

# WHITE PAPER

## Thailand's New Normal Solutions for Building Resilience for Emerging Infectious Diseases (EID) in Healthcare Facilities



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# Executive Summary

A cluster of pneumonia with unknown origin was reported by the World Health Organization (WHO) on 31 December 2019 in Wuhan, Hubei Province, China. In anticipation of an impending outbreak, the Ministry of Public Health (MOPH) Thailand activated their Emergency Operations Center (EOC) on 4 January 2020, and on 13 January 2020, Thailand recorded its first case of COVID-19. This became the world's first reported case of novel coronavirus outside of Wuhan, China. This white paper aims to share Thailand's policies, strategies, and public health measures implemented in the response to the pandemic. It presents a collation of good practices and new normal models of the "Healthcare Facilities Preparedness for COVID-19" (the Project) and recommendations to further strengthen the country's current and future preparedness and response to Emerging Infectious Diseases (EIDs).

## Key findings

**Policies and guidelines:** The rapid enactment of relevant policies and guidelines was the core of Thailand's effective response to the COVID-19 pandemic and limited the number of imported cases into the country. Effective policies included the declaration of COVID-19 as a dangerous communicable disease, early announcement of Disease Infected Zones, and the declaration of a state of emergency. These policies allowed for a number of public health measures to be widely implemented.

**Public health measures:** A three-layer system of screening for COVID-19 cases and strict quarantine measures limited imported cases. Hospitals increased their surge capacity and the burden on hospitals was reduced through innovative care models that emphasized adequate care at the community-level. Technological solutions were created for contact tracing and disseminating information. An early evaluation of the country's overall COVID-19 response supported adaptations based on successes and lessons learned.

**Strengthening the health system:** The MOPH has made further efforts to continue strengthening the health system during the pandemic. Various capacity building initiatives to develop new or strengthen existing Business Continuity Plans for EIDs in healthcare facilities have been implemented across the country. Based on these activities, several "new normal" solutions for hospitals were created to continue strengthening the health systems' preparedness and response to current and future outbreaks.





“Thailand’s response to COVID-19 offers a powerful example of how **investment in public health** and **all-of-society engagement** can control outbreaks of deadly diseases, protect people’s health and allow economies to continue functioning.”

*Dr. Tedros Adhanom Ghebreyesus, WHO Director-General<sup>1</sup>*

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Under the overall leadership of Dr. Somsak Akksilp and Dr. Nuttapong Wongwiwat, White Paper Project Directors of DMSF, the technical coordination was led by the Specialist Team from DMSF, DMS of the MOPH Thailand. A full list of contributors can be found in the Annex. Valuable contributions to this white paper were provided by Chaophrayayommarat Hospital, Mae Sot Hospital, Nakornping Hospital, Rajavithi Hospital, Saraburi Hospital, and Udon Thani Hospital.

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# List of Abbreviations and Acronyms

<b>ACPHEED</b>	ASEAN Centre for Public Health Emergencies and Emerging Diseases
<b>ADPC</b>	Asian Disaster Preparedness Center
<b>ALQ</b>	Alternative Local Quarantine
<b>ASEAN</b>	Association of Southeast Asian Nations
<b>ASQ</b>	Alternative State Quarantine
<b>BBB</b>	Build Back Better
<b>BCM</b>	Business Continuity Management
<b>BCP</b>	Business Continuity Plan
<b>CCSA</b>	Center for COVID-19 Situation Administration
<b>CDC</b>	US Centers for Disease Control and Prevention
<b>COVID-19</b>	Coronavirus disease 2019
<b>DDC</b>	Department of Disease Control, Ministry of Public Health, Thailand
<b>DMS</b>	Department of Medical Services, Ministry of Public Health, Thailand
<b>DMSF</b>	Department of Medical Services Foundation
<b>EID</b>	Emerging Infectious Disease
<b>EOC</b>	Emergency Operations Centers
<b>GIS</b>	Geographic Information System
<b>HAI</b>	Healthcare Associated Infection
<b>HEDRM</b>	WHO Health Emergency and Disaster Risk Management
<b>HOPE</b>	Hospital Preparedness for Emergencies
<b>HPAI</b>	Highly Pathogenic Avian Influenza
<b>IPC</b>	Infection Prevention and Control
<b>LQ</b>	Local Quarantine
<b>MERS-CoV</b>	Middle East respiratory syndrome coronavirus
<b>MHPSS</b>	Mental Health and Psychosocial Support
<b>MOE</b>	Ministry of Education, Thailand
<b>MOD</b>	Ministry of Defence, Thailand
<b>MOPH</b>	Ministry of Public Health, Thailand
<b>MOT</b>	Ministry of Transport, Thailand



<b>NCD</b>	Non-Communicable Disease
<b>OPDC</b>	Office of the Public Sector Development Commission
<b>PTT</b>	PTT Public Company Limited
<b>SARS</b>	Severe Acute Respiratory Syndrome
<b>SARS-CoV-2</b>	Severe Acute Respiratory Syndrome coronavirus 2
<b>SCG</b>	The Siam Cement Public Company Limited
<b>SQ</b>	State Quarantine
<b>TTX</b>	Table Top Exercise
<b>UN</b>	United Nations
<b>UNDRR</b>	United Nations Office for Disaster Risk Reduction
<b>USAID-OFDA PEER</b>	United States Agency for International Development, Office of U.S. Foreign Disaster Assistance's Program for Enhancement of Emergency Response
<b>VUCA</b>	Volatility, Uncertainty, Complexity, and Ambiguity
<b>WHO</b>	World Health Organization

# Aims and Objectives

This white paper aims to share Thailand's strategies in responding to the COVID-19 pandemic and provide strategic examples for pandemic response and recovery to other communities and countries. It presents a collation of good practices and models of "Healthcare Facilities Preparedness for COVID-19" (the Project) for health service delivery and explores the "new normal" to further strengthen Thailand's health system.

Specific objectives of this white paper are to:

1. Provide contextual information on Thai culture and historical experiences with outbreak control that contributed to the country's preparedness and response for the current pandemic.
2. Share key lessons learned from past outbreaks to be applied to the preparedness, response, and recovery from the current and future outbreaks.
3. Outline Thailand's COVID-19 road map and specific measures taken that contributed to successful case detection and disease control.
4. Highlight the risk-informed Business Continuity Plans (BCPs) for emerging infectious diseases of each region which contributed to population-level resilience.
5. Review Thailand's hospital response plans and propose policies for preparedness and resilient recovery within the healthcare sector and guidelines at the hospital level, inter-departmental levels, and ministerial levels.
6. Applying lessons learned to policy recommendations with clear linkages to existing national disaster management mechanisms for better preparedness and response to future pandemics.

## **METHODOLOGY**

This white paper was developed through a series of in-person and virtual consultations between DMSF, DMS, Asian Disaster Preparedness Center (ADPC), and other stakeholders. Inputs were provided by all parties and the final document was approved by DMSF and DMS.

For Section 1, ADPC conducted background research on Thailand's history of respiratory outbreak control, Thai culture as a facilitator of outbreak response, and the health system. Guided by DMSF and DMS, ADPC conducted further desk review of Thailand's response to COVID-19 for Section 2 of the white paper, including relevant national policies and guidelines and the public health measures implemented.

Section 3 of the white paper on "Strengthening the health system for current and future pandemic response" was drafted through a combination of desk review of relevant resources, documentation of key outputs, and interviews with stakeholders of the Project. ADPC



reviewed all presentations and materials developed by DMS and other stakeholders for BCP training purposes and New Normal Medical Services Models. The resources were translated and reviewed by ADPC, DMSF and DMS. ADPC also participated in several BCP trainings to document key learnings and outputs from the activities.

ADPC also conducted informal virtual interviews with hospitals across different provinces in Thailand between 28 January to 1 February 2021 to understand the successes and ways forward for BCP implementation. A total of six hospitals participated in the interviews, including Chaophrayayommarat Hospital, Mae Sot Hospital, Nakornping Hospital, Rajavithi Hospital, Saraburi Hospital, and Udon Thani Hospital. The hospitals were selected based on expert judgement and a criteria based on the variety of situations and areas, the level of engagement in BCP activities, and the progress in driving BCP developments in the area.

Interview questions were adapted by ADPC, DMS, and DMSF from the WHO Hospital readiness checklist, and the set of questions were translated and locally tested by DMS and DMSF prior to piloting. Staff from ADPC, DMS, and DMSF were trained to facilitate interviews. ADPC conducted content analysis on the collected data and findings were organized by emergent themes.

### **SCOPE AND LIMITATIONS**

This document was developed based on the policies, public health measures, and activities undertaken to control COVID-19 in Thailand between December 2019 and February 2021. Due to the evolving nature of the COVID-19 pandemic in Thailand and globally, the white paper is not exhaustive and does not intend to cover all future scenarios of the outbreak. The policies and guidelines highlighted in this white paper do not include local level policies that may have had significant local impact in COVID-19 control. The initiative covers only appropriate hospital responses to the pandemic and highlights some of the new normal solutions and public health measures being implemented in Thailand. The findings from the hospital interviews are limited to the experiences of six out of 47 pilot hospitals participating in the Project. As the scope of the interview was to document best practices and lessons learned shared by participating hospitals, the findings should not be considered representative or generalizable to other settings. The recommendations made for the continued response to COVID-19 and for future outbreaks were developed based on the findings of this white paper and may not be exhaustive of all appropriate recommendations. This document should be read in conjunction with relevant advisories issued by MOPH and other government agencies in Thailand.

