

Can health systems be enhanced for optimal health services through disease-specific programs? – results of field studies in Viet Nam and Cambodia

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Summary

Developing better health systems is the key to delivering optimal health services, although more evidence of effective strategies to do so is needed. Field surveys were conducted in Viet Nam and Cambodia to identify best practices in addressing health system bottlenecks to scale up disease control programs. The two countries were compared over time using a framework for analysis developed by the authors. In Viet Nam, a health system was in place for decades at the central to municipal levels, although it was fragile until the 1990s, when the government started taking measures. In Cambodia, the previous health system had been destroyed during previous internal conflict. In the post-conflict period, the health system was rebuilt with support for programs followed by centralization of health services. In different settings, different measures were taken to deal with similar bottlenecks. In Cambodia, vertical programs were dominant, so the government sought to centralize drug management to deal with shortages of essential drugs, while Viet Nam sought to mobilize resources to ensure drug distribution at all levels. This study shows there is no single successful approach to health systems, and a systemic approach needs to be taken because elimination of one bottleneck may reveal another. Efforts to enhance disease-specific programs may not always contribute to overall enhancement of the health system, and the best possible approach may not be the same in different countries. Further study is needed to explore common issues and principles for effective strategies to enhance health systems in different contexts.

Keywords: Health system enhancement, disease-specific program, global health initiatives, Cambodia, Viet Nam

1. Introduction

In the past decades, several strategies such as the Directly Observed Treatment, Short-course (DOTS) strategy for tuberculosis control and the Expanded Program for Immunization (EPI) were developed to effectively implement disease-specific programs through simple and universally adopted interventions.

The DOTS strategy is a simple package for tuberculosis (TB) control developed as a cost-effective health intervention that can be easily implemented in various settings. The strategy highlights identification and monitoring of patients through a sputum smear exam, direct observation to prevent drop-outs, and case management and evaluation by cohort analysis through recording and reporting. The DOTS strategy has been adopted by most countries with obvious results, although the world is not yet on track to decrease mortality and morbidity of TB due to health system bottlenecks (1). EPI aims to promote basic vaccination in order to protect children from vaccine-preventable diseases. EPI features strong logistic management including cold chain logistics and has markedly

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increased vaccination coverage, but its constraints are that vaccine coverage depends on social status as well as sources of financing (2). Although these strategies have achieved marked results through their respective programs, the scaling up of these programs is constrained by weak health systems (3). The global health community and the Global Health Initiatives (GHIs) are reaching the consensus that enhancing health systems is essential to improving delivery of these health services, although a strategy to achieve that goal is not clearly defined and is still under discussion (4).

The current authors conducted a study to identify the best practices that are addressing health system bottlenecks and common strategies of health system strengthening (HSS) to scale up the disease programs. This study focuses on two countries with different health system settings, *i.e.*, Viet Nam and Cambodia.

In Viet Nam (5), the health system has been in place since the 1980s with central, provincial, district, and municipal levels at which services have been provided. The economic reforms initiated in 1986 for a "socialist-oriented market economy" have had a great impact on the health sector as well, and the government has acted with partners to implement health system reform and enhancing the health system since the 1990s. Under the Ministry of Health (MOH), national steering committees are organized to manage national health programs with strong leadership, efficiency, and inter-sectoral collaboration. At the district level, structural reforms were carried out in 2006 and in 2009, and district health offices manage health services and supervise family planning centers (6). Municipal health stations provide health care services to locals through health workers (volunteers receiving a small allowance). Village health workers are under the direct management of the municipal health station and village leaders, performing various tasks such as providing primary health care (PHC) and implementing national health programs.

