



# Taiwan's experience in fighting COVID-19

Taiwan has leveraged its experience in containing the 2003 SARS outbreak by responding to the COVID-19 crisis with rapid measures, early deployment, prudent actions and transparency. Collectively, these actions have created the 'Taiwan model' for combating COVID-19.

Credit: Image courtesy of Ministry of Health and Welfare, Republic of China (Taiwan)

The COVID-19 pandemic has had an enormous impact globally on health systems, politics and the economy. With its geographic proximity to China, Taiwan was once predicted to become one of the worst affected countries apart from China itself. However, through effective control measures, most of the confirmed cases were acquired outside of Taiwan, and no large-scale local outbreaks have happened since the beginning of the pandemic. All of this has been possible without instating strict control measures such as a widespread lockdown, and people in Taiwan have largely been able to maintain their normal lives.

After the original SARS outbreak in 2003, Taiwan initiated a series of reforms related to controlling infectious diseases, including the command system, legislation, training, and altering the organizational structures of relevant agencies, to establish a well-organized framework for infectious disease prevention and control. With the lessons learned from the 2003 SARS outbreak, the importance of an efficient command system was highlighted; related regulations were amended that authorize the government to activate the Central Epidemic Command Center (CECC) to integrate resources from different government departments and centralize the command and control in the event of a future epidemic.

Taiwan has responded to the pandemic by following four major principles—rapid measures, early deployment, prudent actions and transparency. We leveraged our democracy, the cooperation of citizens and technology to overcome many challenges and created the 'Taiwan model' for combating the pandemic.

In the early stage of the pandemic, some crucial measures were adopted promptly in Taiwan. On 31 December 2019, when cases of pneumonia with an unknown cause were reported in Wuhan, immediate onboard quarantine of direct inbound flights from

Wuhan was implemented. In addition, the CECC was activated on 20 January 2020 to facilitate interministerial coordination and integration of resources, and it has been instrumental in the response to the current COVID-19 pandemic. President Tsai Ing-wen also convened a high-level national security meeting to issue disease prevention directives on 22 January 2020. Before the WHO declared the outbreak of COVID-19 as a Public Health Emergency of International Concern on 30 January, Taiwan had already deployed a series of response strategies. For example, to preempt any panic buying of face masks, the Ministry of Economic Affairs mobilized companies to boost mask production in a short timeframe. Moreover, under the CECC's organizational structure, the Ministry of Transportation and Communications, the National Immigration Agency, the Mainland Affairs Council and the Ministry of Foreign Affairs worked together to promptly implement and modify border control measures in response to global epidemic trends.

A 14-day home isolation period is our key measure to stop the spread of COVID-19 by travelers and their contacts to the wider community. To facilitate the implementation of isolation measures, we have made full use of Taiwan's advanced communication technologies. For example, to record the information for all travelers upon arrival, a quarantine system was developed. To support the management of individuals placed under home isolation, ensure they stay in their isolation area and protect personal privacy, we developed a digital fencing system to detect phone signals via cell towers. Furthermore, our comprehensive National Health Insurance (NHI) databases make it easy for health professionals to evaluate a patient's history of travel, occupation, contacts, and exposure to a COVID-19 cluster. Finally, all local governments set up a care and support center for individuals in quarantine to

provide daily necessities such as meal deliveries, medical care and consulting services.

To prepare for any potential future developments in the pandemic, we have continued to review and improve our measures. For example, at the beginning of the COVID-19 outbreak, people were rushing to buy masks, causing a temporary shortage, and society was in a panic. We therefore quickly increased mask production and implemented a name-based mask distribution system via our NHI database, which successfully helped everyone to obtain masks easily and at a reasonable price. Additionally, in early March 2020, cases in Europe rose more rapidly than we expected from our initial predictions, and many Taiwanese citizens flew back to Taiwan, which increased the risk of community infection. In response to this situation, border controls were announced in mid-March, and we later dispatched more quarantine officers to support quarantine work at the border and increased the number of designated taxis and quarantine hotels for these returnees. Collectively, these measures successfully reduced the risk of infection in the community to a minimum.

In Taiwan, disease prevention measures require a legal basis before their implementation and should be supervised by citizens. To gain people's trust and support, since the CECC was activated, we have held routine press conferences, released the latest information related to COVID-19 through various channels, and clarified disinformation. The CECC's efforts have been largely applauded by our citizens.

COVID-19 has taught the world that it is important to always be prepared for an outbreak and to remain alert to any signs of an impending epidemic. When an outbreak happens, action should be taken immediately, and vaccination is the final

step to end the fight. At the beginning of this pandemic, when the supply of face masks met the domestic demand, Taiwan began to donate medical supplies to more than 80 countries worldwide to assist them in combating COVID-19 and to realize the spirit of “Taiwan Can Help and Taiwan is Helping!” In addition, we believe that

the use of digital technology and response mechanisms can control the epidemic successfully before the vaccine launch, and we are ready and willing to share the experience with other countries. □

**Shih-Chung Chen** ✉

*Ministry of Health and Welfare,*

*Taipei, Republic of China (Taiwan).*

✉ *e-mail: [clockchen@mohw.gov.tw](mailto:clockchen@mohw.gov.tw)*

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#### Competing interests

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