

# Understanding Hong Kong's Failure in Zero-COVID strategy: What Hong Kong Can Learn from Singapore and Macao

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*The fifth wave of COVID-19 in Hong Kong (2022) had brought a series of chaos to society. Nevertheless, its Asian neighbours, namely Singapore and Macao, have avoided such chaos. By investigating the well-rounded preventive measures and social environment in Singapore and Macao, this article highlights the Hong Kong government's "idleness". It reveals that the relationship between a government and its people does play a significant role in operating COVID-19 measures, which could directly prevent a large-scale outbreak.*

**AT THE BEGINNING** of the fifth wave of COVID-19 pandemic that occurred in Hong Kong in 2022, the Hong Kong government's measures were inadequate in

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terms of preparation, control and prevention. Due to the attitude of complacency derived from the success in the first two years of the pandemic, Hong Kong society seemed to neglect the threat of Omicron variants. For instance, while persisting to stick with the zero-COVID strategy and gaining better understanding the transmissibility of Omicron, the Hong Kong government did not enhance the capacity of isolation facilities. As many local and foreign media had commented, the Hong Kong government did not appear to have a plan B as the Omicron cases rapidly scaled up its virus containment. Instead, the Hong Kong government decided to re-tighten control measures such as limiting two-people group gatherings in public places. Its policies to prepare, control and prevent infection were profoundly condemned. Compared to its Asian neighbours, namely Singapore and Macao, the infection rate and death rate in Hong Kong are higher. Referring to the infection rates of Hong Kong and Macao—both with a zero-COVID strategy, statistical data recorded by Worldometer in March 2023 shows that Hong Kong had 2.8 million infection cases among its population of 7.4 million, while Macao, with a population of 686,000 had only 3,515 cases. Such a sharp contrast between Hong Kong and Macao—two highly developed cities—had caught public and scholarly attention. This article aims to compare the COVID-19 measures among the three Asian polities, including Hong Kong, Singapore and Macao to analyse the underlying factors of Hong Kong's relatively higher infection rate and death rate than others.

Among the three Asian polities, Hong Kong and Singapore had large-scale COVID-19 outbreak, whereas Macao successfully avoided outbreak of such large scale due to its implementation of accurate and stringent measures. With the outbreak of Omicron variants, Hong Kong had a similar infected population comparable with Singapore, i.e. 1,197,057 in Hong Kong and 1,210,813 in Singapore (both figures up till 19 May 2022). By contrast, in May 2022, Macao had just 82 infected cases in its population since the first COVID-19 case recorded in 2020. Meanwhile, both Hong Kong and Singapore had about the same death cases in their infected population. As a matter of fact, older individuals are more susceptible to COVID-19 than younger individuals. In Singapore, 16.38% of the total death cases were elderly aged 80 or above, while in Hong Kong, 71.0% of death cases were elderly. Based on these data, Hong Kong lends a sharp contrast to Singapore in terms of death rate in elderly. From the medical angle, vaccination has proven to be an effective means to prevent severe cases and complications, and the Hong Kong government has consistently highlighted that “most of the

deceased cases are unvaccinated persons”. Nevertheless, of the 71% elderly deceased in Hong Kong (9,132 people), 75% chose to be unvaccinated. The next section discusses Hong Kong’s low vaccination rate for elderly from a comparative perspective.<sup>1</sup>

## Factors Leading to the Vaccine Hesitancy: The Case of Hong Kong

In the beginning of the COVID-19 vaccination programme, the vaccination rate in Hong Kong could not achieve the goal of herd immunity. In the recent outbreak, out of 7,403,100 Hong Kong’s total population, only 3,488,327 had their third vaccine dose. Particularly in the 80 and above age category, which has the highest death rate among all age groups, 218,649 out of 398,200 had two vaccine dose and 78,399 had their third vaccine dose. Nevertheless, Singapore has an evenly high vaccination rate in three vaccine doses. For the entire population, 75% of Singaporeans received the third vaccine dose (up till 14 May 2022). In the most high-risk age group, i.e. aged 80 or above, at least 94% of Singapore elderly completed the full regimen (whereas in Hong Kong merely 54.9% did so). Such an issue of low vaccination rate is due to the ingrained vaccine hesitancy.<sup>2</sup>

Vaccination implementation is undoubtedly an outcome from Hong Kong’s intricate decision-making process, which has been influenced by a variety of factors. Some local research output attempts to explain Hong Kong vaccine hesitancy in three dimensions, i.e. successful crisis response, safety concerns and more critically political concern. The low vaccine rate among elderly can be attributed to the lack of extensive promotion, an elderly-friendly vaccine application platform and policy. For example, the Hong Kong government allowed same-day tickets to only people aged 70 or above from 29 July 2021 and people aged 60 or above from 11 August 2021.

