

As Sars-CoV-2 has spread across the world, some countries have reacted with alarm and thorough preparations, given their previous experiences with Mers or Sars. In these countries, such as South Korea, Taiwan, Singapore and Vietnam, containment of the novel coronavirus became the imperative, regardless of cost. However, other countries chose to treat it like a bad flu strain that would be unstoppable and spread across the population until some kind of immunity was reached.

Much of the difference in countries' initial responses can be attributed to whether they "overreacted", given prior experience with two other more deadly coronaviruses, or whether they perceived the novel coronavirus from the start as just posing a moderate to low risk to their populations and eventually becoming endemic.

In the UK, the assumption until quite recently had seemed to be the latter. The containment phase ended on 12 March. At this point, testing ended for all those with minor symptoms (including frontline health staff), contact tracing stopped, airports remained open without checks on incoming flights or passengers, and physical distancing measures were ruled out. Large events involving tens of thousands of people went ahead a few days later, and non-essential travel continued. After considerable public pressure, lockdown measures were introduced on 23 March with the goal of keeping the coronavirus-related burden on health services within NHS capacity.

Where are we now? According to official figures, 16,509 people with Covid-19 have so far died in British hospitals. There are no official statistics for deaths in the community, but ONS data released today shows that of 6,200 Covid-19-related deaths in the week to 10 April, one in six of them happened outside hospital. We are on track for 40,000 deaths by just the end of the first wave of this outbreak, while also having to cope with the astronomical economic costs and heart-rending social implications of being in lockdown for weeks on end.

In a significant number of confirmed Covid cases, the health outcomes are severe, the disease can result in multiple organ failure and long-term lung damage, and the clinical need of patients for oxygen, ICU care and ventilators is much higher. Early clinical management of symptoms, to which Boris Johnson had access, means that outcomes are generally better, but that requires testing at an early stage of the disease.

New Zealand is in the enviable position of having fewer than 20 deaths, while Australia has managed to stay under 100. With early physical distancing measures and border control, and aggressive testing, tracing and isolating procedures in place, these countries are in a better position to ease lockdown earlier and get their economy and society going again, while keeping Covid-19-related deaths low. That's as close to a win-win situation as a government can have right now.

However, when these international comparisons are made, some in government say that it is still too early to say how countries are performing, and others say that all countries will be in the same place, and any variation will depend on their healthcare capacity. It is worth thinking through the long-term scenarios for the future of Covid-19.

The first scenario: if we have an effective, safe and available vaccine or antiviral in the next 18 months, the countries that minimised loss of life with the least harsh economic restrictions will be in the best position. Australia, New Zealand and numerous east Asian countries have the outbreak under control and can in the short term manage the trickle of cases while waiting for the scientific solution.

The second scenario: in the absence of a vaccine or antiviral, some kind of population immunity will be built up so that the virus is not actively transmitting at a high level. This assumes that having the coronavirus leads to immunity for at least two or three years and that subsequent reinfection is mild. Even in this situation, the countries with low numbers of cases can wait for ongoing research on better identification of who is exactly "vulnerable" to developing severe symptoms, and shield these individuals so the burden on ICU care and loss of life are kept to a minimum. While we have some basic idea at population level about who is vulnerable, based on age and pre-existing conditions, scientists do not understand the individual genetic or

immunological factors yet.

The third (worst-case) scenario: research might find that there is no lasting immunity to the virus, or in fact immune enhancement, which means subsequent reinfections would be more severe (similar to dengue). This creates a real case for countries with the capacity to eliminate the virus and keep in place border controls. Obviously the fewer cases present, the easier it is to eliminate a virus, and in this situation a precautionary approach to letting it spread through the population would have been well warranted.

In short, there are huge gaps in what we know about this virus, including about immunity, about the possibility and timeline for a vaccine or antiviral therapy, about who exactly is vulnerable, and about long-term health implications. For example, Italian scientists have warned that some patients are developing Guillain-Barré syndrome (temporary paralysis) as a side effect of Covid-19.

In this uncertainty, countries that are actively working to contain this virus and keep numbers as low as possible are buying time to build a more informed policy response while also protecting their economies and societies. Others, by letting the virus spread slowly through their populations (only flattening the curve instead of completely stopping the spread), are just gambling with people's lives, and will be caught in cycles of lockdown/release that will destroy the economy and cause social unrest, as well as increased Covid-19- and non-Covid-19-related deaths.

• **Devi Sridhar** is chair of global public health at the University of Edinburgh

Copyright © 2020 Guardian News and Media Limited. All rights reserved.