MINISTRY OF HEALTH
VIET NAM

HEALTH PARTNERSHIP
GROUP

JOINT ANNUAL HEALTH REVIEW 2009

Human Resources for Health in Vietnam

Hanoi, December 2009

Editorial Board

Consultants

Preface

The Joint Annual Heath Review (JAHR) 2009 is the third in a series of reports documenting the process used by the Ministry of Health (MOH) and its development partners to analyze the Vietnamese health system, identify priority issues, propose actions to overcome priority problems and review progress in implementing those actions. The JAHR process has proven to be useful for bringing together and synthesizing ideas and information from a wide range of stakeholders interested in strengthening the Vietnamese health system, including policy makers, donors, non-governmental organizations (NGOs), health system managers, researchers and educators.

The 2009 report focuses on human resources for health. It provides up-to-date information to analyze the current situation, forecast upcoming problems and issues and propose an appropriate orientation for generating appropriate solutions. Health and human resource issues discussed by the National Assembly and Government in the process of debating the Law on Examination and Treatment before it was passed on 23 November, 2009, and other draft legislation, have been integrated into the analysis in this report, ensuring that the information in the review is timely, comprehensive and relevant.

Further, the JAHR process has received enthusiastic support from many stakeholders. We would especially like to thank the strong technical and financial support from the Health Partnership Group (HPG), including representatives from international agencies and several bilateral donors including: WHO, UNICEF, UNFPA, ADB, European Commission, AusAID, Royal Netherlands Embassy, GTZ/KfW, USAID/PEPFAR and Pathfinder.

The JAHR secretariat, headed by Dr. Nguyen Hoang Long, Deputy Director of the Planning and Finance Department, coordinated and run by Prof. Pham Trong Thanh, Sarah Bales, Duong Duc Thien, Duong Thu Hang and staff of the Planning and Finance Department, has worked hard to meet the tight deadlines, involve as many stakeholders as possible, integrate the work into the planning and policy-making work of the Ministry of Health (MOH) and improve the quality of the JAHR. We thank the national consultants who participated in reviewing the available information, seeking out additional stakeholder perspectives, drafting chapters and revising them multiple times. We also give special thanks to Dr. Ronald van Konkelenberg, technical advisor, who contributed valuable advice during the process of undertaking this review.

We are sincerely grateful for the many useful comments and opinions contributed by the leadership and staff of the MOH, other ministries and agencies, local authorities, HPG members and other stakeholders during the review process.

Editorial board

Table of Contents

Tables

Figures

Abbreviations

ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
AusAID	Australian Government's Overseas Aid Program
CHS	Commune health station
CME	Continuing medical education
DPMC	District Preventive Medical Centre
DRG	Diagnostic Related Group
EC	European Commission
GAVI	Global Alliance for Vaccines and Immunization
GDP	Gross Domestic Product
GTZ/KfW	German international development cooperation agency/German Development Bank
HCMC	Ho Chi Minh City
HIV/AIDS	Human immuno-deficiency virus/ Acquired immuno-deficiency syndrome
HPG	Health Partnership Group
JAHR	Joint Annual Health Review
MDG	Millennium Development Goal
MOH	Ministry of Health
NGO	Non-governmental organization
NUFFIC	The Netherlands Organization for International Cooperation in Higher Education
PEPFAR	President's Emergency Plan for AIDS Relief
SARS	Severe Acute Respiratory Syndrome
TB	Tuberculosis
UN	United Nations
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNIFEM	United Nations Development Fund for Women
USAID	United States Agency for International Development
VHW	Village health worker
VND	Vietnamese dong
WHO	World Health Organization
WTO	World Trade Organization

Introduction

Purpose of JAHR

In 2007, the Health Partnership Group (HPG) – consisting of international and foreign agencies supporting the Vietnamese health delivery system – and the Ministry of Health (MOH) agreed to produce and publish a Joint Annual Health Review Report each year.

