



Proactive Release

The following item has been proactively released by the Rt Hon Jacinda Ardern, Prime Minister:

Public health modelling and scenarios A3

Some parts of this information release would not be appropriate to release and, if requested, would be withheld under the Official Information Act 1982 (the Act). Where this is the case, the relevant section of the Act that would apply has been identified. Where information has been withheld, no public interest has been identified that would outweigh the reasons for withholding it.

Key to redaction code:

- 6(a), to protect the security or defence of New Zealand or the international relations of the Government of New Zealand
- 6(b), to protect the entrusting of information to the Government of New Zealand on a basis of confidence by the Government of any other country or any agency of such a Government

Global situation – rapidly evolving and growing concern outside Mainland China

In just 8 weeks, more than **100,000 cases** of COVID-19 have appeared in **100 countries/territories**. Close to **4,000 deaths** have been reported, 90% in Mainland China, eclipsing the SARS, MERS and Ebola outbreaks.

Community transmission has occurred extensively in China's Hubei Province and is now present in South Korea, Iran and northern Italy. Cases in the Western United States and Western Europe have increased significantly in the past week, likely indicating the beginning of community transmission.

What we know about COVID-19

The majority of people infected show mild symptoms, often similar to the flu. **BUT**

- **Up to 14% of cases are serious** and **up to 6% are critical** (ie requiring ICU).
- COVID-19 appears to disproportionately affect **the elderly** and **those with chronic diseases**, such as cardiovascular disease and diabetes.
- The population has **no pre-existing immunity**.
- There are **no known effective treatments and no vaccines** (best case for a deployable vaccine is 12-18 months).
- The death rate is fluctuating: Italy 4.25%, US 3.95%, China 3.8%, Iran 2.6%, China outside Hubei 0.9% and South Korea 0.65%. The UK's Chief Medical Officer has a "reasonably high degree of confidence" that **1% is at the "upper limit"** of the death rate for COVID-19.
- The death rate for seasonal flu is 0.1%

Emerging evidence on transmission (eg droplet spread and transmission within families) and attack rate (eg very low in children) is heavily informing our response.

Below are worst case scenarios from the UK and Australia used by those governments for planning purposes.

UK "reasonable worst case" scenario:

- Infections: 80% of population
- s6(a), s6(b)
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- 20% of workforce off sick at peak of epidemic

Australia "severe" scenario:

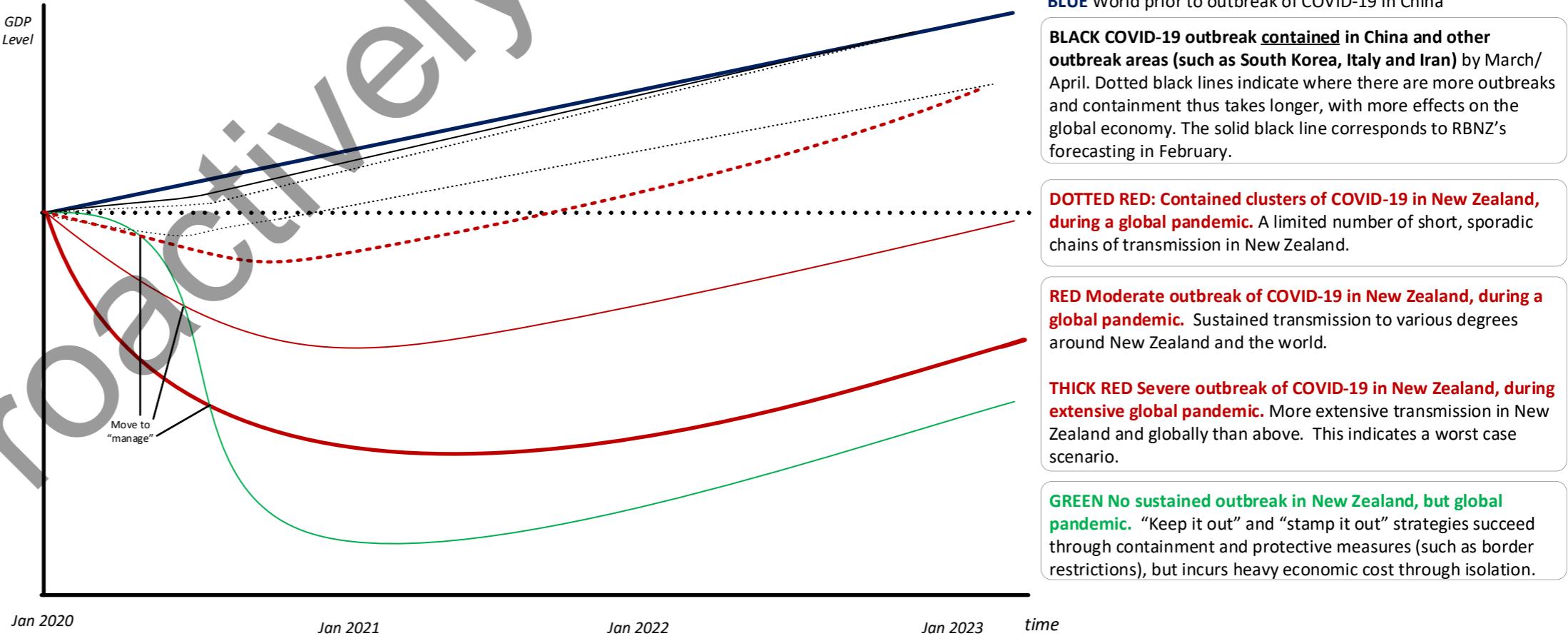
- Infections: 70% of population
- Hospitalisation: 14% of infected; ICU: 5% of infected
- Case fatality rate: 3% of infected
- Outbreak length: 10 months
- 40% of workforce affected by illness or caring for sick at peak

Economic forecasts: The vast majority of economic forecasts to date have assumed COVID-19 becomes contained in the first half of this year. Very few have considered a COVID-19 pandemic. An ANU study estimated a severe global pandemic could result in GDP falling by 8% globally. Studies on global pandemics have estimated output losses of up to 12%.

Situation in New Zealand

- New Zealand has enacted its pandemic plan. We remain in "keep it out" with some "stamp it out" activity. Border restrictions are in place for Mainland China and Iran. Self-isolation is required for travellers from other areas of concern, ie South Korea and Northern Italy. This is the first time New Zealand has applied border measures for public health reasons.
- COVID-19 is now a **quarantinable disease**, making new powers available.
- New Zealand has **five confirmed cases** of COVID-19. Cases are associated with travel to Iran and Northern Italy. Transmission within two families has occurred. More sporadic cases are expected.
- Public health officials are carrying out **contact tracing** and requiring **isolation** of close contacts.
- There is **no evidence of transmission occurring in the community**. No outbreaks have occurred in particular locations, such as a hospital, aged care facility, a correctional facility, or a community event.
- Based on the current situation outside of China and available evidence, ESR assesses the likelihood of **widespread outbreaks** in New Zealand to be **low**.
- New Zealand has **four sites for testing COVID-19**, one in each of Auckland, Wellington, Christchurch and Dunedin. These laboratories can carry out more than 1000 tests. Their capacities can be ramped up over the next few weeks.
- Public health units and District Health Boards have **activated their pandemic plans**.

Scenarios: global containment, outbreaks in NZ, NZ keeps it out



Key points

1. Delay the arrival
2. Flatten the peak and the curve

The way to support the healthcare system and the economy is to spread the load.