In contrast, the health system in Cambodia (7) was previously destroyed through internal conflict. In the post-conflict period, the system is being rebuilt. Efforts to support disease-specific programs were implemented in the 1980s, followed by centralization of some health services in the 1990s. The current system consists of strong and vertical disease-specific programs with relatively weak horizontal links supported by an overwhelming numbers of development partners and non-governmental organizations (NGOs). The health system consists of the MOH, provincial or municipality health departments (PHDs), and operational district health offices (ODs). According to the health coverage plan (8), Cambodia has 75 referral hospitals and 967 health centers (HCs), 7% of which only provide outreach services with no fixed site. In remote areas, health posts provide basic health services to locals in addition to HCs. All health facilities down to health

posts have professional staff with a government salary. In communities, each village is supposed to have a village health support group (VHSG, with 2 volunteers per village) that performs numerous tasks such as connecting people to HCs through immunization outreach, implementing community DOTS, and distributing mosquito nets. National programs have a central program manager team, provincial supervisors at PHDs, and OD supervisors.

2. Methods

This study was designed in collaboration with Western Pacific Regional Office of the World Health Organization (WHO-WPRO) in preparation for the Workshop on Maximizing Synergies between GHIs and Health System held in Lipa City, the Philippines, November 25-28, 2009 (<http://www.wpro.who.int/sites/hsd/documents/Workshop+on+Maximizing+Synergies+between+Global+Health+Initiatives+and+Health+Systems.htm>).

This study was conducted using qualitative methods, *i.e.*, interviews with key informants *via* a semi-structured questionnaire, and a review of relevant documents. The authors first determined the core functions of programs, identified the key informants, and agreed on items on the questionnaire. The document review was carried out to identify items from the questionnaire in documents from the two countries. The same methods were used in both countries. Results of analyses were determined through agreement by the authors.

2.1. Key informant interviews

Key informant interviews were conducted with health staff at each level of health facility, health managers at the district and provincial levels, and program managers of the MOH, NGOs, and other partner agencies. Consent to the interview was obtained verbally through communication with the authors before the interview. At the central level, information on management of national programs was collected through interviews in accordance with the 6 blocks of a health system (leadership and governance, service delivery, financing, human resources, logistics, and information) (9). A semi-structured questionnaire asked about financing and funding streams; overall planning, human resource strategy, and lines of authorities for supervision and quality control; and supply chains and delivery services. Key informants at the central level were managers of EPI and malaria programs in Viet Nam and the national immunization program (NIP, in Cambodia) and the national tuberculosis control program (NTP) in Cambodia. Information on the Global Fund against AIDS, Tuberculosis and Malaria (GFATM) and the Global Alliance for Vaccines and Immunization (GAVI) management and

partner coordination was collected from managers and from related departments of the MOH, departments of planning and health information, departments of budgeting and finance, and partners. At the provincial and district levels, interviews were conducted on bottlenecks in the health system, integration of service delivery and program management, and HC service delivery, including outreach at HCs. In Viet Nam, Thanh Hoa Province (Lang Chanh District) and Dien Bien Province were studied. In Cambodia, the authors joined the NIP supervisory team and visited three ODs in Seam Reap Province (Angkor Chum OD with GAVI support, Seam Reap, and Sothnikum OD) and 4 HCs. The authors interviewed PHD/OD chiefs and program supervisors. During the visit to HCs, interviews were conducted with the HC chief (if available) and staff. In total, 62 key informants were interviewed: 29 in Viet Nam (4 at the central level and 25 in the field) and 33 in Cambodia (14 at the central level and 19 in the field).

2.2. Document review

Related documents from the 1990s and 2000s were also reviewed to corroborate the interviews, *i.e.*, documents on GHI or GFATM support in each country, changes in the health system, activities and achievements of respective programs in each country, and field reports from the Japan International Cooperation Agency (JICA) and other projects.

2.3. Analysis

Information and findings obtained from key informant interviews at each level were compared with quantitative data such as the amount of assistance and program coverage to verify this study's results. The authors developed a framework for analysis. In it, bottlenecks, solutions to bottlenecks in terms of basic health service delivery at each level, and good practices that subsequently resulted was categorized based on the six building blocks of a health system, *i.e.*, service delivery, workforce, information, medical products, health financing, and leadership and governance. The positive and negative effects of each bottleneck and practice on health systems and on PHC principles (10) were described. The outcomes of solutions to common bottlenecks in the two countries were compared using the tables. A framework of analysis was thus developed and the cause-and-effect relationship between common bottlenecks and their solutions was determining through consensus.