# Section 1.

# Background

## COUNTRY PROFILE

Thailand is a populous South East Asian country of 69.6 million people.<sup>2</sup> The population has been declining with a current annual growth rate of 0.25%, while the population of older adults has increased substantially.<sup>3</sup> In 2019, 13 million people, accounting for nearly 20% of the total population, were aged 60 and above.<sup>3</sup> Urbanization has been increasing steadily over the past decades, with 51.4% of the total population living in urban areas in 2020.<sup>4</sup> According to the latest census (2000), 94.6% of the total population is Buddhist of the Theravada tradition. Thailand's

southernmost provinces-Pattani, Yala, Narathiwat and part of Songkhla, Chumphon-have dominant Muslim populations.<sup>2</sup>



Figure 1. Map of Thailand

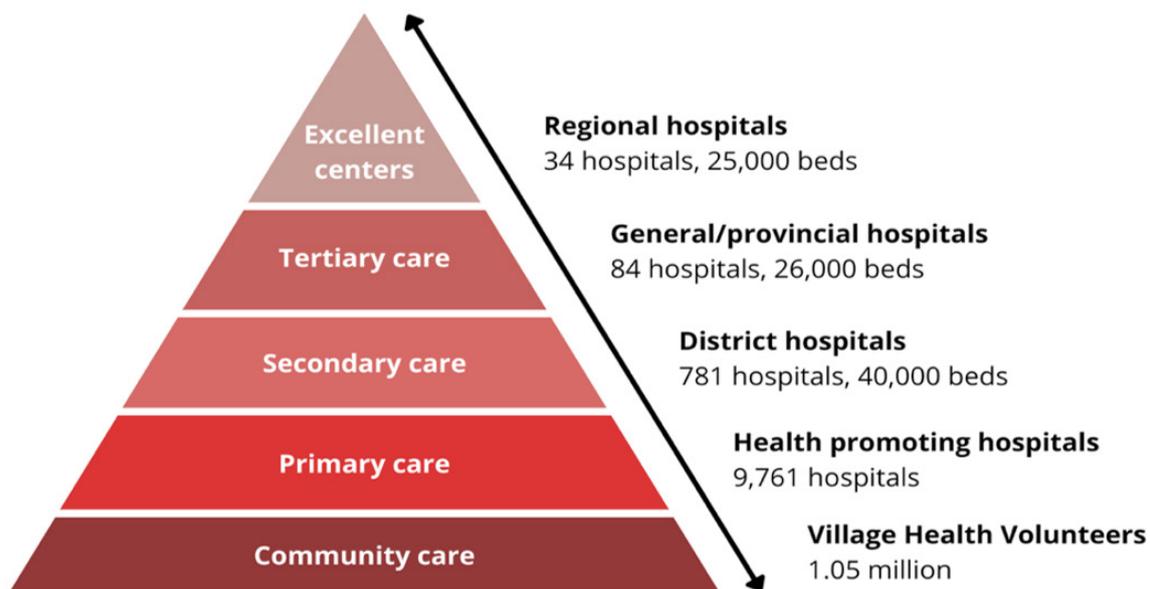
Thailand is at risk of a range of health emergencies, particularly in an increasingly VUCA (volatility, uncertainty, complexity, and ambiguity) world. The country is prone to disasters caused by natural hazards (particularly climate-related hazards like floods and storms) and is vulnerable to climate change impacts that are increasing temperatures and changes in rainfall patterns.<sup>5</sup> Southern coastal communities in Thailand are also vulnerable to rising sea levels.<sup>5</sup> The country is frequently burdened by Emerging Infectious Diseases (EIDs) and Re-Emerging Infectious Diseases already found in Thailand, including Severe Acute Respiratory Syndrome (SARS), Avian Influenza, Middle East respiratory syndrome coronavirus (MERS-CoV), and Zika virus infection. Other risks and threats from EIDs include the potential for imported EIDs, like Nipah virus infection, Ebola, and other zoonotic diseases, as well as infectious diseases that may emerge in the future.<sup>6</sup> Thailand continues to learn from present disasters and make adaptations to national strategies to combat health emergencies in an unpredictable future, in line with commitments to the UN Sustainable Development Goals 2030 and the Sendai Framework for Disaster Risk Reduction 2015-2030.<sup>7,8</sup>



## THAILAND'S HEALTH SYSTEM

Since the 1970s, Thailand has made consistent investments in health infrastructure through strong political commitment and the achievement of universal health coverage in 2002 is a testament to the nation's efforts.<sup>9</sup> Access to health services is widespread with the many levels of care extending to the community level (Figure 2). The country's 1.05 million Village Health Volunteers typically help local community members with longstanding diseases like dengue and rabies.<sup>10</sup>

The different provinces of Thailand are split into 12 health regions, with Bangkok considered a 13<sup>th</sup> region. Hospitals within health regions cooperate to deliver effective medical care. The MOPH uses a Geographic Information System (GIS) Health to record and access information on public and private healthcare facilities at all levels of care in the country. The GIS Health system stores information on: 1) health service units like hospitals or public health centers, disaggregated by the area of service (e.g., community, district, or provincial hospitals); and 2) clinic units, which includes medical and specialized clinics like dental, physical therapy, midwifery, and pharmacies. Facilities at all levels of care submit information to the system annually. The GIS Health supports the MOPH to conduct effective health resource planning and emergency response across the country.



**Figure 2.** The levels of health systems in Thailand and the capacities of hospitals and other health-promoting mechanisms. Excellent centers provide tertiary care, conduct medical research and development, provide training, referrals, and facilitate advocacy. Access to health services is widespread, with the levels of care extending to the community level.

### 1.1 Thailand's history of control of respiratory infection outbreaks

Thailand has significant experience in the control of respiratory infection outbreaks. This section outlines Thailand's experiences and key lessons learned from the outbreaks of SARS, Highly Pathogenic Avian Influenza (HPAI), Swine Flu, and MERS-CoV.

#### Severe Acute Respiratory Syndrome-2003

In 2003, Thailand implemented strict infection control measures during the early phases of the SARS outbreak. A WHO physician was admitted to Bamrasnaradura Hospital with SARS symptoms and hospital personnel immediately practiced contact precaution. Despite

19 days of prolonged close contact between the later confirmed SARS patient and hospital staff, no secondary transmission was recorded at the Hospital.<sup>11</sup> This experience instigated Thailand's proactive mindset on managing disease outbreaks, with critical measures including: early notification, institutional preparedness, restructuring of the isolation unit, consistent and effective use of Personal Protective Equipment (PPE), handwashing, and rapid implementation of disease control policies. **Lessons learned from this experience form the basis of Thailand's control of the current pandemic.**

### Highly Pathogenic Avian Influenza-2004

In January 2004, HPAI virus of the H5N1 subtype was first confirmed in poultry and humans in Thailand. Control measures including culling poultry flocks, restricting poultry movement, and improving hygiene were implemented. More than 62 million birds were either killed by HPAI viruses or culled. H5N1 virus from poultry caused 17 human cases and 12 deaths in Thailand.<sup>12</sup>

Thailand has been struggling to control and prevent H5N1 avian influenza on both animal health and public health fronts. Prevention and control programs for animals and humans are improving, with infections in poultry currently under control and no human cases seen in 2007. The national preparedness plan highlights building of national capacity for self-reliance and regional/international cooperation. Public health response to avian influenza benefitted significantly from past efforts to control SARS, with the response focusing on strengthening infrastructure and manpower, ensuring public confidence and cooperation, securing maximum government advocacy and support, and forging multi-sector and international cooperation.<sup>12</sup>

### Swine Flu-2009

Between July to December 2009, Thailand experienced the rapid spread of swine flu, or the influenza A (H1N1)pdm09 virus. Evaluation of response efforts after the peak of the pandemic was particularly useful for Thailand's overall response to the pandemic. The joint MOPH-WHO review of Thailand's swine flu pandemic response identified numerous strengths and several shortcomings. Measures that required improvement during this epidemic were the laboratory capacity, surveillance, hospital infection control, surge capacity coordination and collaboration, monitoring on the use of the clinical management guidelines, non-pharmaceutical interventions, risk communication, and addressing the needs of vulnerable, displaced migrant populations. The review enabled some adaptation and improvements in healthcare surge capacity, surveillance, and laboratory capacity to better respond to new emerging waves of the pandemic. A key lesson from the evaluation was to build in a strong monitoring and evaluation component to pandemic preparedness plans to enable rapid mobilization of human and financial resources at a time of high demand.<sup>13</sup>



**Figure 3.** Banners on swine fever in Chiang Rai province.

Since 2008, the MOPH with the support of WHO's Global Action Plan has embarked on a project to enhance national capacity for pandemic influenza vaccine development and production. This project aims to establish capacity for producing inactivated and live-attenuated pandemic vaccines. Although this project did not deliver a vaccine in time for

the 2009 swine flu pandemic, it has served as an excellent platform for further development of the national and regional influenza vaccine capacity in preparation for future pandemics.<sup>13</sup>

### MERS-CoV (2017)

Thailand's experience with Middle East respiratory syndrome coronavirus (MERS-CoV) provided invaluable social benefits to the hospitals and the country. Early identification of a patient with MERS-CoV was made possible due to the established MERS-CoV screening procedure and a simulation exercise undertaken across hospitals of a patient presenting with MERS-CoV in the emergency department. Awareness of healthcare workers of the symptoms, travel history of the patient, and translator present at the hospital expedited the diagnosis as well.<sup>14</sup>



**Figure 4.** A poster on MERS-CoV at Bamrasbaradura Infectious Diseases Institute.

The MOPH coordination and collaboration with the hospital infection control teams contributed to the fast and successful diagnosis and management of the disease. The mechanism facilitated fast deployment of needed staff, maintaining uninterrupted hospital services to minimize the impact to other patients. The isolation process was optimized with the social cohesion concepts minimizing the risk of transmission among hospital staff. Solutions provided by the hospital management team for the isolated individuals included providing child care for family members and mitigating the financial impact of being unable to work.

