

## COVID-19: Lessons from Thailand

### Dear Editor,

The COVID-19 pandemic has massively disrupted the social and economy of many countries. Thailand has been successful in controlling the spread of the disease and treating COVID-19 patients. We discuss Thailand's strategy in containing the disease, management of severe COVID-19 patients, as well as future perspectives of COVID-19.

As of 2 February 2021, there were 103,409,402 cases of COVID-19 in over 200 countries and 2,237,973 deaths with a 2.1% case fatality rate.<sup>1</sup> As of 2 February 2021, Thailand had 20,454 cases of COVID-19, and 79 deaths with a 0.03% case fatality rate. The median age of those infected was 37 years (1 month–97 years).<sup>2</sup> Majority of the infected cases were of working age (20–49 years) population, with 55% males.<sup>2</sup> There were 109 cases of COVID-19 among children as of September 2020.

The Emergency Central Operation Center in Thailand was activated on 3 January 2020 after news of a coronavirus outbreak in China was reported.<sup>3</sup> Thailand is one of the most popular tourist destinations in the world. As most of its tourists were from China, Thailand started to screen all passengers arriving from China from 3 January 2020. It detected the first case of COVID-19 on 13 January 2020—a Chinese tourist from Wuhan—making it the first country outside of China to record a confirmed case of COVID-19.<sup>4</sup>

Since then, the Ministry of Public Health (MOPH) in Thailand has constantly updated the public of the COVID-19 situation and how to stay safe. From January to February, there were low number of cases, most of them imported from China, South Korea and Japan. However, the country observed a surge in COVID-19 infections in mid-March 2020, due to a large cluster of cases linked to a boxing stadium and small clusters linked to night clubs and entertainment centres in Bangkok.<sup>5</sup> From late March to early April 2020, Thailand had a large spike of COVID-19 cases when many Thai tourists returning home from countries with outbreaks started to spread the infection. The government declared a state of emergency under the Emergency Decree Law on 25 March 2020.<sup>6</sup> The whole country went under lockdown on 4 April 2020,<sup>7</sup> and no commercial flights could enter Thailand until 1 July 2020. With these measures, the number of cases started to decline and in May 2020, Thailand had less than 5 cases per day for the whole month.<sup>7</sup>

The lockdown in Thailand included these measures: (1) curfew from 11pm to 4 am; (2) schools were temporarily closed and mass gathering activities were prohibited; (3) meetings, seminars and distribution gatherings were prohibited; (4) all international passenger flights were banned; (5) mandatory quarantine; (6) all unnecessary businesses were temporarily closed (essential businesses were banks, food delivery services, postal/delivery services and hospitals); (7) religious activities could be carried out with precautions such as wearing face masks and face shields, and glass shields in temples; (8) no cross-province travel; (9) social distancing; (10) working from home where possible; (11) constant washing of hands with soap and water, and use of sanitisers; and (12) wearing face masks.<sup>6</sup> Only essential workers were allowed to go to offices. Thai schools were closed in February 2020 when the government started to see more cases in the community and an online learning platform was implemented during the closure period. People who had to travel across provinces required permission from the destination province and were quarantined for 14 days upon arrival at the destination.<sup>6</sup> Thai citizens who returned from overseas were quarantined for 14 days in hotels.<sup>6</sup> During the quarantine period, free polymerase chain reaction (PCR) tests were done on the first and last day of the quarantine, or when the individual develops symptoms. The MOPH detected 100 cases of imported COVID-19 using PCR from July 2020 to August 2020 (0.6% of all returning passengers), who were observed and treated at designated hospitals.

With experiences gained from the successful combat and containment of the severe acute respiratory syndrome from 2003–2004, avian influenza from 2004–2005, and H1N1 in 2009, Thailand has been prepared for this current outbreak with various strategies.

A strong primary healthcare system and extensive tracking system of close contacts were one of the main key strategies in containing the virus from spreading. One well-trained village healthcare volunteer would take care of 10 households. The volunteers would find out villagers who had returned from outbreak province/countries, and if any of the returnees started to show symptoms, the volunteers would contact the health officer. There were 1 million volunteers who make up the special task force. The Thai government set up the Center for COVID-19 Situation Administration to manage and get all sectors from the society to cooperate and work together (Fig. 1).

