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Human Resources for Commune Health Centers as per National Standards: The Case of Vietnam

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ABSTRACT

Vietnam is among a few countries which have established a model of Commune Health Centers (CHCs) to serve primary health care for all people. Using quota sampling technique, 30 CHCs per each among nine provinces nationwide were equally selected for data collection to assess human resources for CHCs as national standards in Vietnam. A total of 239 CHCs finally completed the survey. Overall, the average number of Health Care Workers (HCWs) in each CHC was 6.3 ± 1.7 , which met the national standards (at least five HCWs per CHC). However, only 24.4% of CHCs had 5 required job positions, and 59.7% of CHCs had at least one doctor. These shortages were more emerging in mountainous and remote areas. Further, mountainous and remote areas have been underrepresented of female HCWs, as compared to those in rural and urban areas. Our data provide a quite strong case for policy makers and health managers to improve human resources structure for CHCs.

Keywords: Human resources for health (HRH); Commune health center (CHC); Community health services; Healthcare workers; National standards; Vietnam

INTRODUCTION

According to the World Health Organisation (WHO) [1], a health system should work as a machine and only as a machine, it can work effectively. The system can be enumerated in six building blocks which serve as inputs for the system as presented in Figure 1, including health workforce, health information, essential medical products, vaccines and technologies, health financing and leadership and governance, and health services. Under this structure, all kinds of input are important and inevitable as they are linked to and affect one another like a machine. Of all inputs, however, human resources for health play the most important role. When in a systematic structure of all organizations, people and actions, the primary interest of the system is to maintain and/or advance health.

In Vietnam, the network of healthcare system has been organized in a different way. As structured, it is in four levels: central, provincial, district and communal [2]. The district and the communal level are sometimes called grassroots level. In most developed countries, the system of general practitioners or practicing primary care physicians including family doctors has served people at a community level, and it has worked quite effectively, while in Vietnam, it is the role of Commune Health Centers (CHCs). As the first technical health level of the system, CHC is acting as a “gatekeeper”, which is able to manage most of people’s needs for primary health care [3]. In 2012, 76% of CHCs had doctors, increasing 6% in comparison with that in 2010. In 2018, 87.5% of CDC had doctors, yet still in shortage [4]. By contrast, there was a decrease in the rate of CHC having midwives, the figures were approximately 93.4% and 95% in 2012 and 2011, respectively [5,6]. During the past 10 years, most

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CHCs in Vietnam have been in shortage of health workers given demotivating factors, such as low conditions [7] and unsatisfactory rewarding [8]. As the human resource is one of six components of the healthcare system, which decides both quantity and quality of the services, it is important to find ways to attract them to CHCs in order to perform all their tasks.

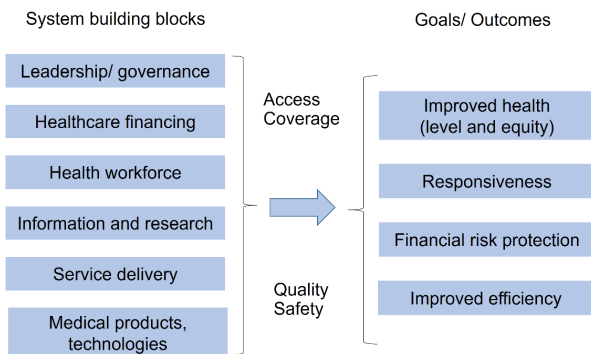


Figure 1: The WHO health system framework

In 2002, the first version of Vietnamese national standards for CHC was introduced by the Ministry of Health [9], and the updated version of it was issued in 2014 [10]. Under this policy, each CHC has at least one medical doctor, at least five health workers, and at least five job positions, including a medical doctor, an assistant doctor, a nurse, a midwife, and a pharmacist. With these standards, it has been expected that CHCs will prepare their human resources and function well in the grassroots health system.

A recent study using the WHO's Service Availability and Readiness Assessment (SARA) tool in a rural district of Vietnam [11] revealed the average number of health staffs in CHC there met national standards (at least five HCWs per CHC), yet its distribution within each CHC was not properly met as some CHCs had only two HCWs. While a majority of primary health care services were available at these CHCs, several health equipment and facilities were not completely available, given their readiness remained limited.

