

COVID-19: China risks over a million deaths if Omicron spreads

22 March 2022

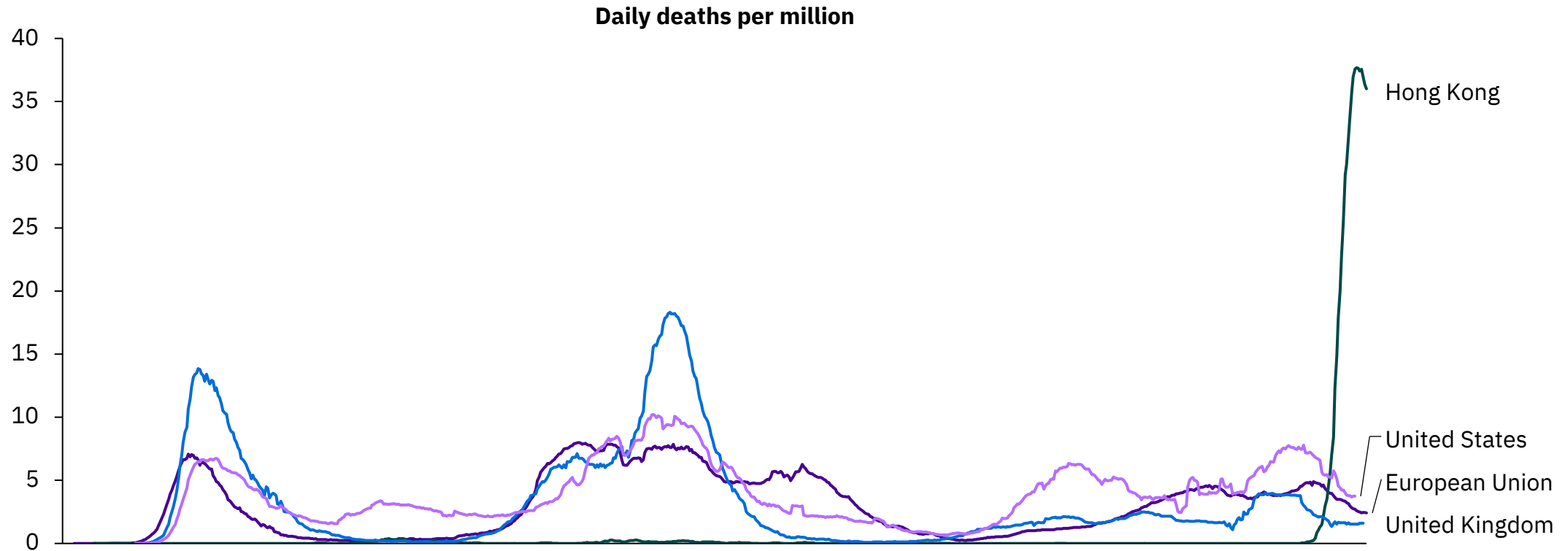
Death rates in Hong Kong are the highest in the world, and much higher than the West has ever seen

Daily deaths per million people in Hong Kong and Western countries

The death rate in Hong Kong is the highest in the world and much higher than Western countries have ever experienced, peaking at 37.6 daily deaths per million, More than double the the UK's peak in January 2021 of 18.1.

Limitations:

→ Based on publicly recorded data



The percentage of people protected against Omicron infection in China is <30%, risking similar a situation to Hong Kong

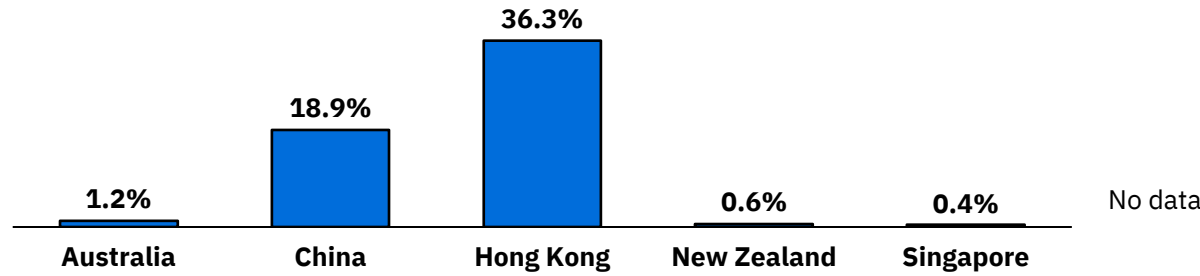
Overview of COVID-19 vaccination and booster coverage