Hong Kong’s successful crisis response in the early days of COVID-19 pandemic is actually a double-edged sword, in which case it boosted Hong Kong’s confidence that the pandemic did not have a severe impact, but it also simultaneously decreased the intention to have vaccination. As Hong Kong is one of the most densely populated cities in the world, infectious disease transmission rates are expected to be high. Notwithstanding the Hong Kong government inadequate response to COVID-19 before the first wave of COVID-19, the government’s quick risk management implied that Hong Kong was relatively less

<sup>1</sup> Statistical data are drawn from: The Government of the Hong Kong Special Administrative Region, “Statistics on Fifth Wave of COVID-19 (from 31 December 2021 up till 19 May 2022)”, 19 May 2022, <[https://www.coronavirus.gov.hk/pdf/5th\\_wave\\_statistics/5th\\_wave\\_statistics\\_20220519.pdf](https://www.coronavirus.gov.hk/pdf/5th_wave_statistics/5th_wave_statistics_20220519.pdf)> (accessed 10 February 2023); Ministry of Health, Singapore, “COVID-19 Statistics”, n.d., <<https://www.moh.gov.sg/covid-19/statistics>> (accessed 10 February 2023).

<sup>2</sup> Ibid.

affected by the COVID-19 pandemic. Through strict border control and travel ban, aggressive measures for early detection and prohibition of gatherings, Hong Kong's COVID-19 situation stabilised and the Hong Kong government attempted to handle it as longer-term risk management.<sup>3</sup> After a long period of zero-COVID case, HongKongers' vigilance dropped. It is thus speculated that the Hong Kong government's quick and stable control of COVID-19 has decreased people's intention to have vaccination.

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## One of the factors that led to vaccine hesitancy was the flood of false information on the internet about vaccine's efficacy and its side effect.

As for the safety concerns, trust in government, healthcare professionals and domestic scientists are able to strengthen people's confidence in COVID-19 vaccination. Theoretically speaking, if a risk manager, i.e. a government, gains stronger trust, it can facilitate its governance, resulting in improved policy outcomes, greater visibility and increased legitimacy.<sup>4</sup> One of the factors that led to vaccine hesitancy was the flood of false information on the internet about vaccine's efficacy and its side effect. Nevertheless, a relatively large number of HongKongers held a comparably inactive attitude towards vaccination. Vaccine hesitancy probably arose from possible adverse effects of vaccine, and such a low confidence was driven primarily by doubts about efficacy, long-term effects and concerns about adverse effects. Additionally, in Tsang's analysis about vaccine

usage, vaccine safety and efficacy are factors that are more important than others.<sup>5</sup> Tsang's article meanwhile points out that the lack of confidence among the populace had actually placed a big constraint on the vaccination rate in Hong Kong. It sounds interesting that many HongKongers have no strong hesitation

<sup>3</sup> Kris Hartley and Darryl S L Jarvis, "Policymaking in a Low-trust State: Legitimacy, State Capacity, and Responses to COVID-19 in Hong Kong", *Policy and Society*, vol. 39, no. 3, 2020, pp. 403–423.

<sup>4</sup> Dominic H P Balog-way and Katherine A McComas, "COVID-19: Reflections on Trust, Tradeoffs, and Preparedness", *Journal of Risk Research*, vol. 23, no. 7–8, 2020, pp. 838–848; Laura S Rozek, Pauline Jones, Anil Menon, Allen Hicken, Samantha Apsley and Elizabeth J King, "Understanding Vaccine Hesitancy in the Context of COVID-19: The Role of Trust and Confidence in a Seventeen-country Survey", *International Journal of Public Health*, vol. 66, 2021, p. 636255; Mallory Trent, Holly Seale, Abrar Ahmad Chughtai, Daniel Salmon and Raina C MacIntyre, "Trust in Government, Intention to Vaccinate and COVID-19 Vaccine Hesitancy: A Comparative Survey of Five Large Cities in the United States, United Kingdom, and Australia", *Vaccine*, vol. 40, no. 17, 2022, pp. 2498–2505.

<sup>5</sup> Stephanie Jean Tsang, "Predicting COVID-19 Vaccine Hesitancy in Hong Kong: Vaccine Knowledge, Risks from Coronavirus, and Risks and Benefits of Vaccination", *Vaccine: X*, vol. 11, 2022, p. 100164.

due to fear of the outcomes of COVID-19 infection and even the risk of infection. In this scenario, Hong Kong had not met its target vaccination rate because of safety concerns; nevertheless, such safety concerns can be explained by the lack of trust in the government sector.