The Joint Annual Health Review (JAHR) aims to review the current situation and determine priority health problems to facilitate annual planning of the MOH, forming a foundation for selecting key topics in the collaboration and dialogues between the Vietnamese health sector and international partners. Specific objectives of the JAHR report include:

1) Update on the health sector, assessing the progress towards achieving the Millennium Development Goals (MDGs) and Vietnam's health-related development goals;

2) A detailed assessment of all areas of the health sector;

3) Assessment of progress in implementing the JAHR recommendations from previous years.

As jointly agreed, JAHR 2007 was developed, **covering all major areas of the Vietnamese health-care system**, including:

1) Health status and health determinants;

2) Health system organization and governance;

3) Health workforce;

4) Health financing;

5) Provision of health services.

Based on the review of the 5 above-mentioned areas, the report proposed recommendations and solutions on prioritized issues for 2008 and subsequent years.

The JAHR Report 2008, apart from updates on the overall health sector, focused on analyzing **health financing in Vietnam,** reviewing the current situation and making specific recommendations for health financing policies in Vietnam.

Contents and structure of JAHR 2009

In 2009, the MOH and HPG unanimously agreed on the key topic, i.e. **health workforce in Vietnam**, to conduct an in-depth analysis of the quantity and quality of the health workforce and the management of human resources in health care.

In Chapter 1, JAHR 2009 provides an update on the Vietnamese health-care system during 2008-2009 and outlines general tasks for 2010-2011. This has become a common practice in JAHR reports. To better contribute to annual health planning, the updated health system review in JAHR 2009 has elaborated and covered all 6 basic building blocks of a health delivery system as recommended by the World Health Organization (WHO). Chapter 1 also presents a brief discussion of the progress in implementing recommendations from JAHR 2007 and JAHR 2008.

The next sections present key contents of the JAHR 2009 report, including: (i) overview of policies on health workforce development, situation and problems; (ii) quantity and distribution of the health workforce; (iii) quality of health the workforce; and (iv) management and use of the health workforce.

The final section of the report presents the conclusions, synthesizing all observations of the Vietnamese health workforce and proposing solutions for priority issues for the 2010 plan and subsequent years.

The report highlights key issues to support the planning process of the MOH, laying a foundation for collaboration and dialogue between the Vietnamese health-care sector and international partners about health workforce-related issues.

Appendices of the report include a summary table on progress towards implementing recommendations from JAHR 2007 and JAHR 2008, a summary of priority issues and solutions for the current year and a table of monitoring indicators.

Organizing for implementation

Similar to previous reports, JAHR 2009 was developed under the auspices of the MOH and HPG. Organizational structure and management of the JAHR process includes:

Working group, comprising members of the MOH and HPG, whose tasks are to guide and supervise the report development process, assuring sufficient resources for related activities.

Secretariat, including a representative of the MOH (Planning and Finance Department), an international coordinator, a local coordinator and other supporting staff who handle day-to-day management and administration, organize seminars, collect comments from reviewers, ensure a participatory approach in the entire report-writing process and compile, revise and print the report.

Consultants, including international and local consultants with knowledge and experience related to the health workforce, whose tasks are to draft the report chapters, collect comments from stakeholders and rewrite/revise designated chapters based on the comments or recommendations.

Methodology

The report was produced through a process of analysis and identification of key problems, priorities and solutions involving multiple stakeholder participation. Hence, the primary methods included:

