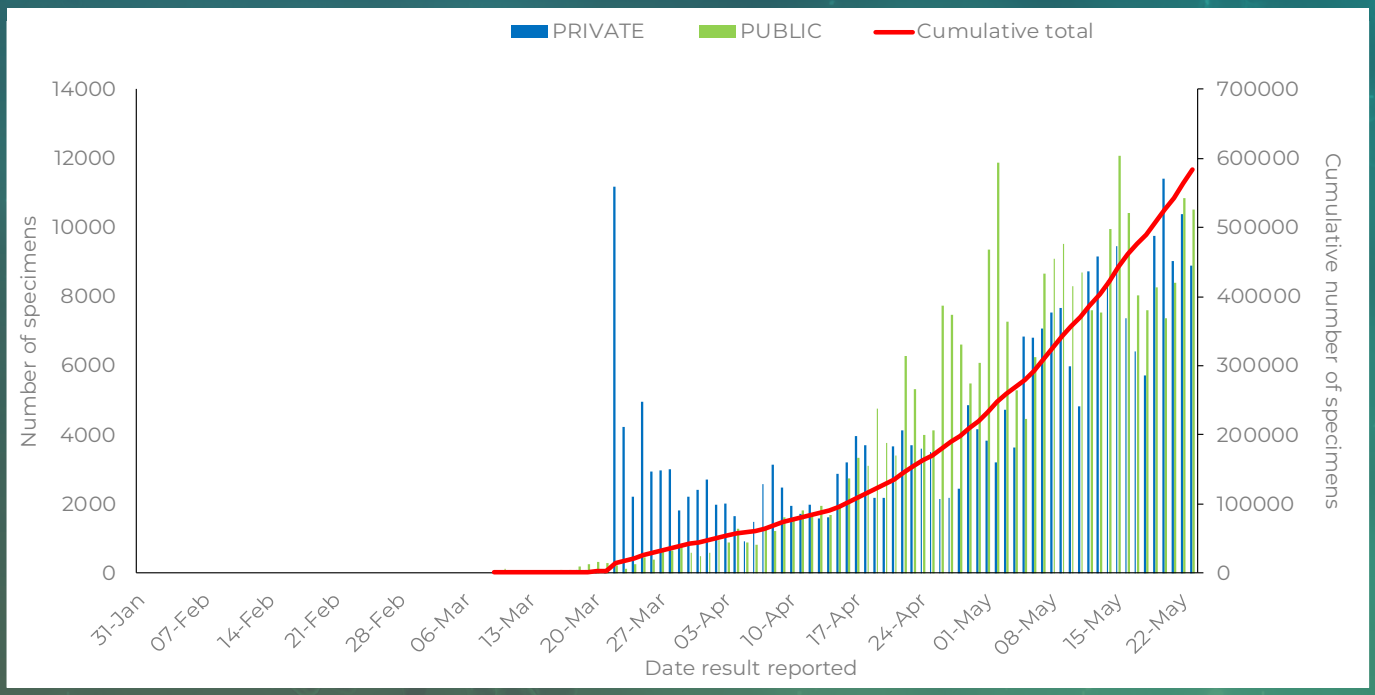
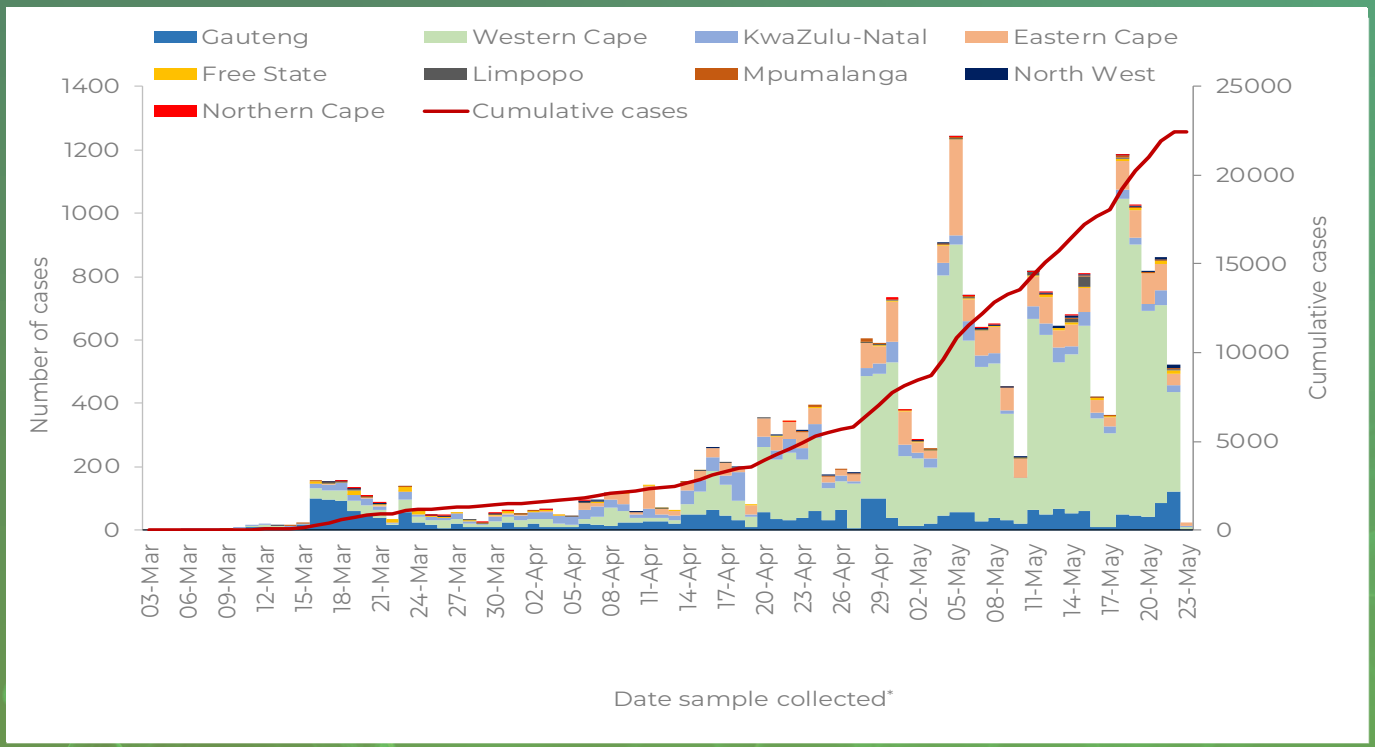