Needless to mention, a high degree of trust in healthcare providers and scientists is essential to reduce COVID-19 vaccine hesitancy. Vaccine hesitancy in Hong Kong has largely been interpreted as a result of poor and strained relations between the public and government sectors. Hong Kong's sociopolitical tensions preceding the COVID-19 pandemic had highly likely affected the vaccination rate. Prior to the COVID-19 pandemic, the majority of populace do recognise that taking vaccine is a kind of collective responsibility, which relies on community orientation, empathy and collectivism. Individualism should be negated in order for collective responsibility to be strengthened. People with high collective responsibility should be more willing to get vaccinated for others' interests. After a two-year political chaos in Hong Kong, deep and expansive social rift emerged among HongKongers. Divisive political stance, i.e. yellow–blue divide, has led people to have diametrically opposite opinions on a variety of social facts and policies, which are actually irrational because people's group solidarity affects every aspect and thought of their daily life, even their consumption behaviour, including but not limited to the “yellow economic circle”.<sup>6</sup> In a recent study about vaccination challenges by Chau, Hong Kong's strained relationship with mainland China and the divided political-cultural identity of HongKongers undermine the sources of collective responsibility.<sup>7</sup> Compared to some countries in the Western world or simply China, a large majority of HongKongers expressed scepticism towards the Hong Kong government's COVID-19 measures. HongKongers' trust towards its government remained low during the COVID-19 pandemic. The majority of them recognised that, all but not some COVID-19 measures, particularly the requirements to reduce gatherings,

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<sup>6</sup> Edmund W Cheng, Francis L F Lee, Samson Yuen and Gary Tang, “Total Mobilization from Below: Hong Kong's Freedom Summer”, *The China Quarterly*, vol. 251, 2022, pp. 629–659; Li Yao-tai and Katherine Whitworth, “Redefining Consumer Nationalism: The Ambiguities of Shopping Yellow during the 2019 Hong Kong Anti-ELAB Movement”, *Journal of Consumer Culture*, 2022; Zhang Zhuoni and Gu Peiwei, “Returned but Separated: Political Stance, Identity, and the Yellow–blue Divide in Hong Kong SAR China”, *Chinese Sociological Review*, vol. 54, no. 2, 2022, pp. 131–154.

<sup>7</sup> Charlene Y C Chau, “COVID-19 Vaccination Hesitancy and Challenges to Mass Vaccination”, *Hong Kong Medical Journal*, vol. 27, no. 5, 2021, pp. 377–379.



**To be clear,  
the majority of  
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were merely the legal means initiated by the Hong Kong government to indirectly suppress the pro-democracy movement.<sup>8</sup> Since trust towards a government has the critical influence on vaccination intention, HongKongers who trust public institutions were least resistant to getting vaccinated. A research report published

by the Hong Kong Baptist University regarding the social determinants of vaccine acceptance and hesitancy in 2021 summarised that respondents’ acceptance of the belief of “whether vaccination is an act of supporting the government” has been considered as a significant effect on vaccination intention. Clearly, in the reason of the huge confidence gap between HongKongers and the government, distrust in health and political authority elucidates the low vaccination rate in this city.

It should be noted that trust in the government had slumped to its bottom in Hong Kong after the handover. In particular, the antecedent of distrust towards the Hong Kong government has begun since 2003, i.e. the outbreak of the 1 July Protest Rally. For example, the influx of Chinese tourists and immigrants exacerbated the tension between HongKongers and Mainlanders. In the eyes of some HongKongers, especially for the younger ones, the growing integration with and dependency on mainland China (i.e. mainlandisation) has threatened the preservation of Hong Kong values, rights, language and freedom by “blurring of the physical, social, cultural and psychological border between mainland China and Hong Kong”.<sup>9</sup> To be clear, the majority of politicians and even Chief Executive in Hong Kong are with pro-Beijing stance that is fundamentally not aligned with certain HongKongers’ demands. For instance, the pro-Beijing forces have already brought about fundamental changes

<sup>8</sup> Wong Sue-lin and Liu Nicolle, “Beijing Clamps Down on Hong Kong under Cover of Coronavirus”, *Financial Times*, 24 April 2020, <<https://www.ft.com/content/bf08a177-9631-48e5-b542-18bf5b15faf4>> (accessed 7 April 2023); Kris Hartley and Darryl S L Jarvis, “Policymaking in a Low-trust State: Legitimacy, State Capacity, and Responses to COVID-19 in Hong Kong”, pp. 403–423; Voo Teck Chuan, Angela Ballantyne, Ng Chirk Jenn, Benjamin J Cowling, Xiao Jingyi, Phang Kean Chang, Sharon Kaur, Grazele Jenarun, Vishakha Kumar and Jane Mingjie Lim, “Public Acceptability of COVID-19 Control Measures in Singapore, Hong Kong, and Malaysia: A Cross-sectional Survey”, *International Journal of Infectious Diseases*, vol. 120, 2022, pp. 51–58.