The study has urged health managers and policy makers to prioritize efforts and to allocate resources, especially more investment and support from the system (from higher to lower level) and the government is needed. To date, however, there has remained a lack of research investigating human resources working in CHCs on a nationwide scale in developing countries. The objective of this study was to examine human resources for CHCs as national standards in the case of Vietnam.

METHODS

Study design and setting

A cross-sectional quantitative study was conducted from May to October, 2014 in eight provinces: Ha Giang, Hoa Binh, Thai

Binh, Ha Tinh, Quang Nam, Binh Duong, Kien Giang, Kon Tum, which represented eight ecological regions of Vietnam nationwide: Northeast, Northwest, Red River Delta, North Central Coast, South Central Coast, Southeast, and Mekong River Delta, Central Highlands, respectively. All CHCs from each province were surveyed in terms of human resources for health.

Study subjects and sampling

After selecting eight aforementioned provinces using quota sampling technique, we chose 30 CHCs per province, which were equally divided into urban area, rural area and remote area. A minimum number of 30 CHCs per province were surveyed based on Bailey's proposal on minimum sample size for a quantitative study. A total of 239 CHCs completed the survey, giving a response rate of 99.6%.

Measurements

Key measures were developed based on the Vietnamese national standards for CHC. The key indicators included the average number of health workers per CHC, the percentage of CHCs having a medical doctor (or physician), the percentage of CHCs having enough five job positions (medical doctor, assistant doctor, nurse, midwife, pharmacist), and the percentage of CHC health workers by key characteristics, gender, age group, working experience and being trained.

The average number of health workers was computed by all health workers in 8 surveyed provinces divided by 239 CHCs. The percentage of CHCs having a medical doctor was made by counting all CHCs which had at least a medical doctor working there and was then divided by 239 CHCs multiplied by 100%. The percentage of CHCs having enough five job positions and distributed by key characteristics were also computed similarly.

Data collection

Prior to the survey, the field researchers were trained to become familiar with the key contents of the research, survey methods, sampling methods, study subjects, noting the responses of study subjects. In total, 239 CHCs (30 CHCs per province × 8 provinces = 239) were surveyed. Each interview lasted about 20 minutes. During the survey, some key investigators were present in the field to supervise data collection.

Data analysis

The descriptive statistics are analyzed and displayed in tables and charts to describe human resources for health currently working in CHCs. Oneway ANOVA and χ^2 tests were used to compare means and proportions of human resources for health characteristics across different areas. Significant level was set at $p \leq 0.05$.

Research ethics

The project from which this research has been conducted was approved by the Health Minister according to Decision No. 5099/QĐ-BYT dated 19 December 2013. The research was also

ethically and scientifically approved by the Scientific Panel, whose members came from different entities (Ministry of Health, National Institute of Hygiene and Epidemiology and Association of Economic Sciences in Vietnam) in accordance with Decision No. 68/Q-D-GAVI dated 19 May 2014.

Before the main survey, the subjects were clearly informed of goals and contents of the study. Respondents were also informed that their participation was completely voluntary and they would leave the study anytime if they did not want to continue. All collected information was kept confidential and only served for the research purpose.

RESULTS

Table 1 showed the average number of health workers working in each CHC by provinces and compared this indicator by areas. As seen, each CHC had about five health workers in all provinces per CHC.

However, delta provinces appeared to have more health workers per each CHC than mountainous and coastal provinces. Comparing across three areas, there were significant differences in the average number of health workers per CHC between urban, rural and remote area in most provinces, in which urban areas had more health workers than rural and remote areas, except in Hoa Binh province.

Overall, the average number of health workers was highest in the urban area, followed by the rural and the lowest by the remote (p=0.000).

Table 2 showed the percentage of CHCs having a medical doctor and enough five adequate job positions, medical doctor, assistant doctor, nurse, midwife, and pharmacist.

