Coronavirus Disease 2019 (COVID-19) Pandemic

Update Paper 6

1st April 2020, 5pm NZT

Current Status of COVID-19

Globally (*Source*: [Coronavirus COVID-19 Global Cases by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU))](#)

- Cases: 873,767
- Recovered: 184,771 (21%)
- Deaths: 43,288 (5%)

New Zealand (Source: [MoH NZ](#))

- **708** Total Cases (647 Confirmed and 61 Probable cases)
  - **16** cases currently in hospital, **82** recovered
  - **1** deaths
  - **WOCA REGION: 36% (254)** of the total cases resided in Tāmaki Makaurau (**Figure 1**)
  - **AGE GROUPS: 26% (183)** of total cases were aged between 20-29 years (**Figure 1**)
  - **GENDER: 54% (317)** of total cases were female (**Figure 1**)
  - **ETHNICITY:** Of the total cases **6% (47) were Māori**, 72% (430) were Pākehā, 7% (53) were Asian, 3% (19) were Pacific people, and 3% (19) were Middle Eastern/Latin American/African.
  - Most cases so far are linked to overseas travel, except in Southland, where cases not linked to overseas travel are higher than cases linked to overseas travel.
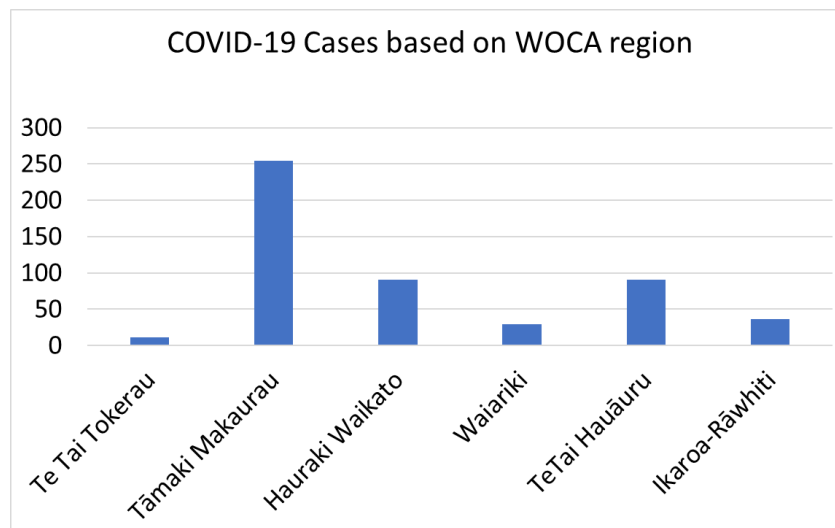

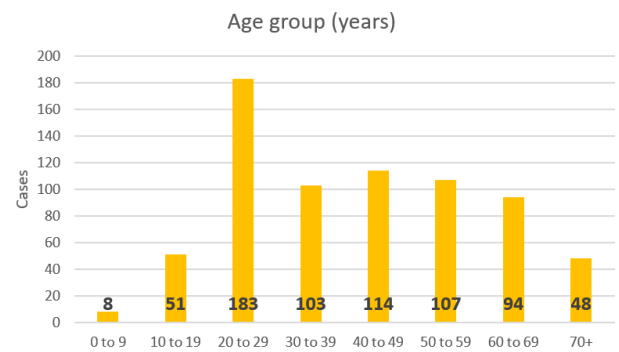*Figure 1: COVID-19 Cases based on WOCA region*

Age group (years)

Age group	Cases
0 to 9	8
10 to 19	51
20 to 29	183
30 to 39	103
40 to 49	114
50 to 59	107
60 to 69	94
70+	48

