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## Containing COVID-19 in EU: Uncoordinated Efforts Don't Bring Results



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Countries in Europe have started easing drastic lockdown measures, implemented in February-March 2020, as the number of COVID-19 cases in their jurisdictions decline. However, relaxation needs to be coordinated in order to stop community transmission and avoid new COVID-19 outbreaks.

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This recommendation is based on a new study, not yet peer-reviewed, which used mobility and case data in performing various simulations to examine how coordinated COVID-19 exit strategies can reduce the chance of continental resurgence. (*UPDATE, 17 July 2020: the study is published online in Science; Ruktanonchai et al. 2020*)

### Methods and Materials

During state-mandated lockdowns, non-pharmaceutical interventions (NPIs) such as social distancing helped to minimise risks of transmission. Adherence to social distancing policies was measured using mobile phone data from Vodafone and Google's continental Nomenclature of Territorial Units for Statistics (NUTS3) mobility dataset.

Researchers developed a metapopulation model of COVID-19 transmission for estimating when a second epidemic occurs regionwide – assuming whether COVID-19 exit strategies of EU countries are executed in a coordinated or uncoordinated manner. Data on population mobility and contact rates between January and March 2020 were used in simulations. The researchers relied on observed reductions in mobility in each NUTS3 area, which enabled them to proportionally reduce outgoing flows, incoming flows and local contact rates for that area.

### Results

Based on 1,200 simulations, synchronised or coordinated cycles of NPIs would help to end community transmission over six months, resulting in generally lower rates of transmission than if NPIs were not synchronised. For example, four synchronised cycles could eliminate local COVID-19 cases in 90% of simulations while four unsynchronised cycles only led to elimination of infection 5% of the time.

It was found that if a single country's NPIs were lifted early, then a second epidemic could occur much earlier. For example, early lifting of NPIs in France meant a second epidemic could occur 35 days earlier than if lifting of NPIs by all EU countries was made simultaneously (interquartile range from 32.3 to 36.8 days).

Also, taking into account differences in mobility reduction, baseline mobility patterns and population sizes, the researchers note that certain countries are particularly important to continental resurgence, such as France, Germany, Italy and Poland. A person in Germany, for instance, is nearly twice as likely to travel internationally as compared to an individual in Austria.

### Conclusions

Close coordination is key to an effective response to COVID-19. While synchronised or coordinated exit strategies across Europe may be politically challenging, the presence of key countries and community structure suggests proxy coordination groups – which do not require

engagement from all countries – can be tapped in the harmonisation campaign.

International cooperation is of great importance; nonetheless, implementation of basic health protocols – test, treat and trace, as well as home quarantine and social distancing – should not be relegated. COVID-19 resurgence can be prevented by ensuring that pockets of transmission do not persist in areas with inadequate interventions at the expense of later epidemics in others.

Source: [medRxiv](#)

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