To be specific, close to 60% of CHCs had a medical doctor and 24.4% of CHCs had enough five job positions as required by the Vietnamese national standards for a CHC in which CHCs in remote areas reported the lowest proportion of having five job positions (p=0.015).

Table 3 showed the distribution of commune health workers by key characteristics and compared this by resident areas. Most health workers were females, aged 30-50 years, experienced less than five years or more than 15 years (a gap between these groups), and received at least one training since they have worked in CHCs.

When looking at resident areas, women were more likely than male counterparts to work in rural CHCs; urban health workers were more likely than rural counterparts to receive training for work.

Table 1: Average number of health workers per CHC by key provinces

Provinces (n)		Total (X ± SD)	Urban (X ± SD)	Rural (X ± SD)	Remot e (X ± SD)	p-value (One-way ANOVA)
Delta						
Binh (30)	Duong	7.6 ± 2.3	9,0 ± 1.6	6.6 ± 2.3	7.2 ± 1.8	0.025*
Kien Giang (30)		8.0 ± 1.7	8,7 ± 1.6	7.9 ± 1.5	7.1 ± 2.0	0.133
Thai Binh (30)		5.9 ± 1.5	6,1 ± 0.8	6.5 ± 1.4	4.7 ± 1.8	0.019*
Mountainous and Coastal						
Ha Giang (30)		5.3 ± 1.0	5.6 ± 0.7	5.6 ± 1.2	4.8 ± 1,0	0.132
Hoa Binh (30)		6.8 ± 1.3	5.9 ± 0.6	7.3 ± 1.3	7.2 ± 1.5	0.025*
Ha Tinh (30)		5.2 ± 0.6	5,0 ± 0.0	5.2 ± 0.8	5.6 ± 0.5	0.059
Quang Nam (30)		5.3 ± 0.8	5,0 ± 0.0	5.8 ± 0.8	5.0 ± 1.2	0.063
Kon Tum (29)		6.1 ± 1.1	6,5 ± 1.4	6.0 ± 0.9	5.6 ± 0.7	0.194
Total (239)		6.3 ± 1.7	6.5 ± 1.8	6.4 ± 1.6	5.5 ± 1.4	0.000***

*Note: one of the Vietnamese national standards for CHC is at least five health workers per CHC

Table 2: Percentage of CHCs having a medical doctor and enough five required positions as national standards of CHCs

Indicators	Total (n=238)		Urban (n=81)		Rural (n=97)		Remote (n=60)		p-value (χ2 test)
	n	%	n	%	n	%	n	%	
Having a medical doctor	142	59.7	43	53.1	64	66.0	35	58.3	0.211
Having five adequate positions †	58	24.4	23	28.4	27	27.8	8	13.3	0.015*

†As per Vietnamese national standards of human resources for CHCs: each CHC is required to have at least five job positions: doctor, assistant doctor, nurse, midwife, and pharmacist. * $p \leq 0.05$

Table 3: The percentage of CHC health workers by key characteristics

Indicators	Total (n=1405)		Urban (n=501)		Rural (n=603)		Remote (n=301)		p-value (χ^2 test)
	n	%	n	%	n	%	n	%	
Age group									
<30	327	23.3	124	24.8	133	22.1	70	23.3	0.024*
30-50	899	64.0	298	59.5	396	65.7	205	68.1	
>50	179	12.7	79	15.7	74	12.3	26	8.6	
Gender									
Female	1056	75.2	417	83.2	464	76.9	175	58.1	0.000***
Male	349	24.8	84	16.8	139	23.1	126	41.9	
Working experience									
≤ 5 years	164	32.7	184	30.5	85	28.2	433	30.8	0.176
6-10 years	78	15.6	125	20.7	77	25.6	280	19.9	
11-15 years	67	13.4	88	14.6	54	17.9	209	14.9	
>15 years	192	38.3	206	34.2	85	28.3	483	34.4	
Having trained in the last two years									
Yes	1220	86.8	436	87.0	536	88.9	248	82.4	0.024*