Figure 3

Sex

Male: 316 | Female: 386 | Not Specified: 6

Figure 4

Figure 2

Ethnicity

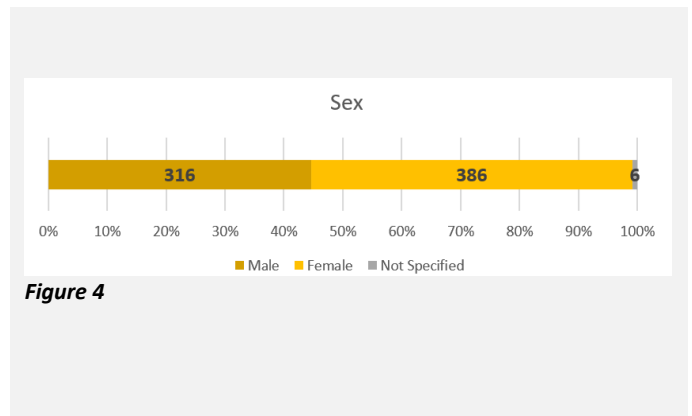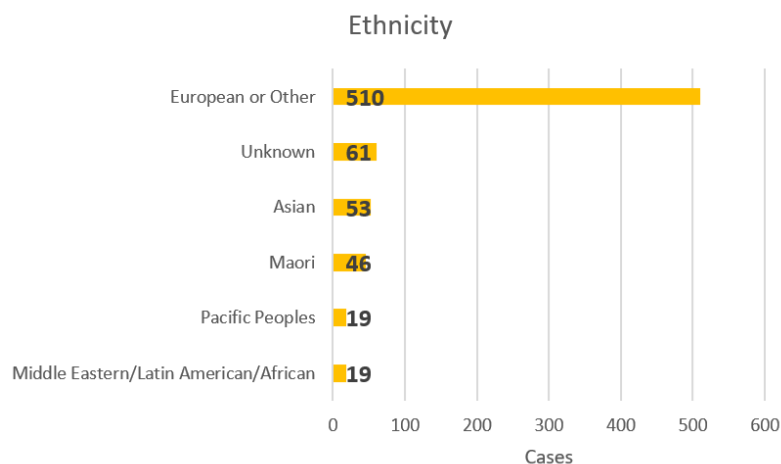| Ethnicity	Cases
European or Other	510
Unknown	61
Asian	53
Maori	46
Pacific Peoples	19
Middle Eastern/Latin American/African	19

Figure 5

Data comparing New Zealand's incidence of cases to that of other countries appear to show we are at a critical point and the four-week lockdown is very timely.

