

Coronavirus Disease 2019 (COVID-19)

Pandemic

Update Paper 11

9th April 2020, 10am 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: 1,504,971 (At 10am NZST on 9/4/2020)
- Recovered: 318,068 (21.1%)
- Deaths: 87,894 (5.8%)
- Active Cases: 1,099,009 (73.0%)

New Zealand

 (Source: [MoH NZ](#))

- **1210** Total Cases (969 Confirmed and 241 Probable cases)
 - **927** Active Cases
 - **282** Recovered
 - **12** Currently in hospital (4 in ICU)
 - **1** Death.
 - **DHB Regions: 48% (575)** of the total cases resided within the catchment areas of three Tāmaki region DHBs (of WDHB, ADHB and CMDHB) and the Waikato DHB (See Figure 1).
 - **AGE GROUPS: 25% (or 300) of cases are in the 20-29 age group.** In addition, more than one-third (37% or 444) of total cases were aged 50 years or older (See Figure 2).
 - **GENDER: 54% (649)** of total cases were female (See Figure 3).
 - **ETHNICITY:** Of the total cases **8.1% (99) were Māori**, 74.0% (895) were Pākehā, 8.7% (105) were Asian, and 3.6% (43) were Pacific people (See Figure 4).
 - **SOURCE OF TRANSMISSION: 42%** of total cases were linked to recent overseas travel, 41% were contact with a known case, 2% were community transmission, and 14% are where the source of transmission is still under investigation.
 - **TESTING BY ETHNIC GROUP¹:** Of the 35,000 people tested, 13.6% were Māori, 7.8% were Pacific, 12.0% were Asian, 64.2% European and Other, and 2% Middle Eastern and Latin American.
 - **The current four-week lockdown in NZ:** With winter approaching the next 2 weeks will be a crucial time for people to remain at home and practicing social distancing measures. It is likely that this suppression measure will need to be repeated numerous times until a vaccination becomes available. Please notify the Whānau Ora Commissioning Agency via its website of any requirements for your whānau over winter.