<sup>9</sup> Nathan Kar Ming Chan, Lev Nachman and Chit Wai John Mok, “TRENDS: A Red Flag for Participation: The Influence of Chinese Mainlandization on Political Behavior in Hong Kong”, *Political Research Quarterly*, vol. 74, no. 1, 2021, pp. 6–7; Kwong Ying-ho, “The Growth of ‘Localism’ in Hong Kong: A New Path for the Democracy Movement?”, *China Perspectives*, vol. 2016, no. 3, 2016, pp. 63–68.

in Hong Kong's politics with their substantial interference in LegCo. Facing such a social divisiveness, some HongKongers expressed their distrust and discontent by supporting localism. A survey regarding young HongKongers' views by Varsity in 2016 indicated that close to 69% of the respondents said they supported localist groups.<sup>10</sup> With the rise of localism after the Umbrella Movement in 2014, the escalating use of violence in the pro-democracy movement have become more widespread to resist the central government of China's increased meddling in freedom and in political, economic and social affairs in Hong Kong. As violent demonstrations in Hong Kong are often accompanied by tougher suppression from the government, the trust of the Hong Kong government and its people have been further damaged. It deserves to be mentioned that the Hong Kong Public Opinion Research Institute recorded a distrust of 75.9% in a poll from 17 to 19 February 2020, when the first COVID-19 outbreak occurred in Hong Kong.

### **Tackling Vaccine Hesitancy: Lesson Learnt from Singapore**

Singapore, which has a relatively higher vaccination rate than Hong Kong, has taken a visionary and aggressive vaccination policy. Singapore's COVID-19 cases were mere single digits by November 2020, which motivated the Singapore government to move to the third phase reopening and further introduce the vaccination programme on 30 December 2020. The programme prioritised at risk groups, including elderly, frontline workers and those with comorbidities. Subsequently, the Singapore government progressively rolled out the programme to residents by age groups. For example, citizens aged 70 or above had been required to get vaccinated from 22 February 2021.<sup>11</sup> Nevertheless, in 2021 at the peak of Delta variants, vaccination rate among middle-aged and older citizens was relatively lower than the young generation. The Singapore Ministry of Health therefore initiated the home vaccination services to deal with such a situation. The ministry's response indicates that all homebound elderly could be arranged to be vaccinated at home by calling the Silver Generation Office's hotline. Yet, facing the similar situation, the Hong Kong government initiated a programme on 26 April 2022, i.e. after the outbreak of Omicron variants. It demonstrates that such "Territory-wide Home Vaccination Service" in Hong Kong, once being compared to Singapore, is more of a recoupment than prevention. For instance, only three

<sup>10</sup> Malte Philipp Kaeding, "The Rise of 'Localism' in Hong Kong", *Journal of Democracy*, vol. 28, no. 1, 2017, pp. 157–171; Chloe Kwan, Stanley Lam and Tiffany Tsim, "The Rise and Rise of Localism among Hong Kong Youth", *Hong Kong Free Press*, 31 November 2016, <<https://hongkongfp.com/2016/11/20/the-rise-and-rise-of-localism-among-hong-kong-youth/>> (accessed 7 April 2023).

<sup>11</sup> "Government Accepts Recommendations of Expert Committee on COVID-19 Vaccination", Ministry of Health, Singapore, 27 December 2020, <<https://www.moh.gov.sg/news-highlights/details/government-accepts-recommendations-of-expert-committee-on-covid-19-vaccination>> (accessed 10 February 2023).

elderly persons were the first beneficiaries to have received vaccination through the door-to-door service. However, it should be noted that neither had received any COVID-19 vaccine earlier. Interestingly, two of them received vaccination one month after their recovery, but not before the outbreak. In addition, for the

convenience of elderly, the Singapore Ministry of Health launched mobile vaccination teams at community centres in neighbourhoods of higher elderly population. It should be highlighted that Singapore was the first country that first implemented measure to allow its citizens aged 60 or above walk in for vaccination service without prior appointment. In such an implementation, elderly could have the first priority and more importantly, they were able to enjoy agreeable and convenient policy for vaccination.

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Similar to Hong Kong, Singapore also encountered the issue of vaccine hesitancy, which is related to sources of information. With regard to certain research findings, misconceptions, misunderstanding and misinformation about vaccines, particularly from social media, were found to be closely associated with vaccine hesitancy.<sup>12</sup> It emerged from conspiracy beliefs and unscientific discussions on social media, which were created to fill knowledge gaps that the government was not aware of; such a situation would worsen if more people use social media as their news source. Obviously, false

information without any government's supervision would more likely lead to vaccine hesitancy. As Ohlheiser points out, the topic regarding "plandemic" (i.e. an anti-vaccine conspiracy theory) was removed on Facebook and YouTube, albeit after hitting millions of views.<sup>13</sup> Despite the fact that the middle-aged and the older generation access social media less frequently, the close relationship between these generations and their offspring can still draw scholarly attention at this point. More importantly, informal social networks, namely family and

<sup>12</sup> Will Jennings, Gerry Stoker, Hannah Bunting, Viktor Orri Valgarðsson, Jennifer Gaskell, Daniel Devine, Lawrence McKay and Melinda C Mills, "Lack of Trust, Conspiracy Beliefs, and Social Media Use Predict COVID-19 Vaccine Hesitancy", *Vaccines*, vol. 9, no. 6, 2021, p. 593; Massimiliano Mascherini and Sanna Nivakoski, "Social Media Use and Vaccine Hesitancy in the European Union", *Vaccine*, vol. 40, no. 14, 2022, pp. 2215–2225; Steven Lloyd Wilson and Charles Wiysonge, "Social Media and Vaccine Hesitancy", *BMJ Global Health*, vol. 5, no. 10, 2020, p. e004206.