Effective communications and collaboration with the affected hospital staff with MOPH significantly decreased exposure and transmission of MERS-CoV to the public. The cooperative and close coordination with the press and media served as an excellent model for risk communications pertaining to disease outbreaks. The mechanism likewise helped minimize financial costs on staff and hospital.<sup>14</sup>

During the outbreak, variation in the application and implementation of national policies and guidelines were observed at different administrative levels. This may have related to differences in the risk perception among health professionals and the public, as well as ineffective communication and feedback systems between authorities at the central level and health providers at peripheral levels. **Key lessons from this experience were to establish a national public health emergency incident command center and strengthen systems for risk communication and community engagement.**<sup>14</sup>

#### Box 1. Air pollution in Thailand and preparedness for COVID-19 measures

In November 2019, Thailand was ranked as the 28<sup>th</sup> most polluted country out of the 98 countries ranked in IQAir's 2019 World Air Quality Report.<sup>15</sup> The yearly PM<sub>2.5</sub> rating of 24.3 µg/m<sup>3</sup> puts air quality in Thailand at moderate risk to health.<sup>15</sup> During this month when pollution levels had peaked, health experts recommended the use of high-quality N95-standard facemask by the general public. The Department of Disease Control (DDC) delivered targeted messages to traffic police, motorcycle taxi riders, and road cleaners as groups with high exposure. **Due to fears of latent respiratory diseases associated with air pollution exposure, the use of masks as protective gear was already required by the government, paving the way for high compliance for mask use during the COVID-19 pandemic.**<sup>16</sup>

## 1.2 Thai culture: A facilitator for pandemic response and recovery

In addition to Thailand's valuable experiences in respiratory diseases outbreak response, the unique aspects of the Thai culture, religious beliefs, and longstanding traditions have acted as facilitators for effective pandemic response and recovery, as captured by the following examples.

### A collective mindset

The Thai culture fosters a collective mindset that nurtures social harmony and community wellbeing. This has helped with the high compliance of people to various public health measures (e.g. mask wearing, lockdowns, travel restrictions) as there is strong public recognition that measures are for the benefit of the whole of society rather than solely at the individual level. Acts of community altruism have been observed as grassroots response to the pandemic. For example, cupboards were placed in conspicuous areas, where anyone with excess food and non-food items could donate and share with community members. The no contact system set up allowed for effective social distancing as well.



**Figure 5.** “The Sharing Pantry” set up in communities to share essential items.

### The role of faith-based groups

Many health promotion activities in Thailand are run by faith-based groups that have strong ties with communities.<sup>17</sup> For example, Buddhist monks in Thailand are often trained in diverse community health techniques, and in normal times, temples run activities like aerobics or meditation to promote physical, mental, and spiritual health.<sup>17</sup> During the COVID-19 pandemic, faith-based groups have provided support, guidance, and direct health and social services to their communities. To abide by the Emergency Decree on COVID-19 announced by the Prime Minister, many rituals and ceremonies have been adapted or cancelled to reduce the risk of transmission during gatherings.<sup>18</sup> While the benefits of involving faith-based groups in pandemic response are numerous, they must be balanced with the risks associated with some religious acts and ceremonies that may encourage close contact.

### A “no touch” culture

The traditional form of greeting among Thai people is the “wai”. The gesture broadly signifies respect, and is used as a greeting and to apologize or thank another person. It is usually initiated by a person of lower age or social standing to a person of higher age or social standing. The wai is performed by joining the right and left palms with the fingers pointing up and a person may bow their head as well. Physical contact in public is largely not accepted in Thai society, while norms around handholding are changing among younger generations. This “no touch” culture of Thailand may also have facilitated in minimizing COVID-19 transmission.

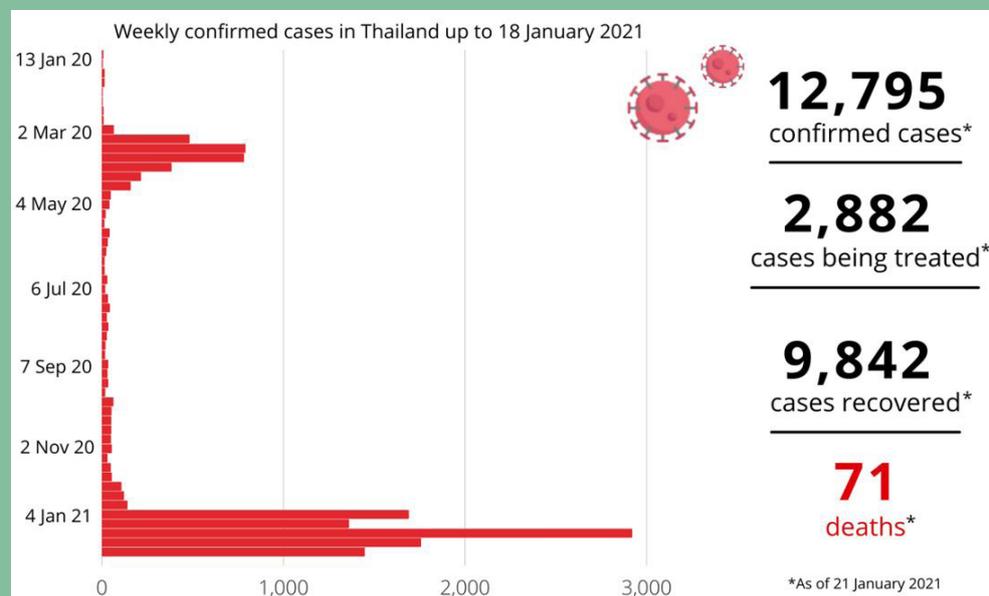


**Figure 6.** The “wai” is the traditional form of greeting among Thai people.

## Section 2.

# Thailand's COVID-19 Response

Thailand's first confirmed case of COVID-19 was recorded on 13 January 2020, the first imported case from Wuhan, China. By 21 January 2021, the country recorded 12,795 confirmed cases and 71 deaths (Figure 7).<sup>19</sup> Thailand's sustained control of the first wave of COVID-19 infections was largely due to the rapid enactment of key policies, guidelines, and public health measures, presented in this section. Subsequent waves of COVID-19 infections and changing circumstances may result in additional laws and measures being implemented in the country.



**Figure 7.** Weekly confirmed COVID-19 cases up to 18 January 2021, and the number of confirmed cases, cases being treated, cases recovered, and total deaths in Thailand as of 21 January 2021. Data sourced from WHO Coronavirus Disease (COVID-19) Dashboard – Thailand and Statista.<sup>19,20</sup>

### 2.1 Enactment of national policies and guidelines

The rapid enactment of relevant policies and guidelines was the core of Thailand's effective response to the COVID-19 pandemic and limited the number of imported cases into the country (Figure 8). The following key policies and guidelines were instrumental in controlling the first wave of the outbreak.

#### Declaration of COVID-19 as a dangerous communicable disease – 1 March 2020

By virtue of the provisions of Section 6 (1) of the Communicable Diseases Act B.E. 2558 (2015), the Minister of Public Health (MOPH) declared COVID-19 as a dangerous communicable disease. The declaration enabled disease control officers in local areas to test, treat, isolate, and quarantine cases.<sup>21</sup>