¹ Excludes Waikato DHB data

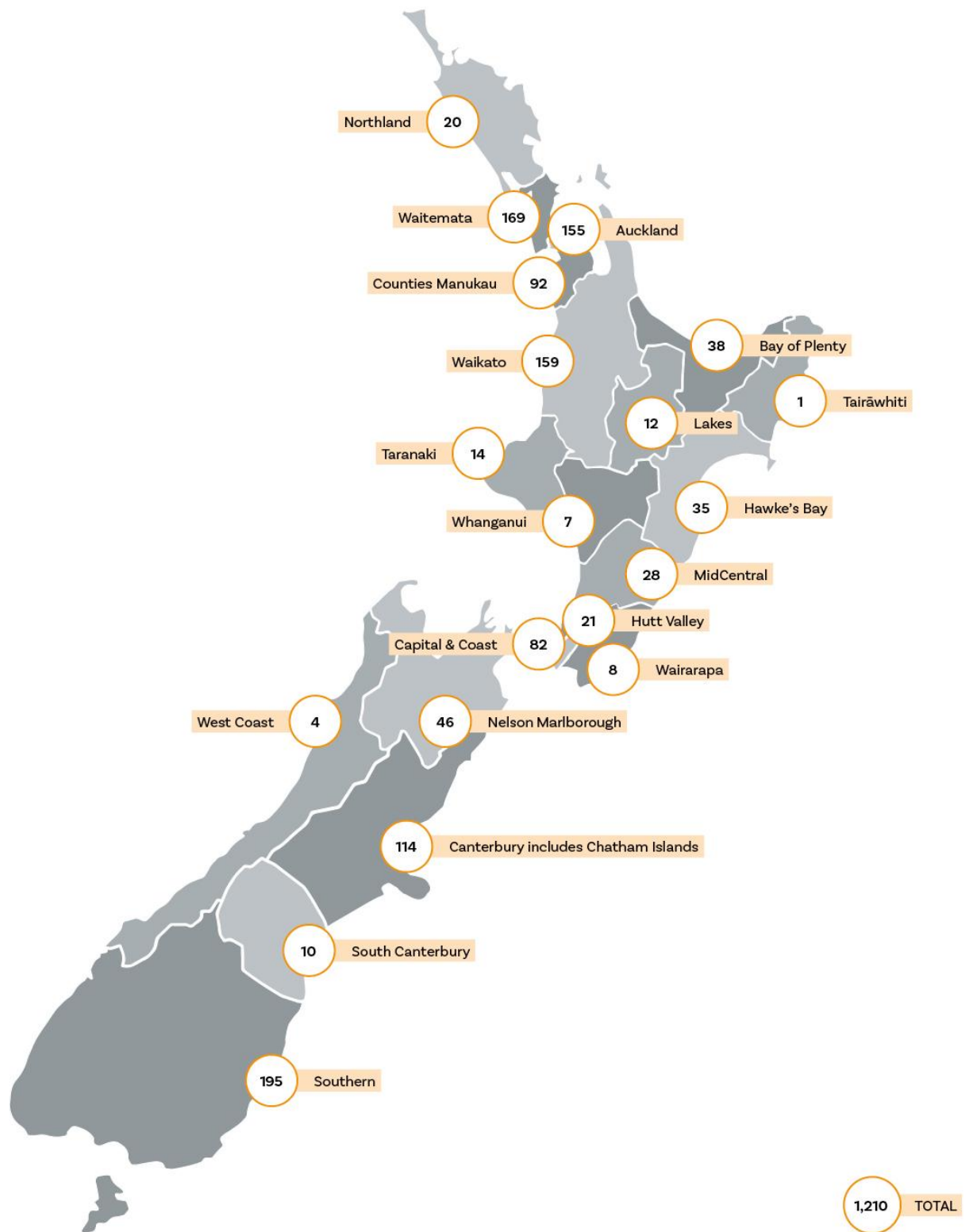


Figure 1: Cases by DHB Catchment

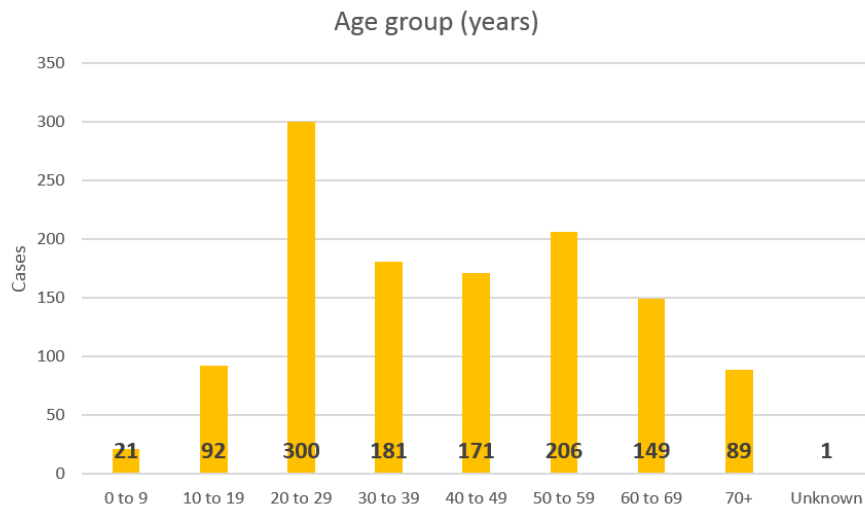


Figure 2: Cases by Age group

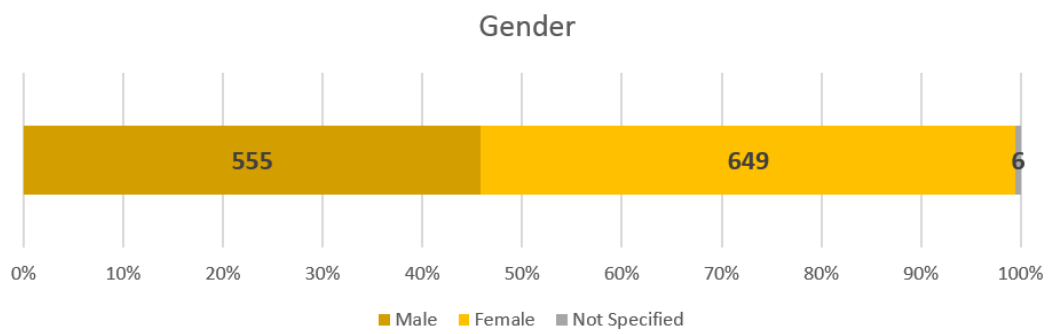