<sup>13</sup> Abby Ohlheiser, "Facebook and YouTube Are Rushing to Delete 'Plandemic,' A Conspiracy-laden Video", *MIT Technology Review*, 7 May 2020, <<https://www.technologyreview.com/2020/05/07/1001469/facebook-youtube-plandemic-covid-misinformation/>> (accessed 7 April 2023).



friends, are also a crucial and decisive source of health information for middle-aged and older people, and the higher the level of intimacy, the more respected and trusted the sources are. As mentioned earlier, conspiracy and disinformation about vaccines on social media are additional obstacles to achieving vaccination rate. Vaccination hesitancy in Hong Kong is considered to originate from the distrust and inadequate knowledge of official information and promotion, which adversely led to a high calculation before deciding to implement vaccination.<sup>14</sup> In this, the Singapore government adopted certain legal measures to regulate sources of information to prevent the spread of false information. The Protection from Online Falsehoods and Manipulation Act (POFMA) was therefore initiated to censor sources believed to spread false information, to regulate sources of information and to prevent the spread of false information during the COVID-19 pandemic. Such a measure undoubtedly indicates Singapore's tight but reasonable control of press freedom, which has never occurred in the Western world. Furthermore, the Silver Generation Office has successfully deepened ground outreach in services. The outreach teams are expected to address potential queries or concerns through house visits and engagement dialogues with the unvaccinated elderly. If necessary, the team would be able to offer help to arrange vaccination for the elderly.<sup>15</sup> By contrast, the Hong Kong government merely acted arbitrarily over the same disaster period. Chau and Luk's research indicates that providing adequate knowledge regarding the virus and vaccines may enhance the willingness to take the vaccination. In this case, Singapore elderly were more confident about the vaccines since their concern of inadequate information regarding the vaccines were wiped out; therefore, their trust towards the government was increased.

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<sup>14</sup> Charlene Y C Chau, "COVID-19 Vaccination Hesitancy and Challenges to Mass Vaccination", *Hong Kong Medical Journal*, vol. 27, no. 5, October 2021, pp. 377–379; Luk Tzu Tsun, Zhao Shengzhi, Wu Yongda, Janet Yuen-ha Wong, Wang Man Ping and Lam Tai Hing, "Prevalence and Determinants of SARS-CoV-2 Vaccine Hesitancy in Hong Kong: A Population-based Survey", *Vaccine*, vol. 39, no. 27, 2021, pp. 3602–3607.

<sup>15</sup> "Bringing COVID-19 Vaccination to the Heartlands for Seniors", Ministry of Health, Singapore, 15 July 2021, <<https://www.moh.gov.sg/news-highlights/details/bringing-covid-19-vaccination-to-the-heartlands-for-seniors>> (accessed 10 February 2023).

Other than the review of Singapore's method in tackling vaccine hesitancy among elderly, the main factor of its high vaccine rate can be attributed to the high degree of trust of Singaporeans towards the government. Singapore is characterised by a high level of public trust in government compared to other high-income polities, even the ones in the Western world.<sup>16</sup> In this respect, Singapore's risk communication strategies have built trust with the public, while maintaining a high level of perceived risk to compel individuals to take action to control the overall risk of society. As proven earlier, trust in government, healthcare professionals and domestic scientists are able to strengthen people's confidence in COVID-19 vaccination. COVID-19 vaccination, meanwhile, prevents the occurrence of such a severe outbreak. Following the same logic, *The State of Southeast Asia: 2022 Survey Report* published by ASEAN Studies Centre, a leading research institution in Singapore, reveals that 40.3% of Singaporeans deem their government performs well during the COVID-19 pandemic and 47.3% of Singaporeans deem their government performs adequately during the COVID-19 pandemic.

## Tracing and Excluding COVID-19 Cases: Lesson Learnt from Macao

Since the outbreak of COVID-19, Hong Kong has had a total infected population of 1,197,057 (up till 19 May 2022), whereas Macao has had 82 infected cases since the first COVID-19 case in 2020. With a population of around 650,000 and a population density of 20,300 people per square kilometre, Macao is considered as one of the most densely populated regions in the world. To be honest, ineffective infectious disease control can be catastrophic in Macao. Nevertheless, Macao's experience is considered profoundly successful to control COVID-19 in terms of the zero-COVID strategy.

