NELSON MANDELA UNIVERSITY

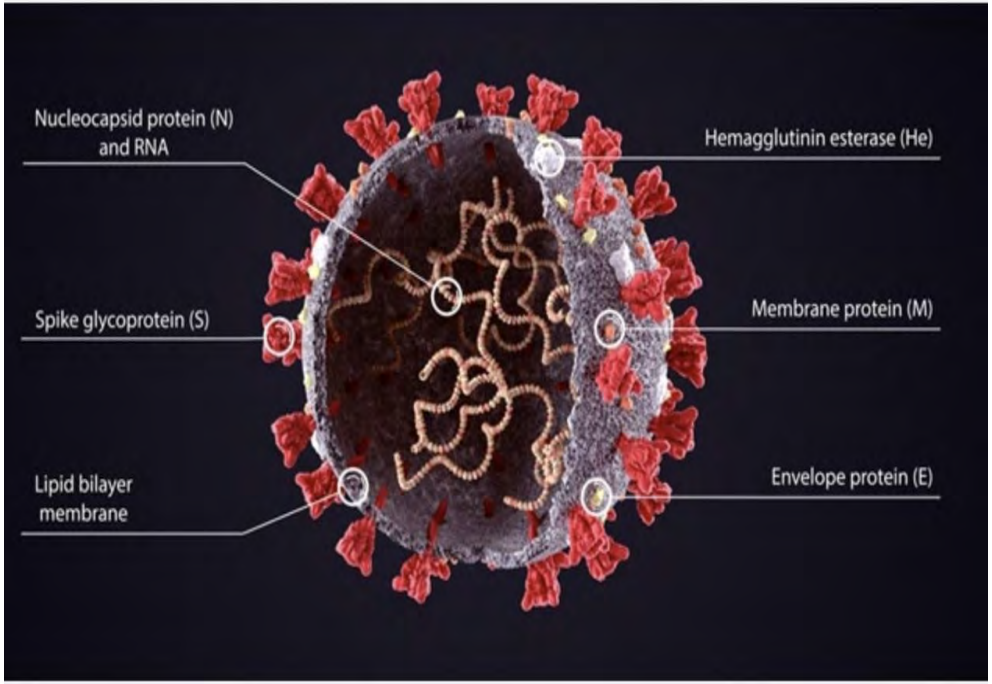
Covid-19: When is the peak?

