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Policy Recommendations for Response Management of Primary Health Care System to the COVID-19 Pandemic in Southern Thailand

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Abstract

Primary health care system and health management played important roles in the Thai government's response to the COVID-19 pandemic. This study's research aims were to: 1) study the response management to the COVID-19 pandemic, 2) analyze the results and impacts of response management, and 3) make policy recommendations for the response to current and future pandemics. The study was conducted in sub-district (*Tambon*) health promotion hospitals in the 11th health region of Thailand. Using rapid ethnographic community assessment process, we selected informants involved in pandemic response management in the primary health care system. Step 1: Select 2 districts per province with different contexts, resulting in 14 districts. Step 2: Randomly select 1 Subdistrict Health Promotion Hospital per district by a random sampling. Step 3 Select specific information providers. The qualifications were those involved in managing the response to the COVID-19 outbreak. In the selected community, there were 12 people per community, totaling 14 districts (n=168). Data was collected by participatory observation, in-depth interviews, and a focus group discussion. Data were analyzed with qualitative content analysis and triangulation. Data were collected during November 2020 and April 2021, which measured to define containment zone areas. It has been used as a tool to control the spread of COVID-19. These zones were created to map and prevent local transmission.

Response management to the pandemic included: 1) providing knowledge about COVID-19 to health volunteers, 2) providing one-stop services in primary health care system, 3) using technology to take care of patients, and 4) utilizing surveillance measures in the community.

The impacts of response management included: 1) As a result of using prevention measures, endemic diseases such as dengue fever, respiratory diseases, and gastrointestinal diseases decreased; 2) There were economic problems, especially in tourism areas; 3) Promotion of job creation and the sufficiency economy principles occurred in agricultural areas; 4) New technology and innovations emergeda.

The policy recommendations to manage the response to the spread of COVID-19 included: 1) Organize a training course to develop health leaders in the area, 2) Have a policy to develop a telemedicine system, 3) Develop a collaborative information management platform, 4) Sub-district administrative organizations/administrators should consider creating a public health work group that accepts nursing or public health graduates directly.

Keywords: Policy Recommendations, COVID-19 Pandemic, Response Management, Primary Health Care System

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Introduction

The coronavirus 2019 (Covid-19) disease outbreak spread around the world, causing a large number of infections and deaths. The World Health Organization (WHO) declared a Public Health Emergency of International Concern (PHEIC) on 30 January 2020 (World Health Organization, 2020). On 11 July 2020, there were 12,322,395 confirmed cases of Covid-19 worldwide, with 556,335 deaths. The countries with the top 5 highest number of confirmed cases were the United States (3,097,300 cases), Brazil (1,755,779 cases), India (820,916), Russia (720,547), and Peru (316,448) (WHO1, 2020). The first confirmed case was a Chinese tourist on January 13, 2020 (Ratnarathorn A., 2020).

The Thai government released the Royal Gazette for COVID-19. The Gazette stated that Covid-19 was a dangerous communicable disease according to the Communicable Diseases Act B.E. The government declared a state of emergency throughout the Kingdom (Emergency Act) with various guidelines covering the whole country to manage and control the epidemic situation of COVID-19. The guidelines included closing risky places, enacting curfews to control people leaving their homes at specified times, controlling the number of participants in events to prevent overcrowding or promote social distancing (Government Gazette, 2020). In the early stages of the pandemic, Thailand showed success in controlling the spread of the COVID-19. Evaluation of these events showed that Thailand's success was due to defensive action, proactive work, and outbreak control. The urban area had strong medical resources. At the local community level, there was a strong basic public health infrastructure which included the primary health care system and community health systems. Sub-district health promotion hospitals and village health volunteers were the main mechanisms for driving health in the community (Thanakijcharoen P, 2020). Community health efforts included: 1) proactive disease control and communication, such as forming an integrated disease control plan, 2) adaptation and participation of network partners such as people, people's organizations, local government organizations, 3) local epidemic control, such as having a system of community doctors and village health volunteers, 4) designing a community health system (Chanthaphong S, Tongtui T, Sukruang K., 2020).

In the past, management of disease control in the primary health care system focused on reducing the birth rate and mortality from disease through various intervention measures. For example, measures included a disease prevention campaign, health check monitoring, and investigating the disease when an outbreak is found by a fast-moving surveillance investigation team (Surveillance and rapid response team: SRRT), and reporting a monthly summary of the disease situation to the disease control committee at the district level.

According to the Constitution of the Kingdom of Thailand, the national medical system should enhance people's basic knowledge of health promotion and disease prevention. There should also be adjustments to the health insurance system; changes should enable people to receive benefits from management and have equal access to quality and convenient services (Government Gazette, 2020). The primary health care system is therefore the first line of health care services that is closest to people. Primary health care serves people in the community by applying knowledge in medicine, psychology, and social sciences in a combination of health promotion, disease prevention, treatment, and rehabilitation.

