
Alternating Lockdowns and Relaxation for Pandemic Control



An international team of researchers has analysed several scenarios of non-pharmaceutical COVID-19 interventions in 16 countries and outlined an effective strategy of alternating lockdown and relaxation cycles.

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Since there are still no proven treatments or vaccines for the COVID-19 disease, non-pharmaceutical interventions remain the preferred way of containing the spread of the novel coronavirus for the majority of countries. These interventions include, among others, social distancing, case-based isolation, banning mass gatherings and lockdowns.

While these measures indeed help to control the spread of the disease and alleviate the burden on healthcare systems, the major concern is their economic and social cost, which makes such policies unsustainable over the long term. Moreover, as many countries around the world are beginning to ease the restrictions, there is a possibility of the resurgence of the infection.

One of the alternatives being looked into is combining periods of stricter lockdowns with those of more relaxed social distancing. The current research focussed on identifying the optimal frequency and duration of such interventions.

The researchers from the Global Dynamic Interventions Strategies for COVID-19 Collaborative Group [modelled three scenarios](#) across 16 countries from diverse geographical regions: Western Europe (the Netherlands, Belgium), South America (Chile, Colombia), North America (Mexico), Africa (South Africa, Nigeria, Ethiopia, Tanzania, Uganda), South Asia (India, Bangladesh, Pakistan, Sri Lanka), West Asia (Yemen) and the Pacific (Australia). These countries comprise roughly a quarter of the global population and equally represent all income categories.

Specifically, the team looked into how the impacts differ for mitigation and for suppression measures. Mitigation measures include comparably milder policies, eg general social distancing, hygiene rules, isolation of suspected and confirmed cases, and allow for slower reduction in the number of cases, while suppression measures, such as strict lockdowns, lead to fast decrease in numbers, but have more significant consequences for societies and economies.

Under the first modelled scenario no measures were imposed. The results of this model saw intensive care units (ICUs) in all 16 countries quickly overwhelmed. The total number of deaths stood at 7.8 million, and the duration of the pandemic would be nearly 200 days in most of the countries in the sample.

Second model was based on alternating cycles of 50 days of mitigation measures and 30 days of more relaxed policies. This approach would reduce the reproduction number to below 1, but the number of patients would still overcome the available ICU capacity. Overall 3.5 million people would die, and the epidemic would last from 12 months in more well-off countries to over 18 months elsewhere.

In the third scenario a 50-day cycle of strict suppression measures was followed by 30 more relaxed days. Under this model the reproduction number would decrease to 0.5, and the number of patients requiring intensive care would be within national capacity. Here the disease would linger for more than 18 months, but there would be relatively few deaths – 130,000 – across all 16 countries.

Notably, most countries would manage to completely eliminate the disease in three months if strict suppression measures were implemented continuously, or in 6.5 months with milder mitigation measures in place. The economic and social side effects of such long 'inactive' periods, however, could be devastating.

While there is no universal 'silver bullet' for managing the COVID-19 pandemic, the study offers a strategic public health option of alternating

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cycles. By adopting this approach, countries could delay the peak rate of infections and buy time to enhance their health systems' capacity, gain time to develop preventive and clinical measures, and reduce economic hardship. The precise cycle durations would depend on the needs of specific countries, but it is stressed that in all cases the relatively relaxed periods would still need policies such as efficient testing, case isolation, contact tracing and protecting the vulnerable.

In his [comment](#) on the study to The BMJ, Gabriel Scally, visiting professor of public health at the University of Bristol, UK, and a member of the Independent SAGE group, expressed doubts that such alternating approach would be practical for businesses implementing it. Instead he suggested focussing on testing and contact tracing, while reserving severe social distancing for hotspot areas.

Source: [University of Cambridge](#)

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Published on : Tue, 26 May 2020