Figure 3: Cases by sex

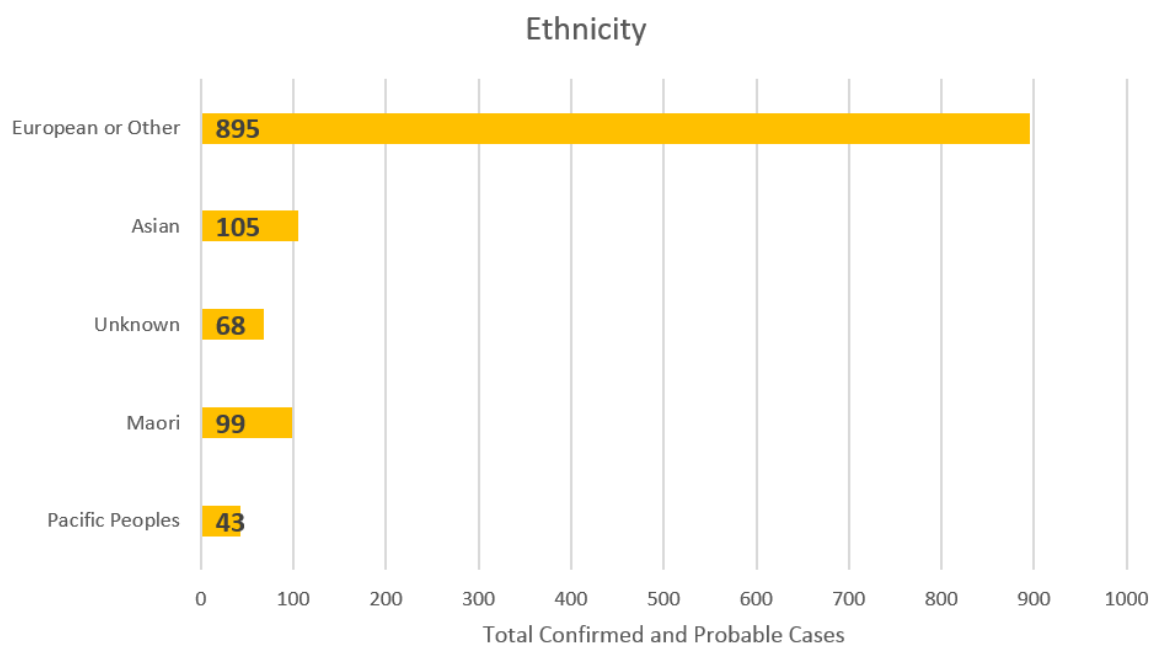


Figure 4: Cases by Ethnicity

OVERALL TESTING: Total tests have been increasing steadily from mid-March (See Figure 5 and Figure 6 below).