As China has controlled outbreaks well so far, acquired immunity is very low. Therefore, any protection in the country comes from vaccination. However, due to the low efficacy (VE) of the candidates used in China as well as the impact of Omicron on VE, less than 30% of the population are protected from infection. In addition, lower vaccine and booster coverage of those over 60 may lead to higher death rates.

Limitations:

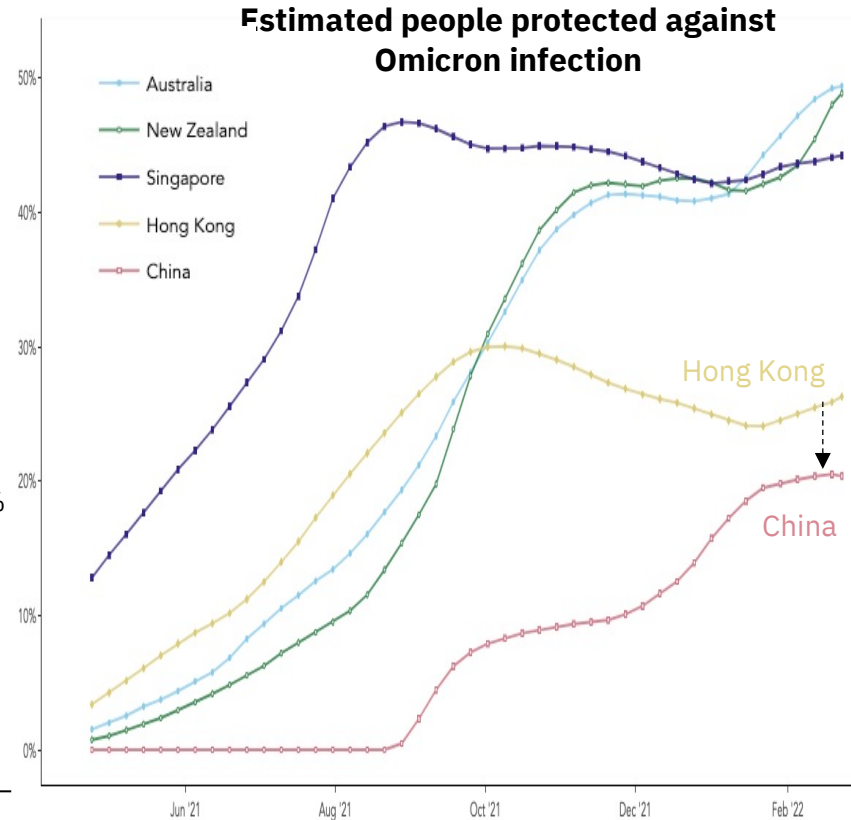
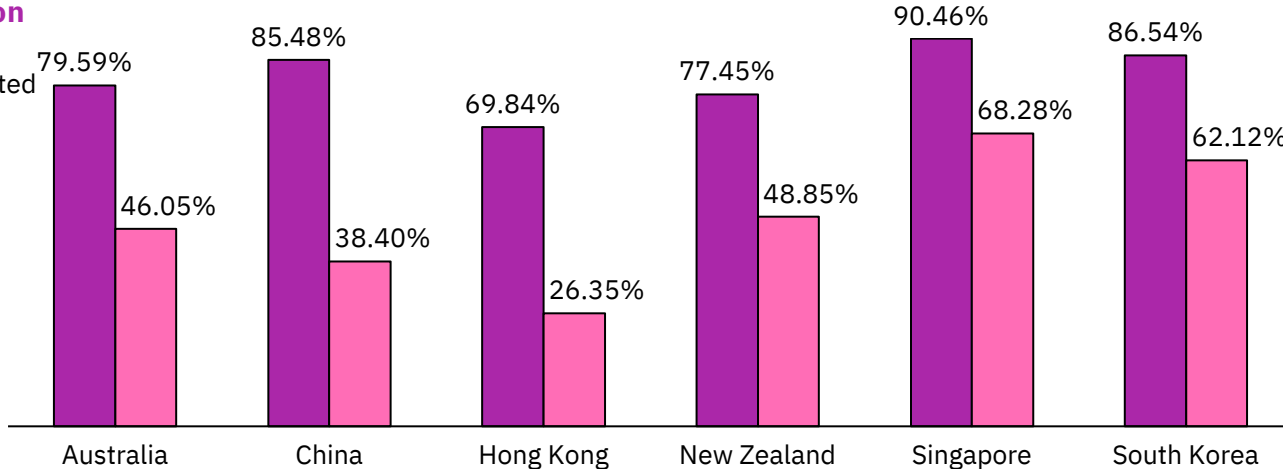
- Based on public reporting on vaccinations and cases.
- Accounts for waning immunity.
- Protection from infection.

