

ORIGINAL ARTICLES

Preventive Medicine System Reform: studying the establishment process of Provincial Center for Disease Control in Viet Nam

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ABSTRACT

Objectives: To study the development of the center for disease control (CDC) model at the provincial level from 2015 to the present, and to analyze pros and cons of the implementation of this model.

Methods: The study applied a descriptive cross-sectional design, combining quantitative and qualitative methods. Quantitative study applied self-administered questionnaires in 63 provinces across the country from April to July 2019, and qualitative study was conducted with 52 key informants through 15 in-depth interviews (IDIs) and 4 focus group discussions (FGDs) in Ha Noi, Lao Cai, Dak Nong, and Ba Ria-Vung Tau. Quantitative data was analyzed by SPSS while qualitative data was transcribed, coded and analyzed using Mindjet Mindmanager software.

Results: Preparation for CDC agenda setting and policy development was from 2012-2016, and the pilot was in 2017. By July, 2019, as many as 52/63 provinces have established CDC model, while 7 provinces were in process of approval, and only 4 provinces have not developed project proposal. In general, the implementation of the CDC model in provinces was on track of Vietnam Ministry of Health's roadmap. The implementation process was relatively quick, especially after the issuance of Circular No. 26/2017/ BYT. Some of the initial difficulties in implementation included a surplus of administrative personnel, unavailability of a head office, and financial management.

Conclusion: The implementation of the CDC model is relatively smooth and ensures the roadmap set by the Ministry of Health. The study recommends exchanges among provinces that have completed or going to have establishment of the CDC model to learn from each other and share experience for more effective task assignment, management and performance.

Key words: Center for Disease Control (CDC), Circular No.26, implementation, Viet Nam.

INTRODUCTION

Viet Nam is a low-middle-income country with a population of over 98 million in 2019 (1) and income per capita (GDP) is US\$ 2563.8 in 2018 (2). Disease patterns in Viet Nam have shifted from infectious diseases,

maternal and child health related diseases to non-communicable diseases and accident injuries. This is the main reason that the health sector needs to strengthen resources and system reform (3).

The health system in Viet Nam is organized into 4 levels: central, provincial, district and commune



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Citation: Bui Thi Thu Ha et al
Vol. 03, No. 04-2019, pp. 109-120

(2). At each level, the units are divided into two main groups: curative care and preventive medicine/public health and other services. While the medical examination and treatment system is organized according to the network of hospitals and the focal point is the Medical Service Administration at the Ministry of Health (MOH), the preventive medicine system is broken down into many separated centers (2-4). Before the policy of establishing the Center for Disease Control (CDC), at the provincial level, 6-12 centers were responsible for managing and operating health care or disease prevention programs in preventive medicine, such as the Provincial HIV/AIDS Control Center, the Reproductive Health Center, the Preventive Medicine Center, the Center for Health Education and Communication, the Center for Malaria, Parasitology and Entomology, the Center for Social Disease Prevention, the Center for Occupational and Environmental Health, and Center for International Health Quarantine, etc. (3). The fact of having multiple centers may create inconsistencies and difficulties in directing and implementing programs at the grassroots level (5).

In November 2015, the Ministry of Health and the Ministry of Home Affairs issued Joint Circular No. 51/2015/TTLT-BYT-BNV stating the establishment of the Center for Disease Control at the provincial level (CDC) on the basis of merging centers with the same functions (6). By June 2017, the Ministry of Health issued Circular No. 26/2017/BYT providing guidance on functions, tasks, powers and organizational structure of provincial CDC and the implementation roadmap towards January 2021 (7). Implementation of the CDC model is to respond to changes in morbidity and mortality patterns, and governmental administrative reform

requirements. This study was conducted to understand the process of establishing CDCs in the provinces from 10/2015 to 7/2019 and identify some difficulties and advantages during the first phase of implementation process (2017-2019).

METHODS

Study design

The study was conducted with a descriptive with cross-sectional design, combining quantitative and qualitative methods. Quantitative method aims to measure the number of provinces/cities that have established and will establish CDC, as well as measures of common difficulties and advantages during the preparation of establishment, and the initial phase after establishment of CDC. Qualitative method clarifies the difficulties and advantages after establishment.