There is an appropriate referral system and linkage between primary care system with the hospital. This system includes coordinating with local community organizations to develop people's knowledge of self-care and health promotion. People need the knowledge to take care of themselves when they are sick in a balanced way. The distinctive features of the primary health care system are 1) holistic care, 2) proactive work, and 3) a combination of promotion/prevention/treatment/rehabilitation work. Working with various organizations and mechanisms, the primary care system works: 1) to provide lifelong continuation of care, rather than focusing on treating once in a while, 2) working between the individual/family/community levels and connecting them to medical services at various levels, 3) implementing a variety of medical systems in the community, and 4) strengthening the community health system to be strong and self-reliant (Sriwanitchakarn S., 2020).

COVID-19 was an emerging disease that initially caused some people to panic because it directly affected public health, economy, and security. In addition, there were differences in responses in each area. We focused on the 11th health care area in Thailand, which consisted of 7 provinces, namely Chumphon, Ranong, Phuket, Pang-Nga, Krabi, Surat Thani and Nakhon Si Thammarat. The 11th health care area released a report on the performance of the primary health service system team during the COVID-19 pandemic. To deal with the COVID-19 crisis, proactive measures were arranged, such as door-knocking to find risk groups and provide

knowledge (106,123 people). Within the sub-districts, public health workers knocked on doors and provided surveillance for risk groups (1,147,322 people). Risk groups included those who traveled from risk areas (38,106 people), groups that were close to people in risk areas (15,232 people), those who made home visits to risk groups (75,521 people), etc. (Department of Health Service Support, 2020). Considering the context of the area, Health District 11 is geographically distinctive. In this district, there was an influx of foreign workers working in the tourism industry. There was also movement of the working population which affected the control of the spread of the disease. Although the government enacted measures to control the disease, there were still differences in the management of the outbreak control in each area. Sometimes there were still conflicts between the practices of each community.

The primary health service system in the 11th health district proposed appropriate and effective response management policies that can cope with the spread of COVID-19. Their policies can also be extended to other areas with adjacent contexts. Therefore, we focused on studying management in response to the spread of COVID-19 in the 11th health zone with the objective of researching the situation of analyze the results. The impact of countermeasures in the COVID-19 epidemic led to a synthesis of policy proposals for managing the response to the COVID-19 epidemic in the primary health care system. Data were collected during November 2020 and April 2021, which measured to define containment zone areas. It has been used as a tool to control the spread of COVID-19. These zones were created to map and prevent local transmission. They were identified by the Rapid Response Team (RRT) based on the extent of cases listed and mapped by them. There was a strict restriction on movement in these areas and the residents in these areas were asked not to step out of their homes except during medical emergencies and for essential needs.

The concept of roles and functions of the primary health care system linked to the public health system and the community network is applied to this research. We integrated the main concepts of 1A4C (Accessibility, Continuity, Comprehensiveness, Coordination, and Community Participation). Specifically, we focused on access to health services, continuity of service throughout life, one-stop service, coordination between parties involved in health management, and community participation in the primary health care system. Community participation has 3 components, namely: 1) good relationship with the community relationship, 2) creating knowledge for the people, 3) empowerment and quality services, or quality of care in terms of academic medical and social dimensions. The concepts are used to connect to achieve management efficiency in the situation of the COVID-19 epidemic.

Research Methodology

We conducted a qualitative study using the rapid ethnographic community assessment process (RECAP).

Study Design

We selected the study area in order to obtain comprehensive information according to the geographical context of the 11th health zone. We divided the zone into island and tourism areas, border areas, borders, gateways between countries, and industrial agricultural areas. The researchers defined the criteria for selection of research areas as follows:

Step 1: Selected 14 districts in Health Service Area 11. The area contained 7 provinces, namely Nakhon Si Thammarat, Surat Thani, Chumphon, Ranong, Krabi, Pang-Nga and Phuket. We chose districts in the context urban/rural community, agricultural communities/industrial communities/tourism and hotels, being a border area between districts/provinces/countries, community with and without COVID-19 patients in 14 districts.

Step 2: Selected 14 sub-districts from 14 districts of 7 provinces by selecting 1 sub-district for each sub-district hospital located in urban/rural communities, agricultural communities/industrial communities/tourism and hotels, being a border area between districts/provinces/countries, and communities with and without COVID-19 patients.

Step 3: Once the target sub-district was obtained, we coordinated with the site to inquire about the willingness of informants to provide informed consent to participate in the study. We shared our research ethical procedures with potential participants (Table 1).