Lungile Pepeta

24 June 2020

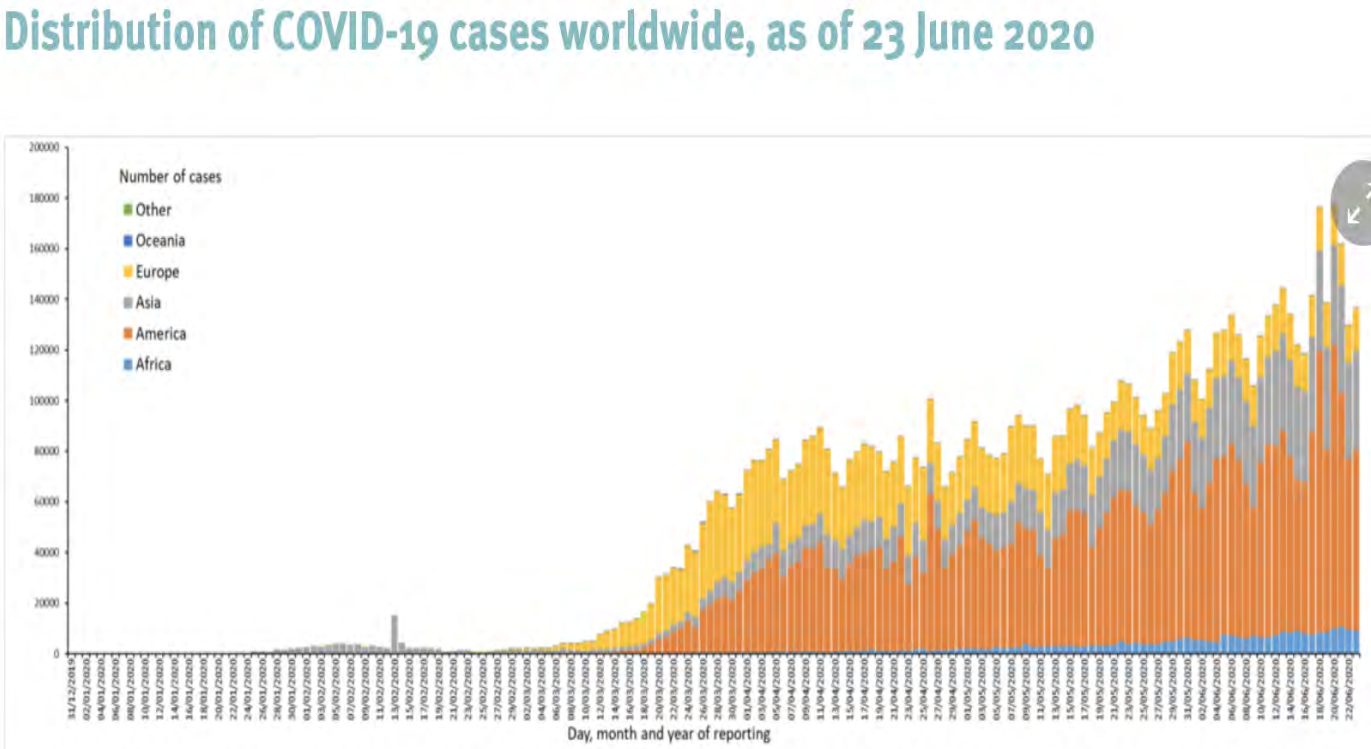
Viral classification and structure

- Coronaviruses (CoVs) are RNA viruses that are enveloped and spherical viruses that typically measure between 80 and 120 nanometers (nm) in size.
- Severe acute respiratory syndrome (SARS), Middle East respiratory syndrome (MERS)-CoV, and the novel, severe acute respiratory syndrome (SARS)-CoV-2 (Covid-19).
- Challenge with antibody testing.



Trends

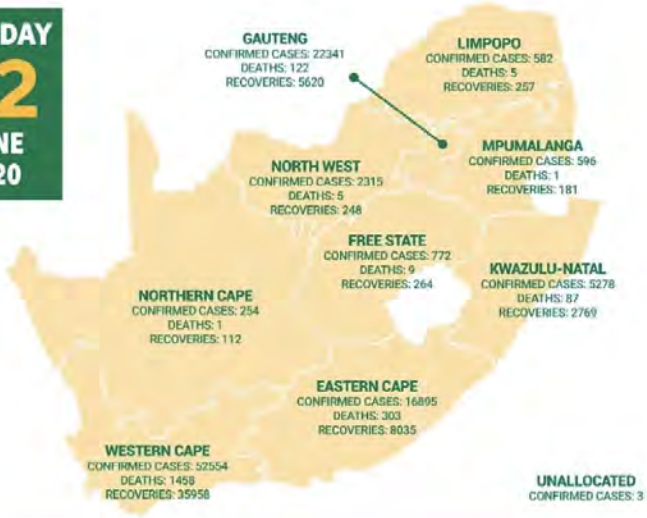

COVID-19
Click on a country or territory to see cases, deaths, and recoveries.
TOTAL COUNTS (as of 2 minutes ago)
ACTIVE: 3,843,467/9,334,613
DEATHS: 478,740 (5.13%)
RECOVERIES: 5,012,406 (53.70%)


Distribution of COVID-19 cases worldwide, as of 23 June 2020
Number of cases
Other
Oceania
Europe
Asia
America
Africa
Day, month and year of reporting