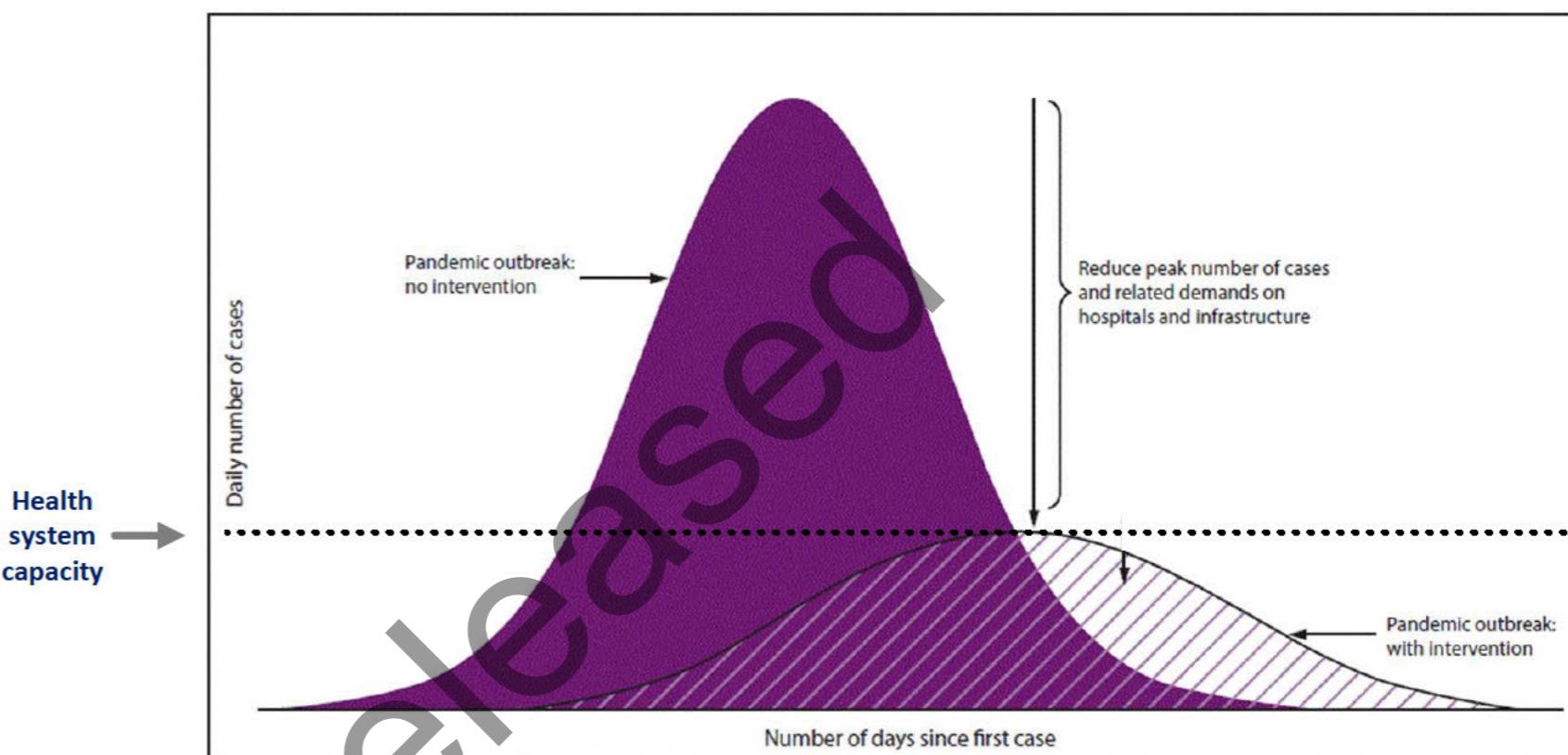
This means go early, go hard, stay the course.

We need to consider:

- Regional approaches
- Focus on Auckland
- Target high-risk vulnerable populations
- Telling New Zealanders that the border is not enough
- Getting 5 million New Zealanders to help us to help them
- Exercising powers that have not been exercised before

Some jurisdictions, eg Singapore and Taiwan, have successfully prevented widespread outbreaks.

"We want to be Taiwan, not Italy"



Government can apply various public health measures at each outbreak phase to slow the spread of the virus, ie "going hard":