Study sites and duration

Quantitative research was conducted in 63 provinces/cities across the country from April to July 2019.

The qualitative research component was performed in Ha Noi and three provinces of Lao Cai, Dak Nong and Ba Ria-Vung Tau, of which Lao Cai and Dak Nong have established CDC and Ba Ria-Vung Tau was preparing for establishment. This option covered 3 provinces that have been going through the process of establishing CDC in different stages (Lao Cai implemented the model before issuance of Circular No. 26/2017, Dak Nong implemented after issuance of Circular No. 26/2017 and Ba Ria-Vung Tau was preparing to set up CDC).

Data collection

Quantitative research: Self-administered questionnaires were sent to all provinces in Viet Nam. The contents of the questionnaire covering the establishment process, difficulties, and advantages of provincial CDC model were developed by the research team, and tested in Bac Giang province (the first province to establish CDC in Viet Nam). The revised questionnaires were emailed to all 63 Provincial Department of Health. The team obtained all 63 responses.

The 19-page questionnaire was designed for CDC managers (or to be completed by either Provincial Department of Health or Provincial Preventive Medicine Center if a CDC has not established in the province yet). The contents include the current status of CDC establishment, preparatory activities, merger plan, leadership, administrative and professional personnel, facilities, equipment, professional performance results, monitoring and evaluation. Each content includes policy content, stakeholders, implementation context and notes (if any). In addition, the advantages and difficulties in the preparation of the establishment process and the first phase of CDC existence are also designed for units to be self-administered. Each content has information regarding before and after the merging process and solutions which have been given.

Qualitative research: In-depth interviews and group discussions were conducted in four study provinces (see Table 1). The qualitative research component was aimed at in-depth understanding of some difficulties and advantages in implementing the policy.

Policies, decisions, schemes and reports related to the establishment of CDC at the

Ministry of Health, Provincial Department of Health, units of preventive medicine/disease control network in 4 selected provinces were reviewed. A total of 6 reports were obtained during the data collection and analysis.

Sample size and sampling

Quantitative study

All provincial health departments and preventive medicine units in 63 provinces were selected for receiving self-administered questionnaires. The research team collected 63 sets of questionnaires from 63 provinces/cities, of which 52 provinces have established CDC and 11 provinces have not completed the merging process.

Of the 63 provinces, 5 provinces did not complete all information about the situation before and after the CDC establishment. All those 5 provinces have not yet established CDC (in preparation or awaiting project approval). All data on the establishment progress of 63 provinces were included in the analysis (Table 2).

Qualitative research

In-depth interviews (IDIs) and group discussions (FGDs) of leaders and experts from the General Department of Preventive Medicine (GDPM), Ministry of Health and Provincial Department of Health, the preventive medicine units directly related to the establishment of CDC in Lao Cai (CDC established), Dak Nong (CDC established and put into operation) and Vung Tau (no project yet). A total of 52 people participated in in-depth interviews and group discussions, including 15 in-depth interviews and 4 group discussions (Table 1).

Table 1. Participants involved in the study

Institution	IDI	FGD	Number participants in FGD
Ministry of Health			
GDPM, Dept. Organization & Personnel	3		
Local			
Managers of CDC (Lao Cai, Dak Nong)	4		
Managers of Provincial DOH (Ba Ria-Vung Tau)	1		
CDC officers (3 provinces)	5		
Provincial DOH officers (Ba Ria-Vung Tau, Dak Nong)	2		
Head of CDC's departments (Dak Nong)		1	9
Head of CDC's departments (Lao Cai)		1	11
Managers of 5 centers to be merged (Ba Ria-Vung Tau)		1	6
Head/deputy head of different department of 5 centers (Ba Ria-Vung Tau)		1	11
Total	15	4	37

Data analysis

Data collected through the questionnaire were entered by EPI DATA 3.1 software and analyzed by SPSS against study criteria (frequency, percentage %). Qualitative data were recorded, transcribed and analyzed according to research topics.