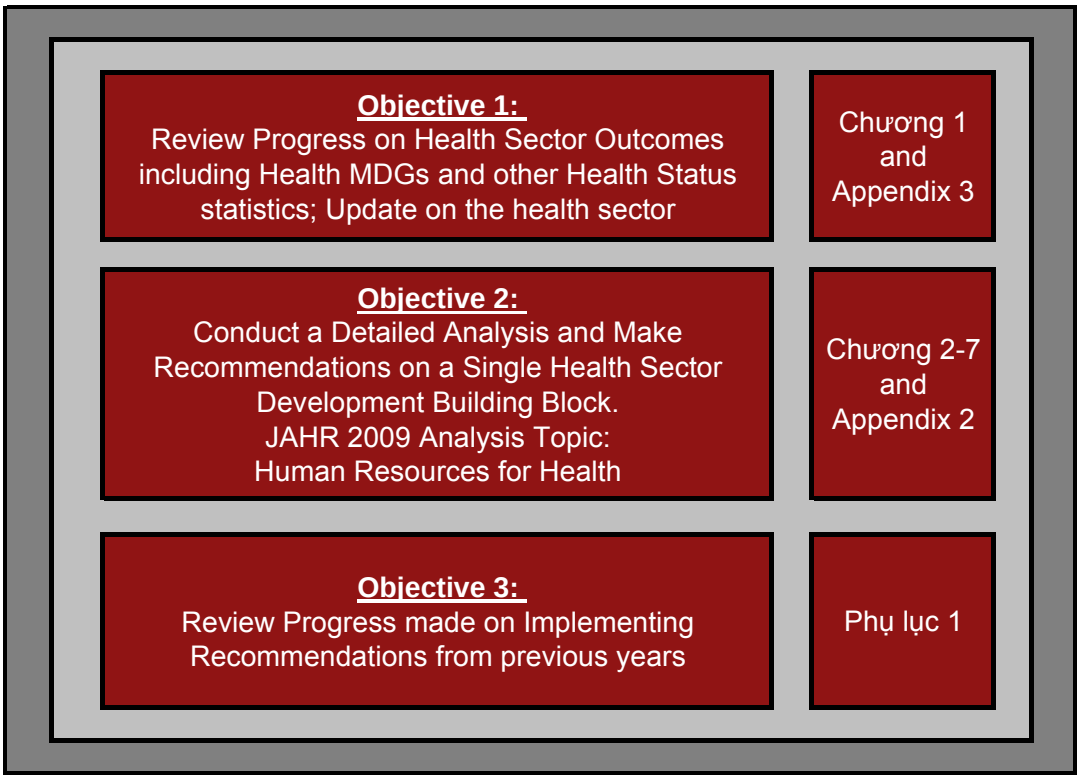
- Literature review, including legal documents, policies, research/survey materials and statistics from various sources.
- Relying on knowledge and experience of local and international consultants who have working experience in the health sector of Vietnam.
- Discussions on specific topics with relevant policy-makers, e.g. experts from the Science and Training Department, Organization and Manpower Department, Central Committee of the Communist Party, Ministry of Home Affairs and group discussions with national and international experts on specific topics.

- Continuous process of review and comment by authors and coordinators on the work of all other authors to ensure consistency and reduce overlap, while improving quality at all stages of the review
- Written comments from WHO, UNIFEM and other United Nations agencies, technical advisor Ron van Konkelenberg, EC, and peer review by experts on human resources in health care.
- Series of workshops to obtain feedback on the outline (May), draft chapters (June) and full report (August) in which stakeholders from the MOH, other relevant ministries and agencies, NGOs, international agencies and bilateral donors provided oral comments. Detailed minutes of these workshops were taken to ensure that all comments could be considered.

The approach, situation analysis, and proposed priorities and solutions in this report is reflected by a common foundation, described below, based on: (i) the socio-economic context and current situation of the Vietnamese health system; (ii) concepts and criteria of equity and efficiency of the health-care system, in general and health workforce, in particular; and (iii) reference to success and failure of experiences from other countries, especially those where conditions are similar to Vietnam.

The structure of chapters is determined in the concept of "linkage of health workforce with other factors of the health delivery system", responding to basic objectives of health workforce, e.g. meeting the people's health-care needs, development, supply, retention and management of the health workforce (Figure 1).

Figure 1: Basic objectives and structure of the JAHR 2009 report



Chapter 1: Health sector update

This chapter will provide an overview and update of the health system. Major changes in health policies in recent years, and achievements and difficulties/challenges, will be analyzed and reviewed following the 6 basic building blocks of the health system, including: service delivery, health workforce, information, medical products, vaccines, pharmaceutical products and technologies, financing and leadership/governance. This chapter also reviews the implementation of policy recommendations as raised in the previous annual health review reports.