Table 1. The participants were selected based on areas (n= 168)

Province	District	Subdistrict
Nakhon Si Thammarat	Mueang	Pho Sadet
	Bang Khan	Bang Khan
Surat Thani	Nasan	Tha Chi
	Koh Samui	Taling Ngam
Chumphon	Mueang	Hat Sai Ri
	Sawi	Khao Khai
Ranong	Kra Buri	Bang Yai
	La-un	La - un Nuea
Krabi	Mueang	Khao Khram
	Koh Lanta	Saladan
Phang Nga	Mueang	Noppring
	Thap Put	Thap Put
Phuket	Thalang	Choeng-Thale
	Kathu	Kamala

We selected informants with specific characteristics with respect to their involvement in managing the response to the COVID-19 pandemic. To represent the primary health care system in the community, we selected 12 people per area that included: 1) 1 person among district public health officers, 2) 4 people in *tambon* (sub-district) health promoting hospital staff, 3) 1 person in Permanent Secretary or president of subdistrict administrative organizations, 4) 4 people among village health volunteers, 5) 1 person among civil protection volunteers, and 5) 1 person among village headman representatives / village headman's assistants. There were 12 people per community were recruited, in total of 14 districts (n=168).

We administered a questionnaire to participants consisting of 9 aspects, namely: 1) health service provision, 2) non-communicable diseases (NCDs) patient care, 3) local people education, 4) medical waste management, 5) community surveillance, 6) management when there are people from risk areas, risk groups, and COVID-19 patients, 7) database connection, 8) facilitating and hindering factors, and 9) approaches/methods that need improvement.

We checked the quality of the interview form with 2 experts, namely the Deputy Director-General of the Department of Health Service Support and the Public Health Supervisor of the 11th Health Region. We evaluated whether they covered the correct content, and whether the information was complete or not. Then we made improvements according to expert suggestions. We conducted a small pilot study of the questionnaire among volunteers and staff at the hospital. We investigated whether the nature of the questions to be easy to understand.

Data Collection

Data collection using RECAP involved the following methods:

1) Observation to obtain detailed information about response of the primary health care system to the spread of COVID -19 by observing community coexistence and different people working together and utilizing various social capital. It is a phenomenon that shows interaction between people or the interaction of people with the environment and other community structures.

2) In-depth interviews with people who have direct experience and others who are indirectly related parties who benefit or are affected by the situation. We collected information that included opinions and feelings related to that situation. We asked questions to understand the ideas motivating some actions or behaviors. We asked for details and probed to cover all aspects. The researchers conducted interviews with leaders and people in the community. These interviews were with those who have direct and indirect experience in the situation of handling the COVID-19 epidemic response. We conducted 30-minute interviews with 3 people per area.

3) Group discussions for the informants on the issues that need to draw conclusions. We analyzed observation data and in-depth, 2-hour interviews of 14 groups. These groups contained people participating in COVID-19 epidemic response management. We reviewed our understanding of events and found explanations together.

4) Transcribed and analyzed data in each area. We performed triangulation of data, which includes data triangulation, investigation triangulation and methodological triangulation. We conducted content analysis and interpreted the results before going to other areas. After data in all 14 areas were collected, the researcher analyzed the content and interpreted the overall conclusion.

5) We returned information to participants in the study area. We also shared the conclusions obtained from the study as recommendations. We provided services for the trial area for 1 month. We provided suggestions for each area, as well as advantages, disadvantages, and improvements and suggestions to executives. We summarized research results for experts validate and possible policy recommendations.

Data Analysis

The researchers analyzed the qualitative data with qualitative content analysis. The analysis was carried out continuously throughout the research. We simultaneously collected audio with tapes. The researchers removed the tape from the audio recorder. Before analyzing the data, the researcher examined the data in two aspects: diversity and saturation. We also used auditing and data validation at all stages of the analysis, including triangulation, content analysis, and interpreting of the conclusion.

We examined four different aspects of trustworthiness of the data:

1) Dependability: The researcher is aware and should always be careful to avoid bias during the research. There is a data triangulation from all 14 data collection areas.

2) Transferability: The researcher selects informants who have experiences relevant to the topic they want to study. The researcher interviews them until the data is saturated. In addition, when presenting the findings, the researcher uses examples of text or words from informants.

3) Dependability: Participants can examine details of research activities or evidence.

4) Ability to verify results (confirmability): Participants can examine evidence such as tape recordings of interviews and field records. They can review information and findings with informants for reflection, analytical thinking, and summarizing the data.

Ethical Approval

When conducting research, the researchers take into account the ethical principles of human research. They are highly aware of the privacy rights of the research participants to prevent negative effects on the research participants. The researchers prepare themselves in ethics by attending the ethics training for research in human subjects. This research study passed the consideration of human research ethics of Boromarajonani College of Nursing. Nakhon Si Thammarat Research project Ext-01/2020 certified on 17 November 2020 - 16 November 2021.

Results

1. We identified countermeasures in response to the outbreak of COVID-19 by the primary health service system in the 11th health zone.

