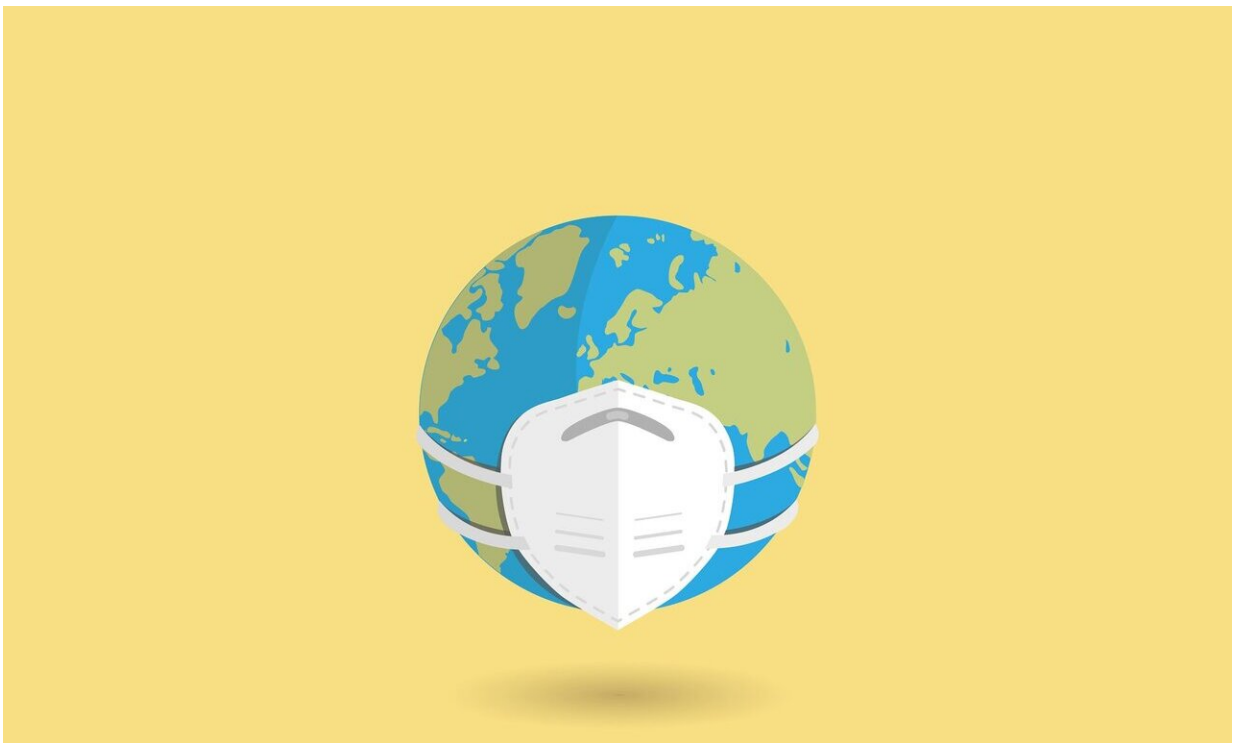


# Eliminating coronavirus will be expensive and difficult, but here's why it's preferable to suppression

July 29 2020, by Andrew Lee

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Any approach to controlling an infectious disease has one of [three broad aims](#): suppressing, eliminating or eradicating it. The UK's strategy so far has seemed to focus on suppressing the virus, trying to limit its spread,

but we need to think about whether this is the best course of action.

[Independent SAGE](#), which produces advice on managing COVID-19 alongside the British government's official scientific advisory group, has called for a national effort to work towards a "[zero COVID UK](#)": that is, completely getting rid of the [disease](#) from the country. In other words, elimination.

So is totally wiping out the disease actually possible, and if so, what would this entail? Could a less ambitious aim be the right way forward instead? To answer these questions, we need to consider not only what's possible and required, but also how much value we place on the final outcome.

## The three options

Beyond doing nothing, suppression is the least ambitious way to handle a disease. This is where you attempt to reduce infection, ill health and death to acceptable levels. It's an approach normally applied to low-consequence infections, such as diarrhoeal diseases, where the risk of death is low.

With suppression, infection levels remain within the health system's capacity. The disease continues to circulate in the population, albeit at lower levels than if you didn't act. Consequently, measures continue to be needed to keep infections down and to control localized outbreaks.