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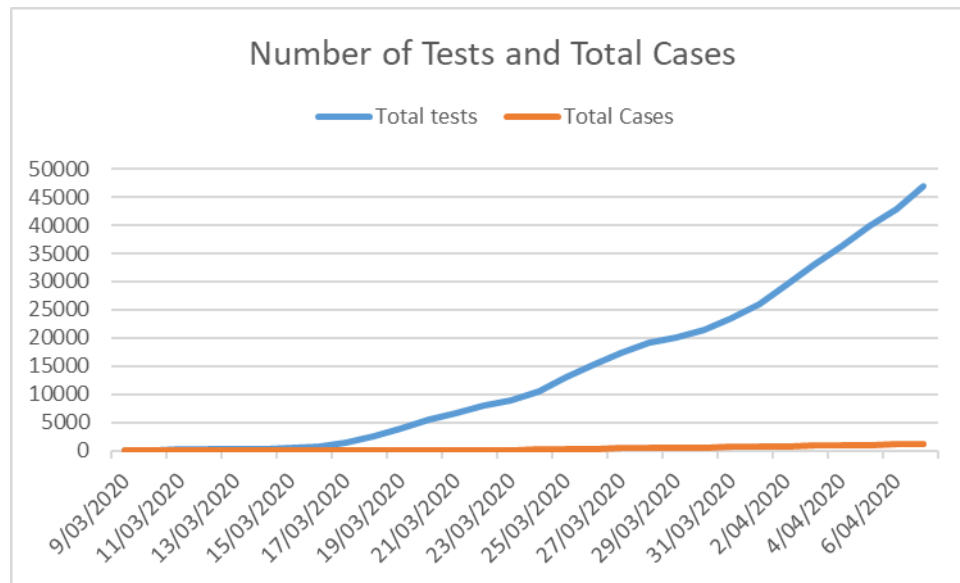


Figure 5: COVID-19 Testing and Cases in New Zealand

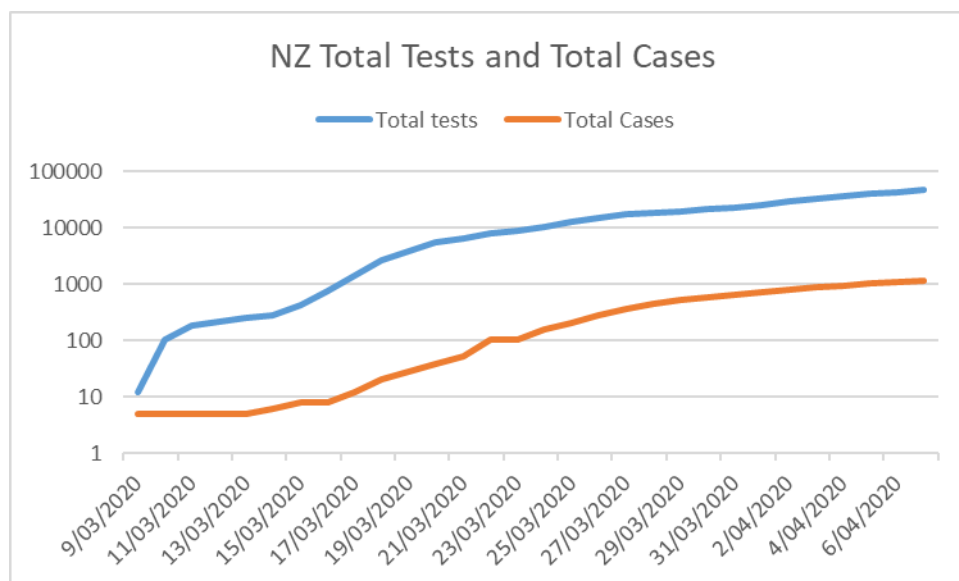


Figure 6: COVID-19 Testing and Cases (Logarithmic scale) in New Zealand

Data comparing New Zealand's incidence of cases to that of Australia

(Source of Data: Johns Hopkins University Australian Department of Health and NZ MoH)

- The graphs below show NZ compared to Australia over the last 5 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 3 or 4 days shows that our cases are now increasing at similar rate to that of Australia's (that is why the lines on the logarithmic scale are beginning to stay a similar distance apart).
- Hence the current four-week lockdown is appearing to have been a crucial and timely Public Health measure that is beginning to show early signs that our rate of increase is beginning to slow down.