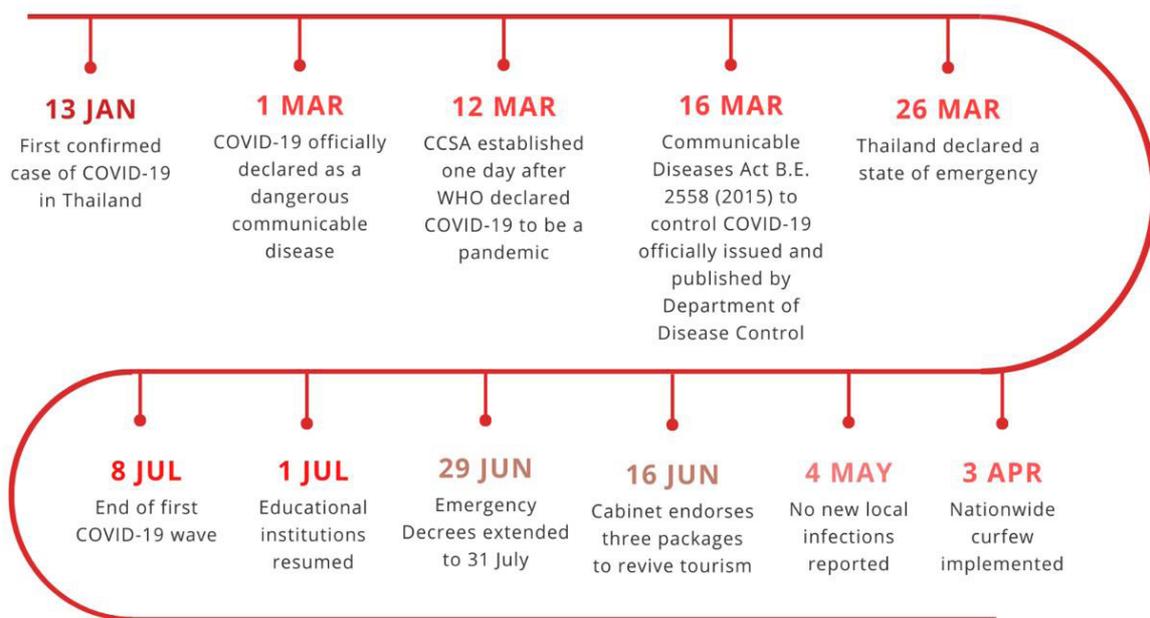


### Announcement of Disease Infected Zones – 6 March 2020

MOPH announced a list of countries to be defined as Disease Infected Zones under the provisions of Section 8 of the Communicable Diseases Act B.E. 2558 (2015). The announcement allowed disease control officers to work with medical practitioners to check passengers of vehicles entering Thailand from Disease Infected Zones, approve or prohibit entry, and redirect passengers for possible isolation and quarantine at designated areas. The Department of Disease Control alerted Thai people to refrain from unnecessary travel to countries designated as Disease Infected Zones, listed on the MOPH website. All travelers returning from the Zones were required to pass the screening procedures at entry points and self-monitor their conditions at their residence for no less than 14 days.<sup>21</sup>

### Declaration of Emergency Decree – 26 March 2020

The Government of Thailand declared a one-month state of emergency between 30 March and 30 April 2020. This declaration allowed a series of public health measures to be implemented, including curfews, travel restrictions, state quarantine, and closure of schools and non-essential businesses. The emergency decree was extended to 31 July 2020 to allow 11 groups of people to enter Thailand including Thai nationals, non-Thai nationals and dependents with residence or work permits, non-Thai nationals in need of non-COVID related medical treatment in Thailand, and other defined groups.<sup>21</sup>



**Figure 8.** An overview of Thailand’s national policies and guidelines during the first wave of COVID-19 infections between January to July 2020.

### Evaluation of the COVID-19 response – July 2020

The Joint Intra-Action Review of the Public Health Response to COVID-19 in Thailand was conducted between 20–24 July 2020 by 16 independent reviewers from UN agencies, academia, and the US Centers for Disease Control and Prevention (CDC). The objective of the review was to identify successes during the first six months of the COVID-19 pandemic and to provide recommendations for improvements to the MOPH in the event of future outbreaks. The Review highlighted factors that contributed to the successful management of the pandemic in Thailand and recommendations to strengthen pandemic response (access the summary and full-text of the review here: <https://www.who.int/thailand/news/>)

detail/14-10-2020-Thailand-IAR-COVID19#:~:text=The%20Joint%20Intra%2DAction%20Review,for%20country%20intra%2DAction%20reviews).<sup>22</sup>

## 2.2 Overview of public health measures

Based on the national policies and guidelines that were enacted in the early stages of the COVID-19 pandemic, a series of public health measures were implemented across the country.

### Screening and quarantine

The Government established comprehensive guidelines for screening and quarantine of people entering the country, implemented through substantial coordination across the Ministry of Foreign Affairs, Ministry of Transport, Ministry of Public Health, Ministry of Interior, and the Ministry of Defence.

Three layers of screening were set up by MOPH to detect cases of COVID-19. The first layer of screening included thermal screening systems installed at airports to detect and manage febrile travelers. The second layer included screening through hospitals with higher capacity and comprehensive measures for case detection. Finally, the third layer of screening involved the community. Village and migrant health volunteers maintain a roster of people traveling into and out of villages to track and detect suspected cases.<sup>21,23,24</sup>



**Figure 9.** Health declaration forms distributed to passengers at Suvarnabhumi International Airport

State quarantine measures were implemented for travelers to isolate for a period of no less than 14 days. The facilities designated for quarantine purposes were divided by different levels and associated fees:<sup>21</sup>

- **State Quarantine (SQ):** Quarantine facility for travelers entering Thailand from other countries
- **Alternative State Quarantine (ASQ):** Facility for travelers entering Thailand from other countries, where travelers can select their own accommodation and quarantine fees are covered by the traveler
- **Local Quarantine (LQ):** Facility for travelers entering different provinces within Thailand
- **Alternative Local Quarantine (ALQ):** Facility for travelers entering different provinces within Thailand, where travelers can select their own accommodation and quarantine fees are covered by the traveler

The declaration of the State of Emergency Decree on 26 March 2020 was instrumental to the success of minimizing COVID-19 transmission from imported cases. The Emergency Operations Center (EOC) at Suvarnabhumi Airport-supervised by the Ministry of Defence with the Minister acting as the incident commander-was particularly critical to limiting the number of imported cases. Screening facilities at all points of entries must be adequately staffed and funded to operate under the same standards.<sup>21</sup>

### Increasing surge capacity of hospitals and COVID-19 testing laboratories

To accommodate a surge in COVID-19 patients, hospitals increased the number of

negative pressure isolation rooms and intensive care units for severe cases. This was supported through public and private sector collaboration, with some private companies providing resources to build new rooms and units for hospitals in need.<sup>25</sup> Furthermore, field hospitals were established to receive asymptomatic patients and patients with mild symptoms while several hotels, dubbed “hospital”, were rented by the government to receive asymptomatic patients or mild cases. The MOPH also prepared surge capacity of COVID-19 testing laboratories across the country to increase diagnostic capabilities. By early July 2020, 205 laboratories fully equipped with COVID-19 testing services were established.<sup>25</sup>

### Harnessing community-level care

The country’s 1.05 million Village Health Volunteers typically help local community members with endemic diseases like dengue and rabies. The volunteers were particularly valuable in the response to COVID-19, as they rapidly disseminated locally-accepted information on COVID-19 prevention and symptoms, as well as distributed hand sanitizers and cloth masks. The volunteers collaborated closely with the government to trace and quarantine cases, and supported hospitals by reducing the burden of COVID-19 on health care services.<sup>9,24</sup>



**Figure 10.** Village Health Volunteers supporting patients at the Koo Bang Luang Health Promotion Hospital.

### Innovative models of healthcare facility and community-level response

Several innovative models of response were created in different regions to better adapt to the changing nature of the outbreak. The **Pattani Model** was one such innovation, where patients with non-communicable diseases (NCDs) are triaged and classified into three “traffic light groups” (green, red and yellow). Patients that do not need to visit the health facility are supported through telemedicine, while drugs are delivered through Village Health Volunteers. Those living in the border areas are supported by immigration volunteers. Patient pathways were developed for those who needed to visit the healthcare facilities to ensure that physical distancing was strictly observed. For those who require intensive care support, ventilation systems were upgraded to enhance safety for patients and frontline staff. The community work by trusted and respected Village Health Volunteers and faith-based groups was essential in delivering the right messages at key moments to minimize transmission.<sup>26</sup>

### Adaptation of management of dead bodies

Funeral practices in Thailand continue to allow both cremation and burial during the pandemic. In line with the WHO guidance, the MOPH provided comprehensive procedures for the safe management of the dead which incorporate Buddhist practices while ensuring infection prevention and control, including the following:<sup>27,28</sup>

1. Personnel responsible for handling the dead body must wear standard PPE.
2. The body must be double-bagged in a zip-lock, water resistant body bag. The bag is tagged with the name of the deceased and the outside of the bag is disinfected.
3. No bathing or watering of the body, and no injections into the body.
4. Once the body is placed into the double-bags, there can be no reopening of the bags, and the double-bagged body must be refrigerated at the mortuary.
5. The body must be transported to the next of kin to proceed to the religious ceremony, for either cremation or burial.

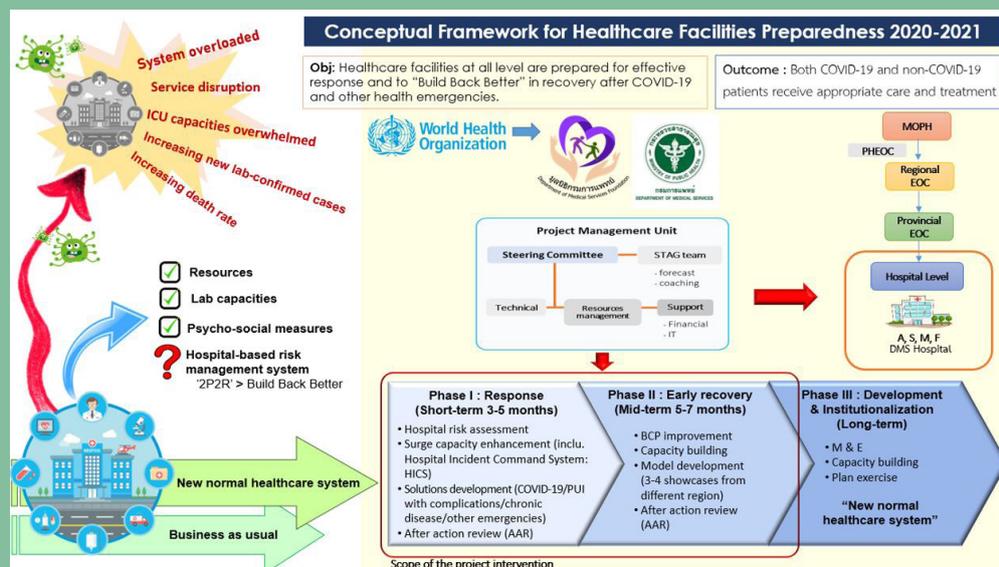
### Technological solutions

Emerging technologies such as Covid19Bot, SabaideeBot, DGA Chatbot, and data-driven platforms like the COVID-19 Portal, COVID Tracker, Workpoint News, are key tools developed by multi-sectoral voluntary experts to inform the public on updated infection cases, locations with high rates of infection, useful information on locations of pharmacies and hospitals, and other essential information. Several mobile applications providing a range of functions from contact tracing to assessing distance from the closest COVID-19 services have been created, such as Thai Chana, AwayCovid-19, Card2U, and GooCare. Technological solutions for outbreak response continue to evolve, and with 5G networks increasingly accessible in the country, the use of these services will become more widespread.

