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More evidence that elimination is the best COVID-19 control strategy for health and the economy

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In this blog we briefly consider a new report from a European think tank that aims to identify an optimal COVID-19 response strategy. It considers mortality data, GDP impacts, and mobility data and suggests that COVID-19 elimination appears to be superior to mitigation/suppression strategies in health and economic terms. Nevertheless, more data and a longer-term perspective is needed, before we can be really certain about the relative benefits and costs of different COVID-19 control strategies.

The likely health and economic benefits of using an elimination strategy (as NZ has done), relative to mitigation/suppression strategies have previously been reported on by some of us in a blog [1] and in the *British Medical Journal* [2]. The ability of Australia and NZ to resume quarantine-free travel in mid-April is another sign of the benefits of this approach. But additional information comes from a new Report by a Paris-Brussels think tank: Institut Économique Molinari [3]. In this blog we consider its findings and put these into a wider context.

Image sourced from Institut économique Molinari

What does this new European Report find?

The key finding of this Report is that the three OECD countries applying the elimination strategy (described also as the "Zero Covid strategy"), achieved the lowest mortality from COVID-19 and smaller than average declines in GDP, than 11 other OECD countries for which there were data. That is, the three countries of Australia, NZ and South Korea (the latter described as "something close to" Zero Covid), were compared to 11 "G10" countries that used mitigation/suppression (Belgium, Canada, France, Germany, Italy, Japan, Netherlands, Sweden, Switzerland, United Kingdom, and United States).

More specifically on the economy the "countries pursuing a Zero Covid strategy experienced a less severe economic decline in the second quarter of 2020 than the countries that allowed the virus to spread to such an extent that their health systems were saturated (-4.5% versus -11.7%)." Also, "their GDP was down only slightly (-1.2%) compared to 2019. Meanwhile, the decline in GDP was greater (-3.3%) in countries that had not eradicated the virus."

The Report also considered mobility data from Google. This showed that "workplace traffic in the second quarter of 2020 fell by less in the countries applying the Zero Covid strategy (-14% compared to -36%)." These data also showed that "Zero Covid countries retained a significant advantage with a 15% reduction in mobility in January-February 2021 compared to 28% in countries not applying a Zero Covid strategy." Other Google data covered traffic in "cafés, restaurants, hotels, non-food businesses and leisure and cultural activities in general" in January and February 2021 compared to 2020. This mobility was down less in Zero Covid countries compared to the others (-14% vs -35% respectively). Even larger differences favouring elimination countries were found with Google searches for the word

“Restaurant”.

Achieving “Zero Covid” may also help reduce uncertainty. “Cross-referencing of quarterly economic and health data confirms the superiority of the elimination strategy in terms of anticipation. People in those countries benefit from a level of visibility enabling them to project their societies and economies into the future.” “In contrast, the course taken by the G10 countries has produced fluctuations, with the epidemic rebounding in the fourth quarter of 2020 everywhere except Japan, which is moving closer to Zero Covid.” This “seesaw” problem the Report stated, was “especially problematic for businesses that depend on significant social interaction, which have been closed for months, as representatives of the hotel, restaurant, culture and recreation sectors have stated repeatedly.” Sweden was given as an example where uncertainty amongst the population contributed to economic contraction that was similar to other Scandinavian countries (even though Sweden didn’t use lockdowns in contrast to its Scandinavian neighbours).

The Report also considers Canada where four of its provinces used an elimination strategy (New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland and Labrador) as well as in its three northern territories (Yukon, Nunavut and Northwest Territories). In contrast, the rest of the country used a “mitigation strategy”. The “Google data show that traffic in ‘retail and recreation’ spaces declined by 24% in January and February 2021, compared to 2020, in the places applying the Zero Covid strategy.” But this was “less than the 42% decline observed in the rest of Canada, where the mitigation strategy is applied.” The pattern was similar for Google data on workplace traffic (-22% vs -35%).

The Report also makes several recommendations which are mainly from the perspective of how the Report’s findings could be used to improve the COVID-19 response in France. However, these recommendations could be adapted to other countries who may wish to adapt to a Zero Covid approach. For example, the Report suggests opening dialogues with experts from Zero Covid countries, utilising international diplomatic and parliamentarian networks to “broaden feedback on Zero Covid strategies”, and gathering further data/information from societies/communities that have successfully implemented Zero Covid approaches that could be relevant to a particular setting/country/population.

Finally, the Report also notes a similar observation was made for the 1918 influenza pandemic in the United States. Here, “the cities that had made the greatest economic effort by going into lockdown for the longest time were also those that experienced the sharpest economic rebound” (reference: Correia et al [4]).

But this Report has some limitations

While this report contributes new data and thoughtful commentary, it does have a range of limitations.

- It focuses on just 14 OECD countries, whereas there are 37 countries in the OECD. Presumably this restricted scope is based on data availability eg, the OECD website has not yet got GDP data for 2020 for all its members. Even some of the GDP data that are used have become outdated eg, it describes a -4.8% change in GDP in 2020 for NZ, yet the more recent value from Stats NZ is -2.9% [5].
- The Report doesn’t include the appropriate cautions with interpreting GDP comparisons across countries. For example, these relate to country size, and dependency on external trade and international tourism etc. As discussed in an article on the US compared to other nations and pandemic impacts [6], the US is cushioned

by its very large internal economy. The need to consider other measures of economic impact (eg, unemployment and under-employment) are also not discussed.
- Within these 14 countries there are limitations with classification in that South Korea is described as “something close to” Zero Covid. Yet the evidence is more towards South Korea never aiming for elimination but rather having a “tight suppression” strategy ie, this is how it is described in recent modelling work by Australian colleagues [7]. A more detailed classification system for control strategies was published by some of us elsewhere [2].
- There is no mention of the other countries that appear to have succeeded with elimination strategies eg, China, Taiwan, and Vietnam. Yet two of these countries are of particular note in that they have large land borders with other nations.
- The data from the Canadian Provinces and Territories (that used elimination or suppression strategies) did not include health outcome data or key economic data (other than mobility to work etc).

What will it take to be more certain about the best strategy?

Obviously we need more health data, economic data, and other data on societal wellbeing for a larger number of countries using the three different strategies of: elimination, suppression and mitigation. These data are also needed for the entire course of the pandemic – ie, until countries achieve high vaccination coverage and achieve a final state of control. In the meantime modelling can give insights into the best strategies. Such a model has recently been described for Australia and is detailed in this recent blog [7]. It even has finer gradations of control strategy eg, aggressive elimination (eg, NZ, Victoria), moderate elimination (eg, New South Wales), tight suppression (eg, South Korea), and loose suppression (eg, “approximating Europe before Christmas 2020”).

In summary, we briefly consider a new Report from a European think tank. This work provides additional evidence that a COVID-19 elimination strategy appears to be superior to mitigation/suppression strategies in health and economic terms. Nevertheless, more data and a longer-term perspective is needed, before we can be really certain about the relative benefits and costs of different COVID-19 control strategies.

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