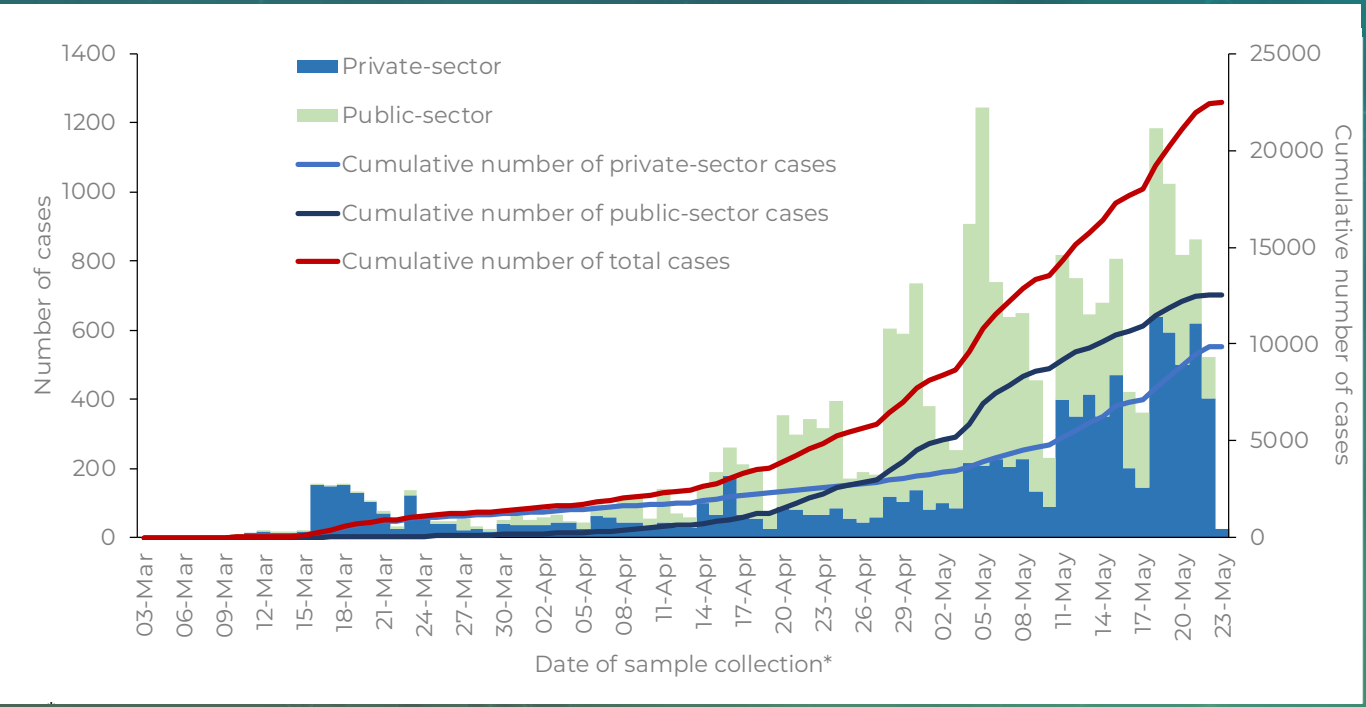