- The graphs below show NZ compared to Australia over the last 4 weeks the absolute increase in numbers of cases per day and the rate of increase in number per day (number of cases per day on a logarithmic scale with gridlines for ten-fold increases in cases).
- We note when NZ is compared to our neighbour Australia, the gap between our countries absolute number of cases is large but when seen on the logarithmic scale, our increase in number of cases over the last seven days shows our cases are increasing at more rapid rate than Australia's and that is why the line on the logarithmic scale are getting closer.
- Hence the current four-week lockdown is a crucial and timely Public Health measure to curb the pandemic.
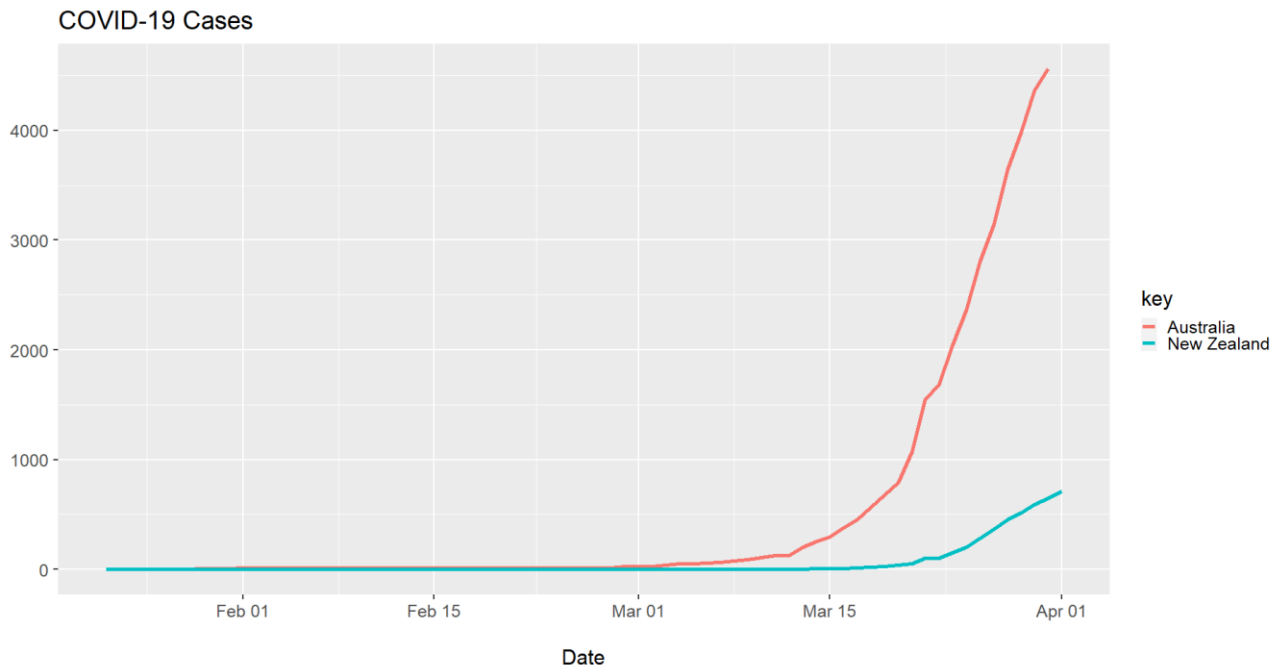
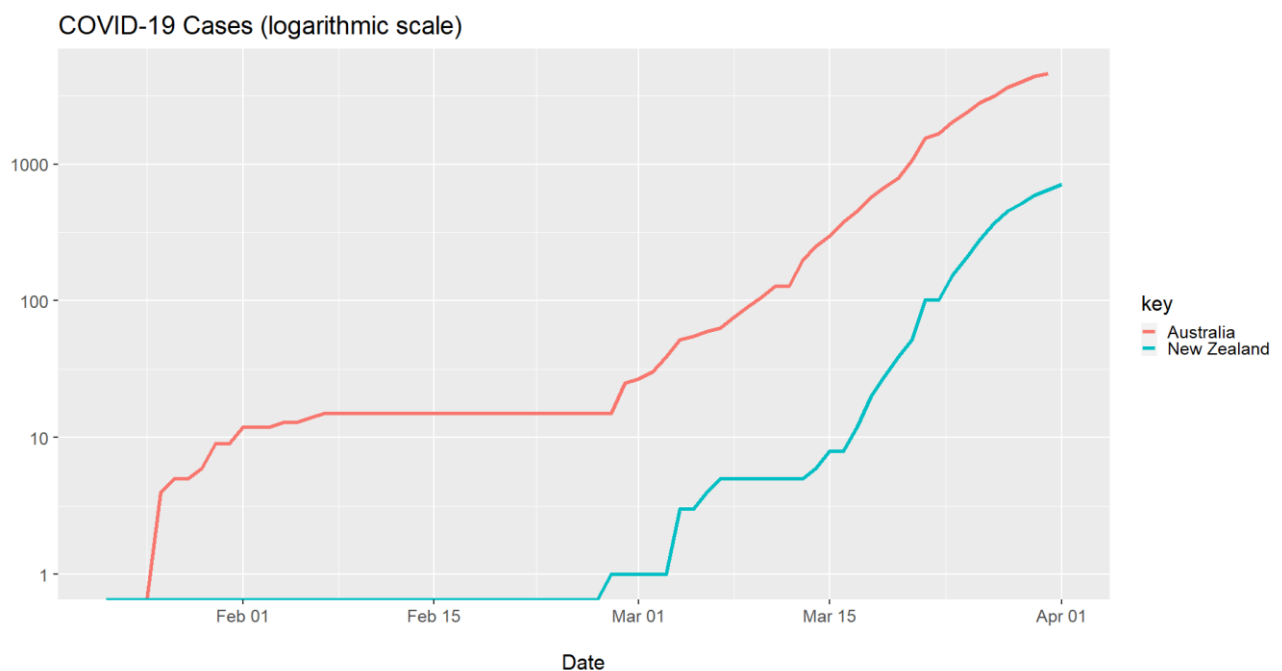*Figure 6: COVID-19 Cases in New Zealand & Australia*

Figure 7: COVID-19 Cases (Logarithmic scale) in New Zealand & Australia
(Source of Data: Johns Hopkins University)

The 4-week lockdown:

As the NZ government has declared a Level 4 Alert, which is hoped will be the most effective approach as a "**Suppression Strategy**".

