From China: hope and lessons for COVID-19 control

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Juanjuan Zhang and colleagues[1] use detailed, publicly available data to explore key epidemiological features of the coronavirus disease 2019 (COVID-19) pandemic in China. Outside the original epicentre of Hubei province, they found that the effective reproduction number dropped below the critical threshold of 1 by the end of January, 2020, for nine heavily affected Chinese provinces or cities. This finding suggests significant slowing of local transmission. Importantly, these reductions were achieved in a matter of weeks from the first signs of local transmission in most provinces. Although the true causal nature of these transmission reductions is not addressed in Zhang and colleagues' analyses, it is probably due to the strict government-imposed restrictions on movement of people and social gatherings, widespread symptom screening, testing and quarantine programmes, and the strong emphasis on personal behaviour change (eg, hand hygiene, mask use, and physical distancing) to reduce the risk of transmission. The authors also found, as others have shown,[2] that the mean incubation period and serial interval were of similar length (5·2 days [95% CI 1·8–12·4] and 5·1 days [1·3–11·6], respectively), suggesting an important role of transmission before or soon after symptoms have developed. Although this study has a number of limitations, it illustrates the power of rapid openly available data for providing important insights to guide complex policy decisions in the coming months.

The authors used detailed, publicly available line lists, epidemiological reports, and case and contact investigation results from across China. Although, in the past, China has been criticised for a lack of transparency related to epidemiological surveillance data, this rapid openness goes beyond what most countries are doing today.[3] Rapid analyses, including computational modelling efforts, are vital to assist decision makers in these largely uncharted waters; however, these analyses are only as good as their data. Our daily understanding of the pandemic is primarily based on the number of confirmed cases reported (eg, WHO daily reports and online dashboards[4]), which can only be interpreted with an understanding of who is being tested (eg, only severe cases) and laboratory capacity. To correct the epidemic curves, data on testing capacity and test eligibility criteria over time across the globe are urgently needed. Furthermore, insights to the frequency of asymptomatic and mildly symptomatic infections from individuals tested for the virus or antibody responses, irrespective of symptoms, will greatly improve real-time assessments.[5]

The interventions implemented throughout China include complete lockdown of cities, active case surveillance, rapid investments in increased testing capacity, isolation of cases, treatment of severe cases, quarantine of cases and high-risk groups, and behavioural risk-reduction strategies, such as the compulsory use of masks in the general population. The trajectory of the epidemic curves in China alone suggest that these measures—some of them extreme—might have led to substantial reductions in transmission as of late March, 2020. China made difficult decisions with complex trade-offs between economic and social consequences and acute health effects on the basis of little historical data. These decisions pave the way for other countries to design responses to COVID-19 on the basis of their experiences. The encouraging results from Zhang and colleagues' study provide hope that rapid control might be possible, although with high economic and social costs. Countries across the world are making some of the same policy decisions, effectively halting their economies in the hopes of avoiding a massive death toll, but such lockdowns cannot go on forever. In the search for a new sustainable normal, countries and municipalities will inevitably adopt a range of approaches adapted to local specificities in the coming months. Through open documentation of these varying policy choices and timelines, and real-time assessments of their effects, we can and must generate evidence to minimise the acute and long-term consequences of this pandemic.

We declare no competing interests.

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