

## BACKWARD APPROACH AND THE MANAGEMENT OF COVID-19 SECOND OUTBREAK IN THAILAND

Suree Nung-Alee<sup>1</sup>, ManasRanjan Behera<sup>2</sup>, Samrong Koonawoot<sup>3</sup>  
Budsayarut Puncreobutr<sup>4\*</sup>

<sup>1</sup>Faculty of Nursing, <sup>2,3</sup> Faculty of Public Health-St. Theresa International College, 1 Moo 6, RangsitNakornnayok Road, Klong 14, Bungsan, Ongkharak, Nakhonnayok 26120, Thailand

<sup>4</sup>The Secondary Educational Service Area Office 2, Bangkok

\*Corresponding Authors, Email: [budsayaratpun@gmail.com](mailto:budsayaratpun@gmail.com)

### ABSTRACT

The objective of this research is to study the causes of COVID-19 outbreak, to study the guidelines and the outcomes from deploying the Backward Approach in managing the new round of COVID-19 outbreak in Thailand. This is a qualitative research. The sample group of people used in this research consisted of those who are involved in the management of the outbreak such as, administrators of the Center for COVID-19 Situation Administration (CCSA), Provincial Public Health doctors in the 10 provinces of highest numbers of infected persons and in the 10 non-epidemic provinces and organizations or establishments where proactive search cases have been conducted. There were 66 key informants. The study has been done by in-depth interview, participated observation and non-participated observation in the 4 color-marked areas according to the severity of the outbreak in Thailand.

From the study it is found that 1) The causes of the new round of the outbreak consisted of the entry into Thailand of foreign workers, laborers of multi nationalities, self-smuggling in and out of the country of Thai gamblers to foreign gambling casinos situated along the borders of Thailand, and the social activities or events, set up in poorly ventilated enclosure and crowded places, neglecting the outbreak preventions and protections 2) The guidelines deploying Backward Approach in managing the second round of COVID-19 outbreak were set in 4 steps: Raising awareness and corporate societal responsibility, deploying societal responsibility measures, the use of integrated control measures, and deploying intensive control measures 3) The result from deploying the Backward Approach in managing the second round of COVID-19 outbreak in Thailand, it is found that the outbreak was under control within 6 weeks since the finding of the new infected persons by using only the 3 steps of the Backward Approach in: Raising awareness and corporate societal responsibility, deploying societal responsibility measures, and deploying integrated control measure. After the implementation of these 3 steps, the intensive control measures were de-concentrated and the new round of the outbreak was stopped within 2 weeks later. Only 8 weeks were needed to manage and control the new round of the outbreak. Significant success from deploying the Backward Approach in managing the second round of COVID-19 the outbreak in Thailand, resulting in the negative impact to the country's economy which is clearly much less than the impact in the first round of the outbreak.

**Key word:** Managing the COVID-19 outbreak, the new round of COVID-19 outbreak in Thailand

Received on 22 Nov 2020 revised and accepted on 27 Feb 2021

### Background

The first round of Covid-19 pandemic in Thailand was due to groups of patients with pneumonia whose cause cannot be found in Wu-Han city of Hubei Province, People's Republic of China. Since then, Thailand's Ministry of Public

Health has opened an emergency operation center and prepared to handle the threatening situation of the pandemic which might occur on the 4<sup>th</sup> January 2020 (WHO, 2020).

For Thailand, the first round of Covid-19 pandemic started at the beginning of 2020 where the outspread of the infection came from Wuhan

(NongnujSinghadecha, 2021; Thairath, 2021). The first infected case found was on the 8<sup>th</sup> January 2020 and the first death case was on 23<sup>rd</sup> February 2020. The Center for COVID-19 Situation Administration (CCSA) has announced various measures preventing and controlling the pandemic (KwanmuangGaewdamkerng, 2020). The situation of the infected pandemic was announced on the 12<sup>th</sup> March (ThummanoonNoojak, 2020) when there was an increase of infected persons. Then later, the Thai government announced the state of emergency according to the Emergency Decree on Public Administration in an emergency situation, in order to control the pandemic, such as, locked down the cities, effectively since the 26<sup>th</sup> March 2020 (KwanmuangGaewdamkerng, 2020).

The outcomes of the operations under the measures to control the pandemic are found that the crisis day of the first round of the pandemic was on the 3<sup>rd</sup> April 2020, the day when there were the most accumulated patients within 7 days, which were 842 cases in 7 days. The day, the 2<sup>nd</sup> May 2020 which was considered as the first day to be freed from the first round of the pandemic, when the count of new infected persons was decreased by 10 times from the most critical day. Meaning that it has taken only 29 days of conducting the operation to be out of the crisis and 110 days since the first infected person was detected (ThummanoonNoojak, 2020).

After having successfully controlled the pandemic, Thailand has de-concentrated the measures and allowed the foreigners needed to travel to Thailand, to be able to enter Thailand, but they must be detained in the government quarantine quarters or alternative quarantine places. It is found that not many of those foreigners entering into Thailand were found to be infected and if there were any infected cases detected, they were immediately transferred to be in the process of the treatments for infected COVID-19. Thus, the control of the pandemic was successful even though the pandemic situation was still severe all over the world (Krunthep-Durakij, 2020).

At the end of November 2020, there was a severe outbreak in Myanmar which is bordering Thailand with nearly 90,000 cases of accumulated infected persons. The increasing rate of new infected patients of nearly 1,000 cases per day and deaths of some 2,000 persons caused some anxiety from those involved in the control of the outbreak, that Thailand could be in a risky position to have a second outbreak. Both, from the migration of foreign laborers, illegally smuggling of people into

Thailand, smuggling of goods and from the casinos on the Myanmar side which attract workers and gamblers to go in-out of the country without infectionscreening checks (Krunthep-Durakij, 2020). Finally, the infected persons of COVID-19 were found from the Thai laborers who were working in the entertainment places at Ta-Keelek province in Myanmar, illegally going in and out of Thailand, and spreading the infection to those who were close by. It is found that on 25<sup>th</sup> November 2020 was the day when the second outbreak came into Thailand from abroad (Thairath, 2020).

