

**CORONAVIRUS DISEASE (COVID-19) PANDEMIC**

**An update on the coronavirus disease 2019 (COVID-19) outbreak, South Africa**

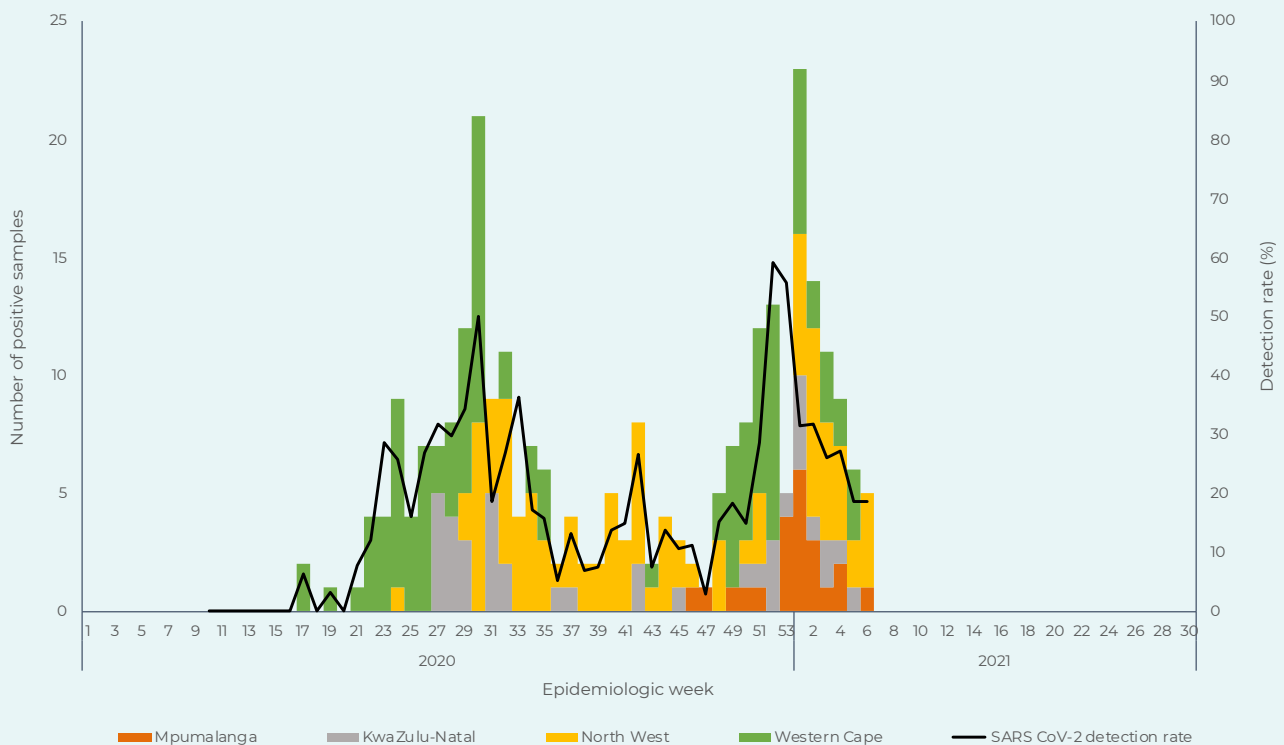
**Laboratory-confirmed cases of COVID-19 among patients enrolled in syndromic surveillance for respiratory illness in South Africa, 10 March 2020- 14 February 2021**

South Africa has been conducting syndromic surveillance for influenza-like illness (ILI) and pneumonia since 2009 and 2012, respectively. Four clinics in four provinces (Mpumalanga, Western Cape, KwaZulu-Natal and North West) and nine sentinel hospitals in five provinces (Gauteng, Mpumalanga, Western Cape, KwaZulu-Natal and North West) contribute to the surveillance programme. In March 2020, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was included as one of the pathogens tested for among patients enrolled at sentinel surveillance sites.

The first case of SARS-CoV-2 in South Africa was reported on 5 March 2020. From 10 March 2020 through 14 February

2021, a total of 6 437 surveillance cases was tested for SARS-CoV-2, of which 17% (308/1769) of ILI and 18% (836/4668) of pneumonia surveillance cases were positive for SARS-CoV-2. The first COVID-19 ILI case was reported from the Western Cape Province on 8 May 2020, and the first COVID-19 among pneumonia surveillance cases was detected on 23 April 2020, also from the from Western Cape Province.

The median age of COVID-19 cases with ILI was 35.6 years (range 0.1-80.4) and 53.9 years (range 0.02- 93.7) for cases hospitalised with pneumonia at sentinel sites.