1. Current situation of people's health status

According to preliminary results of the National Population Census in 2009, the population of Vietnam is 85.8 million people [1]. With such a large population, Vietnam ranks 3rd in Southeast and 13th in the world in terms of total population size. After many years of implementing a policy to reduce fertility, the annual population growth rate has declined to a stable level of only 1.2% per year, equivalent to a net addition of 950 000 people per year. The size and growth of the population creates considerable pressure and demands on the health system. According to data from the WHO in 2009, the median age of the Vietnam population in 2007 was 26, indicating that Vietnam is still a relatively young population, which is a great advantage for the health sector as most of the population are still in healthy young ages. However, as life expectancy continues to increase,[1] the proportion of people over 65 years of age at the end 2008 was 7.5% [2, 3], health problems in the elderly, chronic diseases and increasing non-communicable diseases are posing great threats for the health sector.

1.1. Health indicators oriented towards MDGs

Health is an underlying determinant, and also the goal to reach in socio-economic development of each country. Among eight Millennium Development Goals (MDGs), three are related to basic health indicators: reduce child mortality; improve maternal health; and combat HIV/AIDS, malaria and other diseases. As assessed by the United Nations (UN), Vietnam has achieved initial success along the pathway towards the MDGs. Most of the MDGs have been achieved during the 2006-2010 period (Table 1). The malnutrition rate for children under 5 years of age in 2008 was 19.9%, which is close to the target of 20% for 2010. In 2008, under-5 mortality and infant mortality per 1000 live births reached 25.5 and 15.5 respectively, which are close to the 2010 target of 25 and 16, respectively [3]. The maternal mortality rate is 75 per 100 000 live births. This indicator reflects substantial progress compared to the rate of 233 per 100 000 live births in 1990. Goals for mortality and morbidity rates of malaria and TB have been achieved. Much effort has been made to combat HIV/AIDS in Vietnam. The rate of new HIV infection, number of AIDS patients and deaths from AIDS in the first 9 months of 2008 declined as compared to the same period of 2007 [4]. However, indicators of HIV/AIDS infection rate in pregnant women is 0.38%, which fails to achieve the goal established [3].

[1] MoH, Health Statistical Yearbook, 2007; the average life expectancy is 73 years.

Table 1: Summary of results from implementation of MDGs related to health

	1990–1991	2000	2005	2008	Goal for 2010
Child malnutrition rate (% underweight among children under age 5 years)	45% (1990)	33.8%	25.2%	20.6%	<20%
Under 5 mortality rate per 1000 live births	58.1‰ (1990)	42‰	27.5‰	25‰	<32‰
Maternal mortality rate per 100 000 live births	200–249 (1990)	95	80	75	70.0
Prevalence of HIV in the community (%)	0.000%	0.043%	0.125%	0.208%	<0.30%
Malaria prevalence rate (%)	1.65% (1991)	0.38%	0.12%	0.07%	0.15%
TB incidence rate AFB+ (%)	0.086% (1992)	0.07%	0.07%	0.06%	0.07%

Source: Health Statistical Yearbooks 2000, 2005, 2008 [5-7]; *Vietnam Health Report 2006 [8]; Goals taken from the Prime Ministerial Decision No. 108/2007/QD-TTg, dated 17 July 2007, approving the National Target Programmes on social diseases, dangerous epidemics and HIV/AIDS for 2006-2010.

1.2. Priority health problems

Vietnam is undergoing an epidemiological transition in terms of disease patterns with increasingly more complex developments. Vietnam's health sector is facing a triple burden of disease, concurrently, including: (i) most communicable diseases that used to be under control, but some diseases are increasing in prevalence or at risk of resurgence, e.g. cholera, measles, dengue fever, TB, and HIV/AIDS; (ii) a dramatic increase in non-communicable diseases/conditions, e.g. cardiovascular diseases, cancer, mental disorders and traffic accidents; (iii) the occurrence of emerging dangerous epidemics, e.g. influenza type A/H5N1, pandemic flu type A/H1N1.