Figure 1. Number and cumulative number of specimens tested for SARS-CoV-2, by testing laboratory sector and date of specimen collection, South Africa, 31 January 2020-23 May 2020 (n=583 855)



*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 province and date of specimen collection, South Africa, 3 March-23 May 2020 (n=22 462, 121 missing dates of specimen collection).



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

Figure 3. Number and cumulative number of laboratory-confirmed cases of COVID-19, by testing laboratory sector and date of specimen collection, South Africa, 3 March-23 May 2020 (n= 22 462, 121 missing dates of specimen collection)

Table 1. Number and incidence risk of laboratory-confirmed cases of COVID-19 and testing per 100 000 persons by province, South Africa, 3 March 23 May 2020 (n=22 583)

Province	Cases (n)	Proportion (n/total) (95% confidence interval)	Population in mid-2019* (n)	Incidence risk (cases per 100 000 persons)	Change in incidence risk (cases per 100 000 persons) over the past week	Tests per 100 000 persons
Eastern Cape	2 690	12.0 (11.5-12.3)	6 712 276	40.1(38.6-41.6)	11.3	868
Free State	202	0.9 (0.8-1.0)	2 887 465	7.0 (6.1-8.0)	1.5	961
Gauteng	2 773	12.3 (11.8-12.7)	15 176 115	18.3 (17.6-19.0)	2.9	1264
KwaZulu-Natal	1 815	8.0 (7.6-8.4)	11 289 086	16.1 (15.4-16.8)	2.4	880
Limpopo	128	0.5 (0.4-0.7)	5 982 584	2.1 (1.8-2.5)	1.4	218
Mpumalanga	101	0.5 (0.4-0.5)	4 592 187	2.2 (1.8-2.7)	1.0	368
North West	94	0.4 (0.3-0.5)	4 027 160	7 4 (6.0-9.1)	1.9	798
Northern Cape	40	0.2 (0.1-0.2)	1 263 875	0.9 (0.7-1.4)	0.0	137
Western Cape	14 740	65.3 (64.6- 65.9)	6 844 272	215.4 (211.9-218.9)	79.6	1938
South Africa	22 583	100	58 775 020	38.4 (37.9-38.9)	12.0	994