1.1 The countermeasures to reduce the spread of COVID-19 differed by type of geographical area as follows:

1) Island area and tourism: The 11th health zone has provinces that are next to the sea. This area is a world-famous tourist destination. The marine area is very important in the economy. There are many people living in the marine area, including the islands and coastal areas. Many people work in the sea, including both Thais and foreign tourists. Each year there are tens of millions of tourists comprise of latent populations. There is a potentially high risk of infectious disease. Disease prevention and control is complex and sensitive; such efforts must take into account many factors, including the diversity of races, languages, religions, beliefs, cultures. and traditions.

Island and tourism areas such as Phuket, Koh Samui, Koh Lanta implemented measures that other countries also took to control the spread of the COVID-19. These measures included limiting both domestic and international travel, as well as screening and control of COVID-19. In the island and tourism areas, the main emphasis was placed on access control measures in airports, ports, and entrances to the province. These entry points included Phuket Airport. Krabi Airport, Surat Thani Airport, Samui Airport, Phuket Pier, Koh Samui Pier, Krabi Pier, and Ranong Pier. There was a collaboration of many sectors including the Public Health Office administrative organization, the Tourism Association, the Hotel Association, and the Immigration Office. This collaborative established as an operations center to control, track and prevent the spread of COVID-19. The center developed innovations to follow both Thai and foreign visitors. For example, the Samui Health Pass was developed by hotel health volunteers (Volunteers for Foreign Workers) and health volunteers for foreign workers (VVs). They also established a working group for disease surveillance and control at the provincial, district, sub-district and village levels. This group provided more comprehensive screening and control of COVID-19.

2) Border areas, borders and international entry and exit points: In the Health Zone 11, the Chumphon and Ranong provinces comprise of a border area on the west side adjacent to the Republic of Myanmar. There are checkpoints and natural channels through which Burmese workers enter and exit. During the COVID-19 outbreak, these checkpoints in which citizens move back and forth play a part in the spread of the disease. Management guidelines for controlling the movement of foreign workers along the border is to set up an extraction checkpoint. Patrols are under the supervision and control of the Ministry of the Interior. The District Public Health Office is under the supervision of the District Chief.

Orders are received from the Provincial Disease Control Committee at the Disease Control Committee chaired by the Governor. There will be orders according to the resolutions of the committee on various surveillance prevention measures.

The district located in the western border area is a natural channel of transportation for Burmese workers. In the beginning, the border was not closed. However, the border was closed during the second round of the epidemic. There was surveillance to prevent smuggling into the area. There were 2 types of checkpoints to set up:

1) One type is a border checkpoint. A team of village chiefs, village headmen, village security officers, border patrol police at a bridge, soldiers on duty 24 hours a day are located at the bridge and patrol the border lines.

2) There is a community checkpoint. According to the Act, disease control officers take proactive action to control those coming from risky areas. Mainly local leaders who are legal officials, volunteers, and officers of the Public Health Hospital monitor people coming from risky areas. They comply with the requirements of the resolution of the provincial disease control committee. For example, they require some arrivals to quarantine separately. Volunteers observe if the arrivals have any disease symptoms. Health volunteers coordinate with the village headman to take care of physical, mental, and economic health of the arrivals and local community members. They inform the Subdistrict Administrative Organization (SAO) about which individuals and families are affected in order to coordinate taking care of people in the area together. The hospital focuses on providing knowledge and understanding about epidemics including information about self-care practices to prevent disease and takes care of the safety in the surveillance area at risk points. There is a budget from the Tambon (Sub-district) Health Security Fund to prevent COVID-19. This funding can be used by schools to by alcohol gel for disinfection and masks for students. The government also distributes survival bags to heal those affected. The Subdistrict Administrative Organization (SAO) and the local procurement obtains equipment such as thermometers and books. When no longer needed, the supplies will be returned to the Subdistrict Administrative Organization.

3) Agricultural, fishery and industrial areas: Most of the farmers in Health Zone 11 cultivated field crops, including rice, palm, rubber, and had fruit orchards such as rambutan, longkong, durian, mangosteen, and pineapple. Important industries include rubber, aquatic products, and vegetable oil. The west coast of Health Zone 11 only contains 15% of all factories in the South of Thailand. Industrial sites in this area include the rubber industry, the charcoal burning plant, the sawmill, and the fishmeal industry. However, industrial output is only 10% of the sector's total product. This is because most of the industrial factories in the south are small factories. The nature of the agricultural community of the 11th health zone is a community that lives together. There are kinship relations which results in people coming to see each other. There are visits and meetings of relatives both inside and outside the area. There are gambling games such as playing cards, cockfighting, and bullfighting. There are also foreign workers in both agriculture and industry.

Emergency Operations Centers (EOC) managed the spread of the COVID-19. At the EOC, there were 3 teams with a vertical command structure: 1) a district-level team, chaired by a district chief; 2) a sub-district level team chaired by a sub-district administrative organization; and 3) a village-level team, with the village headman as the team leader. The village team is the most important team.. Every team has a disease control officer according to the Department of Disease Control Act of 2015. There are screening points between provinces and measures to randomly inspect foreign workers in the factory through the head of the Human Resources (HR) department. Most of the workers are Burmese, with Burmese interpreters who can speak Thai. The head of workers will also help coordinate screening of workers.