# Section 3. Strengthening health facilities for current and future outbreaks

Thailand's robust health system and prior experiences in respiratory infection outbreaks have strengthened the preparedness of healthcare facilities across the country to health emergencies.<sup>9,22</sup> Between 2009 and 2014, DMS in coordination with ADPC has also widely implemented the Hospital Preparedness for Emergencies (HOPE) Program under the United States Agency for International Development, Office of U.S. Foreign Disaster Assistance's (USAID-OFDA) Program for Enhancement of Emergency Response (PEER) across hospitals in Thailand. The program built the capacity of healthcare staff to design and implement plans that increase healthcare facilities' abilities to manage internal and external emergencies and disease outbreaks. While the robust existing health systems allowed for effective treatment of cases and prevention of transmission in the country, the Joint Intra-Action Review of the Public Health Response to COVID-19 in Thailand demonstrated areas for further action.

This Section explores the various new normal solutions conducted by the DMSF, DMS, and MOPH, particularly under the support of Japan-WHO Project on Healthcare Facilities Preparedness for COVID-19. It includes activities to strengthen Business Continuity Plans (BCPs) for EIDs in healthcare facilities and new normal medical services models for healthcare facilities to bolster the response to the COVID-19 pandemic and to future outbreaks in the country.



**Figure 11.** Conceptual Framework for the Project on Healthcare Facilities Preparedness 2020-2021. This framework outlines the objectives, outcomes, phases, and activities of the project, including the strengthening of BCPs for EID in healthcare facilities and the development of new normal solutions.

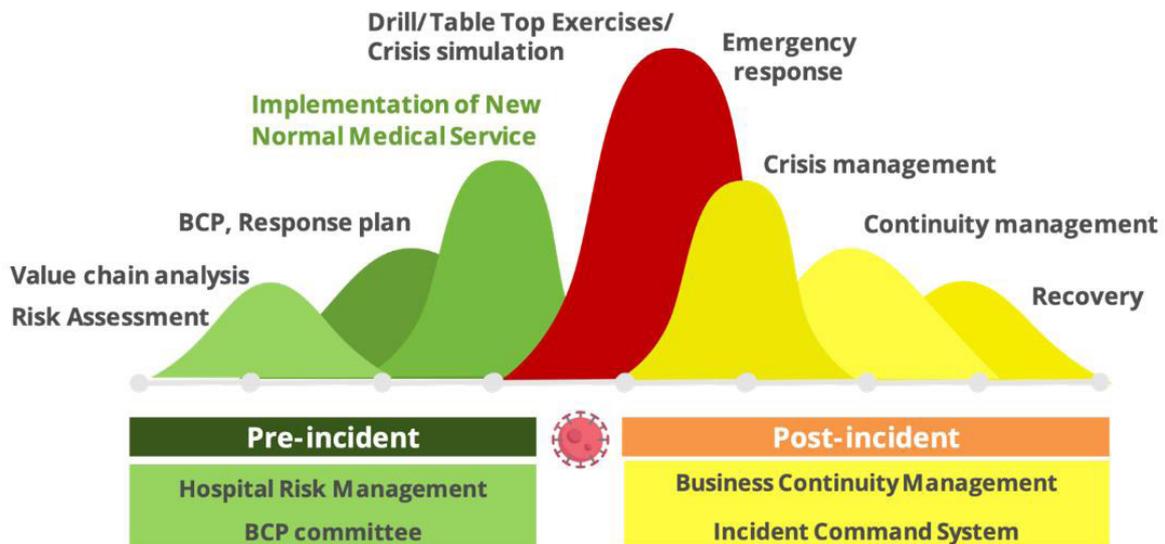


### 3.1 Business Continuity Plans for EID in healthcare facilities

In the context of health systems, business continuity is the continuation of operations during an infectious disease outbreak, in accordance to acceptable standards and ethics. BCPs are tools and procedures that guide healthcare facilities in the response, restoration, and resumption of actions to sustain delivery of health services during a crisis.

At the time of an incident or emergency like the COVID-19 pandemic, BCPs are critical for hospitals to reduce the impact of the incident on operations and provision of health services at acceptable levels and reduce the time of interruption to operations and services. Furthermore, robust BCPs for healthcare facilities are important to:

1. Ensure the safety of patients, medical staff, and hospital personnel
2. Increase the capacity of response and recovery
3. Protect hospital resources and supply chains
4. Maintain the value and reputation of the hospital and wider health system
5. Raise public confidence in the hospital and wider health system



**Figure 12. The foundations of health service resilience** (Adapted from the DMSF and DMS BCP presentation). The green phase is the pre-incident phase, which includes preparatory activities like risk assessments, value chain analysis, and the development and review of BCPs and response plans. The red phase represents a health emergency at which point the outbreak is not fully controlled. The response during this period follows the principles of crisis management and incident command systems. The yellow phase indicates the post-incident phase which uses the principles of business continuity, alongside incident crisis management and incident command systems.

#### Box 2. History of BCPs for healthcare facilities in Thailand

BCPs for healthcare facilities in Thailand find their origin in the 2011 flood disaster that devastated the country, particularly in the Chao Phraya River Basin in the north and central provinces. During this disaster, it became evident that most government agencies could not continue operations without significant disruptions or reduction in services. From this experience, the Cabinet passed a resolution in 2012 for all government agencies to strengthen disaster preparedness by developing BCPs. When the COVID-19 outbreak first emerged in 2019, most healthcare facilities in the country had contingency plans, but most hospitals still lacked robust BCPs that could withstand the scale of the forthcoming pandemic.

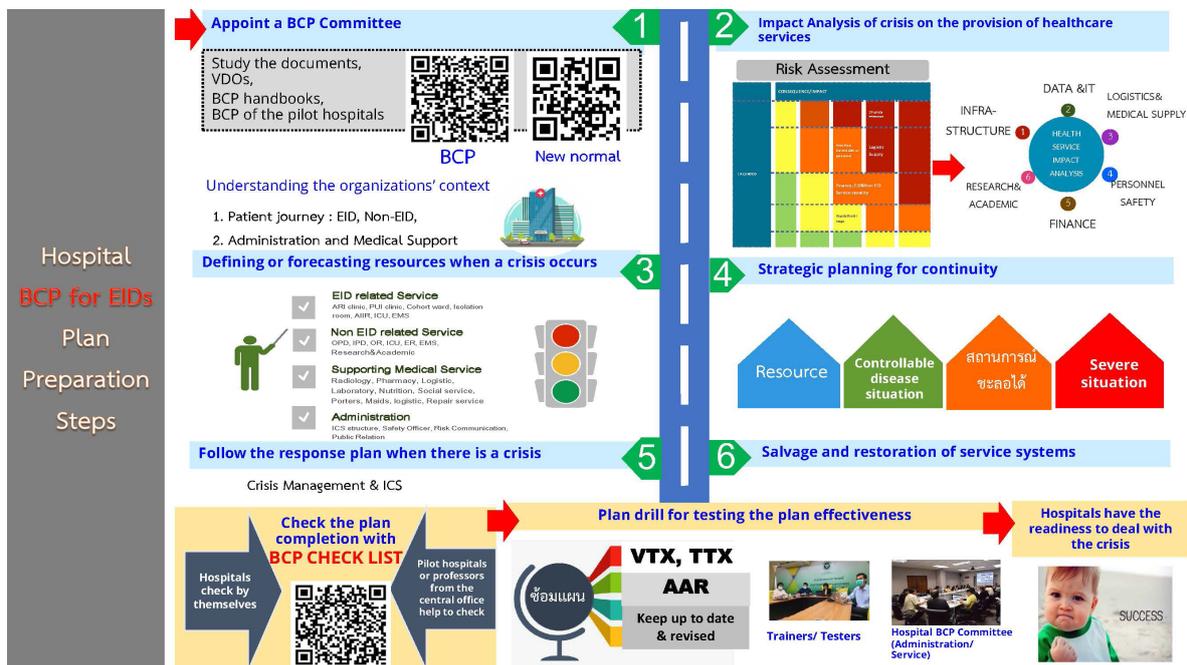
## BCPs for EID in healthcare facilities: A COVID-19 response

On 31 March 2020, the Cabinet of Thailand passed a resolution approving the government's preparedness measures for agencies that provide essential infrastructure and services, including the MOPH. As the primary response agency for the COVID-19 pandemic, a key policy for the MOPH was to continuously formulate and adapt BCPs for healthcare facilities in line with government policies to adequately respond to current and future health emergencies.