Percentage over 60s unvaccinated:



Percentage of total population

- Fully vaccinated
- Boosted



The case fatality ratio in Hong Kong is 20x higher than in New Zealand

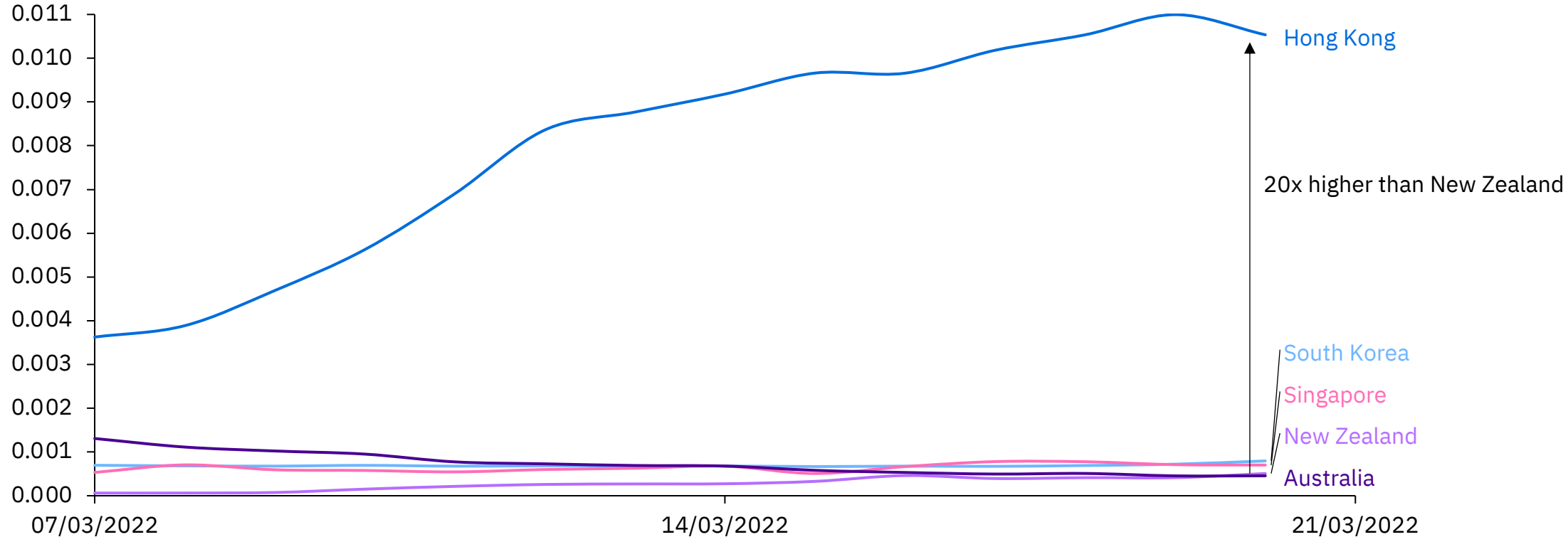
Case fatality ratios across zero-COVID countries now experiencing infection waves