Even though Hong Kong and Macao comply with the "Chinese model", i.e. the zero-COVID strategy, tracing patients and strictly implementing social distancing measures and mandatory quarantine to deal with COVID-19, both cities have a completely different story in surveillance methods and control measures for the whole communities. As explained by Sherstoboeva and Pavlenko, both the Hong Kong government and the Macao government applied digital surveillance tools for "compulsory selective surveillance", in which the data collection and its application has played an important role in formulating preventive measures and tracing close contacts and cases.<sup>17</sup>

Macao is the first region in the Greater Bay Area of China that had successfully reduced the COVID-19 cases to zero. Since enormous passenger traffic in this

<sup>16</sup> World Values Survey Association, "World Values Survey: Round Seven-country-pooled Datafile", 2022.

<sup>17</sup> Elena Sherstoboeva and Valentina Pavlenko, "Trends in East Asian Policies on Digital Surveillance Tools during the COVID-19 Pandemic", *Journal of Digital Media and Policy*, vol. 12, no. 1, 2021, pp. 47–65.

region tend to bring higher risk of infection, a kind of effective data collection is critical since it was able to assist in tracing, clustering, screening and surveillance particularly to reduce medical staff's workload. Data collection in Macao is a process of optimisation. The electronic personal health declaration system was established on 26 February 2020, and the advanced version of the personal health declaration system, i.e. the Macao Health Code, was later launched on 3 May 2020. Macao residents had been stringently managed under this colour QR code system. Only residents with green code were allowed to use public transportation and visit public places; more significantly, non-residents with red code were denied entry into Macao. Macao and Guangdong activated the mutual recognition system on 10 May 2020 with their respective Macao Health Code and Guangdong Health Code. Unlike the situation in Hong Kong, the major communication software used in Macao is WeChat, which is the same platform used in mainland China. Regarding a series of unified management, the Macao government thus cooperated with the Guangdong provincial government in order to integrate the Macao Health Code into WeChat. The code was linked to the Guangdong medical system. Once the COVID-19 nucleic acid test (NAT) was done, the electronic results for the customs clearance certificate would be directly displayed on the mobile device. It ensures that all people from the Guangdong province and Macao would definitely possess a negative COVID-19 NAT result. Through massive information collection from the Macao–Guangdong Health Code network, COVID-19 prevention and control in Macao were more all-rounded in content. Since Macao is a city with high population flow, especially from Guangdong province, the Macao Health Code did play a significant role in preventing imported cases. The Macao Health Code has, consequently, materialised the “closed-loop” system for management of risk at the community level.

With regard to the QR code-based contact tracing tool, the situation in Hong Kong was just the opposite. Hong Kong launched its compulsory selective surveillance tool, which was an application called “LeaveHomeSafe” app on 16 November 2020. App users were required to scan a QR code before entering a venue. This app would send notifications to users who visited the same venues at around the same time as confirmed cases. However, unlike the Macao Health Code, the “LeaveHomeSafe” app failed to guarantee that users were not infected or not a close contact. Besides, scanning the QR code of “LeaveHomeSafe” app before visiting business premises and scheduled premises under the regulation was not compulsory before 6 December 2021. The Hong Kong government

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**Unlike the situation in Hong Kong, the major communication software used in Macao is WeChat, which is the same platform used in mainland China.**

claimed that such an act was merely an “anti-epidemic strategy of guarding against the importation of cases and the resurgence of domestic infections”, in order to achieve the dynamic zero infection goal.<sup>18</sup> Contrary to the Hong Kong government’s expectation, the Hong Kong Public Opinion Research Institute finds that 48% of the respondents were against the “LeaveHomeSafe” app because of their distrust towards its government and more significantly, concerns about the potential breach of privacy.<sup>19</sup> Clearly, one key measure implemented by Macao government to deal with COVID-19, i.e. QR code-based contact tracing, was never popular in Hong Kong. In other words, the government’s inefficiency to invent a new stringent QR code-based contact tracing app, which led to insignificance in tracing and surveillance, can be considered as one of the key factors that explains the serious outbreak of COVID-19 in Hong Kong.

## Singapore’s Textbook-style Medical Resource Allocation

Although Hong Kong has a higher number of hospital beds per 1,000 people than Singapore, Singapore has achieved a lower death rate than Hong Kong even in terms of similar number of COVID-19 infections. A possible explanation is Hong Kong’s poor planning in the allocation of hospital beds. Based on the findings by He et al., since the fifth wave of COVID-19 in Hong Kong, a higher proportion of hospital beds were occupied by COVID-19 patients in Hong Kong compared to Singapore.<sup>20</sup> During the early outbreak of Omicron variants in Hong Kong, i.e. around late January 2022, the tiered treatment strategy was not adequate, i.e. some asymptomatic patients occupied hospital beds, leading to an overwhelmed medical system that was unable to treat critically ill patients. This explains why Hong Kong has a higher death rate than Singapore. News media reported that COVID-19 patients in Hong Kong, regardless of age and severity, had to wait at outdoor holding areas for treatment in overcrowded hospitals. Such a chaotic situation turned Hong Kong from a paradise protected by zero-COVID strategy to a living hell.