To strengthen BCPs for EID in healthcare facilities across Thailand, the DMS conducted various capacity building and knowledge generating activities, including table top exercises (TTX), training courses, and interviews with hospitals to assess the strengths and weaknesses of existing BCPs. These activities are described below.

### Training for BCP development

Training courses were conducted in October 2020 with participants from hospitals across 12 health regions in Thailand. The training included presentations on Business Continuity Management (BCM), health service impact analysis, BCP for government agencies, BCP formulation for hospital preparedness of emerging diseases, teamwork strategies, and recovery of hospitals, presented by a range of partners from government, hospitals, and the private sector (access the BCP presentations by partner here: <http://www.adpc.net/NNM/index.html>). For example, the MOPH invited Siam Cement Group (SCG) to present on their experiences with BCM which included core processes like Business Impacts Analysis, Risk Assessment, Risk Treatment, and developing Crisis Management Manuals, Emergency Response Plans, and BCPs.



**Figure 13.** Flowchart of BCP for EIDs in healthcare facilities presented by DMS to hospitals participating in BCP trainings.

### Table top exercises

DMS initiated the pilot table top exercises (TTX), delivered face-to-face and virtually, on hospital BCP for COVID-19 preparedness. The objective of the TTX was to strengthen BCPs

for three pilot hospitals to enhance and test institutional capacity and preparedness, particularly in coping with a possible second wave of COVID-19. The three pilot hospitals that participated in the TTX were Rajavithi Hospital, Nopparat Rajathanee Hospital, and Lerdsin Hospital. Each hospital designed a BCP and identified the capacity of different wards during a surge of COVID-19 patients. Laboratory count time was tested, including turnaround time of patients. The simulation also included simultaneous actions for care of COVID-19 and non-COVID patients. The activity included opportunities for different hospitals to network and cooperate for patient transfer mechanisms between hospitals.

### Development of BCP social networking platform

DMS and DMSF established an active BCP social networking group on LINE (a popular mobile messenger app) and tele-conference. This group connects doctors and hospitals within the 12 health regions of Thailand and facilitates rapid transmission of COVID-19 related information. This initiative continues to provide BCP support to hospitals and strengthen collaboration within and between hospitals across different regions.

### Extension of BCP pilot healthcare facilities and national BCP institutionalization

Based on the TTX and BCP activities of the three pilot healthcare facilities-Rajavithi Hospital, Nopparat Rajathanee Hospital, and Lerdsin Hospital-DMSF and DMS developed a comprehensive package of BCP guideline and self-assessment checklist. With this package, BCP implementation was scaled out to 47 healthcare facilities from 13 MOPH Health Service Areas across the country. Most facilities had existing foundational knowledge on multi-hazard risk management through prior participation in the ADPC's PEER HOPE Program funded by USAID-OFDA. The three pilot healthcare facilities together with 13 pilot healthcare facilities for 13 MOPH Health Service Areas have become BCP technical supporting nodes for an additional 83 MOPH hospitals at different levels across the country. These additional hospitals are urged to complete their BCP and TTX by the end of 2021, in line with the MOPH's priorities. Experts from DMSF, DMS and MOPH were mobilized to support this effort.



Figure 14. BCP LINE group.

## 3.2 New Normal Medical Services Models for healthcare facilities

The BCP activities conducted by the MOPH supplements the new normal models for healthcare facilities. They co-exist in that the BCP helps reduce service disruptions while “the new normal models” ensures “Build Back Better” of the services during COVID-19. This section highlights some of the models that were launched as part of this initiative.

### Pattani Model

The DMS established the Pattani Model, which aims to develop a new normal of medical services across all levels of the health system in Pattani, one of the southern provinces in Thailand. The overall objective of the model is to increase coordination and collaboration for the reduction of COVID-19 transmission and promotion of more efficient health service delivery. At the hospital-level, all departments are integrated through the Pattani Model as a consolidated approach to COVID-19 response. At the community-level, Village Health

and Migrant Health Volunteers are trained to identify symptoms, provide information to patients, engage in health promotion, and refer patients to hospitals. These Volunteers coordinate with the government to support contact tracing, as well as with hospitals for patient transfers. The following examples showcase how the model is being implemented across four hospital departments in Pattani province:

### **Dental Room**

Dental personnel are trained in the four-handed dentistry techniques to reduce aerosol dispersion and prevent COVID-19 transmission. Dentists and dental hygienists adopt digital technologies to facilitate screenings and appointments, as well as inspection of tools. Tools like high vacuum suction equipment and rubber dams are used to reduce aerosol dispersion during procedures.

### **Emergency Room**

At the provincial and community hospitals, Emergency Room (ER) are restructured through zoning and modifying a negative pressure room. Separate entrances for patients with respiratory symptoms are established. ER personnel are trained to identify COVID-19 symptoms, conduct patient screening using appropriate PPE, and follow procedures to reduce aerosol dispersion during resuscitation, intubation and nebulization.

### **Operating Room**

Surgeons, anesthesiologists, and medical personnel in operating rooms (OR) follow and adapt the DMS guidelines for establishing modified negative pressure ORs to enable safe procedures conducted under the required standards.

### **Non-Communicable Disease Departments**

Patients with non-communicable diseases (NCDs) are treated through a “Shared Care Plan”, which links patient care responsibilities across provincial hospitals, sub-district hospitals, community health services, and the patient. Patients are enabled to define goals, treatment plans, and self-monitor conditions like measuring blood pressure or blood sugar levels using appropriate portable tools. If the patient does not have a portable tool and requires assistance, check points supported by medical staff are established at the community-level. Volunteers travel to the homes of patients who are unable to travel to community check points.

Self-monitoring data is sent by the patient, carer, or volunteer to the mobile application, “Mor Rujak Khun.” This data is analyzed by medical staff and patients are divided into three groups—green, yellow, and red groups—according to their ability to manage their conditions. Based on this screening process, each group of patients receive a different course of action. Green, or the low-risk group, receives medical advice through telemedicine. Yellow (moderately controlled risk) and red groups (patient unable to control the risks and symptoms of the disease) are referred for in-person appointments, with varying frequency of appointments between the two groups. This treatment system helps to reduce hospital congestion and increase the capacity of medical staff.

### **New normal medical department service models**

Based on the Pattani Model, new normal models were developed for 13 hospital services. The models include comprehensive checklists to be implemented in hospitals with outpatient departments, inpatient departments, emergency department, intensive care, rehabilitation, dental, laboratory, NCD department, operating room, labor room, acute respiratory infection clinic, radiology department, and psychiatric clinic. Full checklists for the 13 new



### Key findings from interviews

The section summarizes the key findings on the hospitals' experiences with the implementation of BCPs for healthcare facilities and new normal medical service models. It highlights some of the lessons learned, as well as the facilitators and barriers for the implementation of BCPs and new normal models, synthesized by key thematic areas. Box 3 presents some of the best practices shared by each interviewed hospital and the full interview results can be accessed here: <http://www.adpc.net/NNM/index.html>.

### Leadership, coordination, and communication for EOC

- Most hospitals have activated their EOC, ensuring timely and informed risk analysis and decision making.
- All hospitals considered leadership as a crucial component in establishing and managing an effective EOC.
- Hospitals were proactive with internal coordination to manage EOCs, but require further initiatives to coordinate with private partners. Coordination with local communities, governors, provincial, regional, and national level authorities was reported as an effective strategy.

### Infection control and surveillance

- The DMS guidelines (access here: <http://www.adpc.net/NNM/index.html>) facilitated hospitals to effectively conduct surveillance and manage information on cases.
- Standard operating procedures for information management were created, including adaptations to new normal initiatives in hospitals.
- Laboratory equipment for rapid identification and diagnosis are available in hospitals.

### Risk communication and community engagement

- The community and migrant health volunteers were instrumental in communication and management of cases at the community level.
- Social capital was utilized to enhance risk communication. For example, a traditional song in Suphan Buri Province was adapted and used at Chaophrayayommarat Hospital to provide knowledge and spread awareness to the public.
- Social media played a significant role to update the public and combat misinformation through posts on Facebook or LINE.
- Different communication channels were used, including leaflets, radio, online platforms, use of microphones, and loud speakers.
- Improvements are needed to mitigate the rapid spread of misinformation.

### Business Continuity Plans

- All hospitals considered BCPs of importance in strengthening their hospital systems in case of new emerging waves.
- Hospitals had improved and implemented BCPs to varying degrees.
- Participants noted that the LINE platform for BCP learning exchange was useful to share good practices on BCP implementation in the country.

### Human resources

- Efforts are being made across some hospitals to develop guidelines for staff benefits and protection mechanism. Identifying staff working from home, scheduling staff, and providing benefits are some of the challenges faced.

### Surge capacity and continuity of essential services

- Surge capacity was well developed by all hospitals interviewed, with newly established negative pressure rooms and service adaptations in line with the

- 13 service models.
- All hospitals have the capacity to sustain essential services during COVID-19, with most hospitals defining separate areas for COVID-19 and non-COVID patient care. Mock drills, training, and periodical reviews of hospital response have enabled sustained services.

### Patient management

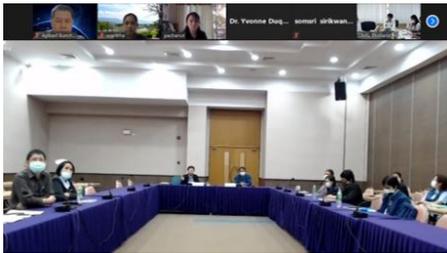
- Hospitals have managed patients in line with DMS guidelines and most have developed admission guidelines, triage, diagnosis, isolation, treatment and patient flow.