*Statistics South Africa 2019 mid-year population estimates

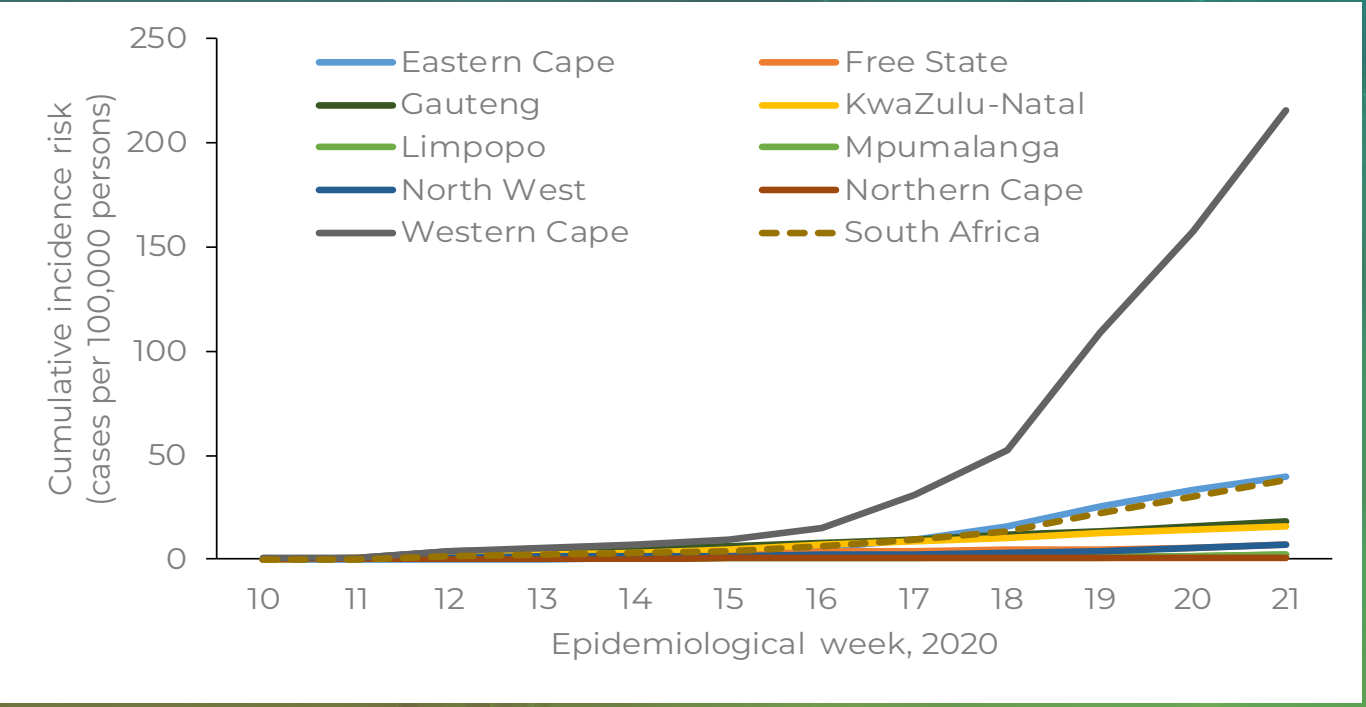


Figure 4: Cumulative incidence risk of PCR-confirmed COVID-19 by province and epidemiological week, South Africa from 3 March -23 May 2020 (n=22 583)

CHARACTERISTICS OF CASES BY AGE AND SEX

The median age of cases was 38 years (interquartile range [IQR], 29-49 years). The largest proportion of cases was in the 30-34-year age group (3 205/22 583, 14.2%) followed by the 35-39-year age group (3 161/22 583, 14.0%) (Figure 5). The incidence risk was highest among those in the 40-44-year age group (71 cases per 100 000 persons), followed by those in the 35-39-year age group (69 cases per 100 000 persons), with the lowest incidence risk in the 5-9-year age group (5.3 cases per 100 000 persons). (Figure 6 and Table 2). Fifty-eight per cent (13 017/22 583) (95% CI, 57.0- 58.2 %) of the cases were female. The overall incidence risk was higher among females than males (43.2 cases per 100 000 persons [95% CI 42.5-44.0] versus 32.6 cases per 100 000 persons [95% CI 32.0-33.3) (Figure 6). However, this varied by age group with the peak incidence risk among females aged 35-44 years and males aged 50-54 years (Figure 7 and Figure 8). This may also be partially explained by varying testing practices by age and sex (data not shown).