This strategy requires a combination of social distancing of the entire population, people being instructed to stay at home, household quarantine of confirmed cases and their family members. Educational facilities closed. Businesses closed except for Essential Services.

This strategy will not only reduce community transmission and potential rates of fatality[1] but will buy us time to:

- Build up capacity (produce enough masks, personal protective equipment ("PPE"), ventilators, ICU beds, blood oxygenation machines, etc.)
- Develop a vaccine
- Allow infected Essential Services workers to get well and back to work[2].

Getting prepared for post lockdown:

Ventilators:

As the shortage of ventilators are vital, we need to be more proactive in finding ways to increase our supplies.

Production of these machines has massively stepped up across the world. The US government has asked General Motors to produce ventilators (said to have the capacity to build 10,000 ventilators per month[3]). The government of UK ordered 10,000 of the devices last week[4].

Meanwhile, a team of doctors in Italy has developed a way to provide oxygen to two people from one ventilator, therefore doubling capacity,

While a recent article claimed there was not a clear number known to MOH about the total number of ventilators available in NZ, another news article stated that DHBs have access to 520 ventilators[5]. Given that the real number should be a similar figure, there seems to be a big shortage. If 4-5% of the patients need ICU treatment (according to the current data) and 12% of them need ventilators (similar to Italy), then we can have a rough idea of how many ventilators we need.

e-consultations:

it is time to take advantage of any technological capabilities to respond to the pandemic. NHS has now allowed GP practices to use video conferencing tools such as Skype, WhatsApp and Facetime to do video consultations with their patients in response to Covid-19.

A Harvard Business Review on how policy makers should learn from mistakes in Italy:

Listen to the warnings: some policy makers in Italy were sceptical about the state-of-emergency declaration, and there was systematic inability to listen to experts.

Avoid Partial solutions: Italian followed a partial solution or gradually increased restrictions, rather than full lockdown. While in countries like China and South Korea there were multitude of actions that were taken at once (such as testing, contact tracing, and effective communication system).

Also, there is a need to shift from patient-centred models to a community-system approach to respond to the pandemic.

Learn quickly rather than reinventing the wheel: Italian health care system is highly decentralized, different regions tried different policy responses. But if they had learnt quickly from each other and changed their policies accordingly, they could act more proactively.

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[1] "a fatality rate of 0.9%, around what we're seeing in South Korea today, which has been most effective at following Suppression Strategy."

[2] https://medium.com/@tomaspueyo/coronavirus-the-hammer-and-the-dance-be9337092b56

[3] https://www.nzherald.co.nz/world/news/article.cfm?c_id=2&objectid=12320581

[4] https://www.theguardian.com/world/2020/mar/29/ventilator-challenge-uk-to-start-production-in-covid-19-fight

[5] https://www.rnz.co.nz/national/programmes/checkpoint/audio/2018740328/covid-19-does-nz-have-enough-icu-beds-ventilators

Reliable data: there is this hypothesis that some discrepancy in mortality rates between Italy and other countries could partially be driven by different testing approaches. Only through having proper micro-level data policy makers can allocate resources and understand where is doing better and why.

A war-like decision making approach: the need for immediate action requires a decision-making approach that is far from business as usual. If policymakers want to win the war against Covid-19, it is essential to adopt one that is systemic, prioritizes learning, and is able to quickly scale successful experiments and identify and shut down the ineffective ones.

https://hbr.org/2020/03/lessons-from-italys-response-to-coronavirus