3. Results and Discussion

3.1. Results

Bottlenecks and solutions were identified in the two

health system blocks of logistics and service quality. Figure 1 summarizes the health system bottlenecks and good practices in both countries from the 1980s to the 2000s, showing the cause-and-effect relationship between bottlenecks and the solutions implemented to resolve them.

Described here are two examples of common bottlenecks and how they were resolved in the two countries. One common bottleneck was the shortage of drugs due to poor drug distribution at the local level. In Cambodia, rebuilding of the health system started in the 1980s through establishment of basic health services. The government sought to manage its limited budget effectively and make the system functional by implementing disease-specific programs. Experiences with NIP and NTP were positive until the 1990s as programs were started and successfully expanded despite a health system with a very limited capacity. Drug distribution to the local level became more efficient and faster with both NIP and NTP, but a shortage of essential drugs and lack of other programs remained particularly at the district level and local health centers. To resolve this problem, an attempt was made to integrate and centralize drug procurement and distribution. At this stage, this integration contributed to HSE in the areas of drug supply management and HIS (GP-C2 in Figure 1). However, further drug shortage bottlenecks (BN-C2) appeared due in part to the delay in reporting by the national HIS. To compensate for the deficiencies in the centralized system (GP-C4), disease programs kept parallel systems for emergency drug distribution as well as vertical reporting and supervision (11,12). Under a communist government, Viet Nam has experienced a drug shortage despite its extensive health network from the central to the municipal level (BN-V1 in Figure 1). To resolve this bottleneck, Viet Nam mobilized domestic financial and human resources and made some improvements in its drug supply system (GP-V1). However, certain bottlenecks still remain in hard-to-reach areas and in relation to the migrant population who were not reached by these efforts (BN-V2).

Another example is the low quality of service delivery due to the lack of qualified health personnel at the local level. Table 1 depicts service delivery in Cambodia using the framework for analysis. In Cambodia, as shown in Table 1, one reason for the low quality of services was low motivation of personnel caused by a low salary, delay in salary payment, and insufficient mechanisms of support for health staff (BN-C2 in Figure 1). To resolve these bottlenecks, performance-based incentives (PBIs) were introduced through contracting or through the support of the GHI, *i.e.*, the Global Alliance for Vaccines and Immunization (GAVI)-HSS project since 2002 (GP-C3). Contracting services or PBIs seemed to have positive impacts on staff motivation and improved the number of