<sup>18</sup> “LeaveHomeSafe App Rule to Expand”, News.gov.hk, 6 December 2021, <[https://www.news.gov.hk/eng/2021/12/20211206/20211206\\_175552\\_090.html](https://www.news.gov.hk/eng/2021/12/20211206/20211206_175552_090.html)> (accessed 10 February 2023).

<sup>19</sup> “‘Community Health Module’ Research Report”, Hong Kong Public Opinion Research Institute, 2020, <[https://static1.squarespace.com/static/5cfd1ba6a7117c000170d7aa/t/5fd3108626fa4758b5acaad0/1607667850435/Panel\\_report%2351\\_chi\\_2020dec11\\_PORI.pdf](https://static1.squarespace.com/static/5cfd1ba6a7117c000170d7aa/t/5fd3108626fa4758b5acaad0/1607667850435/Panel_report%2351_chi_2020dec11_PORI.pdf)> (accessed 10 February 2023).

<sup>20</sup> He Guanhao, Zhu Sui, Fu Di, Xiao Jianpeng, Zhao Jianguo, Lin Ziqiang, Liu Tao, Liang Xiaofeng and Ma Wenjun, “Association between COVID-19 Vaccination Coverage and Case Fatality Ratio: A Comparative Study—Hong Kong SAR, China and Singapore, December 2021–March 2022”, *China CDC Weekly*, vol. 4, no. 30, 2022, pp. 649–654, <<https://weekly.chinacdc.cn/en/article/doi/10.46234/ccdcw2022.140?viewType=HTML>> (accessed 10 February 2023).

It should also be highlighted that Hong Kong at the time encountered shortages of other quarantine facilities and medical workers. The central government of China's "guidance" to strictly control the situation in Hong Kong had burdened Hong Kong's medical system to the edge of collapse. The Hong Kong government would perhaps be at a better situation if it is possible to discuss with the central government of China about continuing its zero-COVID strategy, in particular seeking support to build quarantine camps and borrowing medical workers. By contrast, Singapore's independent and forward-thinking approach to resource allocation in the healthcare sector had pre-emptively avoided such a disastrous situation during the wave of Delta variants. It is also worth mentioning that Singapore has a well-organised admission procedures for people who need hospitalisation, as well as different treatment locations for different patient groups to be re-allocated. In order to maximise the healthcare system's capacity, the Singapore government vigorously promoted cooperation among the public, the community and private hospitals, as well as the Singapore Armed Forces Medical Corps; the Singapore government also drew upon graduates from two undergraduate medical schools in the country to assist (i.e. Singapore Healthcare Corps). Therefore, even though both polities had the so-called "SARS experiences", Singapore's autonomous and orderly management of risk had avoided the critical situation of excessively overcrowded hospitals in Hong Kong and more significantly prevented the burnout among many medical staff under such a prolonged crisis.

## Discussion and Conclusion

Compared to Hong Kong, the most significant factor why Singapore was capable of taking efficient steps to learn to co-exist with the virus should be attributed to its autonomy in health policymaking and its implementation. Singapore's autonomy enables it to formulate and implement both proactive and reactive measures for COVID-19 in a resilient way. According to the *White Paper on Singapore's Response to COVID-19: Lessons for the Next Pandemic* released in 2023, when the outbreak of Omicron variants was reported in early December 2021, the Singapore government immediately shifted its stance in order to limit community exposure to imported Omicron cases. Such a shift had facilitated Singapore more time and space to gain a better understanding of the variants and develop its responses. Following that, when the Singapore government obtained a clear message from the international community that the Omicron variant would not lead to any severe outbreak, its prompt response was to scrap the tight measures adopted one month ago and then announce a "decisive step forward in living with COVID-19" in March 2022.<sup>21</sup> However, Hong Kong, being a Special

<sup>21</sup> Government of Singapore, "White Paper on Singapore's Response to COVID-19: Lessons for the Next Pandemic", 2023, <[https://www.gov.sg/docs/default-source/media/gov/covid-19-white-paper/publication/white\\_paper\\_on\\_singapore\\_response\\_to\\_covid19\\_130323.pdf?sfvrsn=c33ec046\\_1](https://www.gov.sg/docs/default-source/media/gov/covid-19-white-paper/publication/white_paper_on_singapore_response_to_covid19_130323.pdf?sfvrsn=c33ec046_1)> (accessed 10 February 2023).