1.2 Interactive management of the primary health care system The actions were as follows:

1) Educate the villagers. People in the area gained knowledge in the form of online training, knocking on the doors of people's homes, community radio broadcasting, publicity signs, and public relations vehicles in the community. There is a verification of the accuracy of information before distributing knowledge to volunteers and local residents. This is consistent with a study that found that during the COVID-19 outbreak, there was capacity development and education for relevant personnel, including public health personnel, public health volunteers, and network partners. The public accurately and quickly received knowledge that was specific to the disease. They also learned about disease prevention behavior called "the New Normal," which was different from the traditional practice (Ketdao R, Thangtrongdee A, Toin P., 2018, Klomjai Th, Kaewchaiboon Ch, Thaksika Chatchawarat T., 2020).

2) Health service provisions: The National Health Service Hospital had management measures when people received medical services. For example, the hospital set up screening points for people receiving services based on DMHTTA (Distancing, Mask wearing, Handwashing, Temperature check, Thai Chana contact tracing smartphone application) principles. There was a one-stop service treatment process in case of emergency or accident. Patients adjusted to the clinic service system to reduce congestion. Organizing the duty schedule system of the staff of the Royal Thai Police Hospital to reduce the risk. There is also a suspension of services that risk spreading infection, including Thai traditional medicine clinics. Dental clinic This is consistent with the study that found that One-stop fast service arrangement to support vulnerable groups such as the elderly and non-communicable disease patients Help reduce the steps that patients have to move to contact many departments. Reducing the length of time for patients receiving services at the hospital (World Health Organization, 2020).

3) Caring for chronically ill patients (NCDs) There are 2 groups of chronic patients in the community, namely the group receiving treatment at the main hospital. And the group receiving treatment at the STD Hospital, which in the COVID-19 situation, the STD Hospital considers home visits for chronically ill patients only as necessary. This is to prevent the risk of spreading the disease to patients. Before the appointment date, volunteers go to screen patients at home initially by checking body temperature, blood pressure, fingertip sugar puncture (DTX) at home and submitting the results via the application. Line group, the staff of the National Health Service Hospital will provide medicine and give volunteers. Delivery of medicines to patients at home This is consistent with many studies that found that Using technology for patient care and communication Using the LINE application for consulting with doctors, nurses and community health volunteers in various hospitals. This includes clinics and home health services. Make it possible to communicate with patients and help patients access more information. It also enables nurses to provide additional care and information between appointments. Remote consultation Health services delivery platforms are forms of service, such as texting or Picture via electronic mail or mobile phone (World Health Organization, 2020, Chidnayee S, 2021).

4) Community surveillance is a measure to control the spread of the disease. From the data collection, it was found that There are 3 types of surveillance measures in the community: 1) Setting up screening points in the area 2) Closing the area 3) Pre-entry screening in the community The management in the area comes from the participation of all sectors in the community. When there are people from risky areas, everyone must comply with community measures, that is, must report to the community implementation committee. To consider screening risks and follow the prescribed measures, such as a 14-day quarantine, which may be either a home quarantine or a local quarantine, under the supervision of a public health official. Or quarantine at the hotel (Alternative Local Quarantine) by coordinating with local health officials to organize staff training to become hotel volunteers (Aor Sor Ror.) to serve guests.

5) Management of foreign workers in the area, both in the service sector, agriculture, fisheries and factories, by training and educating the core migrant workers to be alien volunteers (Volunteers) in order to take care, give knowledge and advice on how to act for the workers. Alien This is in line with the research that found that It is managed by a surveillance system. Screening people who travel into the community Emphasize compliance with DMHTT measures, using the same data set. Finding patients in high-risk areas public area cleaning Arranging a place for placing infectious bins and storing infectious waste for destruction. Raise awareness and understanding of COVID-19 prevention in all channels and collaborate with community leaders in disease control and prevention (Juthong Sm 2020). And when the risk is found, the guidelines will be used to comply with the specified measures.