While the epidemic threatens, the health sector must closely monitor its development and respond in timely fashion. The burden of non-communicable diseases is increasing silently, with rising hospitalizations and deaths. Results from a study on the burden of disease in 2006 indicated that cardiovascular diseases, cancers and mental diseases account for 34% of the total disease burden in men, and 43% in women [9]. Accidents and injuries present heavy disease burdens, especially in men (22%). Domestic violence and problems related to delivery and birth represent major disease burdens in women and children. Data on the burden of disease provide important evidence for identifying priority health problems.

National Target Programmes on social diseases, dangerous epidemics and HIV/AIDS for 2006-2010 were approved by Government Decision 108/2007/QD-TTg dated 17 July 2007 and supplemented by Decision 172/2008/QD-TTg dated 19 December 2008, and specified priority health problems during this period, including TB, leprosy, malaria, HIV/AIDS, child malnutrition, reproductive health, dengue fever, cancer, hypertension, diabetes, mental health and diseases preventable through immunization (especially TB, diphtheria, pertussis, tetanus, polio, hepatitis B, measles, Japanese encephalitis B, typhoid and cholera).

The health sector also focuses on food safety and hygiene. A chain of problems relate to the management of hygiene and food safety, from the production (abuse of pesticides, use of hormone growth chemicals in planting and husbandry, hygiene in slaughter-houses) to food processing (e.g. milk contaminated by melamine, additives in candy, quality of purified bottle water and food processing industry, importation of chicken and live and fresh foods). To control quality of hygiene and food safety, joint efforts are needed by relevant ministries and sectors. On 19 June 2009, the 12th National Assembly issued Resolution No. 34/2009/NQ-QH12 on promoting implementation of legal policies on management of quality, safety and hygiene of food. The resolution clearly indicates the tasks that should be performed by the Government in promoting policy and legislation on quality management, food safety and hygiene, including: passage of the Law on Food Safety in the near future, development of a national strategy on quality assurance, food safety and hygiene for the period 2011 to 2020, fortifying the organizational system of state management bodies in terms of food safety and hygiene from the central to district levels, strengthening the inspectorate system and allocating sufficient funding to implement quality assurance, food safety and hygiene, assuring increasing annual budget allocations in line with increased state revenues.

Environmental health and health issues associated with climate change have emerged as pressing issues that attract attention from society at large, and pose a heavy burden for the health sector in terms of education and communication to increase the people's awareness of hygiene and sanitation and response to related diseases. In line with industrialization and urbanization, environmental pollution is becoming more serious, and poses direct health risks to the people. Especially, management and treatment of hospital waste. For many reasons, including pressure of meeting health-care needs, overload of patients, non-uniform physical infrastructure of hospitals, hygiene and environment of many hospitals does not meet standards. At present, Vietnam has nearly 200 incinerators serving 73.3% of hospitals, while 26.7% of hospitals treat waste via landfills or open-air burning. Since a limited number of hospitals have complete sewage treatment systems, there is a failure to ensure the pace of planned implementation [10].