Ethics approval

The study was conducted after being approved by the Hanoi University of Public Health Ethics Committee (Decision No. 273/2019/YTCC-HD3). All information is kept confidential. Information collected through in-depth interviews and group discussions is for research purposes only.

RESULTS

The preparation process of establishing CDC in Viet Nam from 2012-2016 is detailed in the Figure 1. The pilot model was implemented in 2017. To date (July 2019), 52/63 provinces across the country have completed establishment of CDC. Figure 1 summarizes the process for preparation and establishment of CDC. In particular, the CDC establishment project was consulted with experiences from China and the US through study tours by policy officials of the Ministry of Health in 2012. The idea of CDC establishment was conceived and approved based on evidence of scattered and independent centers within a preventive medicine network, in the context of limited budget context and difficult management (4, 5). The process of developing a circular guiding the establishment of CDC went through 2 phases: developing Circular No. 51/2015 on CDC model. Lao Cai

is the province that piloted Circular No. 51/2015 the earliest. Experiences of pilot model in Lao Cai were drawn by the Ministry of Health, and such experiences were used to develop Circular No. 26/2017 supplementing details of CDC’s functions and tasks.

In 2017, 3 provinces continued to pilot establishment of CDC. From 2018-7/2019, a total of 52/63 provinces have completed the establishment of CDC following the roadmap set by the Ministry of Health.

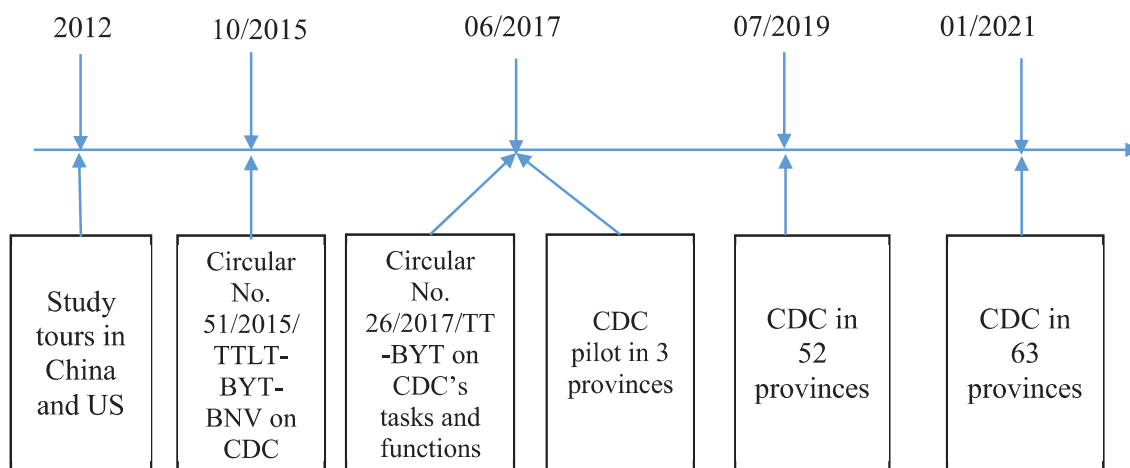


Figure 1: The process of establishing CDC in Viet Nam (2012-2019 and the plan until 2021).

The process of establishing CDC after the issuance of Circular No. 26/2017 in the remaining provinces is fast. The preparation process for CDC establishment in the province includes the following activities:

- Developing a project to implement CDC model led by provincial department of health (provincial preventive medicine center is assigned to be the focal point), focusing on developing job titles, staffing (leadership, management, technical/

professional, administrative), working office, equipment, and finance.

- Consulting related departments about CDC establishment proposal and submitting it to the Provincial People’s Committee for approval.

- Learning experiences on CDC establishment from provinces that have established CDC lately. A forum among directors of the Preventive Medicine Center is a place where information is shared and learned.