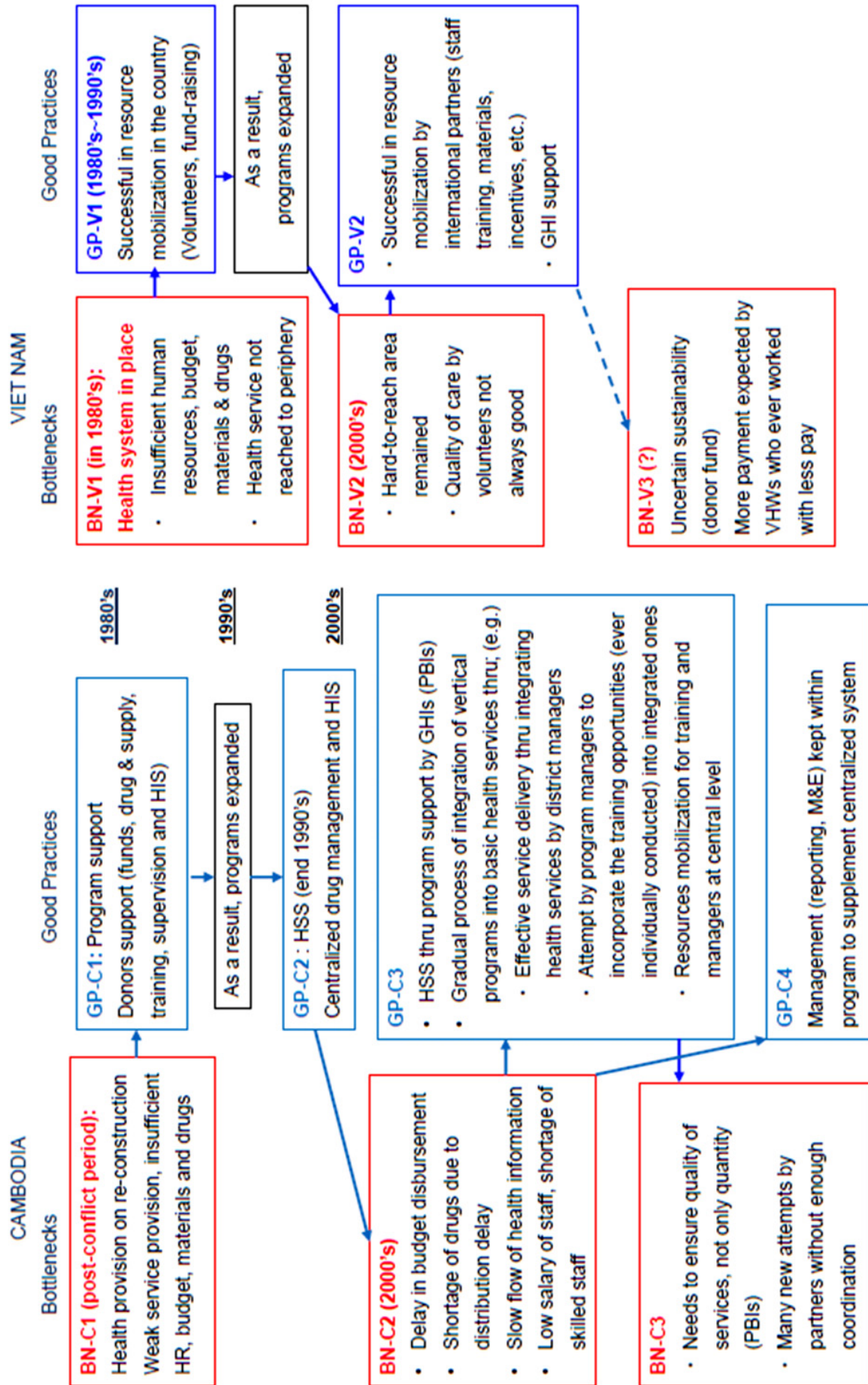


Figure 1. Summary of the health system bottlenecks and good practices observed since the 1980s in both countries.

Table 1. Cambodian workforce

Bottlenecks	Good practices	Effects (+/-) on HS	
		Effects on HS	Effects on PHC principles
(1) Shortage of HR at HCs and referral hospitals in rural areas. (2) Low salary and delayed payment. (3) Workforce misallocation to better funded programs. (4) Training budget decreasing/unreliable (MOH, UNICEF, WHO). Training for new staff/techniques always essential.	PBI for service providers	(1) PBI motivates staff to work, HC is staffed 24 h a day. (2) No change of government system of basic salary. No guarantee of funding for PBI in the future.	(1) Universal coverage: HCs now staffed 24 h a day. (2) Quality of care: PBI focused only on quantity of services delivered, not quality (<i>i.e.</i> , ANC coverage). (3) People-centered care: Moral issues might arise.

services delivered (Unpublished report by JICA: Performance-based financing of maternal and child health services: Financial and behavioral impacts at the field level in Kompong Cham Province. 2009). That said, the need to ensure the quality of services and not merely their quantity was noted, as indicated by TBC challenges (Unpublished report by BTC: Assessment of performance contracting in Kampong Cham, Seam Reap, and Odoymeanchey provinces, Cambodia. 2008). Too many different initiatives have been implemented *via* partners without appropriate coordination, creating a bypass and hampering coordination at any level (BN-C3) (14,15). In Viet Nam, support from the GHIs helped with training and motivating staff and village health volunteers (VHVs, GP-V2). This successful resource mobilization through GHIs resulted in an increasing need for monetary incentives to maintain quality services by VHVs, who have historically worked without such incentives. The success and sustainability of the current approach is also affected by uncertain continuity of funding from the GHIs (BN-V3 (?)).