The case fatality ratio (CRF) in Hong Kong is far higher than the CFRs seen in other comparable countries, with a CFR 20x greater than in New Zealand. This could be attributed to vaccination coverage, particularly in older age groups, and booster rollouts. Furthermore, Hong Kong has been far more reliant on the less-effective Chinese vaccine candidates, resulting in lower protection levels. Should China have similar levels of protection, they too could experience a very high CFR.

Limitations:

→ Case fatality ratios are calculated using reported deaths and reported cases, however this may not be accurate if not all cases are recorded

Case fatality ratio (CFR) over time for countries



If China follows the same trajectory as Hong Kong, deaths could exceed 1 million

Cumulative deaths and potential forecast for China

Hong Kong has experienced one of the most devastating waves of infections and deaths caused by COVID-19, which has been attributed to low protection levels due to vaccines and natural immunity. China is also thought to have low levels of protection, meaning should infections hit China in the same magnitude as Hong Kong, deaths could exceed 1 million. China may prevent this with lockdowns, but exiting their zero-COVID strategy could be challenging without better vaccines.

Limitations:

→ Prediction scenario is based on the situation experienced in Hong Kong, however there are many variables that could differ

Potential cumulative deaths in China
(should China be impacted as significantly as Hong Kong, and not introduce restrictions)



Stock of non-Chinese COVID-19 vaccines in HICs and UMICs could cover 54% of Chinese population with a booster dose

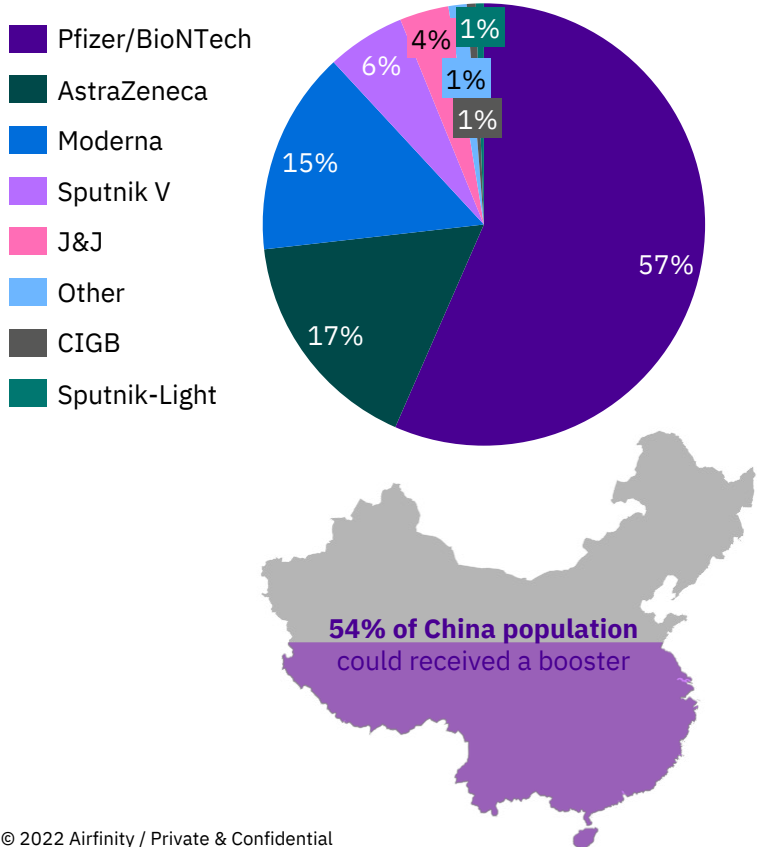
Estimated stock of non-Chinese COVID-19 vaccines in HICs and UMICs (excluding China)

Stock of non-Chinese COVID-19 vaccines in HICs and UMICs (excluding China) accounts to over 750 million doses. These doses would be sufficient to cover 54% of Chinese population with a non-Chinese booster dose. If China gave these doses to the oldest age groups first, nearly 100% of those aged over 35 years in China could receive a dose.