38
THE MEDIAN AGE OF CASES

14.2%
THE HIGHEST PROPORTION OF CASES IS AGE 30-34

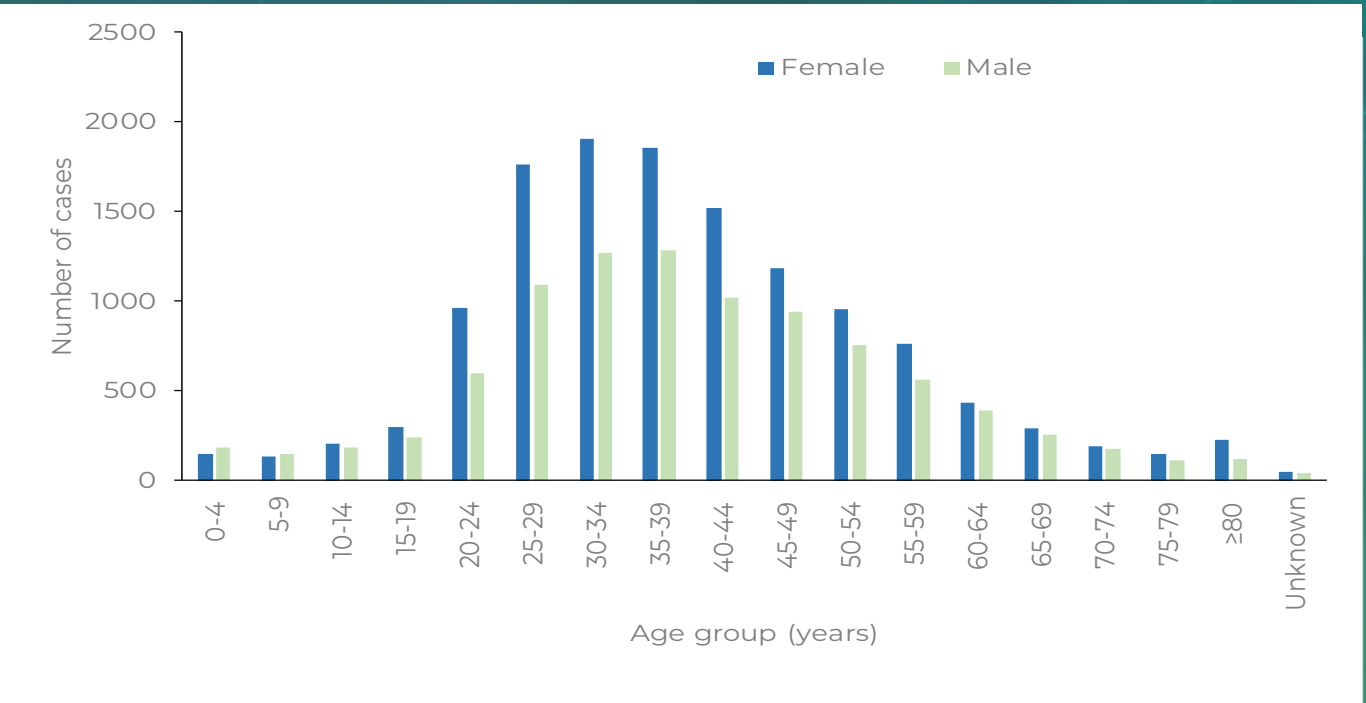


Figure 5. Number of laboratory-confirmed cases of COVID-19 by age group and sex, South Africa, 3 March-23 May 2020 (n=22 583)