At the time when there was a following up on the infected cases among the illegally entering and going out of Thai workers, laborers, it was found that the infection came into Thailand with those illegally entering Thailand but could be controlled to a certain extent. The Center for COVID-19 Situation Administration (CCSA) has evaluated that it was the infection from outside of Thailand, therefore, there was no announcement of the second outbreak then. However, when, on the 17<sup>th</sup> December 2020 (BBC NEWS, 2020) it was found that there were new infected cases of new species of COVID-19 in Samutsakorn province, in the central part of Thailand and new 576 accumulated patients on the 20<sup>th</sup> December 2020, and a total of 689 infected cases between 17-20 December 2020, the Ministry of Public Health has decided to make an official announcement of the second outbreak in Thailand (BBC NEWS, 2020).

The first infected person found was a 67 years old Thai woman who was a seafood vendor at the Klang-kung market at Mahachai sub-district, Samutsakorn province. But she did not travel anywhere in-nor-out of Thailand which meant that she was not the original cause of the outbreak, it was therefore, imperative to find the first infected person or the person who was the source of the infection which has been anticipated that it came from the Myanmar laborer working in the Klang-kung market, where the area is densely populated by Myanmar laborers (BBC NEWS, 2020).

With this new round of the outbreak, the Department of Disease Control, Ministry of Public Health, has set the 3 scenarios of the outbreak : 1) Situation of good protection of the infection (Spike), not many infected persons and can control the spread 2) Quickly conducted situations of controlling the infection (Spike with Small Wave), outbreak in small groups, the numbers of infected persons maybe big or small but it could be controlled within 3-4 weeks 3) Slow situation of controlling the infection (Spike with Big Wave),

widespread infection among the Thai people, finding 100-200 or more infected persons per day, needing a longer time to control the infection. From the above mentioned scenarios, the Center for Covid-19 Situation Administration (CCSA) has a disinclination to use the lessons learned from controlling the infection in the first round of the outbreak by deploying the Backward Approach of controlling the infection outbreak (hfocus, 2020).

The decision in selecting which of the scenarios or which measures to use in controlling the infection outbreak, in order to cut off the cycle of the new round of epidemics that spread to many areas, many provinces and many regions in Thailand, is a very interesting issue where it is of the researcher's opinion to have a study in deploying the Backward Approach in managing the new round of COVID-19 outbreak in Thailand. The findings will be beneficial and useful for the personnel in the public health field, the stakeholders, and the people, for the whole of Thailand and the other countries with similar context, to use as lessons learned in controlling the outbreak of COVID-19 which could happen at any time when a truly effective vaccine has not yet been discovered.

### Objective

1. To study the cause of the new round of COVID-19 outbreak in Thailand
2. To study the guidelines in deploying the Backward Approach in managing the new round of COVID-19 outbreak in Thailand
3. To study the success of deploying the Backward Approach in managing the new round of COVID-19 outbreak in Thailand

### Methodology

The Backward Approach research and the managing of the new round of COVID-19 outbreak in Thailand is a qualitative research. The researcher made the study with 3 groups of people: 1) 8 executives and those who are involved in managing with COVID-19 outbreak 2) Provincial Public Health doctors and doctors who perform at the provincial level, in the 10 most epidemic infected provinces and among the 10 non-endemic infected provinces. 50 staff and personnel who work in various establishments in the 20 provinces 3) A group of 8 executives of organizations or

establishments where there were infected cases from proactive search findings. Totaling 66 key informants. The researcher has used the Snowball technique in selecting the sample group in this research. The study is done by document analysis, in-depth interview, participated observation and non-participated observation in the 20 provinces of 4 color-marked areas according to the severity of the outbreak in Thailand which are green, yellow, orange and red. The data was collected between 20<sup>th</sup> December 2020 – 15<sup>th</sup> February 2021. The findings from the in-depth interview which has passed the Triangular test will be analyzed by content analysis techniques, to be used in the conclusion further.

### The finding

1. The study of the causes of the new round of COVID-19 outbreak in Thailand

The study of the new round of COVID-19 outbreak is due to the different of virus species from that found in the first outbreak and the causes do not relate to the first round of outbreak. From the findings by document analysis and in-depth interview, that the infection came from the neighboring countries, with 3 following main causes:

1.1 The entering into Thailand of the foreign laborers, both, in the manners of moving the foreign laborers around and smuggling in-out multi nationalities of foreign laborers, especially from Myanmar where many provinces are situated along the. Most of the laborers are residing in Bangkok, Samutsakorn and Samutsongkram areas. The infection was found in Samusakorn province, both among the groups of laborers and spread out to other provinces through the process of delivering shrimps from the shrimp market to many provinces nationwide. Most infected persons were infected from this group of people.

1.2 The illegally entry-going out of Thai gamblers to the casinos in the neighboring country along the border of Thailand through natural passage where there are many such areas especially in the northern and eastern regions of Thailand. At the beginning of this issue, the first infected case was found in a Thai call-girl who brought the infection into the northern part of Thailand and later, from the Thai gamblers who brought the infection from the casinos and it was quickly spread out. While the outbreak in the other provinces, came from the gambling place in Rayong province and spread widely to other provinces such as Chonburi, Chantaburi and

Bangkok and many other provinces all across the country. Apart from this, it was spread over to the other types of legal folk gambling places such as cockfighting in the central part of Thailand such as in Angthong province, increasing the numbers of infected cases but this cluster of infected cases is still less than that of the first group.

1.3 Engaging in social activities in the enclosed spaces and in crowded conditions, neglecting the epidemic prevention, is the cause of being infected from close contact with the infected group of laborers and the gamblers and with those close-by or people who are at high risk of transmitting the infection and spread it to other groups. Especially to those groups/clusters of people who engaged in the social activities where there are crowds of people in enclosed spaces such as entertainment places, restaurants, causing the epidemic to spread widely. The infection from this cluster is also spread to those in the families, living in the same house, buildings, to the colleagues at work, and to those who travel in the same transportations which is the cause of widely spreading to many other provinces across the country. The numbers of this infected cluster is similar to that of the gamblers.

## **2 . The study of the guidelines in using the Backward Approach in managing the new round of COVID-19 outbreak in Thailand**

From the study of document analysis and in-depth interview, it is found that the managing of both rounds of COVID-19 outbreak in Thailand, by Center for Covid-19 Situation Administration (CCSA), the managing of the first outbreak has designed the managing system into 2 parts: Preparation to be ready to handle the outbreak (not mentioning here in this research) and implementation of the measures to control the outbreak which consisted of 4 main steps: Using intensive control measures, using integrated control measures, societal responsibility measures, raising awareness and corporate social responsibility.