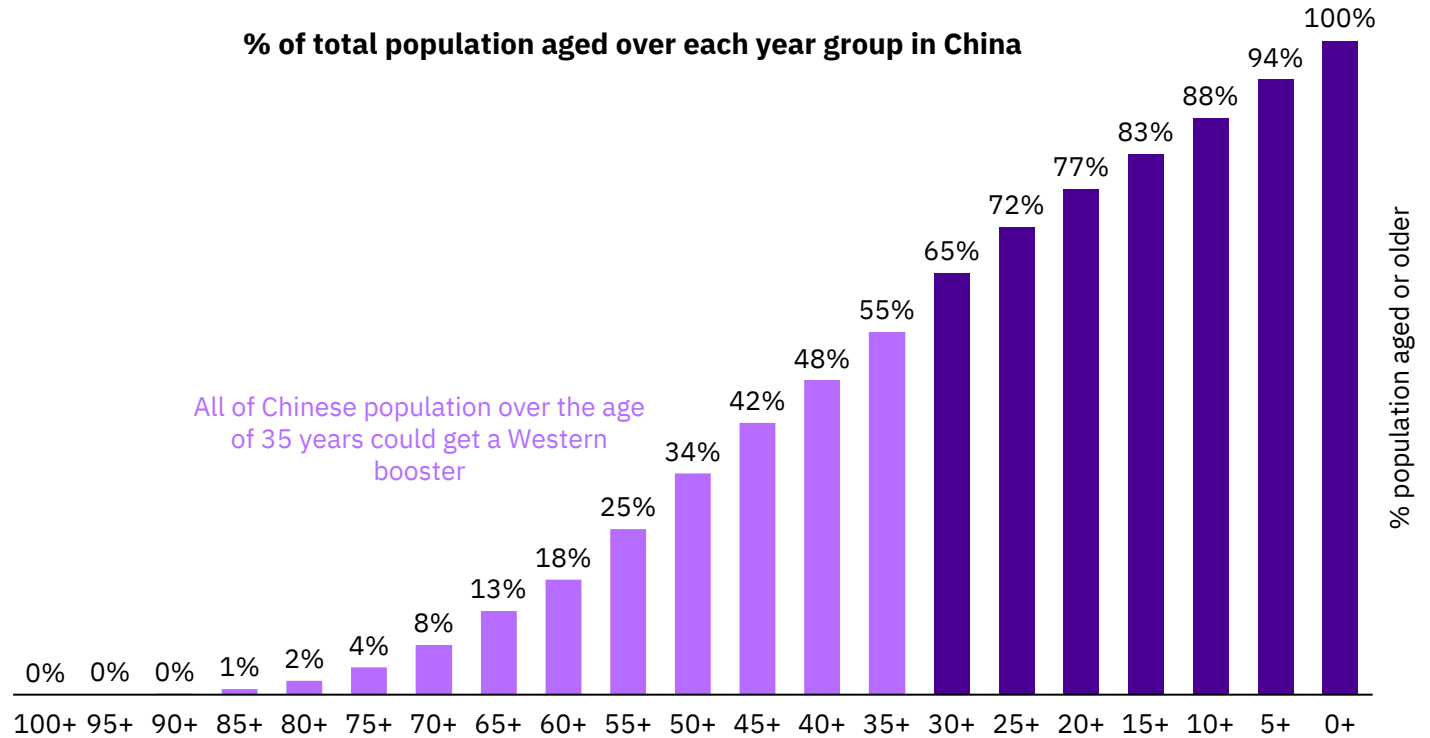
Limitations:

- Based on publicly announced deliveries, donations and vaccination data.
- Stock per vaccine has been estimated assuming proportional administration of delivered vaccines.

755M stock doses in HICs & UPICs



% of total population aged over each year group in China



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