

INTERNATIONAL OUTBREAKS OF IMPORTANCE

An update on the novel coronavirus disease 2019 outbreak, South Africa

Demographic and clinical characteristics of the first 428 persons under investigation for coronavirus disease 2019, 22 January – 8 March 2020, South Africa

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was confirmed as the causative agent of coronavirus disease 2019 (COVID-19), and was initially detected in Wuhan City, China. In South Africa, a national preparedness and response plan, including early case detection by laboratory testing, was initiated on 22 January 2020. The first case of COVID-19 was confirmed in early March 2020. President Cyril Ramaphosa subsequently declared the COVID-19 outbreak a national disaster on 28 March 2020 and immediately implemented travel restrictions from countries classified by the World Health Organization (WHO) as high risk. A nation-wide lockdown started on 26 March 2020 and was extended by an additional two weeks to 30 April 2020. Here we present preliminary data on the first 428 persons under investigation (PUI) for COVID-19 for the period 22 January to 8 March 2020.

Individuals meeting the PUI criteria had an acute respiratory illness (ARI) and had either travelled to Wuhan/mainland China, had close contact with a confirmed case or were exposed to patients with severe ARI as healthcare workers. The PUI definition was updated on 3 February 2020 to include a travel history to areas with ongoing community transmission of COVID-19. Combined nasopharyngeal/oropharyngeal swabs in universal transport medium, accompanied by specimen collection and PUI forms, were submitted to the National Institute for Communicable Diseases. Specimens were tested using a reverse-transcriptase polymerase chain reaction (RT-PCR) assay.

Of the 428 PUIs tested from 22 January to 8 March 2020 (Figure 2), the majority were aged 30-39 years (23%, 98/428), and 51% (217/428) were males. Most were from Gauteng (46%, 195/428), Western Cape (23%, 100/428) and KwaZulu-Natal (19%, 79/428) provinces. Data on self-reported symptoms were collected at the time of specimen collection. These included cough (54%, 229/428), sore throat (52%, 224/428) and fever (23%, 99/428). Among 281 PUIs with available data, 88% (247/281) were outpatients and 12% (34/281) were admitted to hospital at the time of specimen collection. Based on available laboratory information (332/428, 78%), most specimens were submitted from the private sector (243/332, 73%). This is a reflection of the PUI definition, health-seeking behaviour of international travellers and the epidemiologic links of the first South African cases to epidemics in European countries. Among 428 PUIs who were tested for COVID-19, 31% (98/316) had a travel history to China, 17% (52/316) to Italy and 4% (17/316) to the United Arab Emirates (UAE) (Table 1).

During the reporting period, eight (2%) PUIs tested positive for SARS-CoV-2 and seven (2%) had inconclusive results owing to poor sample quality (human DNA was not detected). The index case patient, from KwaZulu-Natal, travelled to Italy and was part of a group of 10 people. Six other confirmed case patients were epidemiologically linked to the index case (one (from KwaZulu-Natal) was a close contact and five (one from Gauteng and four from KwaZulu-Natal) had travelled to Italy with the index case). The eighth case patient (from Gauteng) had travelled to the UAE. Among the eight positive cases, two case patients displayed symptoms upon first specimen collection; however, all were symptomatic upon the second and third specimen collection (within the month of March, one to three weeks after the first specimen collection). One case was hospitalised and there were no deaths.

Table 1. Demographic and clinical characteristics of persons under investigation for COVID-19, 22 January – 8 March 2020, South Africa.

	Overall n/N (%)
Age group (years)	
0-9	23/428 (5.4)
10-19	14/428 (3.3)
20-29	91/428 (21.3)
30-39	98/428 (22.9)
40-49	82/428 (19.2)
50-59	56/428 (13.1)
60-69	43/428 (10.0)
70-79	20/428 (4.7)
≥80	1/428 (0.2)
Male sex	217/428 (50.7)
Province	
Eastern Cape	18/428 (4.2)
Free State	9/428 (2.1)
Gauteng	195/428 (45.6)
KwaZulu-Natal	79/428 (18.5)
Limpopo	8/428 (1.9)
Mpumalanga	8/428 (1.9)
North West	5/428 (1.2)
Northern Cape	6/428 (1.4)
Western Cape	100/428 (23.4)
Signs and symptoms at time of specimen collection	
Fever	99/428 (23.1)
Sore throat	224/428 (52.3)
Cough	229/428 (53.5)
Headache	80/428 (18.7)
Shortness of breath	68/428 (15.9)
Diarrhoea	25/428 (5.8)
Vomiting	16/428 (3.7)
Location at time of specimen collection	
Inpatient admitted to ICU	10/281 (3.6)
Inpatient not admitted to ICU	24/281 (8.5)
Outpatient	247/281 (87.9)
Laboratory sector	
Private	243/332 (73.2)
Public	89/332 (26.8)
Travel history	
China	98/428 (22.9)
Italy	52/428 (12.1)
United Arab Emirates	17/428 (4.0)
Germany	13/428 (3.0)
United Kingdom	15/428 (3.5)
Other*	121/428 (28.3)
No travel	112/428 (26.2)

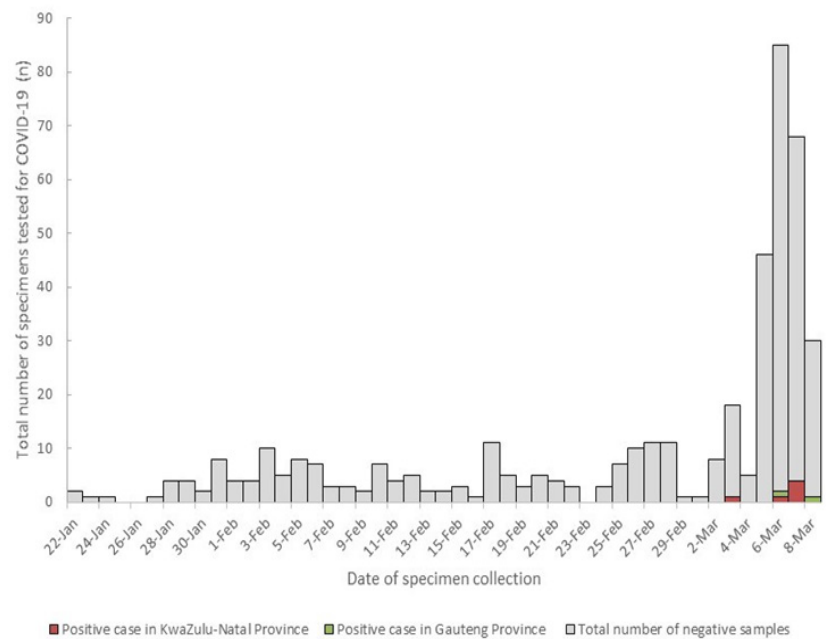


Figure 2. Epidemic curve of persons under investigation for COVID-19 by date of specimen collection, 22 January – 8 March 2020, South Africa.

*Other countries include: Australia, Bali, Belgium, Botswana, Brazil, Bulgaria, Egypt, France, Georgia, Germany, India, Iran, Ireland, Israel, Ivory Coast, Japan, South Korea, Kuwait, Malaysia, Mauritius, Mozambique, Myanmar, New Zealand, Nigeria, Pakistan, Portugal, Qatar, Romania, Saudi Arabia, Scotland, Singapore, Spain, Sri Lanka, Switzerland, Thailand, Turkey, United States of America, Ukraine, Vietnam & Zimbabwe.

Article source: COVID-19 response team; cheryl@nicd.ac.za