As for managing the second round of the outbreak which is a new round of the outbreak in Thailand, CCSA used the data from the first outbreak as a basis for the operation which is the Backward Approach deployed in managing the first round of outbreak. The management in this new round of the outbreak is named the Backward Approach. The Backward Approach in managing the new round of COVID-19 outbreak in Thailand consisted of 4 steps: Raising the awareness and corporate social responsibility, the deployment of

societal responsibility measures, the deployment of integrated control measures and the deployment of intensive control measures, as followed:

### **2 .1 Raising the awareness and corporate social responsibility**

Management at this step consisted of raising awareness of individual responsibility and awareness of social responsibility, to prevent risk factor of spreading the infection to members of the family, friends and acquaintances.

Raising the awareness of individual responsibility is a campaign for everyone to take action according to the DMHTT measure of: D: Distancing – keeping social distancing of at least 1.5-2.0 m., M: Mask wearing – wear mask at all times, H: Hand washing – regular hand washing with soap or hand sanitizer or alcohol gel, T: Testing – testing for the infection when travelled to risky area or having had the activities which might have been at risk of being infected, T: Thaichana- using the CCSA application of registering oneself when entering infected risk area, places, buildings and access to personal travel information. Apart from this, raising awareness in refraining or reducing travelling between, across the provinces, and also to be responsible when realizing that oneself has been in the infected risk places or having participated in the risky activities or events by self-quarantine for 14 days to observe the symptoms. If there is a sign of being infected, must go to the nearest hospital and reveal the travelling information in the past or give accurate time-line immediately.

Raising the awareness of social responsibility: That the CCSA has marked up the areas in the provinces with colors according to the severity of the risk of infection which consisted of green color (Surveillance area - No infected patient has been found), yellow color (Highly surveillance area – Less than 10 infected patients found), orange color (Controlled area – More than 10 infected patients found), red and dark red color (Highly, strictly controlled area- more than 20 infected patients found or more than one place in the area). In order to assist one another to be able to limit the infected risk areas, reduce the risky activities / behaviors that may cause infection, as well as preventing people in the least risky areas from entering the provinces with higher risk. Apart from this, it also encourages the provinces with the strictest control areas to color-mark different areas at the district and the sub-district levels, to prevent the epidemic of COVID-19 at the provincial level.



## 2.2 The deployment of societal responsibility measure

The societal measure is the measure to stop the transmission or the spread of the infection in the case of having found an increasing numbers of infected patients. The managing in this step to prevent the widely spread of the outbreak consisted of proactive search for highly infection risk people. Also giving the authority to the local organization to announce or issue orders within the responsible area: the governor of the province or communicable disease control officer and the security department of the area.

Societal responsibility measure set by the provincial office is by the governor of the province or the communicable disease control officer such as, issuing orders not allowing the locals to enter the infectious risky area or use infectious risky transportations, having the authority to order the temporarily closure of the sites, places or buildings being at risk of infection and transmission. To surveillance, check and screen the time-line of the people and the movements of the foreign laborers, according to the condition of each area.

Societal responsibility measure set by the security department of the area is by the head of the unit responsible for resolving emergency situations in relation to security such as, issuing orders not permitting any assembling together, having activities, or mingling in designated crowded places, orders of surveillance and monitoring, movements of foreign laborers, smuggling into the city, checking the establishments, no hiring of illegal foreign workers. To conduct according to the condition of each area.

## 2.3 The deployment of integrated control measure

The management in this step consisted of overall level of operation of the whole country and of the provincial level.

The management at the country's level is stated by the CCSA who implemented the integrated control measure in 4 areas: Strictest control area, control area, strictly surveillance area and surveillance area. That in the strictest control area; the implemented measure must be conducted strictly (such as checking, screening and controlling the use of transportation-routes in-out of the area. Leaving the area must have a document certifying the necessity). Implementing suppression and punishment for the offenders causing the infection outbreak (such as, smuggling

in the foreign laborers, neglect / omission of duty/ facilitate or conspire to open a casino in various areas, which is the original source of a clustered epidemic, causing an impact to the outbreak severely). The violators are subjected to a 2 years' imprisonment or a fine of forty thousand Thai Baht or both, a fine and imprisonment. In addition, infected people who intentionally conceal travel information, time-line or give false information that impede the investigation of the infection, resulting in the spreading of the infection, they are guilty of committing an offence according to the Communicable Diseases Act 2015. As for the other areas, de-concentrating the measures are implemented accordingly.

Management at the provincial level is the authority of the governor to consider and implement the suitable measures, deploying integrated control measure such as, the educational institution in the area is not allowed to organize any activities and/or events that risk the transmitting of the infection and at any other crowded enclosed places. Closure of entertainment places and where it is risky of the infection such as, illegal activities, especially gambling. Search and arrest those mingling, participating in the illegal activities. To accelerate the search for the infected cases and proactively investigate the infection in the infected areas and the areas connected, where the information is obtained from the investigation. To avoid/no travelling between or across the provinces, check points and screening of the person/s who came from the strictest control area, campaigning to work from home or lessen the numbers of workers in the offices.

## 2.4 The deployment of strictest control measure

The management in this step consisted of: Restrictions on opening-closing time of more places, close the places, establishments being at risk of infection, increased the intensity of the accelerated search and arrest those who mingle around breaking the law and those participating in activity or event with clusters of crowds. Increase the intensity control of people travelling across the provinces, stop the face-to-face teaching classes of educational institutions, accelerating working from home to its full potential, accelerate the search for the infected persons and proactively investigate the infection in the infected areas, risk activities/events, risk of infection group of people, as well as restricting the time going out of homes. All of these measures are within the area the governor of the province would state or according

to the Prime Minister or CCSA, in order to stop the outbreak.