Elimination, on the other hand, aims to reduce infection in a country or region to zero. This has been achieved in the UK with [polio](#), and momentarily [with measles](#) in 2017. [Diphtheria](#) and [rubella](#) are close to being eliminated too.

After a disease has been eliminated, continued measures are needed to

stop it re-establishing itself, as new infections can be imported from abroad, either by returning travelers or migrants. Elimination is often pursued for diseases that cause serious illness or death.

The final approach is eradication. This seeks to permanently eliminate a disease worldwide, meaning control measures are no longer needed. Thus far, this has only been achieved [with smallpox](#).

One important thing to note is that elimination measures aren't necessarily different from suppression ones—lockdowns, social distancing, [face masks](#) and so on might be used to control COVID-19 under either strategy. The difference is how rigorously they're applied and enforced. For suppression, the measures intensify as things get bad and ease when they improve. Whereas elimination efforts try to get ahead of the outbreak by being intense from the beginning.

The UK government decided to ease its lockdown in response to cases falling, but with the virus still circulating at relatively high levels. The reason why this [seems to be](#) a suppression approach is that if the UK were trying to [eliminate the virus](#), it would be continuing to strictly apply infection control measures to drive transmission down to zero.

## Which approach should UK be taking?

COVID-19 is a killer that can affect everyone, but is principally dangerous to the [elderly](#), those with [pre-existing health conditions](#) and [ethnic minority groups](#). We know it's contagious and has mutated to become [even more infectious](#). Treatment for it can be costly, especially if intensive care is needed, and survivors may suffer [long-term health impacts](#).

COVID-19, therefore, is not a low-consequence infection. A suppression approach that leaves the virus circulating at low levels could still mean

potentially thousands of deaths in the UK each year, especially in vulnerable populations.

But the public and policymakers may weigh the [healthcare costs](#) and burden of death and disease on one hand against the economic and [social costs](#) of continuing with strict control measures on the other. Faced with rising unemployment, businesses going bust and [economic recession](#), some may question whether trying to eliminate the disease is too costly. In many major advanced economies, GDP may [fall by 20%-25%](#) in response to [control measures](#) used so far. So from a cost-benefit angle, suppression may seem the most economical approach.

However, these considerations are seen from a short-term perspective. Societal costs in the longer term cast disease control in a different light.

Take the [example of influenza](#). Each year a billion people get infected, and up to 650,000 die from it. The costs of immunizing, treating and controlling influenza are considerable. The US alone spends an estimated [US\\$10 billion](#) (£7.7 billion) a year fighting the flu, with its economy losing tens of billions more due to people being off work. [This has](#) wider economic impacts, affecting productivity and national economic growth. And that's just one year's worth of cost. Extrapolate that across the world over 50 to 100 years and the costs become astronomical.

There are also lessons from the [1918 influenza pandemic](#), when elimination was not possible. Spanish flu is estimated to have killed 2.1% of the world's population (~40 million) and caused a 6% decline in GDP, similar in magnitude to the 2008-09 recession. Suppression can be a lose-lose solution for both health and economic outcomes.

That leaves elimination as the more desirable option. Zero COVID status [has been achieved](#) in New Zealand, Brunei and several island states in the Caribbean. This shows that it's possible. In recent months we've seen

what [actions are needed](#).

Crucially, elimination doesn't necessarily demand new measures, but rather wider, more consistent and more prolonged adherence to measures we've already used. Elimination requires physical distancing, widespread adoption of hygiene practices (including hand washing) and ubiquitous use of face coverings. Early detection and isolation of cases will be key, using robust test and trace systems. If the transmission of the virus begins to increase, there needs to be a low threshold for implementing new local and national lockdowns. If and when a vaccine becomes available, then mass immunization programs could help boost immunity in the population.

All of these measures taken together can work, but it will come at a cost to society. However, unless elimination is sought, COVID-19 looks very likely to become an [endemic disease](#). We can then expect it to recur every year in outbreaks and seasonal epidemics.

It also won't be enough to eliminate COVID-19 in our own countries. In a globalized world, infections can travel between continents within a matter of days. A coordinated global effort at eradication—eliminating COVID-19 permanently everywhere—is needed. This is considerably more challenging, but if we don't aim for this, the threat of the disease will remain.

We know the medicine—ultimately it's whether we want to take it.

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