Administrative Region, is subject to China's, and particularly under the central government of China's, "guidance". The Chinese government's insistence on the zero-COVID strategy had limited Hong Kong's autonomy to open up and re-examine its COVID-19 measures. Such is the trend that has profoundly taken root in Hong Kong, i.e. aligning with China all the time.

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**The lack of trust,  
information and  
surveillance in Hong  
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Omicron.**

A few years after its return to China in 1997, Hong Kong had been allowed to enjoy a higher degree of autonomy, but the central government of China has attempted to exert greater influence in Hong Kong since the 1 July Protest Rally in 2003 and gradually ignored the fact that "Hong Kong people can run Hong Kong successfully".<sup>22</sup> For instance, the Liaison Office of the Central People's Government in the Hong Kong Special Administrative Region has become increasingly involved in elections at all levels in Hong Kong and adopted hands-on approach in Hong Kong affairs. The central government of China integrated and mobilised the forces of the Hong Kong establishment through its enormous economic resources and authority, therefore successfully created an influential establishment machine. As for the ideology of governance, both the central government of China and the Hong Kong government concur that "one country" is absolutely superior to "two systems", and

the central government of China has the final decision-making power on Hong Kong affairs.<sup>23</sup> Hong Kong's affairs are tethered to China's will, and Hong Kong's consent is not a matter for the central government of China, particularly since the 1 July Protest Rally in 2003. Judging from this kind of scenario, regardless of the responsiveness, autonomy and flexibility of the Hong Kong government have been greatly limited since 2003, leading to a lack of risk management during the COVID-19 pandemic.

During the COVID-19 pandemic, it goes without saying that the Hong Kong government's preparation work and also preventive measures were inadequate in terms of preparation, control and prevention. Hong Kong's failure in the zero-COVID strategy can be objectively observed from its neighbours' experiences, namely Singapore and Macao. The lack of trust, information and surveillance in Hong Kong without pre-emptive action is chief driving factor for Hong Kong's

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<sup>22</sup> Chan, Nachman and Mok, "TRENDS: A Red Flag for Participation: The Influence of Chinese Mainlandization on Political Behavior in Hong Kong", pp. 3–17; Ma Ngok, "The China Factor in Hong Kong Elections: 1991 to 2016", *China Perspectives*, no. 3, 2017, pp. 17–26.

<sup>23</sup> Cheng Jie, "The Story of a New Policy", *Hong Kong Journal*, 2009, <<http://www.hkbasiclaw.com/Hong%20Kong%20Journal/Cheng%20Jie%20article.htm>> (accessed 10 February 2023); Ma, "The China Factor in Hong Kong Elections: 1991 to 2016", pp. 17–26.

severe outbreak of Omicron. As repeatedly reminded by different political leaders of the central government of China, it is high time for the Hong Kong government to mend social cleavage in a long run since rebuilding the mutual trust between a government and its people is beneficial not only for compliance with COVID-19 pandemic but also for other public health policies in the future. In a short run, to better utilise health experts in risk communication to boost vaccine uptake among adolescents, Hoffman et al. suggest that health experts could leverage on the “ABCs” of vaccine communication to promote COVID-19 vaccination among adolescents by: (i) actively engaging in social media for real-time surveillance and clarification for misinformation; (ii) building trustworthiness around COVID-19 vaccines by non-judgemental exchange during clinician–patient communication and demonstrating empathy and active listening when validating vaccine-related concerns; and (iii) capitalising on strengths of adolescents in digital literacy by encouraging critical appraisal of online health information and empowering them on how to interpret and discuss the information with their peers.<sup>24</sup> Although the concern of autonomy’s issue in Hong Kong would inevitably limit its voice to design as well as implement a set of consistent anti-pandemic measures, both Singapore’s and Macao’s experiences during the COVID-19 pandemic can still be considered as valuable lessons to Hong Kong while encountering the possible pandemic in the future. Hong Kong can consider drawing lesson from Singapore by emulating the method to deal with vaccine hesitancy. Hong Kong would not be afflicted by high death rate, especially among elderly, if it achieved high vaccination rate. With regard to Macao’s experience, Hong Kong should learn from Macao’s determination to promote the Health Code system and conduct an early and necessary compulsory universal testing. Ideally, Macao’s remarkable success in zero-COVID strategy could be taken as a model for Hong Kong during the COVID-19 pandemic. If a polity is determined to establish a long-standing zero-COVID society, certain exceptional measures, including but not limited to Singapore’s POFMA and the Macao Health Code, would be necessary for Hong Kong’s further consideration. ■

<sup>24</sup> Beth L Hoffman, Todd Wolynn and Jaime E Sidani, “COVID-19 Vaccines for Adolescents: Leveraging the ABCs of Communication”, *The Journal of Adolescent Health*, vol. 69, no. 6, 2021, pp. 884–885.