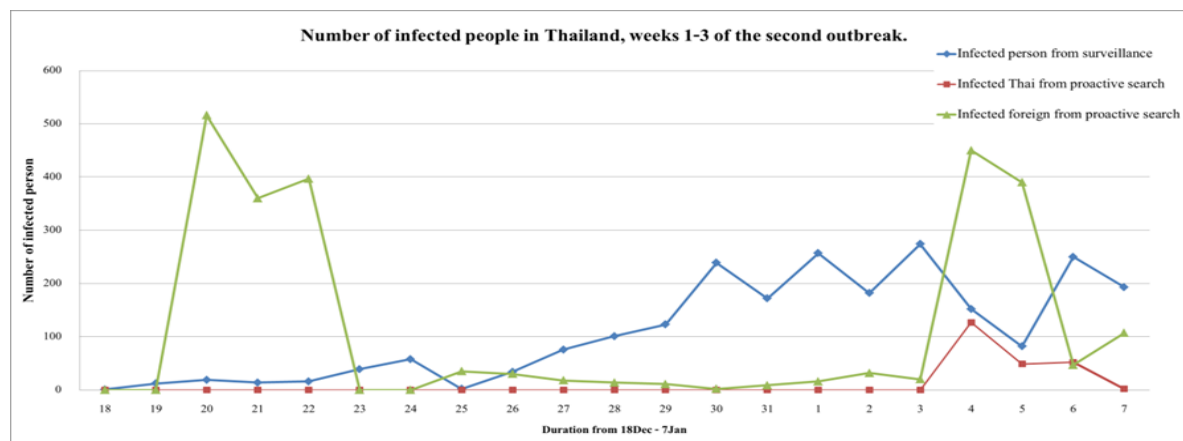
3. The study of the success in deploying the Backward Approach in managing the new round of COVID-19 outbreak in Thailand

The study of the success in deploying the Backward Approach in managing the new round of COVID-19 outbreak consisted of the study of deploying the Backward Approach in managing the new round of the outbreak and the study of success in deploying the Backward Approach.

### 3.2.1 The outcomes from using the deployment measures in the 1<sup>st</sup>-3<sup>rd</sup> weeks

The operation during 1-3 week was during the 18<sup>th</sup> December 2020 – the 7<sup>th</sup> January 2021 which was done in 3 main steps: Raising the awareness, corporate societal responsibility, deployed societal responsibility measure and integrated control measure. The outcomes are as shown in graph 1

Graph 1 shows the numbers of infected persons in Thailand during week 1-3 of the second round of the



outbreak (18<sup>th</sup> December 2020-7<sup>th</sup> January 2021), classified by infected persons by surveillance, infected Thai people from proactive search, infected foreigners from proactive search.

It is found from graph 1 that the deployment measure in step 1: Raising the awareness and corporate societal responsibility in the first week was used when there was a high number of infected persons from the surveillance group and from the infected foreigners from proactive search group, with the inclination that the spread of the infection in the surveillance group would increase. Therefore, the CCSA has implemented the second step of deployment measure, the societal responsibility measure on the 24<sup>th</sup> December 2020 (the 7<sup>th</sup> day of the new round of the outbreak). The outcomes from the second week of operation are that at the beginning, the numbers of infected

### 3.1 The deployment of Backward Approach in managing the new round of outbreak

It is found from the study that CCSA has deployed only 3 steps of the Backward Approach in managing the new round of outbreak, from the 4 set steps: Raising awareness and corporate societal responsibility, deploying societal responsibility measure, and deploying integrated control measure. The measure on intensive control was not used, as in the following details:

### 3.2 The outcomes from deploying the Backward Approach in managing the new round of COVID-19 outbreak

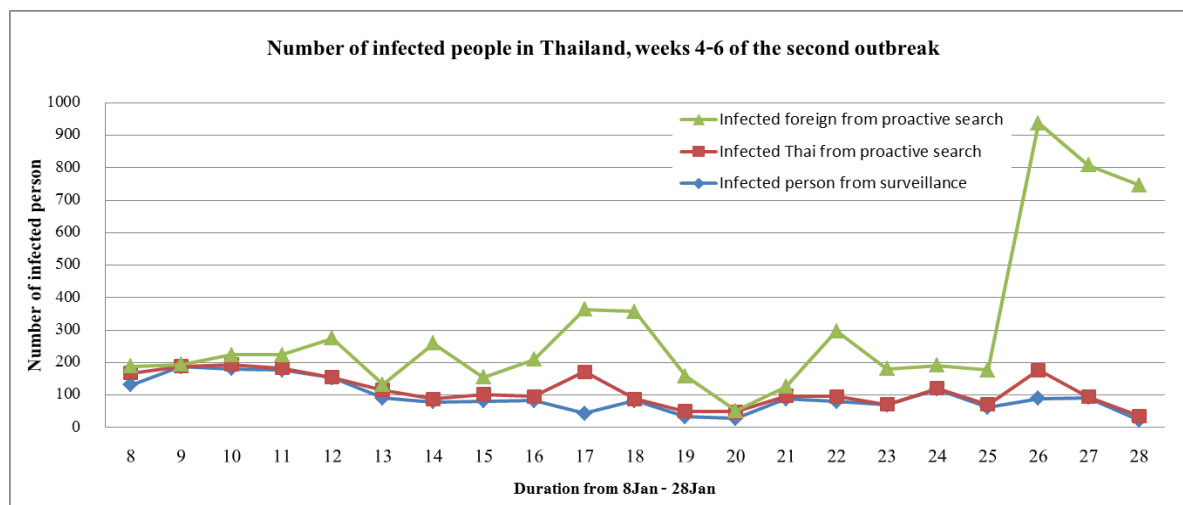
The operation during 1-3 week was during the 18<sup>th</sup> December 2020 – the 7<sup>th</sup> January 2021 which was done in 3 main steps: Raising the awareness, corporate societal responsibility, deployed societal responsibility measure and integrated control measure. The outcomes are as shown in graph 1

Graph 1 shows the numbers of infected persons in Thailand during week 1-3 of the second round of the

foreign persons from the proactive search group have decreased while there was a continuous increase in the numbers of infected persons in the surveillance group and a risk of continuously increase of infected persons in the 3 groups. The CCSA has then used the third step of deployment measure, integrated control measure on the 4<sup>th</sup> January 2021 (17<sup>th</sup> day of the new round of the outbreak). The outcome from deploying the measure in the third step is that, at the end of the third week, the numbers of newly infected persons in all the 3 groups tended to decrease.

### 3.2.2 The outcomes from using the deployment measures in the 4<sup>th</sup>-6<sup>th</sup> week

The operation during the 4<sup>th</sup>-6<sup>th</sup> week was between 8<sup>th</sup> – 28<sup>th</sup> January 2021 with only one important measures, deploying the integrated control measure. The outcomes of the operation are shown in graph 2



Graph 2 shows the numbers of infected persons in the country during the fourth to the sixth week of the second round of the outbreak (8<sup>th</sup>-28<sup>th</sup> Jan. 2021), classified by the group of infected persons from surveillance, infected Thai persons from proactive search and infected foreigners from proactive search.