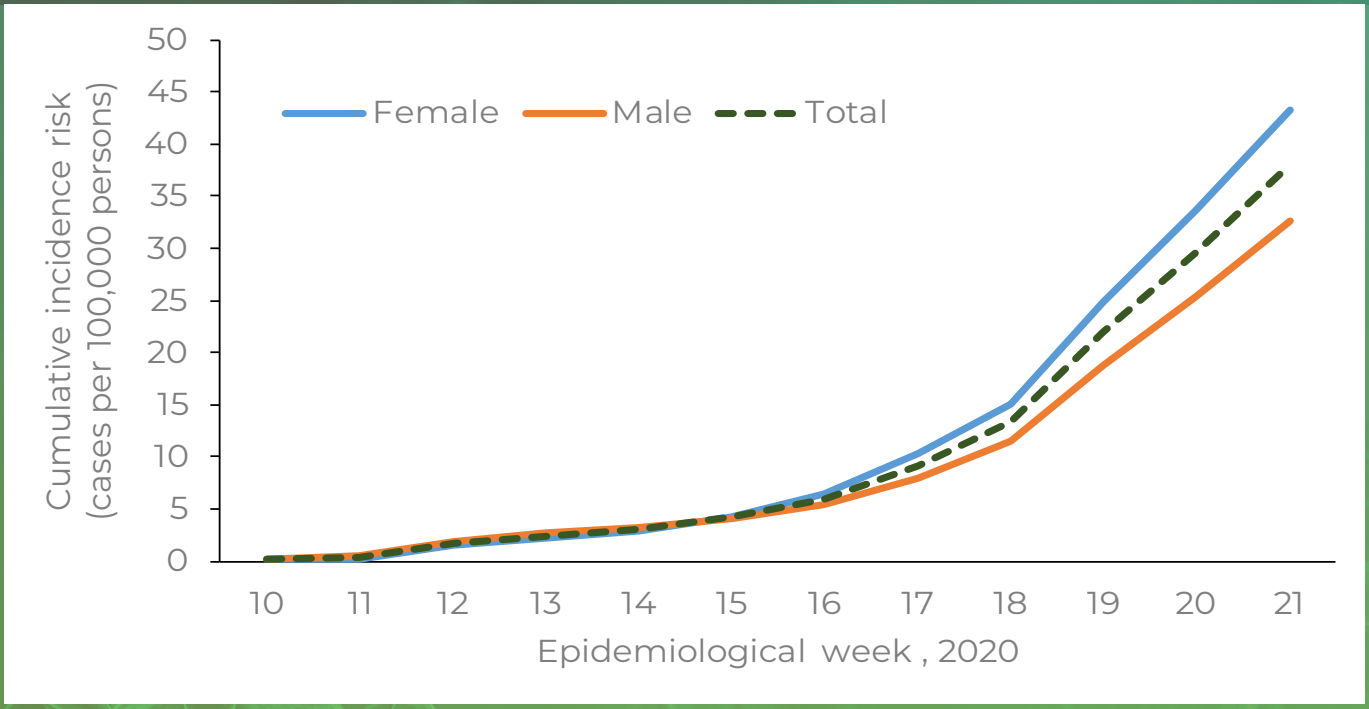


Figure 6. Incidence risk by sex and epidemiological week, South Africa, 3 March 2020-23 May 2020 (n= 22 462, 121 missing dates of specimen collection)

Table 2. Number of cases and incidence risk by age group, South Africa, 3 March 2020-23 May 2020

Age group (years)	Cases (n)	Population in mid-2019*, n	Incidence risk (cases per 100 000 persons)	Change in incidence risk (cases /100 1000 persons) in past week
0-4	327	5 733 946	5.7	1.2
5-9	283	5 737 439	4.9	1.5
10-14	400	5 427 902	7.4	3.2
15-19	550	4 660 002	11.8	3.3
20-24	1 573	4 914 186	32.0	8.7
25-29	2 876	5 528 571	52.0	22.3
30-34	3 205	5 537 963	57.9	18.2
35-39	3 161	4 571 175	69.2	21.9
40-44	2 555	3 585 408	71.3	23.3
45-49	2 139	3 045 617	70.2	23.2
50-54	1 719	2 535 048	67.8	21.5
55-59	1 335	2 192 512	60.9	20.5
60-64	830	1 784 476	46.5	14.1
65-69	550	1 370 121	40.4	11.9
70-74	368	949 812	38.7	11.0
75-79	257	597 874	42.9	13.6
≥80	348	602 969	57.7	22.0
Unknown	107			
Total	22 583	58 775 022	38.4	12.0