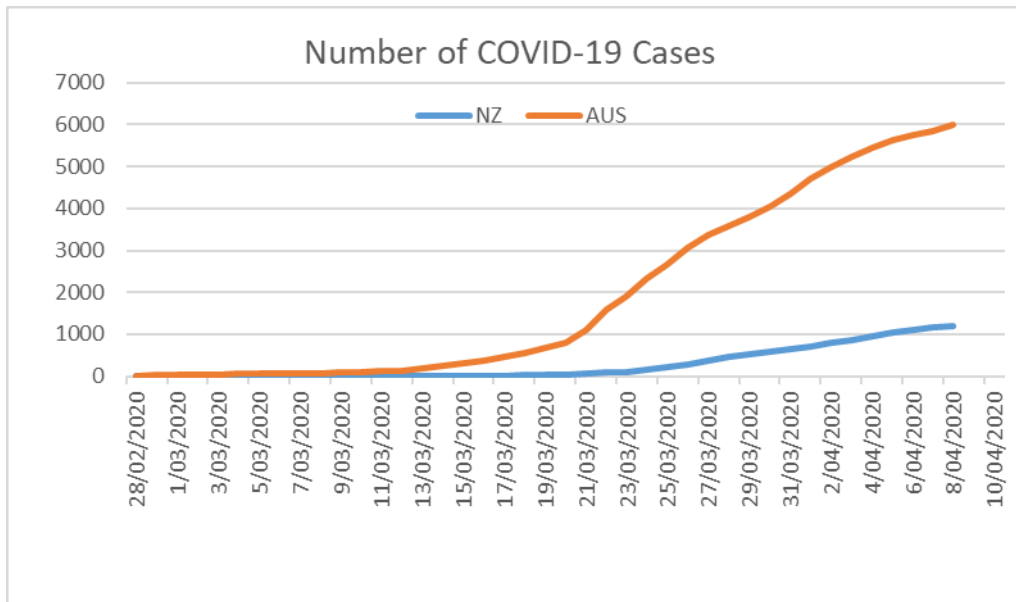


Figure 7: COVID-19 Cases in New Zealand & Australia

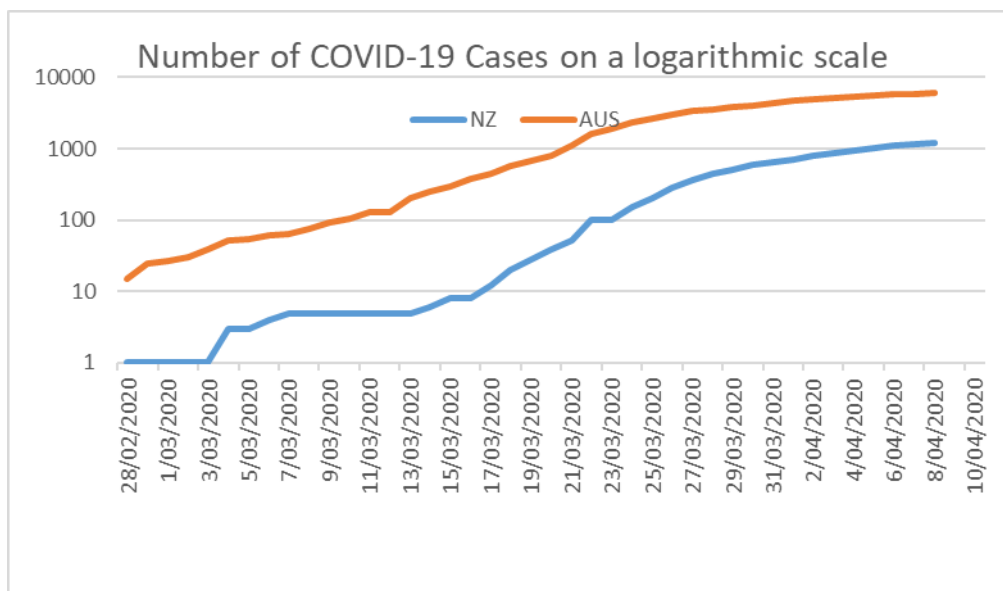


Figure 8: COVID-19 Cases (Logarithmic scale) in New Zealand & Australia

Update on new research and studies around COVID-19.

Mobile apps can be used to do instant contact tracing:

“The mobile app concept we’ve mathematically modelled is simple and doesn’t need to track your location; it uses a low-energy version of Bluetooth to log a memory of all the app users with whom you have come