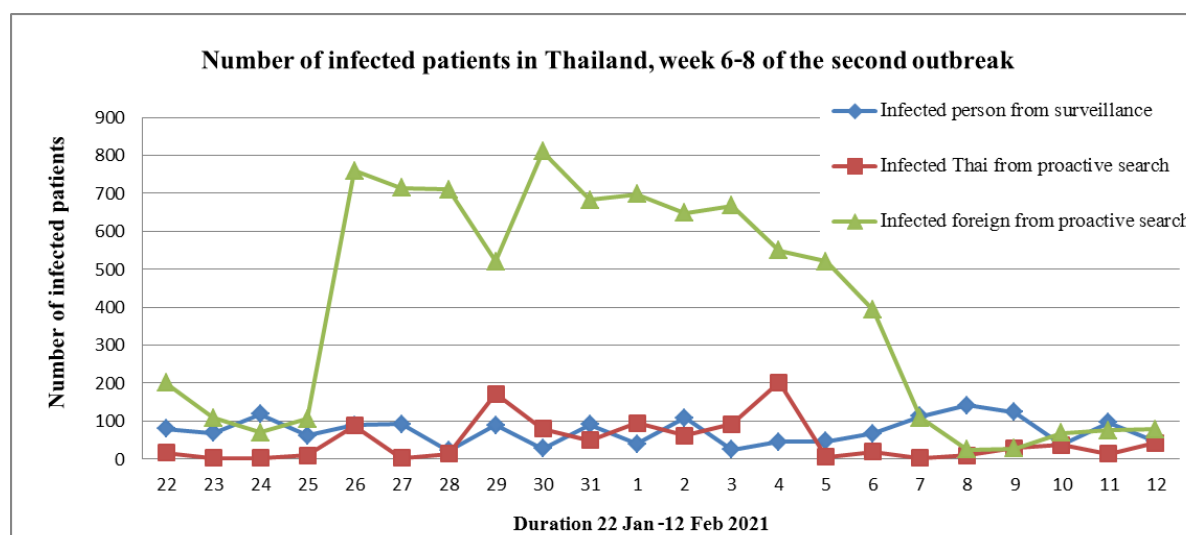
It is found from graph 2 that the deployment measure in step 3, deploying the integrated control measure, the outcomes at the end of the third week are shown that the number of newly infected persons from the surveillance group and the numbers of infected Thai persons from the proactive search group have decreased while the numbers of infected foreigners persons from the proactive search group tended to be

higher. Therefore, the CCSA has adjusted the action plan to prevent the spread of the outbreak with intensive proactive patient search in all areas, started on the 25<sup>th</sup> January 2021 (the 38<sup>th</sup> day of the new round of the outbreak) which was the cause of having found higher numbers of infected foreign persons from proactive search while the infected persons from the surveillance group and the infected Thai persons from the proactive search group have continuously decreased as can be seen clearly. The outcome from deploying the Backward Approach in managing the new round of COVID-19 outbreak in Thailand is to be able to control the spread of the outbreak within six weeks since the infection of this second round of outbreak was found.

### 3.2.3 The outcomes from using the deployment measures during the 7<sup>th</sup>-8<sup>th</sup> week

The operation during the 7<sup>th</sup>-8<sup>th</sup> week between 22<sup>nd</sup> January – 12 February 2021, consisted of 3 important steps: The deployment of integrated control measure, societal responsibility measure and raising the awareness and corporate societal responsibility. The outcomes are shown in graph 3

Graph 3 shows the numbers of infected persons in the country during the 6<sup>th</sup>-8<sup>th</sup> week of the second round of the



outbreak (22<sup>nd</sup> January 0 12<sup>th</sup> February 2021)

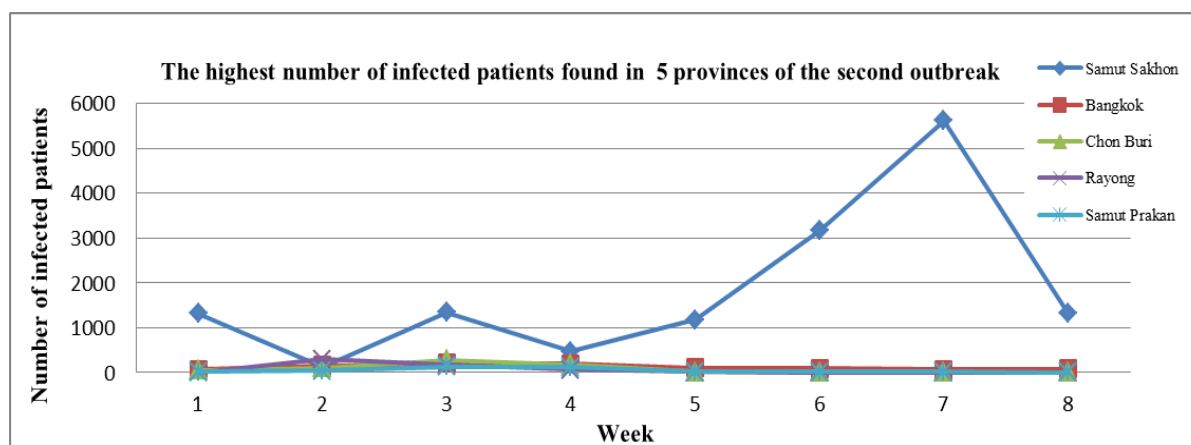
From graph 3, the outcomes of the operation in step 3 is the continuation of deploying the integrated control measure from the sixth week when there were more proactive searches for the infected persons, both among the Thai groups of people and the foreigners in all the areas of the country. It is found that at the beginning of the proactive searches, the infected Thai persons has increased but not much and has continuously decreased later. As for the infected foreigners group, it has increased at the beginning and later has continuously decreased also.

And when the CCSA reduced the intensity of the measure taken in the third step which is integrated control measure, to be concentrated integrated control measure on the 1<sup>st</sup> February 2021 (the 45<sup>th</sup> day of the new round of the outbreak) but the control is still strictly implemented in the first five provinces of infected persons in the country by deploying the second measure of societal responsibility measure. As for the other provinces, the first step of deploying the measure is raising the awareness and corporate societal responsibility. It is found from the outcome from the operation that, the newly

infected persons from the 3 groups could be controlled to be at a low level.