*Statistics South Africa

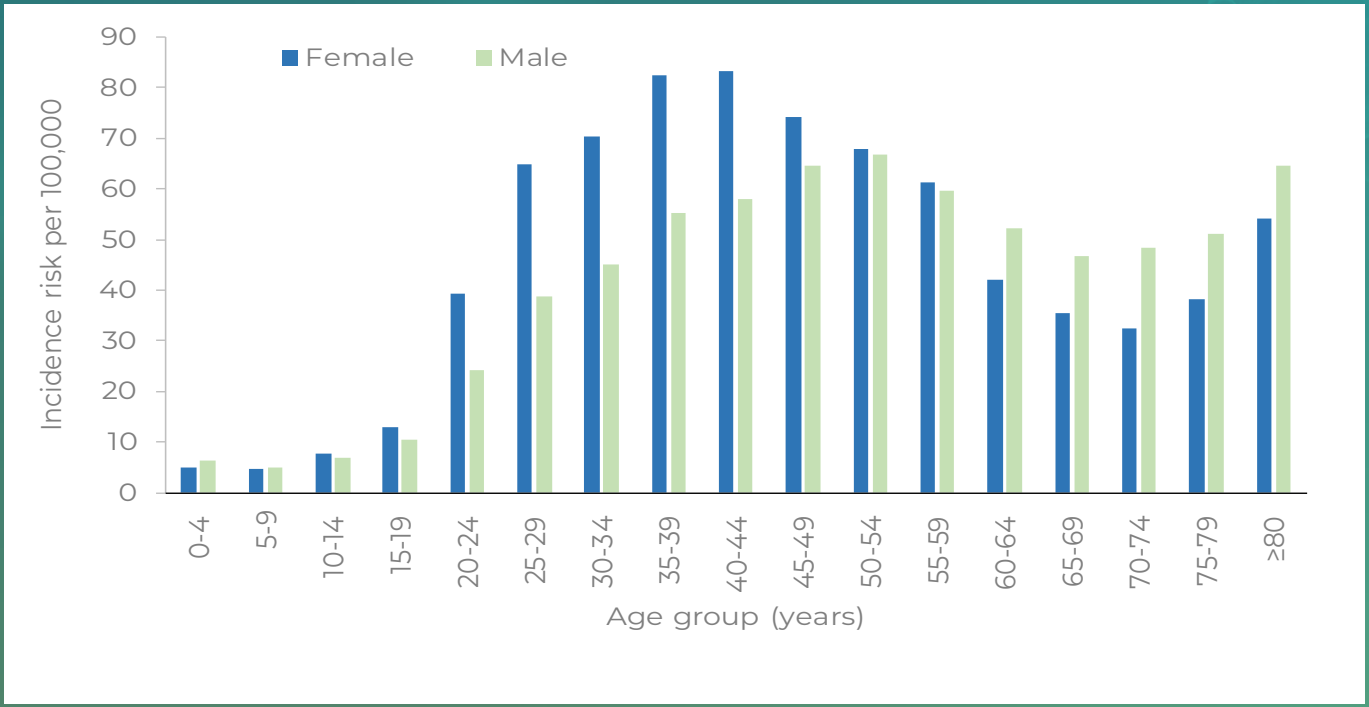


Figure 7. Incidence risk by age group and sex, South Africa, 4 March 2020-23 May 2020 (n=22 476, age missing for 107 cases)

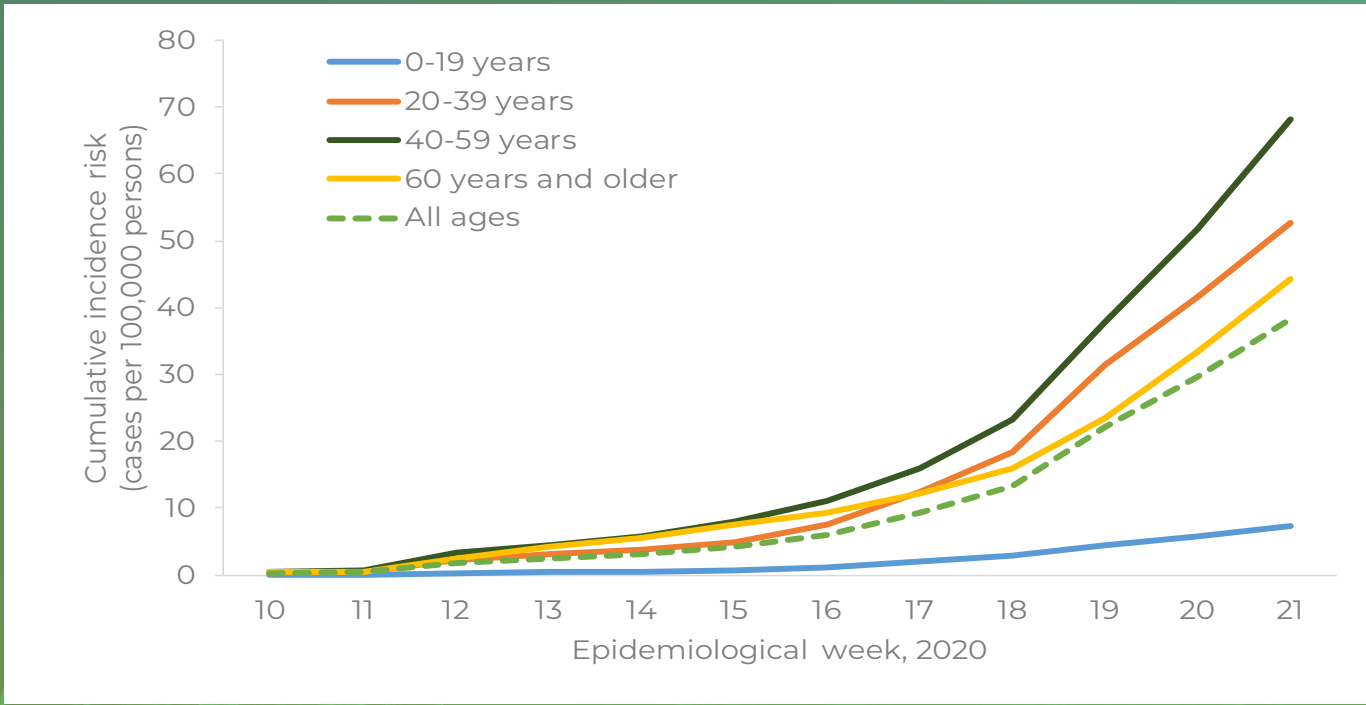


Figure 8. Cumulative incidence risk of PCR-confirmed COVID-19 cases by age group and epidemiological week, South Africa, 3 March -23 May 2020 (n=22 476, age missing for 107 cases)