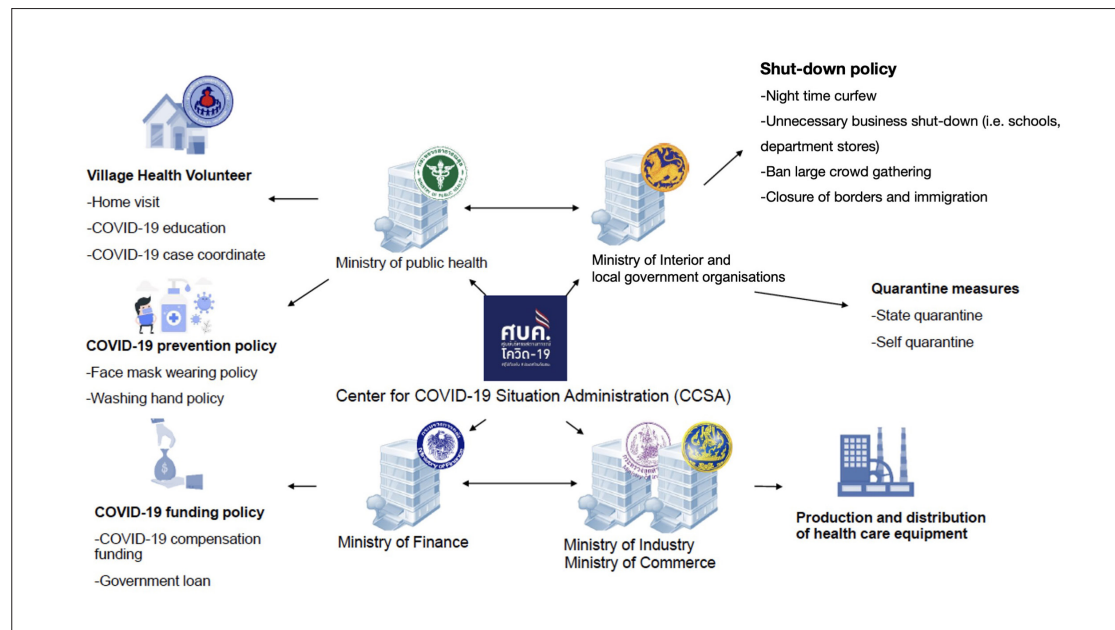


Fig. 1. Containment strategies in Thailand for COVID-19.

However, Thailand has been facing its second wave of COVID-19 outbreak since mid-December 2020, after finding an index case at a seafood market in Samut Sakhon province. This is the country's first local case since the strict border control imposed in March 2020, whereby every visitor entering the country has to undergo a 2-week quarantine. The latest outbreak prompted the Center for COVID-19 Situation Administration to perform widespread contact tracing on all those working at the market and its vicinity. About 120,000 people were PCR tested over a month and almost 12,000 tested positive. Majority of the infected people were immigrant workers from neighbouring countries.

Focusing on clinical manifestation and management of severe COVID-19 patients, Thailand has 8,589 critical care beds (CCBs) or 10.4 CCBs per 100,000 people, with 75% located in Bangkok. When Thailand's number of CCBs were compared to other countries in Asia, it ranked 8th among 23 countries.<sup>8</sup>

Currently, there is no effective treatment for COVID-19 patients. Department of Disease Control practice guidelines recommend treating severe COVID-19 patients with a combination of antiviral drugs and antimalarial drugs. Due to the limited supply of antiviral drugs, favipiravir is given only to cases with pneumonia,<sup>9</sup> and not for mild cases. Of note, a recent report from Singapore showed the lack of sensitivity

and specificity of chest X-ray in COVID-19 pneumonia, which might lead to delayed diagnosis and treatment.<sup>10</sup>

Thailand has only 200 beds for airborne infection isolation rooms in Bangkok and even fewer in provinces outside Bangkok. The country has 10,639 mechanical ventilators: 9,202 volume ventilators and 1,437 Bird's ventilators. Thailand still uses standard techniques such as the lung protective strategy, lung recruitment, early neuromuscular relaxant, and the prone position to maintain oxygenation.

Thailand's key strategy in containing the COVID-19 pandemic involves full cooperation of all sectors, as well as the constant updates of situational information to the public.

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