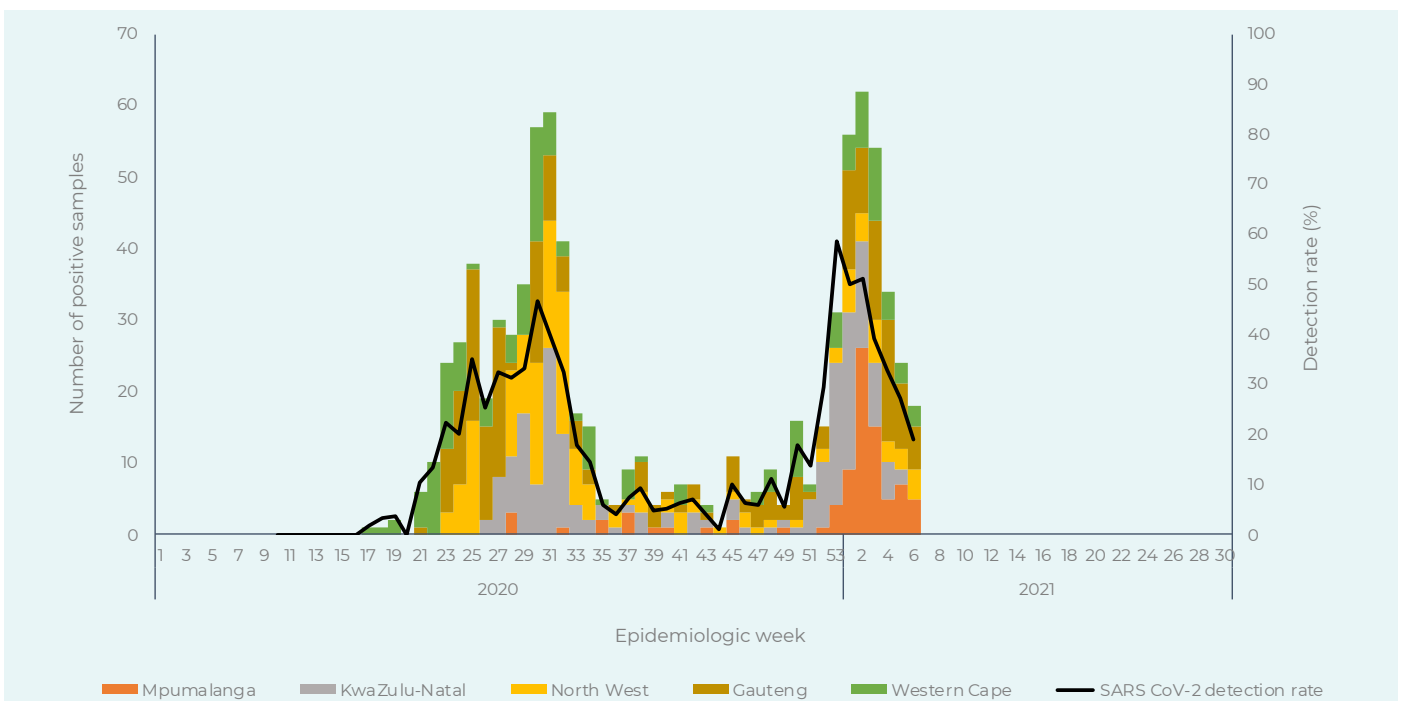
**Figure 1.** Number and detection rate of laboratory –confirmed cases of COVID-19 by province and date of specimen collection, influenza-like-illness surveillance, 10 March 2020-14 February 2021 (N=1769)

## CORONAVIRUS DISEASE (COVID-19) PANDEMIC

Among ILI cases, the detection rate peaked at 50.0% (21/42) in week 30 of 2020 during the first wave, and at 59.0% (13/22) in week 52 of 2020 during the second wave (Figure 1). Among pneumonia surveillance cases, the detection rate peaked at 46.7% (57/122) in week 30 of 2020, and at 58.5% (31/53) in week 53 of 2020 in the first and second waves, respectively (Figure 2). In both surveillance programmes, the number of positive cases has been decreasing since week 2 of 2021 in ILI surveillance and week 3 of 2021 in pneumonia surveillance. The majority of COVID-19 patients among ILI surveillance cases were from sites in the Western Cape Province (36.7%, 113/308), and 59.1% (182/308) were female; whereas the majority of COVID-19

patients from pneumonia surveillance sites were from Gauteng Province (27.4%, 229/836) and 61.2% (512/836) were female. Underlying conditions were more common among hospitalised COVID-19 patients, 58.1% (486/836) versus 19.8% (61/308),  $p < 0.001$ , of ILI cases reported one or more underlying condition.

Of the 766 pneumonia surveillance cases with data on in-hospital outcome available, 108 (14.1%) died, of which the majority (25.9%, 28/108) were from the KwaZulu-Natal Province site, followed closely by the Gauteng Province site (25.0%, 27/108), and were female 62.0% (67/108). The median age of those who died was 64.0 years (range 24.0-85.4 years).



**Figure 2.** Number and detection rate of laboratory-confirmed cases of COVID-19 by province and date of specimen collection, Pneumonia Surveillance programme, 10 March 2020-14 February 2021 (n=4668).

The sentinel surveillance programme has been able to identify community transmission of SARS-CoV-2, and the trends in number of cases reported followed a similar trajectory to that reported in the national laboratory-based surveillance system. In both outpatient ILI and hospitalised cases, the majority of positive cases were females, and peaks in detection rate during the second wave were higher than those reported during the first wave. The peak detection rate among ILI and pneumonia surveillance cases during the first wave (46.2%) and second wave (47.7%) was higher than that reported by the national laboratory-based surveillance during the first wave (29.7%) and second wave (34.8%). The differences were likely due to enrolment criteria used for syndromic surveillance, which only tested cases with respiratory symptoms or COVID-19- related

symptoms, therefore was more likely to pick up the positives among enrolled cases; whereas the national laboratory-based surveillance included screening of contacts of COVID-19 cases as well.

Mortality among laboratory-confirmed COVID-19 admissions from the pneumonia surveillance programme (14.1%) was less than the mortality among laboratory-confirmed COVID-19 admissions reported by DATCOV (19.4%) surveillance system from the same provinces included in pneumonia surveillance. The lower mortality among pneumonia surveillance cases was likely due to pneumonia surveillance missing very severe cases because consent was required for enrolment into pneumonia surveillance.