

A Second COVID-19 Wave Could Be Avoided if Social Distancing and the Use of Face Masks are Maintained

A model developed by ISGlobal shows that deconfinement must be gradual and that individual behaviour is a key factor

Barcelona, June 22, 2020- Individual behaviour has a significant effect on preventing a large second wave of COVID-19 infections. In fact, maintaining social distancing and other interventions such as the use of face masks and hand hygiene could remove the need for future lockdowns, according to a modelling study performed by the Barcelona Institute for Global Health (ISGlobal), an institution supported by the "la Caixa" Foundation. The findings, published in *Nature Human Behaviour*, also show that, in countries that have not yet reached the peak of active cases, **lockdowns must remain in place for at least 60 days and deconfinement must be gradual** in order to decrease the risk of second waves.

Several countries that initially imposed strict lockdown measures to limit the spread of SARS-CoV-2 are in the process of lifting them. However, how and when to ease the restrictions is a difficult decision – a delicate balance between the need to reactivate the economy and the risk of a second wave of infections that could overwhelm healthcare systems. "The problem is that **assessing this risk is difficult, given the lack of reliable information** on the actual number of people infected or the extent of immunity developed among the population", explains Xavier Rodó, head [of ISGlobal's Climate and Health programme](#). In this study, Rodó's team present projections based on a model that divides the population into seven groups: susceptible, quarantined, exposed, infectious not detected, reported infectious and confined, recovered and death. It also allows to simulate both the degree of population confinement and the different post-confinement strategies.

"Our model is different because it considers the return of confined people to the susceptible population to estimate the effect of deconfinement, and it includes people's behaviours and risk perception as modulating factors", explains Xavier Rodó. "This model can be **particularly useful for countries where the peak of cases has not yet been reached**, such as those in the Southern hemisphere. It would allow to **evaluate control policies and minimise the number of cases and fatalities** caused by the virus" explains co-author and ISGlobal researcher Leonardo López.

The use of face masks, hand hygiene and 'shelter in place' mandates have already demonstrated benefits. The aim of this study was to quantitatively evaluate their relevance as containment strategies. The results clearly show that the **length of the first confinement will affect the timing and magnitude of subsequent waves**, and that **gradual deconfinement strategies always result in a lower number of infections and deaths**, when compared to a very fast deconfinement process.

In **Spain**, where the deconfinement was fast for half of the population and gradual for the rest, **individual behaviour will be key** for reducing or avoiding a second wave. "If we manage to **reduce transmission rate by 30%** through the use of face masks, hand hygiene and social distancing, we can **considerably reduce the magnitude of the next wave. Reducing transmission rate by 50% could avoid it completely**", says Rodó.

The results show that, even in countries that do not have the resources to test and trace all cases and contacts, **social empowerment through the use of masks, hand hygiene and social distancing, is key** to stopping viral transmission.

Simulations also show that loss of immunity to the virus will have significant effects on the spacing between epidemic waves – **if immunity has a long duration** (one year instead of a few months), then **the time between the epidemic waves will double**.

The model considered **total lockdowns** and used **data available until May 25**, but **did not take into account a possible effect of temperatures** on viral transmission.

Reference

Lopez L and Rodó X. The end of social confinement and COVID-19 re-emergence risk. *Nature Human Behaviour*. June 2020. <https://doi.org/10.1038/s41562-020-0908-8>

About ISGlobal

The Barcelona Institute for Global Health, ISGlobal, is the fruit of an innovative alliance between the "la Caixa" Foundation and academic and government institutions to contribute to the efforts undertaken by the international community to address the challenges in global health. ISGlobal is a consolidated hub of excellence in research that has grown out of work first started in the world of health care by the Hospital Clínic and the Parc de Salut MAR and in the academic sphere by the University of Barcelona and Pompeu Fabra University. The pivotal mechanism of its work model is the transfer of knowledge generated by scientific research to practice, a task undertaken by the institute's Education and Policy and Global Development departments. ISGlobal has been named a Severo Ochoa Centre of Excellence and is a member of the CERCA programme of the Generalitat de Catalunya.

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