2. Outcomes and impacts of management in the COVID-19 epidemic situation of the primary health care system.

2.1 Results from controlling the spread of COVID-19 according to the DMHTTA measures to control COVID-19 It helps to reduce patients in dengue fever disappear. Respiratory disease and gastrointestinal disease Most of them have better health care than before. With more confidence from the people in the area and developed knowledge more self-care The community is up-to-date with the outbreak. Fear breeds panic. And become aware of taking care of yourself and your family in the early stages of the outbreak. No protective equipment because there is no way to manage the budget The disbursement was unclear, especially in the part of local government organizations. Affect the use of the budget cannot process Solving problems by SAO/municipality Organize training to sew cloth

masks. By inviting speakers with expertise come to educate and teach how to sew fabric masks to municipal members and volunteers, and distribute cloth masks to people in the community. There is budget support from the SAO/SAO. Food for people detained in the community And procurement of materials and equipment is fast. And the budget from the NHSO that helps the infected person to cover all treatment expenses Both treatment in hospitals, both public and private. Field hospital and treatment at home. The network of cooperation in the community is strengthened. Relationship between departments. The gap between people has decreased. Generate volunteerism in the community, especially in the public sector Both in terms of physical strength, mental strength, food support and operating budget Including the creation of volunteer spirits that have been trained and participated in the operation, namely Hotel Public Health Volunteers and Foreign Public Health Volunteers and the participation of religious organizations including temples, mosques, churches that provide detention centers in the community. Including the establishment of spiritual volunteers according to religious ceremonies to take care of people who died of COVID-19.

2.2 Economic impact. In terms of tourism, it has a huge impact. Due to the absence of tourists, the resort hotel establishment reduced the number of employees, with people losing their jobs and having no income to support their families. The tour boat business had to come to a halt. Affected businesses include: Room rental business, taxi business, hotel business, tour business, guide business, restaurant business, spa business, agricultural areas are less affected than other communities. Because there is still food to eat that is lacking. Can lead a normal life Agricultural crops will have problems with transportation and export such as pineapples, mangosteens, durians, bananas. Villagers will solve problems by selling online. Sell within the neighborhood There are additional costs associated with purchasing equipment for your child's online learning. And must be a teacher while studying online because the children still do not understand what the teacher teaches. Parents must learn along with their children in order to continue teaching correctly.

2.3 Career promotion (Sufficiency Economy Principle) People know more about money management. Go to the market once a week to buy and put in the fridge to keep cooking. Learn to make something for yourself. Turning back to using the sufficiency economy in their lives, such as growing vegetables or even living a simple life original way of life new career More and more people returned to their homes from working abroad for hire. Upon returning home, he turned back to farming, which was the original basis. Learn to live according to the concept of sufficiency economy. Improved relationship among family members.

2.4 Technology and innovation The Samui health pass application was created to track tourists in Koh Samui, the COVID WU program in the area of Nasan district. Surat Thani province is used in the event that people travel from other provinces into the area. Having communication through group lines will increase work efficiency. Make the use of various technologies / IT be more flexible.

3. Policy proposals for managing the response to the spread of COVID-19 in the primary health care system In the 11th health zone, namely:

3.1 Organize a training course to develop health leaders in the area. From the management of personnel in the agency to the implementation of the outbreak control at the same time with the service according to the roles and missions of the hospital, it was found that the personnel were insufficient in performing their duties. Because personnel have to work in the area to screen, control, prevent and treat epidemics. To increase the manpower framework, therefore, must focus on the people's sector network by doing the following:

1) Organize training for volunteers in the public sector, such as community health volunteers (VHVs), hotel health volunteers (VHVs), foreign health volunteers (VHVs), other community volunteer groups that play a role in prevention, control, spread of COVID-19 in the community Representing the public sector in disseminating knowledge and correct behaviors in the situation of the COVID-19 epidemic. So that the management is thorough and covers the entire population in the area tourist and foreign workers.

2) To manage the response to the spread of COVID-19 in the community, the Public Health Hospital should implement the guidelines for controlling the epidemic into concrete and clear practice. With participation from all sectors in the community and should increase communication skills and leadership skills for the team in the operation.

3) in the control of the outbreak of emerging diseases. Relevant agencies should consider the safety of workers who are at high risk of infection.

4) There should be a system for screening information and knowledge sets before disseminating information to the public. And

there should be a channel for distributing information diverse set of knowledge for the public to easily access.

3.2 There is a policy to develop a telemedicine system. From the situation of the epidemic of COVID-19 with social distancing measures Affecting patient care, such as drug administration in chronic disease patients. The hospital delivers drugs to the National Health Service Hospital and sends them through village health volunteers to chronically ill patients at home. There is a preliminary assessment of symptoms by volunteers and forwarding information through the LINE application to staff in the hospital. Problems encountered are the disabled, the underprivileged, the elderly, and bedridden patients. Which must be rehabilitated, physical therapy But due to the outbreak situation of COVID-19 causing the lack of operations in this section However, in home visits, home visits are only for emergency patients, such as bedridden patients who need to change feeding tubes, care for pressure sores, or have other complications that need to be further assessed by the staff of the sexually transmitted diseases (???) (STD) hospital. Which affects the quality of life of patients Therefore, there should be an application to follow up on home visits. Which is a 2-way communication to build confidence for caregivers on a regular basis in taking care of patients and knowledge must be developed caregiver's abilities in taking care of the disabled, the underprivileged, the elderly and bedridden patients through manuals or online knowledge media.

