

The impact of ending ‘zero COVID’ in China



By Benjamin Cowling

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As China amends its ‘zero COVID’ strategy, mitigation measures are needed to reduce transmission.

China’s public health response to the COVID-19 pandemic was unprecedented. In influenza-pandemic-preparedness plans, which guided the response to COVID-19, containment is rarely thought of as a sustainable strategy but is instead an initial approach to buy time for assessment and preparation. In China, a containment approach was introduced in Wuhan, the epicenter of initial cases, and this was subsequently extended to the entire country. It worked for almost 3 years, but now that containment measures have ended, as of 7 December 2022, a surge in cases of COVID-19 poses a major public health threat this winter.

Typical pandemic plans include the concepts of an initial containment effort (as exemplified by the ‘zero COVID’ strategy), followed by a switch to mitigation of epidemic waves (often known as ‘flattening the curve’), and then a recovery phase with a gradual relaxation of any mitigation measures – ‘living with the virus’. The abrupt relaxation of control measures in the Chinese mainland seems more akin to an immediate jump from a containment phase to a recovery phase.

Relaxation of the ‘zero COVID’ policy poses several immediate challenges in the upcoming winter. First and foremost is preparing for a major surge in hospital admissions of patients with severe COVID-19, as well as patients whose chronic conditions have been exacerbated by infection with SARS-CoV-2. This will not be easy when inpatient capacity is limited, and the country has less than one ICU bed for every 10,000 people. Although importing resources and staff from other provinces helped to mitigate the impact of previous COVID-19 outbreaks in Wuhan and Shanghai, this will probably not be possible in a nationwide outbreak. Antiviral drugs, if available, could reduce hospitalizations if given to vulnerable patients early in the course of illness.

Given the high transmissibility of the latest Omicron subvariants of SARS-CoV-2, epidemic

growth rates will be very fast in the absence of population immunity. Inactivated vaccines provide some protection against Omicron, at least for a short period of time after the most recent dose, but most of the population will be susceptible to infection with Omicron this winter. Although overall vaccine coverage is 92%, there is lower uptake in older adults. Of those over 80 years of age, only 40% had received three vaccine doses as of this writing. Our work in Hong Kong has shown that three doses of inactivated vaccine provide a much higher level of protection than two doses do in this age group. Administration of booster doses this winter, including a fourth dose, could provide at least temporary protection in some people, which would help to reduce overall attack rates. Increasing vaccine uptake should therefore be a priority. This could be achieved by reducing barriers to vaccination, such as eliminating the requirement for a negative PCR test for entry to a vaccination center, and by increasing incentives to vaccination, such as through clear risk communication, rather than downplaying COVID-19 illness as a mild influenza.

Additional mitigation measures might not ultimately reduce the total number of infections. However, reducing the height of the epidemic peak and spreading cases over a longer time period could save many lives while healthcare resources are under severe pressure. Mask mandates have commonly been included in mitigation measures in other parts of the world, and they can make a small contribution to reducing transmission. Shanghai moved schools online for a month starting from 19 December; other cities and provinces should consider doing the same. Although children were relatively less affected by COVID-19 in the early phase of the pandemic, children seem to be as susceptible to infection with Omicron subvariants as adults are, which makes schools probably an important location for community transmission. Other community-wide social-distancing measures should also be implemented, and a temporary stay-at-home recommendation might even be considered.

One important lesson from other locations is the need to manage outbreaks in long-term

residential care facilities for older adults. Hospitals are unlikely to have sufficient capacity to isolate patients with milder COVID-19, so protocols for within-facility isolation could help to reduce outbreaks if designated isolation facilities are not available. This could involve the provision of rapid antigen tests and personal protective equipment, combined with regular surveillance of staff and residents, which would help to identify outbreaks as early as possible and, ideally, also facilitate early antiviral treatment.

One final issue recognized elsewhere is the likelihood of disruption to supply chains and essential services due to high rates of infection in essential workers, including healthcare staff. This can be mitigated to some extent by slowing community transmission with public health and social measures, as outlined above. Shorter isolation periods, ending as soon as a daily rapid test is negative, could be used to reduce isolation periods.

China faces a major public health threat this winter, with a nationwide exit wave that will probably result in a large number of infections and more severe cases than hospitals can accommodate. Mitigating this exit wave will save lives. In the longer term, the transition to endemicity will have further ups and downs, as has been seen elsewhere. The pandemic is not yet over for China – or for the world.

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Competing interests

B.C. has consulted for AstraZeneca, Fosun Pharma, GSK, Haleon, Moderna, Roche and Sanofi Pasteur.