3.2. Discussion

The aforementioned findings led to several conclusions. First, efforts to enhance disease-specific programs may not always contribute to overall health system enhancement. Several vertical approaches were needed to promptly improve service delivery but were found to have a negative effect on the health system. That said, some good practices for disease-specific programs were also observed. This study showed that "vertical" program management can complement weak health systems when starting or continuing to provide services. Second, there is no single approach to HSS. Effective health system approaches have to be identified according to the country, and approaches may differ in different countries and different contexts. This study shows that different solutions to common bottlenecks were historically adopted in the two countries. Likewise, a good practice in one country may not always produce the same positive outcome in another country. Third, this study also reveals the historical

fact that a solution to a bottleneck can be beneficial but it may also lead to another bottleneck. Decisions on measures to take must be made in light of what currently scheduled efforts may lead to. The current case studies provide hints and tips to possible outcomes that may result from later efforts, so "history is the teacher of life" (16). This study suggests that a systemic perspectives needs to be taken because resolving one bottleneck may reveal another.

Interviews with key informants revealed several vertical approaches that may or may not positively affect health systems, even though these approaches were needed to promptly improve service delivery. PBIs may be an example of a good practice to enhance program implementation although they do not always help to enhance health systems. That said, other good practices for disease-specific programs were identified in Cambodia (GP-C3). Many good practices may not be sustainable or may cause other bottlenecks. The gradual process of integration of vertical programs (NIP and NTP) into basic health services in Cambodia is a good practice to enhance the health system, which is sustainable despite limited resources. One example of a pioneering effort is an attempt by program managers at the central level to incorporate individual training opportunities into integrated training and mobilize resources using governmental and partner funds. These innovative approaches were the idea of central and district managers who faced constraints in their own districts.

The current study had several limitations. This study did not cover all national programs since programs were selected through discussion with WHO offices in each country based on feasibility. In Cambodia, the study did not cover HIV and malaria programs that receive significant amounts of support from GFATM. Second, the selection of the provinces studied was not random but was dictated by accessibility, the possibility of field visits (in Cambodia), and the availability and quality of reports for document review. Third and most important, time constraints and budget limitations meant that this study did not include extensive quantitative analysis in terms of finances, human resources, drug procurement

and management, and health information systems. As it stood, the topic of the current study was already rather complex and extensive, *i.e.*, health systems, health programs, and their relationships. However, personal networks cultivated through long-standing collaboration did help to facilitate interviews with key informants. These interviews depicted cause-and-effect relationships between bottlenecks and their solutions that were corroborated by document reviews.

3.3. Conclusion

The current study indicates that there is no single successful approach to health systems as such, but there are common issues faced by and principles to be learned from experiences of different countries. Since this study was conducted in only two countries, more studies need to be conducted in other countries to further explore these common issues and principles of health system enhancement, including the possibility of identifying issues by clustering several countries in similar stages and with similar characteristics of health system development.

Acknowledgements

This study was funded by the WHO-WPRO and the research fund of the National Center for Global Health and Medicine, Japan.

The authors would like to thank Dr. Dean Shuey, Regional Advisor for Health Services Development, WHO-WPRO for his review of this manuscript and valuable comments. The authors would also like to express thanks to Dr. Benjamin Lane of the WHO Representative Office in Cambodia, Dr. Lokky Wai of the WHO Representative Office in Viet Nam, and the health ministries of Cambodia and Viet Nam for their full support during this study.

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(Received August 15, 2011; Revised January 10, 2012; Accepted January 22, 2012)