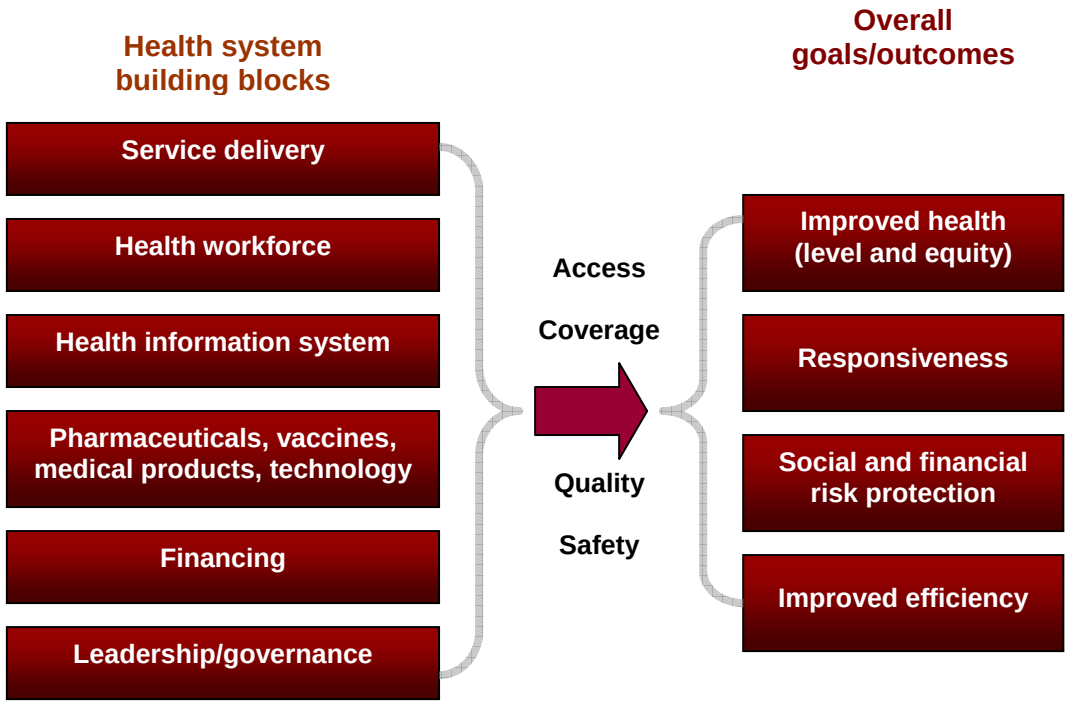
Apart from health problems mentioned above, and in relation to health system goals of equity, the care of specific target groups (e.g. ethnic minorities, women, children and the elderly) has always been a special concern of the health sector. In this regard, narrowing the disparity in health indicators such as maternal mortality, child mortality and the burden of health-care spending across living standards, regions and urban-rural areas is also a priority in health policy development. This is evidenced in the large number of policies, e.g. providing free health insurance to the poor, subsidizing the near poor to purchase health insurance, investment in district level hospitals, etc.

2. Health system update

Consolidating and strengthening the health-care system with an orientation towards equity and efficiency are key conditions needed to attain the health-related goals. The health-care system includes 6 basic building blocks (Figure 2): service delivery; health workforce; health information system; pharmaceuticals, vaccines, medical products and technology; financing; and leadership/governance. Strengthening the health-care system means consolidating and improving these six components, and assuring interdependencies and mutual support across these

components to achieve equitable and sustainable improvements in health service delivery and health outcomes [11].

Figure 2: Conceptual framework of the health-care system (WHO)



The health sector has, in recent years, paid much attention to developing and strengthening policies to realize its goals of protecting and improving people's health status. Two parallel trends characterize health policy development. The first trend aims to realize the target of equity in health with the intention to consolidate the grass-roots health-care system as regards professional skills and physical infrastructure as well as development of policy on universal coverage of health insurance and increasing state budget spending on health, especially in preventive medicine. The second trend focuses more on the efficiency and development of the health-care system. Some relevant policies include: the projects to reform the operational and financing mechanism (e.g. salaries, health service user fees) for public health service units and to promote social mobilization for health, including realization of autonomy mechanisms in public health institutions and development of the private health sector.

Below are updates of policy changes and major achievements and the major difficulties or challenges in each of the above building blocks of the health system.

2.1. Service delivery

The Vietnamese health-care system is structured by level, from central to local with four types of services: curative care, primary health care, preventive medicine, and population and family planning. The health-care system includes both public and private sectors with 13 500 public facilities [12] and over 35 000 private facilities mainly in the form of clinics [13]. In inpatient care, the public sector plays a leading role in providing health services in 980 hospitals (39 central, 331 provincial and 610 district hospitals) and 154 000 patient beds compared to 85 private hospitals and 5800 private beds. On average, Vietnam has 24 inpatient beds per 10 000 people. If

inpatient beds at Commune Health Stations (CHS) are not counted, Vietnam's average number of beds per 10 000 population is 19.2 (of which 18.5 beds per 10 000 population are in the public sector) [7].