3.3 Develop a collaborative information management platform. By using a common epidemic control model and database that can be connected to the entire system in the health area 11 the public health officials and accessible to the public from collecting data, various issues were found. The interesting points are as follows:

1) Lack of data connection between the public health hospital community and the hospital resulting in obstacles to operations. Cause the operation to be delayed and redundant data.

2) Using different databases in the same area. Causing difficulties for both the data recorder and the informant and did not respond to the overall picture of the province.

3) From the data collected, it was found that some areas have developed innovations on databases that respond specifically to the epidemic control in case of people traveling in and out of the area.

(1) Develop COVID-19 Wu management plan This program can be connected to mobile phones or smartphones. The staff can go home to manage which province the person comes from, and have been isolated at home for 14 days. After completion, you can extract the information in the procedure to prove that you have been detained for 14 days and are ready to leave.

(2) Satellite connection to confirm the location of the detainees. Let the staff know how many people come from the foreign government today, how many people are there today in the 14th day, and where is their home? And can report information to the supervisor immediately.

3.4 Sub-district Administrative Organizations/Administrative Organizations should have a public health group that directly recruits graduates in nursing or public health. According to the Tambon Council and Subdistrict Administrative Organization Act, 1994 and the amendment of Section 67 (3), stipulates that the Subdistrict Administrative Organization is responsible for disease prevention and suppression of communicable diseases. In addition, Section 16 (6) and (39) of Section 16 (6) and (39) of the Act on Decentralization of Powers to Local Administrative Organizations B.E. Has the authority to promote, train and work in the profession, public health, family health. And medical treatment In the past COVID-19 epidemic situation, it was found that Locals have never used this clause. And was unaware that he had this duty But when the epidemic broke out, he brought this Act up and took it seriously. As a working weapon It was found that they did not understand the public health system, which was an obstacle to their work. If there is a person directly graduated from public health or nursing Responsible for the public health section in the SAO / Local Administrative Organization.

Discussion

Managing the COVID-19 Pandemic Response of the primary health care system According to the management guidelines of the primary health system This is done as follows.

1) Educating volunteers and people in the area with a way to provide knowledge both in the form of online training knocking on the door community radio broadcasting publicity sign public relations vehicles in the community and there is a verification of the accuracy of information before distributing knowledge to volunteers. And people in the area This is consistent with the study that found that in the situation of the COVID-19 outbreak, there is

capacity development and education for relevant personnel, including public health personnel. Public health volunteer Network partners and the public correctly and quickly, especially the knowledge that is specific to the disease and disease prevention behavior that is the New Normal that is different from the traditional practice. Which resulted in knowledge and disease prevention behavior (Ketdao R, Thangtrongdee A, Toin P., 2018, Klomjai Th, Kaewchaiboon Ch, Thaksika Chatchawarat T., 2020).

2) Health service provision: The National Health Service Hospital had management measures when people receive medical services. For example, hospitals set up screening points for people receiving services based on the DMHTTA principles. They created a one-stop service treatment process in case of emergency or accidents. Patients adjusted to the new clinic service system to reduce congestion. The staff of the Royal Thai Police Hospital organized their duty schedule system to reduce the risk. There is also a suspension of services that risk spreading infection, including Thai traditional medicine clinics and dental clinics. This is in line with a study by Soraphan Songsermpong (2020) that examined the effectiveness of providing one-stop, fast service to support vulnerable groups such as the elderly and non-communicable disease patients. One-stop service reduced the steps and number of departments that patients had to come into contact with. This type of service also reduced the time of patients received services at the hospital.

3) Caring for chronically ill patients (NCDs) There are 2 groups of chronic patients in the community: 1) the group receiving treatment at the main hospital, and 2) the group receiving treatment at the Tambon Health Promoting Hospital. During the COVID-19 pandemic, the Tambon Health Promoting Hospital conducted home visits for chronically ill patients only when necessary. This change was to prevent the risk of spreading the disease to patients. Before the appointment date, health volunteers screened patients at home initially by checking body temperature, blood pressure, and blood sugar levels via fingertip sugar puncture Dextrostix (DTX) test at home. Volunteers then submitted the patients' results via a web application, LINE group. The staff of the National Health Service Hospital provided medicine and gave them to volunteers to distribute to patients. The volunteers delivered medicines to patients at home. This is consistent with many studies that found that using technology for patient care and communication was effective. The LINE application was used by patients to consult with doctors, nurses and community health volunteers in various hospitals. This includes clinics and home health services. The application made it possible to communicate with patients and help patients access more information. It also enabled nurses to provide additional care and information between appointments through remote consultation. Health services delivery platforms are forms of service that include texting and pictures via electronic mail or mobile phone (Saraphan Somrongpong, 2020; Sasithorn Chidnayi, 2021; Department of Disease Control, Division of Non-Communicable Diseases, 2021).