COVID-19 STATISTICS IN SA

1 353 176	101 590	53 444	1 991	4 288
TESTS CONDUCTED	POSITIVE CASES IDENTIFIED	TOTAL RECOVERIES	TOTAL DEATHS	NEW CASES

MONDAY 22 JUNE 2020



Learn more to Be READY for #COVID19:
www.sacoronavirus.co.za

NICD Hotline: 0800 029 999
WhatsApp 'Hi' to 0600 123 456

health
Department:
Health
REPUBLIC OF SOUTH AFRICA

South Africa

106,108 total cases

48,961 active

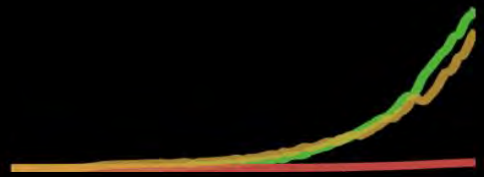
+4,518 (since a day ago)

2,102 deceased

+111 (since a day ago)

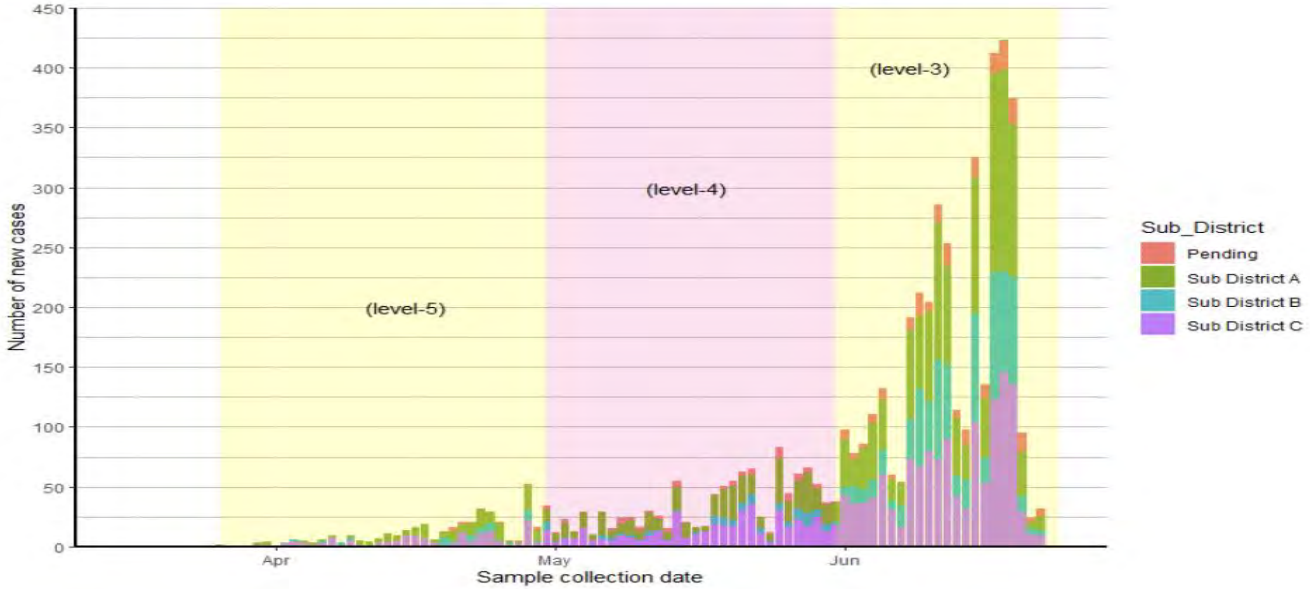
55,045 recovered

CASES OVER TIME

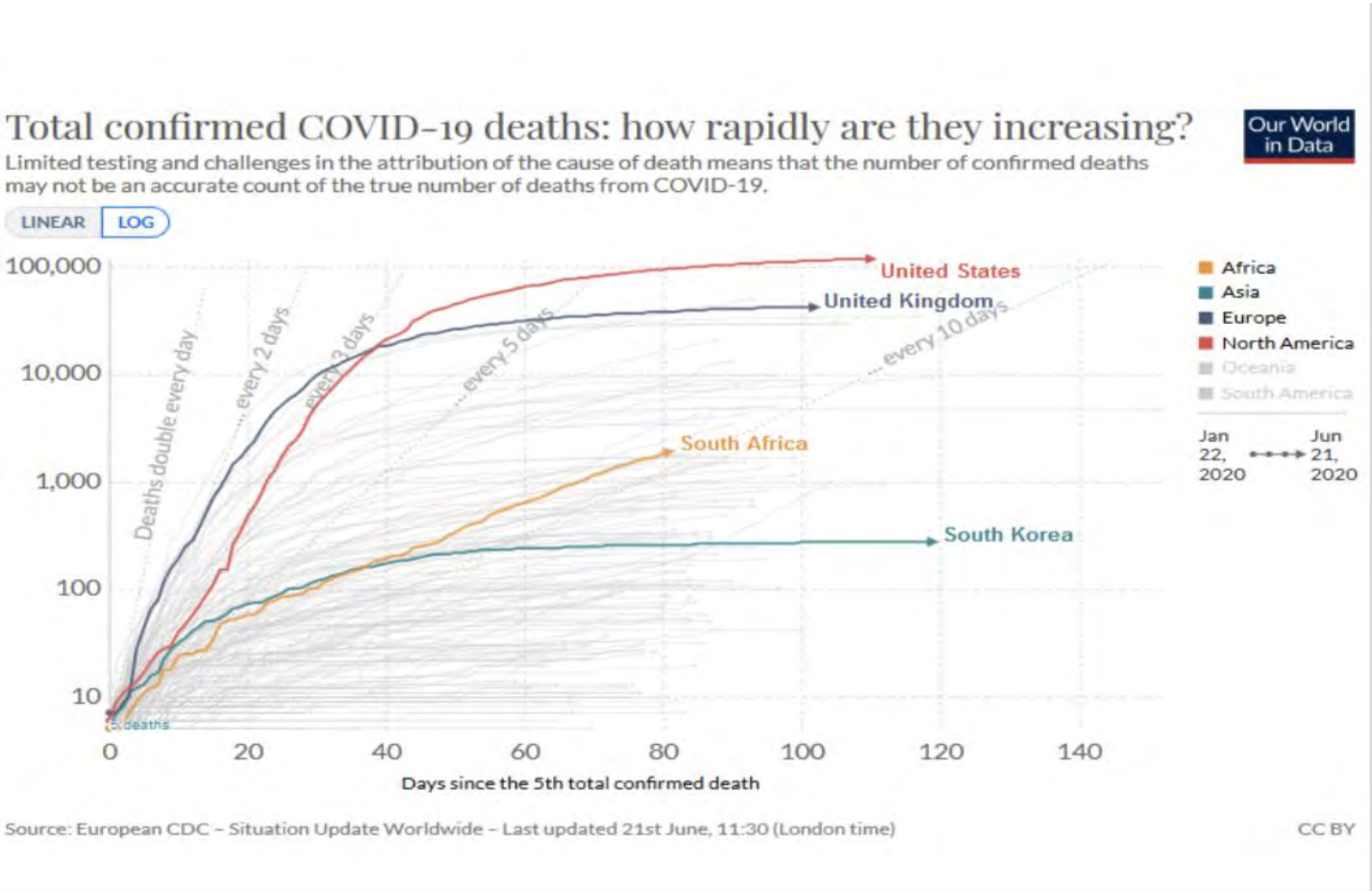


