Preparing for a responsible lockdown exit strategy

In just a few weeks’ time, leaders across the globe will have to start making decisions about lifting lockdown policies, with considerable social, economic and political consequences. We propose a framework for what is arguably the most difficult health challenge that governments have faced since the beginning of this century: a responsible lockdown exit strategy.

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Several Asian countries have been successfully curbing their COVID-19 pandemics through a combination of large-scale testing, contact tracing, isolation and quarantine, in parallel with moderate (e.g., South Korea) or strong (e.g., China) social-distancing measures. These have relied on a rapid upscaling of testing capacity and a parallel mobilization of thousands of health workers recruited to perform contact tracing. Many European countries, as well as the USA, have in contrast been overtaken by the speed of the establishment and spread of the causative virus and have failed to anticipate the supply and logistics of large-scale testing and personal protective equipment. Since no vaccine will be available for several months or even more than a year, the control of this pandemic can be achieved only by a major social reorganization. Therefore, these latter countries were left with no choice but to adopt aggressive social-distancing measures so as to curb the pandemic below their health systems’ capacity, with variable success. A paradox is that the somewhat delayed control of these pandemics through social distancing may have left these countries with a comparatively greater fraction of an immune population than that in countries in which the pandemic was quickly contained, which could play in their favor in the prevention of resurgences.

The global nature of this pandemic and the fact that neighboring countries are at different pandemic levels suggests that the pandemic crisis could be long. However, from an economic and social point of view, confinement measures are not sustainable in the long run. In fact, a sustained economic slump will create negative health consequences, from ‘deaths of despair’ to pressures on public-health budgets, which might thereby create more non–COVID-19-related deaths than confinement would save from this disease. In addition, social tensions linked to severe prolonged confinement, which negatively affects people quite differently, financially as well as non-financially, may get out of hand. A well-designed exit strategy is therefore crucial.

Here we propose a framework for a progressive exit strategy from confinement that relies on three complementary and continuous efforts. We acknowledge that its implementation is endowed with a number of challenges that will be more difficult to address in low- and middle-income countries than in high-income countries.

First, social-distancing measures should be maintained to reduce the overall transmission up to a point at which hospitals can cope with the resultant much lower number of patients. This would allow some time and rest for particularly stretched health systems and workers, and would allow time to address the logistics of stocking protective equipment in sufficient proportions for the primary and secondary health workers, so as to best prevent future nosocomial infections. The extra capacity built up in this first wave of the pandemic should obviously be structurally secured for possible subsequent waves.

Second, in parallel to the efforts above, diagnostic capacity would need to be massively upscaled both for detection of the virus and for the identification of immune people. RT-PCR and rapid antigen tests available in greater numbers than the estimated infected population would be used to quantify ongoing infections and inform contact tracing, isolations and quarantine. Serological tests might allow the correction of some false-negative results of virus-detection assays, the identification of non-contagious and potentially protected people, and quantification of the fraction of the population that contributes to ‘herd immunity’\(^2\). Those last seroprevalence surveys might include finger-prick assays for mass screening.

Third, the manpower and procedures needed to implement systematic tests and contact tracing at scale would need to be put in place. These tests would be first targeted at workers providing essential services (health, security and food). With upsaling of diagnostic capacity, the tests would support the progressive de-confinement of groups of populations on the basis of their expected contribution to the transmission and risk profile and the results of both RNA tests and serology tests in order to gradually restore economic and social activity safely. For example, de-confinement is less urgent for retired senior citizens and for people who can work from home. An important question that cannot be avoided even at an early stage is whether schools should be re-opened, given that young people are less at risk of contracting COVID-19. This is a complex question that lack of space prevents us from addressing here. Suffice it to say that if a government decides to reopen all or a part of the education establishments of the country, care should be taken to minimize the risk of transmission to the teaching staff and their families, with the help of...
Biomedical research: lessons from the last decade’s crisis and austerity-stricken small countries for the current COVID-19-related crisis

The 2007–2008 economic crash has had long-lasting effects on Greece’s biomedical research landscape. It has exposed a gap in support for countries that are classified as high income but are living under austerity measures. A new model is needed for optimal utilization of the intellectual and natural resources that such countries can offer to improve the global research landscape.

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Any countries were afflicted by the most recent decade-long financial crisis and its accompanying austerity measures. In Greece, Spain, Portugal and other countries, funding scarcity has greatly impeded the performance of expensive biomedical research in particular. This field was particularly hit because the crisis took place while there was, at the same period, an explosion of costly, resource-expensive studies of biological pathways, precision medicine, big-data science, super-resolution imaging, robotics and high-throughput experimental technologies.