



COVID-19: RELAXING SOCIAL RESTRICTIONS

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Question: What is the best available evidence the relaxation of social restrictions in the context of COVID-19?

***ALERT* Evidence regarding COVID-19 is continually evolving. This Evidence Brief will be updated regularly to reflect new emerging evidence but may not always include the very latest evidence in real-time.**

Key messages:

- Combined restrictions (e.g. travel, health and aged care, workplace, social events, education) have been implemented to slow the spread of the COVID-19 outbreak and have demonstrated initial success in Australia.
- As with imposing the restrictions in the first place, little direct empirical evidence is available to guide the relaxation of social restrictions.
- Uncontrolled, premature, and sudden relaxation of social restrictions before the effective disease reproduction number is sustainable at less than 1 (i.e. each infected person infects less than one other) may result in a second infection peak and prolonged outbreak.
- Development and supply of an effective vaccination against the COVID-19 virus could hasten the relaxation of social restrictions.
- Widespread/herd immunity would limit the transmission potential of the COVID-19 virus and may enable relaxation of social restrictions.
- Phased, controlled, and monitored relaxation of restrictions are likely necessary to ensure that rollbacks do not lead to potential further outbreaks as a result of community transmission or introduction of new cases from other regions/abroad.
- The phased rollback of restrictions may be likely to occur in a roughly reverse order to which they were implemented, with stringent restrictions on physical distance and healthcare such as elective surgery being wound back and monitored prior to lifting restrictions on workplaces, smaller gatherings, local travel, entertainment and finally international travel.
- Novel technologies such as personal tracking via smartphone applications have been suggested as a potential tool to facilitate and monitor a gradual relaxation of social restrictions.
- Shortening diagnostic and health system delays via expansion of hospital capacity and testing capabilities may improve detection and the ability to isolate known cases and contacts which in turn may enable safer relaxation of restrictions.
- Effective detection, testing, tracking, quarantine, and treatment of COVID-19 cases will likely be foundational to an effective transition pathway away from current restrictions.

Summary

Background: COVID-19 (from ‘severe acute respiratory syndrome coronavirus 2’ (or ‘SARS-CoV-2’) is a newly discovered (novel) coronavirus first identified in Wuhan, Hubei province, China in 2019 as the cause of a cluster of pneumonia cases.¹ Coronaviruses are similar to a number of human and animal pathogens including some of those which cause the common cold as well as more serious illnesses including severe acute respiratory syndrome (SARS/ SARS-CoV-1) and Middle East respiratory syndrome (MERS). Since discovery, COVID-19 has spread to many countries and was declared a pandemic by the World Health Organization (WHO) on 30 January 2020.² Many governments around the world have implemented temporary restrictions to social, business, and other everyday activities to varying degrees in a bid to control, contain, or slow infection rates and reduce potential health impacts of the virus. These restrictions are not without their own wide-ranging negative consequences; interferences with the delivery of normal health and aged care, mental health, social wellbeing, education, business, employment, and local and national economies are but some of the areas where restrictions have had significant and ongoing impacts. In several countries (e.g. China, Taiwan, New Zealand, and Australia), restrictions appear to be demonstrating indications of progress in terms of successfully managing the pandemic and resultantly, governments have begun to consider when and how to wind them back.

Timing

In many contexts, the restrictions that have been put in place appear to have been significant in assisting countries to buy time for their health and aged care services and limit or reverse the increase in the number of new cases both imported from other countries or regions as well as for locally-acquired cases. By limiting the movements and interactions of individuals and groups, opportunity for close contact and thus transmission has been reduced across many settings including work, social and public events, education, and health and aged care. While these results are promising and have likely paid dividends in terms of enabling health and aged care time and resources to roll out testing and cope with existing patients resulting in better outcomes for many, winding-back restrictions ‘too early’ when the potential for further transmission and infection is still risky could result in a ‘second wave’ of infection and another spike in cases. The timing of winding-back restrictions is often discussed in terms of when the effective reproduction number (R_e) of the virus has been sustainably reduced to a figure below zero and remains there for a period of time. Exactly what figure below zero is required to be sustained, however, is difficult to estimate as little is currently known about the COVID-19 virus in terms of its infectiousness, basic reproduction number/ R_0 , and whether a vaccine or treatment is likely in the foreseeable future.

Travel restrictions

Restricting the movement of individuals between regions limits the potential for the virus to spread to new populations.³ Many countries and national governments have imposed restrictions on incoming and outbound travel to limit the risks posed by travellers and returning citizens and residents. Additional domestic restrictions have also been put in place in many jurisdictions, limiting interstate travel as well as travel between local regions. Local travel has also been limited across many areas, with many populations being advised to remain at home unless for essential travel (e.g. to essential workplaces, healthcare, or shops to buy food and everyday supplies). Some restrictions are policed, while others are recommendations.

Social restrictions

Restrictions on social activity have been adopted across many jurisdictions to some extent. Large social gatherings such as sport and other entertainment events have been cancelled or postponed and venues and businesses that host groups of people such as restaurants, cafes, bars, pubs, and clubs have been closed or been required to alter their business model to enable take-away products. Social restrictions have also extended to the nature and number of individuals who are allowed to gather in public or private, meaning that in some locations, more than two people from different households may not be together in public. Along with social restrictions, recommendations regarding the maintenance of a minimum physical distance between individuals in public places, particularly in buildings which may be policed, have been implemented. These vary across jurisdictions and in Australia have been set at 1.5 meters to reduce the risk of droplet and contact transmission.

School and education closures

While the potential for significant transmission by school-aged children is likely to be low, school closures may limit the potential for virus transmission in communities.⁴ Universities in many jurisdictions have also been effectively closed for face-to-face teaching in line with restrictions on the number of people who are allowed to gather in public places.

Combined restriction measures

A study simulated lifting control measures by phasing in a return to work and examined the effects of returning to work at different stages of the underlying outbreak at the beginning of March or April.⁵ The results indicated that sustaining and delaying return to work until the start of April may successfully reduce the height of the outbreak peak and mean epidemic size and noted that this later phased return to work reduced the median number of infections by greater than 92% in mid-2020 and 24% by the end of 2020. While uncertainties and limitations to the modelling study remain (i.e. estimated basic infection reproduction rate/ R_0 and duration of infectiousness) the projections suggested that sudden, premature lifting of restrictions when the effective reproduction number $R_e = >1$ could lead to an earlier secondary peak, which could be avoided by gradually relaxing the restrictions.⁵

From a modelling study based on a Singapore population, combined isolation/quarantine of infected individuals and family members in hospitals and homes, workplace distancing (50 percent of the workforce encouraged to work from home for two weeks), and school closure (two weeks) was found to be the most effective approach in the context of community transmission, particularly when the basic reduction number was calculated to be equal to or less than R_0 1.5.⁶ The authors of this study recommended prioritisation of quarantine and workplace distancing over school closure as symptomatic children have higher withdrawal rates from school than symptomatic adults from work and highlighted that restrictions may be substantially less effective in the context of high numbers of asymptomatic community cases where surveillance and contact tracing become vital.⁶ In all cases of outbreak, the authors stress the importance of public cooperation through good hygiene, infection prevention measures in shared spaces, education regarding symptoms and risk, rapid diagnosis and case management particularly among individuals aged over 60 years.⁶

References

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