### 3.2.4 Overall outcomes from using the deployment measures during the 1<sup>st</sup>-8<sup>th</sup> week (Ending the second round of the outbreak)

Overall operation of using all the 3 steps of deployment measures in managing the new round of COVID-19 outbreak, considering from the outcomes during the whole eight weeks and from the outcome of the operation during the 8<sup>th</sup> week. That the outcomes during the whole eight weeks of operation, counting from the first day of finding the new round of infected persons, considering from the first highest numbers of infected persons in the first 5 provinces in the country where there were more than 250 cumulative infected persons during 18<sup>th</sup> December 2020 – 12<sup>th</sup> February 2021, as shown in graph 4. The outcomes of the 8<sup>th</sup> week operation, considering from the first highest 5 provinces in the country where there were highest numbers of infected persons, 10 new cases per day, during 5<sup>th</sup> February 2021-12<sup>th</sup> February 2021, shown in graph 5 as followed:



Graph 4 shows the

numbers of infected persons found in the 5 highest provinces, during the eight weeks of the second round of outbreak (18<sup>th</sup> December 2020-12<sup>th</sup> February 2021)

From graph 4 the outcomes from the operation in the 5 provinces in the country where highest numbers of infected persons were found, that in the Samutsakorn province where there were highest numbers of infected persons, having new infected persons nearly every week and less infected persons found in the eight week. Bangkok is the second province where there were

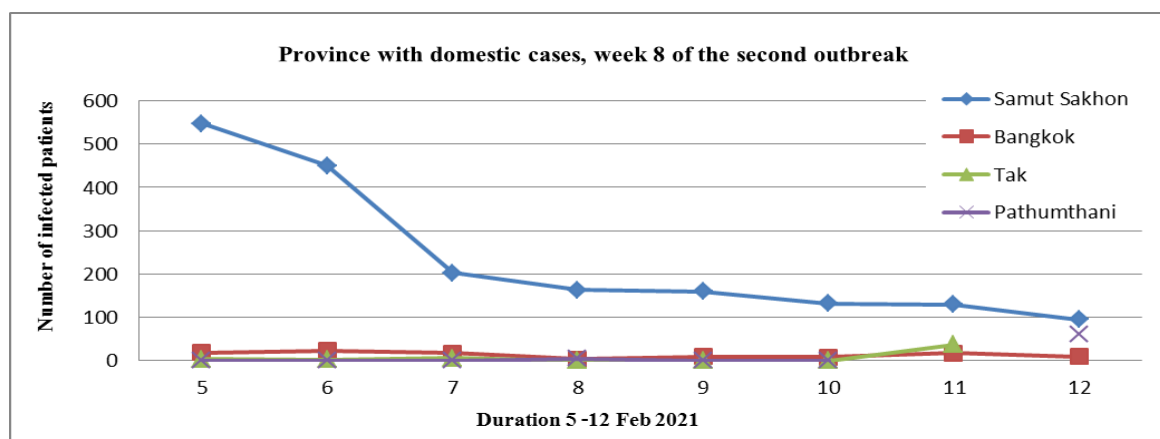
cumulative infected persons less than 100 cases per week and less during the 7<sup>th</sup>-8<sup>th</sup> week. Chonburi is the third province where there were less than 100 infected persons per week and less infected persons found during the 5<sup>th</sup>-8<sup>th</sup> week. Rayong, the fourth province in the country with less than 100 infected persons per week and less found during the 4<sup>th</sup>-8<sup>th</sup> week and Samutprakarn,



the fifth province with less than 100 infected persons per week and less found during 5<sup>th</sup>-8<sup>th</sup> week. It could be said that during the 14-day of

viral incubation period or in the last 2 weeks (7<sup>th</sup>-8<sup>th</sup> week) there were more than 100 newly infected persons in only one province, Samutsakorn

Graph 5 shows the



provinces where the infected persons were found during the eighth week of COVID-19 second round of the outbreak (5<sup>th</sup>-12<sup>th</sup> Feb. 2021)

Graph 5 shows the operation outcomes of the eighth week, considering from more than 10 newly infected persons per day in the province during 5<sup>th</sup>-12<sup>th</sup> February 2021, it is found that there were only 4 provinces with the highest numbers of newly infected persons and Samutsakorn province has the highest numbers of infected persons but finding less infected persons continuously each day. Second is Bangkok, overall, it tended to be only near to 10 infected persons per day. As for Tak and Pathumthani provinces, the newly infected persons were at a low level but by the end of the week the count was higher. However, considering at an overall count of the new infected persons in the eighth week, it tended to be less and at a controllable level.

Therefore, considering from graph 4 and graph 5, it could be said that the outcomes of deploying the Backward Approach in managing the new round of COVID-19 outbreak in Thailand, could be controlled within six weeks, counting from the time the infection was found. The Backward Approach was deployed with only 3 steps: Raising the awareness and corporative societal responsibility, societal responsibility measure and integrated control measure. After which, the de-concentration on the deployment of integrated control measure as a social responsibility measure, raising the awareness and corporative societal responsibility were implemented. It was able to stop the new round of

the outbreak within the following 2 weeks. It was, in total, only 8 weeks of operation in managing the new round of COVID-19 outbreak.