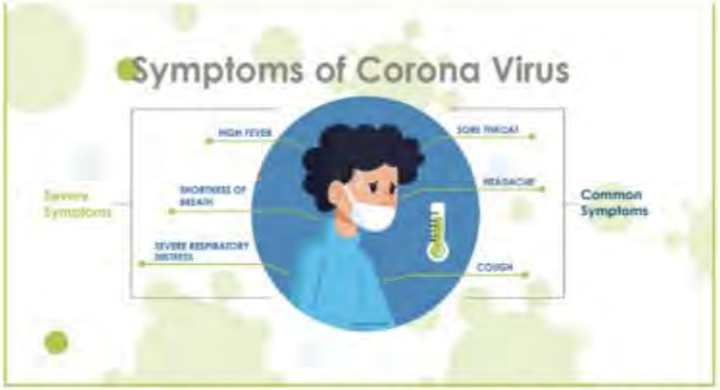
active • deaths • recovered

Figure 2: Epidemic curve of COVID-19 cases by date of sample collection, with annotations for lockdown levels, Nelson Mandela Bay, 2020-06-23, (N = 5299)



Epicurve for NMB district (weeks)


Total confirmed COVID-19 deaths: how rapidly are they increasing?
Limited testing and challenges in the attribution of the cause of death means that the number of confirmed deaths may not be an accurate count of the true number of deaths from COVID-19.
Our World in Data
LINEAR
LOG
100,000
10,000
1,000
100
10
Deaths double every day
every 2 days
every 3 days
every 5 days
every 10 days
