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## Lifting COVID-19 Restrictions – What's Next?



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The [COVID-19](#) pandemic has put the world on hold these past months with major social and economic consequences. Now in many countries the restrictions are about to be or already being lifted, and it is crucial for policymakers to accurately predict how the spread of the virus will change over time.

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Researchers from Italy [identified](#) a clear mathematical trend in new cases and death numbers in China through a function commonly used in statistics, and applied the same model to make predictions about the situation in Italy. This approach does not take into account the impact of factors such as testing or social distancing, but, when tailored to each country's parameters, can still be useful for public health COVID-19-related policies.

A [study](#) analysed contact surveys data for Wuhan and Shanghai before and during the COVID-19 outbreak and contact tracing information from Hunan Province. The results showed, among others, that social distancing alone, as implemented in China during the outbreak, was sufficient to control the outbreak.

Using a technique called numerical modelling, researchers in Brazil have conducted a wide-scale [analysis](#) of the increase in confirmed COVID-19 cases across nine countries in Asia, Europe, North America and South America, and examined the efficiency of various mitigation measures. They have found that the growth follows a power law curve, and the country-specific factors mostly affect the exponent of the spread. Their results show that softer quarantine measures have a much lesser impact on flattening the growth curves than stricter ones, and that broad testing policies should be implemented to identify and isolate asymptomatic individuals.

These are confirmed by a [study](#) on COVID-19 transmission dynamics in Taiwan – the authors note that finding and isolating symptomatic patients alone may not suffice to interrupt transmission and suggest that other measures might be required, such as social distancing. An [analysis](#) based on the data from the Chinese city of Shenzhen revealed that contact tracing and extensive testing helped to reduce the time of identification of symptomatic COVID-19 cases from 5.5 to 3.2 days. It is noted, however, that the overall impact of isolation and contact tracing is uncertain and highly dependent on the number of asymptomatic cases.

Examining the interactions between people, a team from Hong Kong [developed](#) a model of the underlying transmission patterns among different populations and analysed various work resumption plans for a number of major Chinese cities, including Wuhan. The populations were divided into seven age groups, each of them having their own social circles, gathering places and activity patterns. Modelled social contact settings included households, schools, workplaces and public places, and work resumption plans varied from moderate (work resumes earlier and completes within a shorter period of time) to stricter ones (work resumes later within a longer overall time frame). The authors concluded that their model could help policymakers to decide on optimal reopening strategies and timeframes. The tools used for the research will be openly shared.

To assess how lifting or extending different social-distancing measures at various times can impact each state of the U.S., an [online tool](#), COVID-19 Simulator, was developed. Using the most recent data and infectious disease modelling, it analyses how interventions such as lifting restrictions, extending a stay-at-home order and implementing a lockdown will impact the rate of new cases or deaths, among other parameters.

In any case, another [study](#) argues, compromises between the economy and human health are inevitable in the COVID-19 context. Combining macroeconomics with epidemiology, a U.S. team developed a model to measure the economic consequences of social distancing, which can be applied in most developed economies. The model distinguishes 'core' workers – eg those in healthcare or food and transportation – from everyone else. In each scenario with interventions the economy shrinks by various degrees, but taking no action would still mean much more severe consequences for public health.

The future course of the virus is still highly unpredictable . According to one [report](#), the coronavirus is likely to keep spreading until 60% to 70% of the population has been infected to develop 'herd immunity' – and this is likely to take another 18 to 24 months. Others, however, are [thinking](#) of the worst-case scenario of the never-ending pandemic.

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