### Mental health and psychosocial support

- The definition of mental Health and psychosocial support (MHPSS) varied across hospitals, with most understanding mental health support as limited to practice by psychiatrists and clinical psychologists.
- Strengthening mental health support within the health system is critical for hospital staff and patients.

## Box 3. Best practices and challenges from interviewed hospitals

### Nakornping Hospital



Located in a tourist destination area, it was essential for Nakornping Hospital to stay alert in preventing COVID-19 transmission and managing new cases. The hospital has also been actively monitoring and preparing for a possible third wave of infections through stockpiling of PPE and other resources to enable surge capacity of the hospital, protect

healthcare staff, and continued delivery of services. As part of its case management system, the hospital developed a special route to transfer high risk patients to negative pressure rooms.

### Udon Thani Hospital

While Udon Thani Hospital is not located in a high risk area, they are the “node” of the network of hospitals in the region. This requires them to prepare for not only their own response but also the response of network hospitals. Udon Thani Hospital followed the BCPs and DMS guideline, and initiatives like the use of mobile apps for prescriptions were implemented. There was strong coordination between provincial authorities and the hospital to manage donations and secure hotels as accommodation for hospital staff.



### **Mae Sot Hospital**



Mae Sot Hospital is located in a geographically challenging context near the Thai-Myanmar border and far from city centers. To monitor and manage the risk of imported cases, the hospital worked with border control officers and soldiers. The hospital also relied on the services of other network hospitals within the region through effective coordination. The new normal model for outpatient department was implemented, as well as systems for telemedicine.

### **Chaophrayayommarat Hospital**

Chaophrayayommarat Hospital is a larger, regional hospital affiliated with Mahidol University. Prior to the COVID-19 pandemic, the hospital had been regularly conducting simulations with different scenarios to build staff capacity, as well as establish coordination with the province and community healthcare volunteers. These sustained efforts were particularly useful for their COVID-19 response, as old BCPs and EOC plans were rapidly adapted and there was strong leadership in place. The hospital prioritized communication with the public and other hospitals through different media channels. A point person to counter misinformation was also established.



### **Rajavithi Hospital**



Located in Bangkok, Rajavithi Hospital is one of the largest hospitals in the country and is operated by DMS. Robust leadership helped the hospital to activate the EOC, transfer cases, and manage critical resources. As one of the pilot hospitals that participated in the Project on Healthcare Facilities Preparedness for COVID-19, the hospital shared the value in using the BCP

social networking platform that was developed as part of the initiative. The platform facilitated the rapid exchange of knowledge on BCP trainings and implementation between Rajavithi Hospital and other hospitals in a way that has never been done before.

### **Saraburi Hospital**

Saraburi Hospital is the main hospital of Saraburi Province and is a teaching hospital affiliated with the Faculty of Medicine, Thammasat University. The hospital rapidly established a system to ensure home quarantine of low risk patients and screening points within the hospital. There



was strong coordination with national and provincial authorities, as well as community health volunteers that helped the hospital to monitor cases and deliver health services to communities. A new BCP was created amidst the response to minimize disruptions to services.

# Section 4.

## Way Forward and Recommendations

Based on the findings of this white paper, the following recommendations can be made for the national and healthcare facility (hospital) levels of Thailand. This set of recommendations highlights the key areas for continued efforts or further improvements and is not exhaustive of all recommendations.

### National level recommendations

#### 1. Further global and regional health and DRR efforts

- Continue to strengthen policies, strategies, and measures for response to EIDs to further commitments to the Sustainable Development Goals 2030 and the Sendai Framework for Disaster Risk Reduction 2015-2030<sup>7,8</sup>
- Strengthen integration of health and disaster risk sectors in line with the Bangkok Principles and guided by the core principles and approaches of the WHO Health Emergency and Disaster Risk Management Framework<sup>30,31</sup>
- Strengthen regional support and technical coordination for the control of EIDs through the ASEAN Centre for Public Health Emergencies and Emerging Diseases (ACPHEED) to be based in Thailand<sup>32</sup>

#### 2. Enhance coordination and collaboration within and between ministries

- Strengthen coordination between the Ministry of Public Health and the Department of Disaster Prevention and Mitigation, Ministry of Interior to ensure health emergency strategies and preparedness plans align with disaster risk management plans, as well as align with global and regional agendas
- Establish clear departmental responsibilities within the MOPH to support the delivery of the new normal medical services models, early detection and active COVID-19 screening, and other critical measures for response
- Strengthen border control, cross-border surveillance and information sharing between countries through coordination between relevant ministries

#### 3. Support to healthcare facility and community levels

- Continue to mobilize care at the community level by strengthening the capacity of Village and Migrant Health Volunteers
- Strengthen risk communication strategies through multi-sectoral



- collaboration to avert or minimize the proliferation of misinformation
- Conduct further evaluation of the effectiveness of the new normal solutions to fully endorse the DMS Standard Guidelines and new normal medical service models as key references for COVID-19 and EID management in healthcare facilities
- Support healthcare facilities to develop new and strengthen existing BCPs through the promotion of the package of BCP guideline and self-assessment checklist by the DMSF and DMS
- Boost critical mental health and psychosocial support services country-wide to address the increased needs during the pandemic

## Healthcare facility (hospital) level recommendations

### 1. Strengthen hospital preparedness and response

- Define clear leadership roles for effective command of hospitals before and during emergencies and disease outbreaks
- Budget time and resources for simulations and mock drills
- Ensure all hospitals have adequate surveillance systems and capacity for rapid diagnostics for early detection of new outbreaks
- Organize teams to assess the strengths and weaknesses of hospitals and adapt new normal service models to address changing circumstances and critical gaps

### 2. Maintain hospital operations

- Develop new or strengthen existing BCPs to ensure that hospitals remain operational and provide quality care while adapting to changing circumstances
- Include the establishment of temporary or field hospitals in pandemic planning to allow regular hospital services to continue with minimal disruptions

### 3. Adequately support hospital staff

- Earmark budgets to cover expenses for staff (e.g. accommodation, meals, and incidentals) required to work for extended periods in hospitals
- Prioritize the provision of high quality PPE for all front-line healthcare professionals and supporting personnel who come into close contact with patients
- Provide comprehensive mental health and psychosocial support for hospital staff to improve individual wellbeing and general hospital morale

# Conclusion

The COVID-19 pandemic has demonstrated the threat that EIDs pose to an increasingly interconnected world, and the catastrophic impacts that outbreaks can have on public health and all aspects of society. Importantly, it has provided an unprecedented opportunity to reflect on the policies, strategies, and measures that lead to the successful control of outbreaks, while highlighting the critical gaps and challenges to improve preparedness and response to future outbreaks. This white paper aimed to share Thailand's response to the COVID-19 pandemic and present good practices and "new normal" models for health service delivery in the country.

Thailand's rapid enactment of relevant policies and guidelines limited the number of imported cases into the country from the outset of the pandemic. These policies allowed for a number of public health measures to be widely implemented, including a three-layer system of screening for COVID-19 cases, strict quarantine measures, increased surge capacity of hospitals, and technological solutions for contact tracing and disseminating information. Coordination between relevant ministries and sectors, as well as partnerships with the private sector and community-level actors supported the successful roll out of these initiatives.

The MOPH made further efforts to strengthen the health system during the pandemic. BCPs for EIDs in healthcare facilities were developed or strengthened through various capacity building initiatives with participating hospitals. Several new normal medical service models for the different departments of healthcare facilities were created to limit the spread of COVID-19 and adapt to new ways of delivering health services. Hospitals shared their best practices and lesson learned on the implementation of BCPs and new normal models through interviews conducted by the MOPH and ADPC.

While societies look forward to rebounding from the COVID-19 pandemic, it is essential to also look back to learn from the responses that contributed to the control of the pandemic. Thailand's experiences provide insights into approaches for the continued response to the pandemic, and several recommendations were made as part of this white paper for Thailand to better prepare for and respond to future outbreaks. Importantly, Thailand should continue to enhance cross-sector coordination across ministries, as well as between healthcare facilities for effective outbreak control. Thailand can also play a leadership role to further build and strengthen the preparedness and response capacity of ASEAN Member States through the establishment of the ACPHEED. At the global level, Thailand can contribute to the integration of health and disaster risk sectors in line with the goals of several global agendas.