### 3.3 The key success of deploying the Backward Approach in managing the COVID-19 outbreak

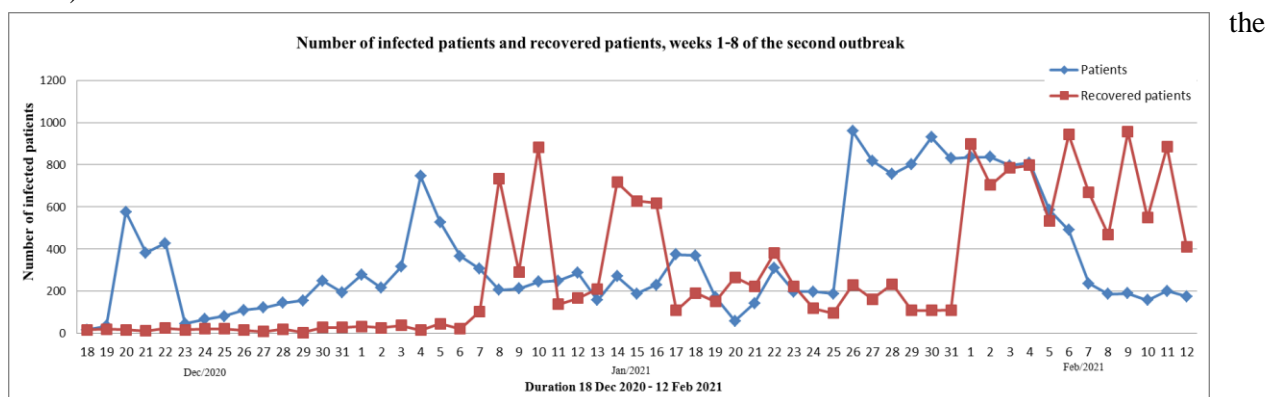
The key success of deploying the Backward Approach in managing the new round of COVID-19 outbreak, considering from the outcomes effecting the society from the operation by interviewing those involved in the matter at all levels, all agreed that there are important outcomes concerning the health of the Thai people, of the Thai public health and of Thailand's economy, as followed:

#### 3.3.1 The success concerning Thai people's health

The outcome from the interview with field operators, it is found that the eighth week of proactive search in the area, apart from not finding any new infected cases, but a number of local people in the area have anti-body/immune system or it could be said that Thai people started to have an immune system or anti-body that can resist Covid-19. Therefore, CCSA determines the search for those who have immunity in the area seriously by starting the search in Samutsakorn province of 8,000 persons per day, starting on the 15<sup>th</sup> February 2021.

#### 3.3.2 The success concerning Thailand's public health

The success concerning Thailand's public health considering from the statistic on the treatment of infected persons of the second round of COVID-19 outbreak, during the 8 weeks of operation, the outcomes are as shown in graph 6 and the outcome from the interview with the public health personnel. Graph 6 shows the numbers of patient and who were healed from the infection (18<sup>th</sup> Dec. 2020 – 12<sup>th</sup> Feb. 2021)



From graph 6 the outcomes of the operation during 3 weeks, it is found that the numbers of the healed persons are still at a very low level, comparing to the numbers of newly infected persons in each day. Later, from the fourth week onwards, the public health system of Thailand was able to develop the potential of treating more patients to recover, close to the infected numbers of the patient. Apart from this, the treating days to recover are less which means that the numbers of patient being treated in the hospitals are less, the hospitals are able and ready to accept new patients continuously also.

From the in-depth interview it is found that there has been the patient's treatment potential development and improving the efficiency of treating the COVID-19 infected patients. This occurs with the combination of many factors besides the promptness, rapidity of detection and confirmation of the test results, the doctor's selected medication in the treatment, techniques in providing the attention and care for the patients which are under the management of Thailand's Public Health. With decentralization from the administration at the ministry level to the health administration of the health district, facilitating for provincial groups in health zones. Providing assistance and cooperation in referring patients, sharing medical supplies, and pass-on the knowledge of treatment.

### 3.3.3 The success concerning economy of Thailand

The success concerning economy considering from the document analysis and interview with the stake holders in various provinces, covering all the 20 provinces with 4 color-marked areas, according to the severity of

outbreak in Thailand: Green, yellow, orange and red, during the 8 weeks of operation.

The outcome from the in-depth interview, it is found that, the persons who are involved in or the stakeholders in the 4 color-marked areas are of the opinion that using the deployment of Backward Approach in managing the second round of COVID-19 outbreak, has less negative impact to the economy of each province than that of the first round of outbreak. Even those provinces marked red or dark red could still make some business with some adjustment but do not need to entirely close the business.

The document analysis on economy, it is found from the reports of the commercial banks and the government owned banks that overall impact on the country's economy from the new round of the outbreak is less than that of the first round of the outbreak.

Therefore, from both, the study of the document analysis and from the in-depth interview, it is confirmed that using the deployment of Backward Approach in managing the second round of COVID-19 outbreak has less negative impact to the country's economy than that of managing the first round of the outbreak.

## Conclusion

The study could be concluded as followed:

1. The causes of the new round of COVID-19 outbreak in Thailand came from bringing in the infection from the neighboring countries and spread into Thailand, consisted of the following main causes:

1.1 The entering into the country of the foreign laborers, both in the ways of moving the foreign laborers around and the illegally

smuggling in-out of the country of the multi nationalities of foreign laborers, especially from Myanmar, where mostly came to reside in Samutsakorn, Bangkok and Samutsongkram provinces, where the infection was found mostly in these groups of people.

1.2 The illegally going in-out of the country of the Thai gamblers to the casinos situated along the border, in the northern and the eastern region of Thailand. The outbreak was spread into the illegally gambling places in many provinces. Most infected persons found in Rayong, Chonburi, Chantaburi and Bangkok provinces. As well as spreading to local legally gambling places such as Angthong cockfighting arenas, causing a high level of infected persons in the country.

1.3 Having social activities in enclosed area and crowded places. Having had contacts or were contaminated from the infected group of foreign laborers and the infected Thai gamblers, spreading out to those closed by, such as in the family, working colleagues in the same office, or participated in the same activities, events or travelling in the same public transportations.

2. Guidelines in using the deployment of the Backward Approach in managing the new round of COVID-19 outbreak in Thailand, defined by Center for Covid-19 Situation Administration (CCSA), with 4 steps of measure as followed:

2.1 Raising the awareness and corporate societal responsibility, in order to protect the risk factors of spreading the infection from family to friends and to the acquaintances. By being self-responsible individually such as, using D: Distancing, M: Mask wearing, H: Hand washing, T: Testing, T: Thaichana-CCSA's App. Being responsible in self-quarantine of 14 days when coming from or going into the infection risk area. To go and see a doctor near home if suspect of being infected and provide details of information, time line of whereabouts of the immediate past days. As for the societal responsibility measure: To cancel or sustain from travelling across the provinces or to go to any areas where CCSA has marked with risk of being infected colors, such as, orange (control area-found more than 10 infected persons), red and dark red area (highly, strictly control area-found more than 20 infected persons and there are more than one area), etc.

2.2 The societal responsibility measure is to stop the spread of the infection in the case of having found higher numbers of infected persons. In order to prevent a wider spread of the infection, this is the measure given the authority to the

concerned local organizations, to issue announcement or issue orders within the responsible area which are, the governor of the province or communicable disease control officer and the security department of the area. Not permitting the people to enter the infection risk area, do not use any transportation of infection risk, issue an order to close down the infection risk places or buildings temporarily, to stop the spread of the infection and to be on surveillance, check and screen the people and the movements of foreign laborers, etc. To be according to the outbreak condition of each area.