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

DISCUSSION

Community Health Workers (CHWs) has a critical role to play in primary health care delivery in many countries, particularly in Low and Middle-Income Countries (LMICs) [12,13]. Each country may have its own standards of human resources for community health system. However, a common principal question for research perhaps applicable to any countries is how the situation would be or whether community workforce is sufficient and competent in a country. In Vietnam, our study indicated an appropriate number of HCWs in CHCs, but emerged a shortage in required job positions. The average number of HCWs among CHCs in urban, rural and remote areas of Vietnam was adequate as compared to 5 persons per CHC in Vietnamese national standards in 2014 [4,10]. Furthermore, we found much higher values than those reported by Nguyen et al. [14], which was 4.2 HCWs per CHC in a northern province in Vietnam. This might be due to the effort of the government to enhance coverage of primary healthcare

services for the disadvantaged and vulnerable areas in the past decade. With the commitment to providing universal healthcare which focuses on disease prevention, the government of Vietnam has been pursuing a number of policies to strengthen recruitment and retention at grass-root level of healthcare system [2], such as improving health infrastructures and raising allowances for HCWs in these areas, annual rotation of skilled physicians from higher hospital to CHCs, upgrading assistant doctors to doctors, selecting local people for becoming community health workers, forcing new graduated medical students to work one to two years in disadvantaged areas. However, our study indicated a lack of physicians in primary healthcare settings: only nearly 60% of CHCs had a general practitioner. Similar levels of physicians were indicated in a recent report from Vietnamese Ministry of Health [15] that only 67% of CHCs had a GP. Additionally, we found only nearly 25% CHCs had enough five job positions (general practitioner, assistant doctor, nurse, midwife, and pharmacist). It was consistent with a previous study conducted in Vietnam [14],

which indicated low levels of all five job positions in Vietnamese CHCs. The lowest number of HCWs and the lowest proportion of five required positions were remote CHCs although the data of Tran et al. [16] found out CHC was the most preferred choice for people living in remote and mountainous areas whenever they needed to access healthcare services.

Our results confirmed that Vietnamese healthcare system in its current phase presents some particular challenges about how to sustain a qualified primary care workforce. Examining such situation would bring up a central question of how to increase the availability of HCWs willing to practice in these settings. The issue of the availability of community health workers prevails in not only Vietnam, but also many developing countries. This is estimated in shortage at more than 3.2 million in India, 570,000 in Bangladesh, 520,000 in Pakistan and close to 100,000 in Nepal [17]. In Sri Lanka there is no large-scale community health workers programme due to the health system issue, while a community health workers program is reliant mostly on the NGO sector with a remuneration model to provide human resources for community level [18]. As reported previously in some countries [19-23], low level of recruitment and retention of HCWs at grass-rooted health facilities has also been reported due to both financial and non-financial factors, such as inadequate training, non-professional environment, little additional remuneration and inadequate infrastructure.

Since this is a multi-faceted process, our study only indicated prevalence in training: more than 80% of HCWs having received at least one training in the past two years. Frequent training, such as short courses, graduate and post-graduate education, keep HCWs updated to the newest knowledge as well as strengthen their skills. Previous studies conducted in Vietnam [24-26] highlighted the need for training for grass-rooted HCWs. Likewise, a study in Tanzania [27] and another in Nigeria [28] also reported that providing the continuing medical education after employment was one of the motivators for recruitment, especially in difficult areas. However, Thu et al. [29] found that training for Vietnamese HCWs who provided maternal healthcare in rural areas might not be likely to meet their demands as new knowledge could not apply in current work. Moreover, it might be impossible for those who are working in Vietnamese remote and mountainous areas to go out for long-term learning or receiving continuing medical education considering the insufficient number of HCWs to work [7]. Further investigation should explore potential demands of HCWs in these areas as well as socioeconomic and structural barriers related, in order to provide evidence for more effective government policy interventions.