Table 2. CDC establishment progress in Viet Nam

Progress	N (N=63)	%
Already established	52	82.5
- Before Circular No. 26/2017	5	8%
- After Circular No. 26/2017	47	57%
Not established yet	11	17%
- Having approved proposal of CDC establishment	2	3%
- Having proposal of CDC establishment, but not yet approved	5	8%
- Proposal being developed	4	6%

Table 2 describes the CDC establishment progress in Viet Nam. In 2015, Circular No. 51 guiding the establishment of CDC at the provincial level on the basis of merging centers with similar functions was developed. However, the policy was not clear and until June 2017, then Circular No. 26 was issued providing detailed guidance on organizational structure and functions of the provincial CDCs. Five provinces (Bac Giang, Bac Lieu, Lao Cai, Ninh Thuan and Yen Bai) have actively established CDC model. By the time of this study was conducted (7/2019), most of the provinces have implemented CDC model, only 4 remaining provinces were in the process of project formulation.

The CDC establishment process was accelerated when the Ministry of Health developed a policy guiding in detail the implementation. In addition, the provinces also draw experiences from overcoming problems encountered by the pilot provinces to limit the difficulties in the respective locality. For example, in Lao Cai where CDC was piloted, the implementation process took a longer time than that of Dak Nong due to

lack of experience and detailed instructions. In the other two study provinces, thanks to detailed instructions and lessons learnt from other provinces, the preparation steps for the project were quite favorable.

Regarding the implementation process, one of the outstanding advantages is the new model that helps streamline focal points on preventive medicine in the provinces. The merging of many small centers into a single hub creates favorable conditions for centralized management as well as implementing the policy of streamlining the state payroll. The merger is also effective by reducing the number of managerial focal points in each province, from 3 to 7 units to a single focal point which is the CDC center, creating favorable conditions for program management and implementation. In this study, 40/42 provinces recognized the advantages of streamlining the administrative apparatus to effectively manage resources and technical/professional tasks (see Table 3).

The quantitative data shows that the majority of provinces (80-86%) reported their

achievement of professional performance targets in most of the assigned programs. The qualitative research data shows the similar results, basically, the performance of technical/professional tasks of the CDC after merging is relatively convenient because the tasks of small units are gathered into a common task of the CDC. A local official participating in group discussion shared as follows:

The model introduced by Circular No. 26 has similar activities with the previous activities of the individual units. After merging, tasks have not changed, but the scale is bigger, the decentralization is clearer. It is convenient because of the equivalence of functions and tasks of the model introduced by Circular No. 26 and 5 old centers. (FGD1_2).

Table 3. General comments on CDC model

Advantages	N (n=42)	%
Implementing the Party's policy on streamlining the system	40	95.2
Efficient use of resources (human resources, facilities, finance ...)	39	92.9
Advantages in implementing professional tasks	37	88.1
Advantages in management and administration	36	85.7
Overcoming overlap and omission of professional tasks	35	83.3
International integration	30	71.4

Table 3 describes some general comments from provinces regarding the advantages of the CDC model. Those advantages of the CDC are brought into play to solve the problems of the old model such as difficult management or overlaps in task execution. Similarly, the results from IDIs/FGDs in provinces show the same information. The first advantage voted by all levels is reduction of number of units and human resource (8).

The establishment of CDC has been emphasized with several advantages such as reduction of administrative unit number, cost saving, gathering highly qualified personnel to perform tasks, and improvement of work efficiency. The number of administrative

personnel at the unit with such positions as accountant, driver, clerk, etc. can be reduced. A key informant from the Ministry of Health highlighted:

Firstly, it is possible to reduce the number of administrative personnel and increase the number of professional staff. Secondly, the model helps us to reduce administrative costs and improve efficiency ... (IDI_MOH2).

The merger is also effective for directing and monitoring the implementation of individual programs, overcoming the overlapping problem in the old model, saving resources in terms of time and cost.

Previously, the program of preventing malnutrition has 2 coordinators in 2

centers (reproductive health and preventive medicine centers). In many cases, the two leaders were not well-matched. When the program was implemented, the process was delay because 2 centers had 2 timelines and different ideas. Another thing is that

the district level has directions coming from 2 focal points at provincial level for implementation of 1 program. The CDC model will merge two focal points into one so as to implement activities easier and quicker. (IDI_LC4).

