

Life expectancy trends in China in the post-COVID-19 era



According to data released by the National Health Commission of China, life expectancy at birth increased from 77.9 years in 2020 to 78.2 years in 2021.¹ Mortality and life expectancy trends in the postpandemic era are important indicators to study;² they can reflect a country's governance and the resilience of its health-care system. The study by Ruhai Bai and colleagues in *The Lancet Public Health*³ predicts that the life expectancy at birth in mainland China will be 81.3 years in 2035, exceeding the target of 80 years set by the State Council's Healthy China 2030 plan.⁴ Specifically, the authors applied the approach developed by Kontis and colleagues in their 2017 report, which projected age-sex-specific life expectancy to 2030 for 35 industrialised countries.⁵ Importantly, Kontis and colleagues were unable to account for "unexpected events and changes in the social, technological, and health systems determinants of health". The COVID-19 pandemic is among such unexpected events. Bai and colleagues projected future life expectancy in mainland China by assuming that the life expectancy at birth would return to the prepandemic trajectory in 2022. It is difficult to estimate the nadir of life expectancy in China following the pandemic, since China has recently experienced excess mortality as a result of ending the zero-COVID policy. It is also unclear when China's life expectancy at birth will return to its prepandemic trajectory. The postpandemic resilience of China's life expectancy could greatly affect the projections.

COVID-19-related death in older people has contributed a substantial proportion of the life expectancy deficits in most countries.⁶ COVID-19 vaccinations have saved lives globally.⁷ However, a substantial proportion of older people in China, especially those aged 80 years or older, have been reluctant to take vaccines. According to a nationwide survey on COVID-19 vaccination status and hesitancy among China's older people, the rates of primary series and booster shots in people aged 80 years or older were 71.9% and 46.7%, respectively, in 2022.⁸ A study by Cai and colleagues published in May, 2022, modelled an excess of 1.5 million deaths due to COVID-19 if China ended the zero-COVID strategy with its current vaccination status.⁹ The vaccination rate did

not increase substantially before China ended the zero-COVID strategy in December, 2022.⁷ Although it is not yet possible to estimate the excess mortality associated with COVID-19 in China, it is probable that the rise in mortality due to the high infection rate and the relatively low immunity level of Chinese people will translate into excess mortality and some losses in life expectancy.^{9,10} A revisit of China's life expectancy trends will be important once excess mortality data are available in the near future.

Like in many other countries, the health-care system in China has been challenged by the COVID-19 pandemic. To recover from COVID-19, China's academic institutions, media, and other relevant stakeholders such as the private sector should improve collaboration, rebuild public trust, and engage communities in the pandemic response amid the postpandemic era. Moreover, there are potential gains in life expectancy through achieving healthy ageing and reducing inequalities, particularly for the ageing population living in rural areas.¹¹ Last but not least, it is crucial for China to strengthen the health system and prepare to manage chronic conditions and prevent functional disability—these are the present major threats to public health impeding future increases in life expectancy.¹¹

We declare no competing interests.

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- 1 National Health Commission of China. 2021 statistical bulletin on China's health care development. 2022. <http://www.nhc.gov.cn/guihuaxxs/s35866/202207/51b55216c2154332a660157abf28b09d.shtml> (accessed Jan 29, 2023).
- 2 Wang H, Paulson KR, Pease SA, et al. Estimating excess mortality due to the COVID-19 pandemic: a systematic analysis of COVID-19-related mortality, 2020–21. *Lancet* 2022; **399**: 1513–36.
- 3 Bai R, Liu Y, Zhang L, Dong W, Bai Z, Zhou M. Projections of future life expectancy in China up to 2035: a modelling study. *Lancet Public Health* 2023; published online March 30. [https://doi.org/10.1016/S2468-2667\(22\)00338-3](https://doi.org/10.1016/S2468-2667(22)00338-3).
- 4 Central Committee of the Chinese Communist Party, State Council. The plan for "Healthy China 2030". 2016. http://www.gov.cn/xinwen/2016-10/25/content_5124174.htm (accessed Jan 29, 2023).
- 5 Kontis V, Bennett JE, Mathers CD, Li G, Foreman K, Ezzati M. Future life expectancy in 35 industrialised countries: projections with a Bayesian model ensemble. *Lancet* 2017; **389**: 1323–35.
- 6 Schöley J, Aburto JM, Kashnitsky I, et al. Life expectancy changes since COVID-19. *Nat Hum Behav* 2022; **6**: 1649–59.

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- 7 Watson OJ, Barnsley G, Toor J, Hogan AB, Winskill P, Ghani AC. Global impact of the first year of COVID-19 vaccination: a mathematical modelling study. *Lancet Infect Dis* 2022; **22**: 1293–302.
- 8 Wang G, Yao Y, Wang Y, et al. Determinants of COVID-19 vaccination status and hesitancy among older adults in China. *Nat Med* 2023; **29**: 623–31.
- 9 Cai J, Deng X, Yang J, et al. Modeling transmission of SARS-CoV-2 Omicron in China. *Nat Med* 2022; **28**: 1468–75.
- 10 Leung K, Lau EHY, Wong CKH, Leung GM, Wu JT. Estimating the transmission dynamics of SARS-CoV-2 Omicron BF.7 in Beijing after adjustment of the zero-COVID policy in November–December 2022. *Nat Med* 2023; **29**: 579–82.
- 11 Chen X, Giles J, Yao Y, et al. The path to healthy ageing in China: a Peking University–Lancet Commission. *Lancet* 2022; **400**: 1967–2006.