into close proximity over the last few days. If you then become infected, these people are alerted instantly and anonymously, and advised to go home and self-isolate. If app users decide to share additional data, they could support health services to identify trends and target interventions to reach those most in need.”²

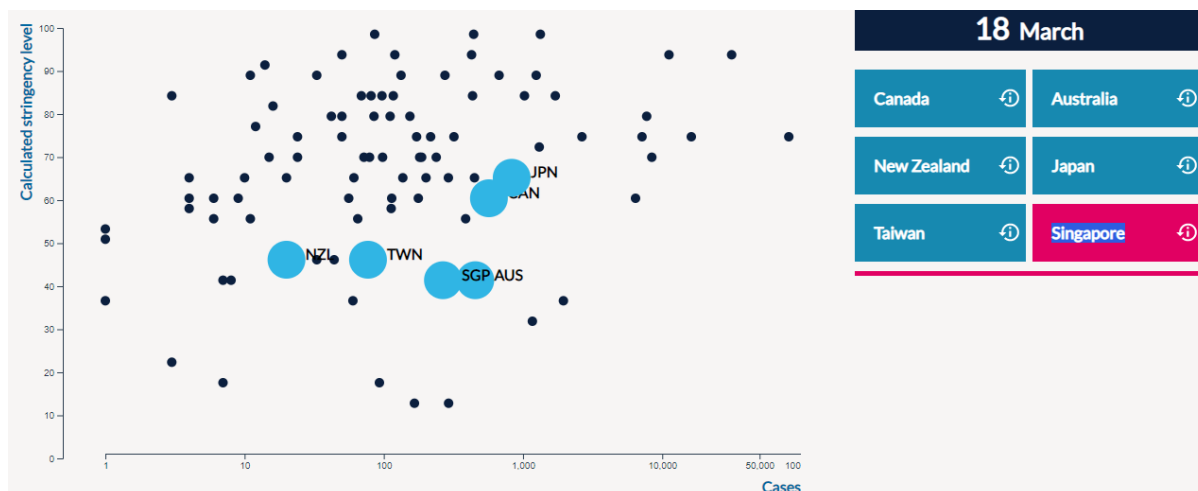
² <http://www.ox.ac.uk/news/2020-04-02-controlling-coronavirus-using-mobile-app-trace-close-proximity-contacts>

Update on Oxford University's response tracker:

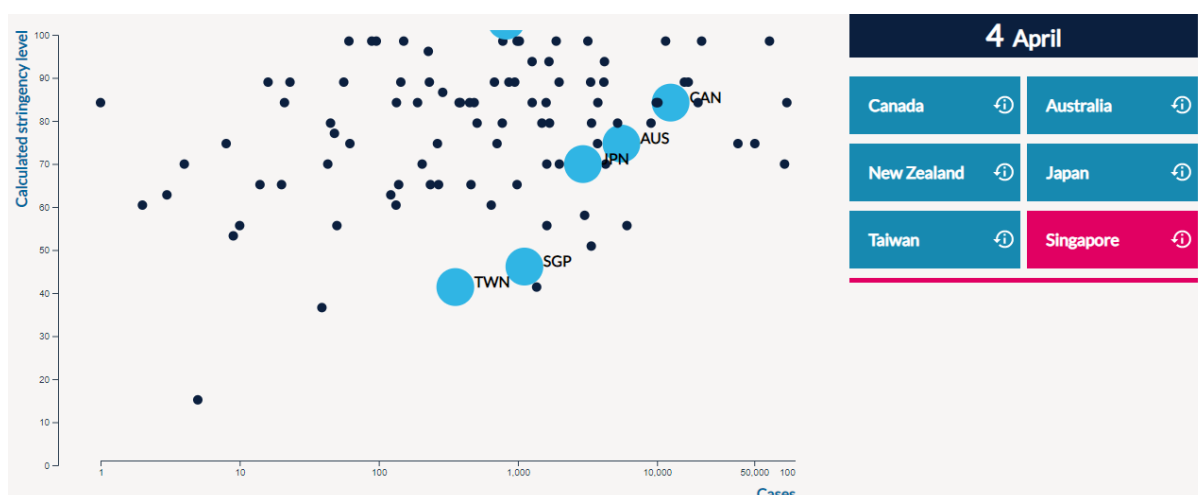
According to the latest update, **New Zealand's stringency score is the highest possible (100).**

Singapore is one of the successful countries in the early days of the outbreak. They have similar number of cases (around 1000) to NZ as of 6th April. However, their stringency level is way lower than NZ (around 40 vs 100 for NZ).

Looking at their changes since early stages of the outbreak might give us more understanding of how they've acted differently to control the outbreak. Around 18th March, Singapore had around 600 cases (based on the graph below) while New Zealand had less than 50. However, both the countries applied similar measures at the time and received a close stringency score by University of Oxford.



While, Singapore controlled their number of cases to less than 1000 by 26th of March, with the same level of stringency (around 40), New Zealand went harder with a score of 100 for stringency with only over 100 COVID-19 cases. NZ and SGP had around 1000 cases by early April. So, the important question is that how early stages of the outbreak was controlled by SGP and also how they are going to control it now that their numbers are increasing. In the early stages, they focused on aggressive testing and tracing victims' contacts. Positive cases, even those with mild symptoms, were quarantined in hospitals, and they had strict border controls and screening.



Singapore is now facing new patients who are not linked to the previous ones. It seems to be a new outbreak with almost half of the cases linked to community transmission. Therefore, they have decided to tighten the measures and notify the public to stay at home and avoid mixing with individuals outside their households.

People have been told to only go out for essential services, to buy food or takeaway meals from restaurants — where dining-in will be suspended — or for exercising in parks at a safe distance”³

So, may be if the community transmission is in its early stages, and it is easier to track cases and their contacts, massive testing and contact tracing can help a lot and reduces the need for early lockdown, however, when community transmission goes high (which is unavoidable without lockdown) it is required to control the speed of spread by keeping the whole community in their houses and minimising their contacts.

Taiwan is another successful country, that did not shut down their businesses or schools but from early days a strict quarantine was executed. “Today a total of **80,000 people are under isolation** and monitored with daily temperature and symptom checks, which are tracked by phone, with monitoring their **GPS data** to check their location⁴”.

They also were very early and proactive in their testing. At the beginning tests were applied to people returning from the epidemic area or symptomatic patients with relevant travel history. Later they did a **retrospective screening** of patients reported as having a **severe flu**.

Most recently, **any patients who reports a loss of the sense of smell or taste** are **mandated** to be tested. Also, as of April 1, **face masks** are **mandatory** when taking public transportation.

³ <https://www.ft.com/content/d2516b0f-c8c2-4440-a2e7-a8cf9be290ec>

⁴ <https://thediomat.com/2020/04/how-taiwan-battles-the-coronavirus/>