# References

1. Ghebreyesus TA [@DrTedros]. (2020, September 1). Thailand's response to COVID-19 offers a powerful example of how investment in public health and all-of-society engagement can control outbreaks of deadly diseases, protect people's health and allow economies to continue functioning [Tweet]. Twitter. <https://twitter.com/drtedros/status/1306688041847795712?lang=en-gb>
2. World Population Review. (2020). Thailand population. Accessed on 1 January 2021. Retrieved from: <https://worldpopulationreview.com/countries/thailand-population>
3. HelpAge Global Network. Ageing population in Thailand. Retrieved from: <https://ageingasia.org/ageing-population-thailand/>
4. indexMundi. (2020). Thailand Country Profile. Retrieved from: <https://www.indexmundi.com/thailand/>
5. UN Development Programme. Strengthening Capacity to Address the Risks and Impacts of Climate Extreme Weather Events in Thailand. Retrieved from: <https://www.adaptation-undp.org/projects/sccf-extreme-weather-thailand>
6. Cabinet of the Royal Thai Government. (2016). Thailand National Strategic Plan for Emerging Infectious Diseases 2017-2021. Retrieved from: [http://e-lib.ddc.moph.go.th/pdf/material\\_370/material\\_370.pdf](http://e-lib.ddc.moph.go.th/pdf/material_370/material_370.pdf)
7. UN. Sustainable Development Goals 2030.
8. UN Office for Disaster Risk Reduction. Sendai Framework for Disaster Risk Reduction 2015-2030.
9. World Health Organization Regional Office for the Western Pacific. (2015). The Kingdom of Thailand health system review. Manila: WHO. Retrieved from: <https://apps.who.int/iris/handle/10665/208216>
10. World Health Organization. (2020, 28 August). Thailand's 1 million village health volunteers – “unsung heroes” – are helping guard communities nationwide from COVID-19. Accessed on 18 January 2021.
11. Chaovavanich A, Wongsawa J, Dowell SF, Inthong Y, Sangsajja C, Sanguanwongse N, ... & Melgaard B. (2004). Early containment of severe acute respiratory syndrome (SARS); experience from Bamrasnaradura Institute, Thailand. *Journal of the Medical Association Thailand* 87(10):1182-7.
12. Chunsuttiwat S. (2008). Response to avian influenza and preparedness for pandemic influenza: Thailand's experience. *Respirology* 13;Suppl 1:S36-40.
13. Ungchusak K, Sawanpanyalert P, Hanchoworakul W, Sawanpanyalert N, Maloney SA, Brown RC, ... & Chusuttiwat S. (2012). Lessons Learned from Influenza A(H1N1)pdm09 Pandemic Response in Thailand. *Emerg Infect Dis.*, 18(7):1058-1064.
14. Charayopas J, Pongpirul K, Techasatit W, & Miser J. (2015). Isolation in real life: lessons from MERS-CoV in Thailand. *The Journal of Hospital*



- Infection, 92(3):251-252.
15. IQAir. Air quality in Thailand. Retrieved from: <https://www.iqair.com/us/thailand>
  16. The Nation Thailand. (2018, February 16). High quality masks needed for pollution. Accessed on 30 November 2020. Retrieved from: <https://www.nationthailand.com/national/30339063>
  17. World Health Organization. (2008) Thailand's unsung heroes. Bulletin of the WHO, 86:2008. Retrieved from: <https://www.who.int/bulletin/volumes/86/1/08-010108/en/>
  18. The Star. (2020, 10 May). Buddhist monks in Cambodia and Thailand adapt rituals during pandemic. Retrieved from: <https://www.thestar.com.my/news/regional/2020/05/10/buddhist-monks-in-cambodia-and-thailand-adapt-rituals-during-pandemic>
  19. Statista. (2021). Number of novel coronavirus (COVID-19) confirmed, recovered, treated, and death cases in Thailand as of January 21, 2021. Accessed on 15 February 2021. Retrieved from: <https://www.statista.com/statistics/1099913/thailand-number-of-novel-coronavirus-cases/>
  20. World Health Organization (WHO). Coronavirus Disease (COVID-19) Dashboard – Thailand. Retrieved from: <https://covid19.who.int/region/searo/country/th>
  21. Department of Disease Control, Thailand. (2020, March 16). Measures under the Communicable Diseases Act B.E. 2558 (2015) to control the Coronavirus Disease 2019 or COVID-19. Retrieved from: [https://ddc.MOPH.go.th/viralpneumonia/eng/file/main/Communicable\\_Diseases\\_160320.pdf](https://ddc.MOPH.go.th/viralpneumonia/eng/file/main/Communicable_Diseases_160320.pdf)
  22. WHO Thailand, MOPH Thailand. (2020, 20-24 July). Joint Intra-Action Review of the Public Health Response to COVID-19 in Thailand. Retrieved from: <https://www.who.int/docs/default-source/searo/thailand/iar-covid19-en.pdf>
  23. WHO. (2020, December 11). Point of Entry Screening and Quarantine Systems Enabled Thailand to Control COVID-19. Accessed on 30 December 2020. Retrieved from: <https://www.who.int/thailand/news/feature-stories/detail/point-of-entry-screening-and-quarantine-systems-enabled-thailand-to-control-covid-19>
  24. UNICEF Thailand. (2020, August 7). Reaching out to migrant communities. Retrieved from: <https://www.unicef.org/thailand/stories/reaching-out-migrant-communities>
  25. Ministry of Public Health Thailand. (2020). Thailand's Experience in the COVID-19 Response.
  26. World Health Organization. (2020, August 11). Thailand Launches "New Normal" Healthcare System to Build Back Better After COVID-19. Accessed on 20 December 2020. Retrieved from: <https://www.who.int/thailand/news/feature-stories/detail/thailand-launches-new-normal-healthcare-system-to-build-back-better-after-covid-19>
  27. Health Administration Division, Office of Permanent Secretary, MOPH Thailand. Guidance for Handling of Human Remains of Confirmed or Suspected COVID-19.
  28. WHO (2020). Infection prevention and control for the safe management of a dead body in the context of COVID-19: Interim guidance.
  29. WHO. (2020). Rapid hospital readiness checklist. Retrieved from: <https://www.who.int/publications/i/item/WHO-2019-nCoV-hospital-readiness-checklist-2020.1>
  30. UN Office for Disaster Risk Reduction (UNDRR). (2016). Bangkok Principles for the implementation of the health aspects of the Sendai Framework for Disaster Risk Reduction 2015-2030.
  31. WHO. (2019). Health Emergency and Disaster Risk Management Framework. Retrieved from: <https://www.who.int/hac/techguidance/preparedness/health-emergency-and-disaster-risk-management-framework-eng.pdf>
  32. The Government Public Relations Department Thailand. (2020, November 9). Thailand's Proposal for the Establishment of APHEED. Retrieved from: [https://thailand.prd.go.th/mobile\\_detail.php?cid=4&nid=10353](https://thailand.prd.go.th/mobile_detail.php?cid=4&nid=10353)

## REFERENCES FOR FIGURES

**Figure 1:** CDC. Thailand: Traveler View. Retrieved from: <https://wwwnc.cdc.gov/travel/destinations/traveler/none/Thailand>

**Figure 2:** Figure adapted from DMS.

**Figure 3:** Bangkok Post. (2019, September 27). 24 provinces on alert in swine fever watch. Retrieved from: <https://www.bangkokpost.com/thailand/general/1759884/24-provinces-on-alert-in-swine-fever-watch>

**Figure 4:** NBC News. (2016, January 25). Thailand Fights to Prevent MERS Outbreak. Retrieved from: <https://www.nbcnews.com/storyline/mers-mystery/thailand-fights-prevent-mers-outbreak-n504061>

**Figure 5:** The Nation Thailand. (2020, May 9). 'Pantry of sharing' brings out spirit of helping in Thais. Retrieved from: <https://www.nationthailand.com/news/30387585>

**Figure 6:** Slumber Party Hostels. (2018, December 29). "Do the wai": How to wai properly in Thailand. Retrieved from: <https://slumberpartyhostels.com/how-to-wai-in-thailand/>

**Figure 7:** Figure developed from statistics WHO, Statista

**Figure 8:** Figure adapted from DMS.

**Figures 9:** WHO. (2020, December 11). Point of Entry Screening and Quarantine Systems Enabled Thailand to Control COVID-19. Retrieved from: <https://www.who.int/thailand/news/feature-stories/detail/point-of-entry-screening-and-quarantine-systems-enabled-thailand-to-control-covid-19>

**Figure 10:** WHO. (2020, 28 August). Thailand's 1 million village health volunteers – "unsung heroes" – are helping guard communities nationwide from COVID-19. Retrieved from: <https://www.who.int/thailand/news/feature-stories/detail/thailands-1-million-village-health-volunteers-unsung-heroes-are-helping-guard-communities-nationwide-from-covid-19#:~:text=The%20Ministry%20of%20Public%20Health%20manages%201.04%20million%20village%20health,during%20the%20COVID-19%20outbreak.>

**Figure 11:** Figure retrieved from DMS.

**Figure 12:** Figure adapted from DMS.

**Figure 13:** Figure retrieved from DMS.

**Figure 14:** Figure retrieved from DMS.

**Figure 15:** Figure retrieved from DMS.

**Figure 16:** Figure adapted from ADPC

## REFERENCES FOR COVER PHOTOS

**Image 1:** Retrieved from DMS: Team meeting to prepare the BCP plan of hospitals under the Department of Medical Services, MoPH Thailand

**Image 2:** Measures to prevent COVID-19 at Hua Chiew Hospital. Set the distance to sit and wait for the service: <https://www.facebook.com/HuachiewHospital/photos/a.253152934802691/2974205376030753/?type=3>

**Image 3:** Survey focuses on how agri-food companies are managing covid-19 pandemic: [HTTPS://WWW.FOODNAVIGATOR.COM/ARTICLE/2021/01/04/SURVEY-FOCUSES-ON-HOW-AGRI-FOOD-COMPANIES-ARE-MANAGING-COVID-19-PANDEMIC](https://www.foodnavigator.com/Article/2021/01/04/survey-focuses-on-how-agri-food-companies-are-managing-covid-19-pandemic)

**Image 4:** Reduce the chance of infection as much as possible by wearing Personal Protective Equipment (PPE). : <https://www.phukethospital.com/th/covid-19/>

# Annexes

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