Table 4. Difficulties in CDC model implementation

Difficulties	N (N=39)	%
Difficulty in arranging redundant administrative personnel	28	71.8
Difficulty in retaining good health professionals	16	41.0
Difficulty in management of multiple units due to differences in management styles	15	38.5
No leadership training for leaders	9	23.1
No clarity on financial mechanism	8	20.5
Others	4	10.3

Among 39 provinces that responded to the self-administered questionnaire about the barriers in implementing the CDC model, the issue of personnel management was most frequently reported. As many as 28/39 provinces found that it was difficult to deal with redundant administrative personnel, or difficult to retain well qualified professionals (16 provinces, 41%), or difficult to operate due to different management styles (15 provinces, 38.5%). Each center used to have from 10-20 people working on administrative tasks: clerical, planning, accounting, driving. After the merger, these positions became redundant. Most of the provinces choose a solution to build a scheme that is suitable for the job positions/titles and all employees of the unit. Leaders of all centers have tried to encourage people to keep themselves stable to work.

The qualitative data is quite similar to the quantitative data on the difficulties in human

resource management after the merger. The personnel arrangement needs to be done very carefully because in Vietnamese culture, a person is considered as being dismissed if that person moves from the position of director down to deputy director. Many leaders directly tried to encourage their officers, so that everyone can feel secure to work. A leader of the Ministry of Health shared as follows:

For example, when directors now only act as deputy directors, their enthusiasm becomes less. (IDI_MOH_3).

In addition, as many as 8 provinces reported the unclear financial mechanism when different center merged into new CDC. Because each former unit had different revenue/expenditure scheme, agreement of a general mechanism when merging into new CDC has not been reached. The qualitative

data presents the contradicted attitudes of health workers. Those who are in centers with low revenue were happy with the merger, while those in centers with high revenue (such as center for International health quarantine) had the opposite feelings. Therefore, except for mandatory merging units required by the circular, in some provinces, the international health quarantine center still operates independently after the establishment of CDC. The qualitative data also reports the situation that before and after the CDC establishment, the financial mechanism has not attracted good health professionals. The reason was that the revenue of the preventive medicine system is mainly based on the state budget allocation and from some programs. Many highly qualified doctors who wish to transfer to the curative care system or the private health care system for a higher salary.

For provinces that have not yet established CDC, the main reason is that the proposal of CDC establishment has not been approved by the Provincial Department of Home Affairs (Example: Ba Ria-Vung Tau) or the proposal is in revision phase (due to the division into several merging stages along the roadmap towards 2021).

DISCUSSION

The establishment of the CDC is a major innovative policy of the health sector that meets many goals. Reforming the preventive medicine system towards the general orientation of the world, approaching in a holistic way, performing the main functions of public health, and meeting the needs of innovation in the market economy are an inevitable trend. Countries in the region such

as China and Thailand have well operated CDC and Viet Nam has learned from their experiences. The CDC name chosen as it is called internationally has shown the integration trend of the model.

The study results show that the establishment of CDC at provincial level in Viet Nam has basically overcome the problems of the old model such as reducing the number of focal points in each province to retain only one focal point for program implementation. For example, surveillance of a cholera epidemic outbreak needs at least 2 units, namely the Provincial Preventive Medicine Center and Provincial Food Administration to coordinate activities such as surveillance, case management, specimen collection, and food testing. The integrated coordination in the old model was time-consuming due to administrative procedures, which might reduce the efficiency of rapid response to the outbreak. The convergence in a new focal point helps the units to actively coordinate, manage and perform technical/professional tasks.

The merger has also helped to increase the efficient use of resources: redundant offices have been transferred to other provincial agencies for use, and staff number has also decreased. These activities complied with the spirit of Resolution No. 39 of the Party Central Committee (8) and Resolution No. 19 of the Politburo on reforming the organizational system, management and improvement of quality and performance of public non-business units (9). The saving of resources, the increase in efficiency, and the performance were quite similar to the results in China in 1998 when CDC Shanghai was established on the basis of merging 7 other units (10).