In addition, a working environment where highly skilled colleagues feel motivated to work would also be attractive for young physicians than those in primary care level given that they could have an opportunity for their career development [7]. To this cause, Nguyen et al. [29] pointed out Vietnamese HCWs who were working in mountainous areas have considered themselves as poor performers at work due to the shortage of having career development opportunities and feeling achievement. This issue can be explained partly by family medicine at the moment which has not been widely considered

as a specialty as it is in developed countries. Similarly, Wei et al. [30] find out that Chinese family medicine physicians are facing this problem. As a result, minority of senior medical students in developing countries willingly chooses their specialty to be family medicine, with even fewer decide to practice in disadvantaged areas.

Other factors that influence the shortage in job positions of HCWs in Vietnamese CHCs might be the insufficient remunerations and poor working conditions in spite of their important roles in common disease treatment and prevention. Increasing in salaries, allowances and medical facilities should be potential solutions for recruiting new HCWs in disadvantaged areas, as many previous studies suggested whether in Vietnam [24] or other countries [27,31-34]. In current Vietnamese context, those who have worked in rural and urban areas often have higher incomes as compared to health professionals who have worked in remote areas, as a consequence of other additional sources of incomes they would have beyond basic salary and allowances, from running private practice [25]. It might make a rising trend among HCWs in disadvantaged areas to move to urban areas. This situation would be a particular obstacle for Vietnamese healthcare system to maintain a balanced structure of health professionals at different areas at the lower level of health system. To address this concern, a study conducted by Vicijic et al. [25] demonstrated that after enhancing financial bonuses up to two million dong, the rates of willingness to accept to work in rural areas among health professionals were increased significantly. Further research is needed to carefully evaluate this solution to see if they are valid in other parts of any countries before it could be rolled out nationwide.

Besides improving equipment, training, career promotion, and economic incentives, other studies carried out in this area [35-37] also emphasised medical students had rural background was associated with an increased likelihood of returning to their local area to work. The government would implement and evaluate strategies that focus on educating medical students who had a mountainous and remote background to get a significant impact on remote recruitment of health professionals.

It is noteworthy that remote CHCs have been underrepresented of female HCWs, as compared to those in rural and urban areas. Vietnamese women not only work but also take primary responsibility for taking care of their family and housework. Furthermore, a remote job in CHC is characterised by inadequate equipment, limited professional development opportunities, poor quality of roads, difficult transportations in the baseline scenario and insufficiencies of other convenient household services. Therefore, those burdens may contribute to a higher prevalence of having male HCWs in remote CHCs, as it would be easier for male HCWs to adapt to difficult working and living conditions than their female counterparts. This gender-sensitive situation must be taken into consideration when developing interventions in underserved areas.

To our knowledge, this is among the first studies to investigate human resources for health working at the grassroots level of the healthcare system using updated and diverse regional data. Notwithstanding its effort, our study has several limitations.

First, this study is limited to a descriptive approach without making further models to compare with results from other worldwide and regional papers. Second, due to limited scope, other demotivators and/or motivators for HCWs such as career development, remunerations, and rural background have not been examined in this study. Evaluating those demotivators might provide a detailed and comprehensive picture of recruitment and retention among HCWs at grass-rooted health facilities, and support more appropriate interventions for this problem. Last, but not the least, using the relatively small sample might preclude better results. Future research using larger sample size is recommended.

CONCLUSION

This study provides the current picture of human resources in CHCs in Vietnam as per national standards. Although the average number of HCWs in each CHC met the national standard (at least five HCWs per CHC), a shortage in required job positions has been emerging as compared to the human resource policy of Ministry of Health. Moreover, the findings highlighted differences in geographical and gender maldistributions of HCWs, especially in remote areas. By proposing such key gaps in human resources for CHCs, our data could provide significant implications for provincial policy makers and health managers to make necessary changes to ensure sufficiency and efficiency. Our results can also be used as a baseline to evaluate the cost-effectiveness of interventions being undertaken in Vietnamese CHCs, especially in mountainous and remote areas. Specifically, attention should be given to improve recruitment and make human resources available and ready in grassroots health level and underserved healthcare settings. To inform or develop and implement better health policies, it would be useful to look at the WHO guideline on health policy and system support to optimize community health worker programmes.

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CONFLICT OF INTEREST

The authors declared no competing interests on the authorship and publication of this article.

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