4) Community surveillance is a measure to control the spread of disease. In our study, we identified three types of community surveillance measures: 1) set checkpoints in the area, 2) close the area, and 3) check before entering the community area. The management of the area comes from the participation of all sectors of the community. When there are people from dangerous areas, everyone must comply with the community's measures; that is, they must report the arrivals to the community's executive committee. The community public health staff would consider risk screening and taking prescribed measures, such as 14-day detention. This may include family isolation, local quarantine, or hotel quarantine in the charge of public health officials. Through coordination with local health workers, employees at hotels were trained to become hotel health volunteers.

5) Management of foreign workers in the region's service industry, agricultural industry, fishery industry, and factories. The government trained and educated foreign workers to become foreign health volunteers. According to the research findings, foreign workers were managed through the organizational monitoring system. Foreign workers were provided with knowledge and suggestions on how to receive treatment. There was screening of people entering the community, emphasis on compliance with DMHTT measures, and searching for patients in high risk areas. There were efforts to clean public areas, arrange for places where garbage of infected waste could be collected, and storage for infected garbage that would be destroyed. There were campaigns to raise awareness and understanding of COVID-19 prevention through all channels, as well as coordination of disease control and prevention with community leaders (Sunthornsuk and NongnuanPoolkasorn, 2021; Sumalee Judong, 2020; Narong Jaitieng, 2021). When risks were found, the guidelines were used to comply with specified measures.

Conclusion

The roles and responsibilities of the primary health service system that are linked to the public health system and the community network. They consisted of 3 components: 1) good relationship with the community (community relationship), 2) creating knowledge for the people (empowerment), and 3) and quality services (quality of care). In terms of academic medical and social dimensions, the primary health care system also integrated the main concepts of 1A4C: Accessibility (access to health services) Continuity (Continuity of service throughout life) Comprehensiveness (one-stop service), Coordination (coordination between parties involved in health management) and Community participation in the primary health care system. It was important that all stakeholders be connected to achieve the efficiency of the preparation. In this study, we identified policy proposals to manage the response to the spread of COVID-19. These proposals are based on data from sub-district health promoting hospitals in the 11th health region. The proposals are as follows:

1.Organize a training course to develop health leaders in the area. We should enable patients to access services during the COVID-19 epidemic efficiently. Patients were divided into 3 groups: 1) COVID-19 patients, 2) emergency or accident patients, and 3) general disease patients and chronic disease patients. There should be a system for screening information and knowledge sets before disseminating information to the public. And there should be a channel for distributing information and a diverse set of knowledge for the public to easily access. The local government organizations should have a system for managing vehicles to pick up and drop off COVID-19 patients.

There should be network partners that jointly manage primary health care units in the situation of the COVID-19 epidemic. Various agencies have different roles. Management can address the following issues: 1) Leadership development: leaders should adhere to the principles that benefit people; 2) Focus on reaching the public: Follow up on news and situations closely in order to make decision to solve problems. This can involve the provision of tools and protective equipment; 3) integrate management cooperation: This consists of integrating operations with relevant agencies and collaborating with local people.

2.There is a policy to develop a telemedicine system. In order for patients to receive continuous treatment, there is an application for tracking home visits. This application provides 2-way communication to build confidence for caregivers on a regular basis in taking care of patients. The application can help caregivers develop knowledge in taking care of the disabled, the underprivileged, the elderly and bedridden patients through manuals or online knowledge media.

3.Develop a collaborative information management platform for treatment covering all dimensions of the patient. This platform can provide comprehensive information management. It can use a common epidemic control model. The database can be connected to the entire system. When controlling the outbreak of emerging diseases, relevant agencies should consider the safety of workers at high risk of infection.

4.Sub-district Administrative Organizations/Administrative Organizations should have a public health work group directly recruiting graduates in nursing or public health to coordinate teamwork in systematic management in the community. Guidelines for putting epidemic control into action should be concrete and clear. With participation from all sectors in the community, the team in the operation should also increase communication skills and leadership skills. For the local administrative organizations / municipalities, emergency money category regulations should be established for managing the outbreak of emerging diseases.

Implication and suggestion

Suggestions for the policy recommendations

We suggested for policy recommendations based on the key findings, including:

1) Training and capacity building: recommendations for enhancing skills and knowledge of health care workers and community leaders.

2) Technology integration: suggestions for improving telemedicine and digital health solutions.

3) Collaboration and coordination: suggestions for better collaboration among health care providers, government agencies, and the community.

4) Resource allocation: advice on efficient use of resources and support systems.

Suggestions for the further study

1) There should be more research and development of innovative platforms that can assess, screen, care and monitor patients with emerging and/or chronic diseases.

2) There should be a study of the factors that promote and develop the potential of the non-governmental organizations (NGOs), as well as partnerships between NGOs and communities. There should be systematic management to create a feeling of ownership of the area, as well as build the potential and strength of the community.

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