United States
United Kingdom
South Africa
South Korea
Africa
Asia
Europe
North America
Oceania
South America
Jan 22, 2020
Jun 21, 2020
10 deaths
0
20
40
60
80
100
120
140
Days since the 5th total confirmed death
Source: European CDC – Situation Update Worldwide – Last updated 21st June, 11:30 (London time)
CC BY



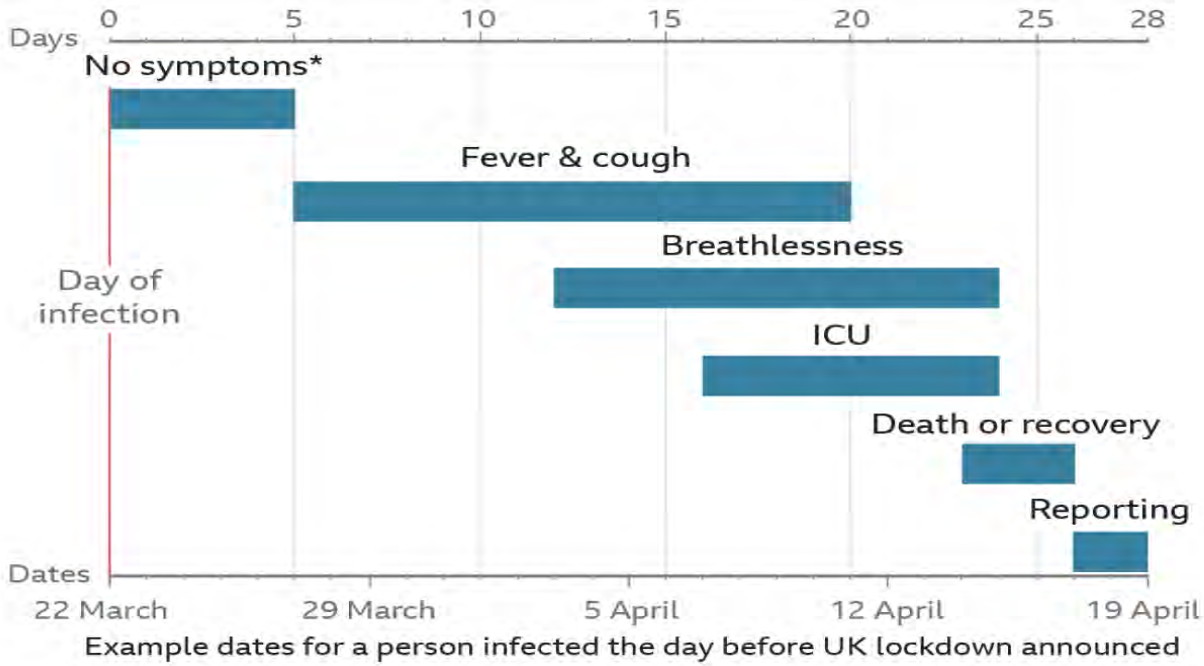
- 80% of persons have mild-moderate disease (common 'flu' or cold)
- 15% of cases require hospital admission

- 5 % of cases are become critically ill and require ICU of which 2% die

- Persons with underlying co-morbid illness esp. pulmonary disease, elderly, immunocompromised, etc.