The basic functions of public health have been effectively identified and operated in the new CDC model such as: sentinel surveillance and epidemiology, environmental health, detection, investigation, control of epidemic outbreaks, vaccination, control of risk factors for non-communicable diseases, provision and management of basic clinical services (HIV and TB prevention, reproductive health), health education, rapid response and technical support (11). However, these functions have not been clearly shown in the guidelines for CDC's functions and tasks. Currently, those functions and tasks are just limited to the mechanical combination of merged preventive medicine units' functions and tasks (12). This issue should be given continuing review and adjustment in the coming period for our integration with the world.

The process of establishing CDC after issuance of circular No. 26/2017 was fast and convenient due to detailed instruction on the structure, functions and tasks of the provincial CDC model. The roadmap for implementing CDC model in the provinces is expected to be completed by 2020. As of July 31, 2019, about two-thirds of the time in this roadmap has elapsed and CDC has been seen in 52 provinces. Among the remaining provinces, only 3 provinces are currently working on the project proposal. Therefore, by December 31, 2020, the remaining provinces will surely complete CDC establishment.

Provincial CDC faced some difficulties in the early stage after establishment. The most significant one is the difficulty in arranging administrative personnel and leadership positions. However, these difficulties can be overcome by arranging, transferring and

providing ideological support to the former leadership. The difficulty of retaining highly qualified staff is also a point mentioned by many provinces.

The financial mechanism after the merger was not clear, and there was a difference in revenues and expenditures between individual centers. Therefore, in the first phase of the merging process, high-income units like the Center for International Health Quarantine did not want to merge into the system. The study noted that in some provinces, such as Lao Cai, the Center for International Health Quarantine did not merge into CDC (this situation is not in-line with the Ministry of Health policy).

In addition, because the CDC also has no other sources of revenue than from the state budget allocation and health programs, it has not attracted and retained highly qualified people, especially doctors. In order to carry out professional tasks on disease prevention and control, the health sector needs specific regimes and policies on training and remuneration (14). In order to fill in the gap of human resource and leadership skills, the Vietnam Ministry of Health has implemented training programs and courses on health management provided by the Health Professionals Education and Training for Health System Reforms Project (HPET) to support leaders of Provincial Department of Health, Hospital leaders and CDC leaders, and they are solutions to support provinces in establishing CDC (15).

The initial implementation of CDC model in Viet Nam has only been seen at the provincial level, so the model is not quite similar to the world's CDC model as seen in China

or the United States (16, 17). In the future, the Ministry of Health should consider establishing a CDC at central level to synchronize the management system as well as giving technical support to lower levels, collecting information and monitoring the operation of the CDC in the locality. Vertical health programs need to be organized, managed, and monitored in compliance with the world trends such as primary prevention, community-based rather than healthcare facility-based, and accurate collection, periodical data review to provide evidence for policy development (18).

This study has the advantage of pointing out the results of the CDC model implementation schedule as well as pointing out the initial difficulties and advantages of the newly established CDC. This is the evidence to help the provinces that have not established CDC to learn and draw experiences when pursuing the establishment process in reality. However, one of the limitations of the study is that positive/negative impacts of CDC implementation model on the task performance have not been stated. Furthermore, the study did not assess the context and the reason for the delay in development of proposals in some provinces due to the fact that the self-administered questionnaire design did not include this question item. Finally, the study only focused on the service delivery side without assessment of the service users compared to the previous model.

CONCLUSION

The process of preparation for establishing CDC is relatively favorable and quick, especially after the issuance of Circular No.

26/2017 detailing the process of merging different center into CDC at the provincial level. Research results in the provinces show that the implementation of the CDC model has basically achieved the set goals: reducing redundancy, increasing the effectiveness in management and administration to avoid overlapping tasks, and in saving resources. Some initial difficulties when implementing CDC model are related to the redundancy of administrative personnel, the unclear financial mechanism, and less attraction for doctors to work. In general, CDCs have completed their tasks and basically overcome the problems posed by the old model.

The study recommends that CDC leaders should exchange experiences and lessons learnt among provinces that have implemented CDC model so that their task assignment and performance could be more effective at CDC in the provinces. In addition, further studies should assess the impacts of the CDC on the task performance when the CDC is stabilized, and the effectiveness of the CDC based on user feedback in order to provide a full picture of this model.

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