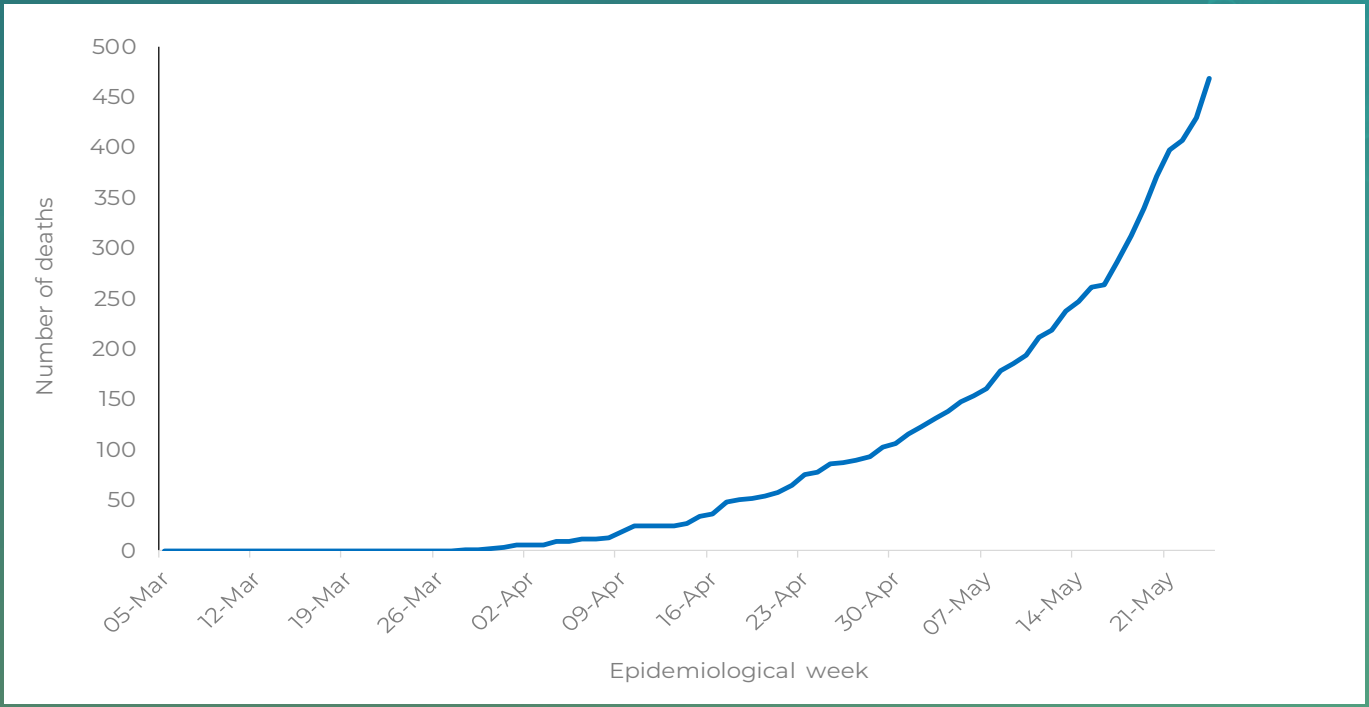


Figure 9. Cumulative number of deaths among persons with PCR-confirmed COVID-19 by epidemiological week, South Africa, 3 March-23 May 2020 (n=469)

LIMITATIONS

This report is based on laboratory surveillance. 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.

CONCLUSIONS

The number of COVID-19 cases reported continue to increase week on week in all nine provinces of South Africa. Three provinces (Western Cape (65.3%), Gauteng (12.3%) and Eastern Cape (12%)) reported the highest proportion of cases. The same provinces reported the highest incidence risk. The majority of cases and the highest incidence risk was reported among females.