It takes weeks before infections show in numbers of deaths

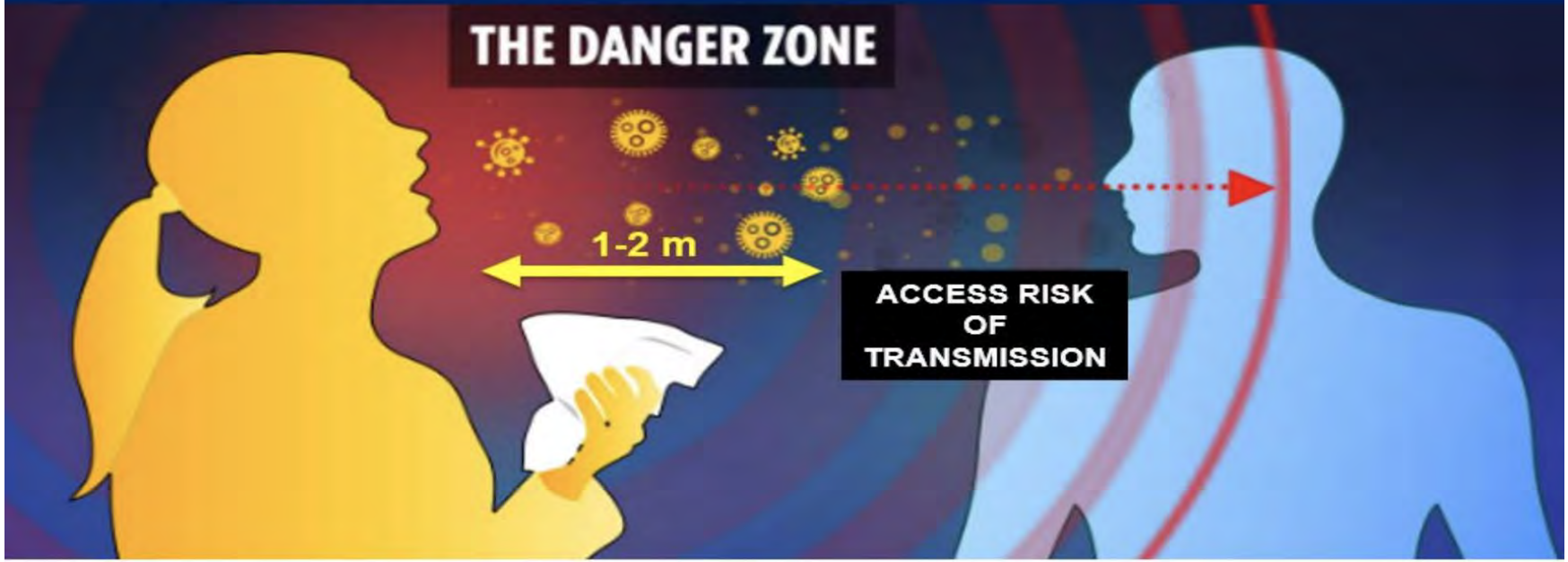
Example of how a serious case may progress



Example dates for a person infected the day before UK lockdown announced

Thank you

TRANSMISSION



Direct contact: Touching an ill persons or a contaminated surface
Droplet transmission: inhaling droplets

- Coughing & sneezing generates droplets of different sizes
- Larger droplets fall to the ground within a 1-2m radius of the person within a few seconds
- More infectious when symptomatic