2.3 The integrated control measure consisted of overall operation at the country's level and at the provincial level. To control the outbreak, CCSA managed by deploying the integrated control measure in 4 areas of highly strictest control area, control area, highest surveillance area and surveillance area. That the highest control area must act with the strictest measures such as checking and controlling the going in-out along the routes in the area, suppression and punishment of offenders who cause the spread of the infection, punishment to those who intentionally give false information or do not give information of their timeline that hinders the investigation of the infection, etc. As for the provincial level, the governor has the authority to consider suitable measures to use in the area according to the integrated control measure.

2.4 Deploying the intensive measure in order to quickly stop the outbreak consisted of limiting the opening-closing time of the places, rapidly search and arrest people mingling, participating in illegal activities and in a crowded place without protection against the infection. Increase the intensity in controlling the travelling across the provinces, accelerating proactive screening and investigation of the infection, together with limiting the time of leaving or going out of the houses.

3. The outcomes of the success in deploying the Backward Approach in managing the second round of COVID-19 outbreak in Thailand, the researcher found that the success in the implementation of 3 key areas:

3.1 There were only 3 steps out of the set 4 steps, used in deploying the Backward Approach in managing the new round of the outbreak. That the fourth step was not used which is the intensive control measure.

3.2 The key success of using the deployment of the Backward Approach in

managing the new round of the outbreak is to be able to control the outbreak within six weeks, counting from the announcement of the second round of the outbreak and could stop the outbreak within the next 2 weeks later. Totalling the managing time for the new round of outbreak of 8 weeks.

3.3 The key success in deploying the Backward Approach in managing the new round of COVID-19 outbreak has resulted in three important aspects to the society: The Thai people's health aspect, it is found that a number of people in the infected area have anti-body to the infection or immune system to resist the COVID-19. In the aspect of Thai's public health it is found that, the efficacy of treating patients of COVID-19 has been improved and developed, using public health network in providing assistant, help and collaboration in referring, transferring the patients, sharing medical supplies and pass-on the treatment knowledge. In the aspect of success in Thailand's economy it is found that, deploying the Backward Approach in managing the new round of COVID-19 outbreak has had less negative impact to the country's economy than that of the first round of the outbreak.

## Discussion

From the study it is found that deploying the Backward Approach in managing the new round of COVID-19 outbreak could control the new round of outbreak within six weeks and could stop the new round of outbreak within 8 weeks. The finding of the infected persons per day is not high and even though the outbreak is in various provinces but not more than 4 provinces in a week, it is considered basing on epidemiology which is consistent with the concept of ending the outbreak in the first round, counting from the first day the infected persons have decreased by 10 times from the crisis point which is considered as the day free from the crisis of infection outbreak (ThummanooNoojak, 2020).

## Recommendation

### Recommendation to use further

From the study it is found that deploying the Backward Approach in managing the new round of the outbreak was used only with 3 steps out of the set 4 steps: Raising awareness and corporative societal responsibility, societal responsibility measure and integrated control measure, without having to deploy the fourth step

of intensive control measure. It is shown that the key success in managing the outbreak is mostly from the corporation of the people in assisting to limit the epidemic of the infection and could be quickly controlled. Therefore, the stakeholders in managing the control of the infection at the provincial level, health zones and the central part, should take the advantage of discipline, awareness, responsible and corporation of the people with CCSA, in developing the potentiality, to be a contributor to strengthen the country's primary health system further.

### Recommendation for further research

From the study it is found that the key success in deploying the Backward Approach in managing the outbreak has resulted in important aspects to the society: Thai people's health where it is found that a number of people in the infected area has the anti-body to COVID-19, in the aspect of Thai public health it is found that there is an improvement of efficacy in patient treatment by using the public health network and in the economic aspect it is found that deploying of the Backward Approach in managing the new round of COVID-19 outbreak, the negative impact to the country's economy is less than that used in managing the first round of COVID-19 outbreak. This is a qualitative research; there should be a quantitative research to confirm the outcomes further.

## Reference

- BBC NEWS.(2020). Covid-19: Public Health statement on New Round of Outbreak in Thailand, Infected Persons in Samutsakorn, nearly 700 cases in 3 days. Searched from <https://www.bbc.com/thai/Thailand-55383363> on 25th December 2020
- Hfocus. (2020). Watching "Samutsakorn COVID" Scenario of the New Round of Outbreak. Hfocus23rd January 2021. Searched from <https://www.hfocus.org/content/2020/12/20685> on 23rd January 2021
- Krungthepdurakij.(2020). Myanmar Border, New Round of COVID-19 Outbreak Infection Risk Area.Krungthepdurakij online 3 December 2020.Searched from <https://www.bangkokbiznews.com/news/detail/910770> on 19th December 2020.
- KwanmuangGaewdamkerng. (2020). Behavior of the World Population in the Times of COVID-

19 Crisis. Journal of the Association of Professional Health Education. 35(1): 14-23

Nongnuej Signhadecha .(2021). Asian Economic Turning Point in 2021, the Second Round of Coronavirus Poisoning. Prachachart-durakit 5 January 2021. Searched from <https://www.prachachat.net/world-news/news-584909> on 5th January 2021

Thairath (2021). Covid-19 Second Round of Outbreak, Thai people Do it to Themselves. Searched from <https://www.thairath.co.th/news/local/Bangkok/2005173> on the 3rd January

Thairath (2020). Chiangmai Thai Girl Friend is also Infected. Crossed Mae Sai Border Together. Police Jumped to File Charges. Thairath Online. Searched from <https://www.thairath.co.th/news/local/1985961> on 19th December 2020

Thammanoon Noojak. (2020). Thailand has Passed the 7 Days Crisis of COVID-19 Cumulative Cases. Siam Rath online 22<sup>nd</sup> January 2021. Searched from <https://siamrath.co.th/n/152174> on 22<sup>nd</sup> January 2021

WHO.(2020). The Joint Review during Public Health Operation Responding to the COVID-19 Situation in Thailand. <https://www.who.int/docs/default-source/searo/thailand/iar-covid19-th.pdf>

Received on 22 Nov 2020 revised and accepted on 27 Feb 2021