To meet primary health-care needs, the Government has built and consolidated a commune health network, in which 99% of all communes have a CHS, 65.9% of all communes have a medical doctor and 84.4% of villages have active village health workers (VHWs) [7].

The promotion of social mobilization for health has facilitated rapid growth of the private health sector in recent years. Cash flow and the scale of investment in private hospitals are rising. However, while the private sector plays a considerable role in providing ambulatory services, at 32% of total patient visits, it contributes a very modest share in inpatient treatment, at only 1.65% of total inpatient treatment visits [14].

Preventive medicine activities are primarily undertaken by the public sector, and the private sector plays a very modest role. At the central level, many agencies are responsible for different issues, including the Vietnam Administration of Preventive Medicine, the Vietnam Food Administration and the Vietnam Administration of HIV/AIDS Control. At the local level, the organizational structure of the preventive medicine apparatus varies by locality, especially at the district level because of recent changes in the local health sector organizational structure. In some districts, hospitals have not been separated from the district heath centres, which are now the unit in charge of preventive medicine at the district level. However, preventive care activities are still maintained including close monitoring for epidemic prevention and implementing the national target programmes. At present, there are 13 national health target programmes for prevention and control of certain social diseases and dangerous epidemic diseases, including: tuberculosis, leprosy, malaria, HIV/AIDS, child malnutrition, reproductive health, expanded programme for immunization, dengue fever, cancer, hypertension, diabetes, mental health, and civilian-military medical collaboration. Most targets for 2008 were achieved and surpassed 2007 [4]. Responsibility for population and family planning was only recently shifted to the MOH. Up till now all provinces have issued decisions to establish Population and Family Planning offices at the provincial level, and 59 out of 63 provinces have set up population and family planning centres at the district level. Overall, the reduced fertility rate has been maintained and reached replacement level. The goal of improving population quality has been a strong focus, especially through the project of improving quality of the population through building and expanding the prenatal and peri-natal screening programmes in 24 provinces by the year 2010.

The main focus is currently on improving efficiency and quality of public hospitals, especially reducing overcrowding of hospitals. Implementation of the policy on autonomy and accountability for public hospitals according to Decree 43/2006/ND-CP has created some changes in management and hospital performance. However, research from the Health Policy and Strategy Institute on hospital autonomy in 14 provincial and district hospitals in 6 provinces indicates that while revenues have increased, practices to reduce waste are only observed in administrative and utilities costs, not in medical service costs, e.g. prescribing of drugs, laboratory tests [15]. To respond to the urgent needs related to high-priority diseases and epidemics, the MOH has issued standard treatment guidelines for diseases like avian influenza A/H5N1, cholera, hand, foot and mouth disease, and pandemic influenza A/H1N1.

However, to ensure the safety of patients and to create a basis for checking technical quality, the health sector needs to find resources to establish and maintain a mechanism to regularly update treatment guidelines for all diseases. Coordination between different levels, among medical facilities, and even between health workers in the same facility in terms of continuity of care, especially for patients with chronic illnesses has not receive due attention and lacks a true patient-centred focus.

In terms of demand for health services, the orientation of policies has focused on reducing barriers for the people to access preventive and curative services through organizing health services near the people, developing health insurance with subsidies from the state budget for disadvantaged groups and implementing national target programmes focused on priority health issues. However, efforts to reorient demand for health care towards the appropriate level for a given medical condition has not yet achieved desired results, leading to a situation of overcrowded hospitals.

2.1.1. Major policy changes

In curative care, the issuance of Decision 30/2008/QD-TTg dated 22 February 2008 approving a master plan for the health-care system has created an important legal basis for the formulation and development of a curative care network, which is appropriate for national socio-economic development, meeting people's health-care needs. In the area of medical equipment, we have seen strong growth in equipment investments in health facilities from many different sources, especially from socially mobilized capital, joint ventures, treasury bonds, and external assistance and loans. The MOH issued Circular No. 15/2007/TT-BYT dated 12 December 2007 guiding implementation of the policy on autonomy and accountability in use of state asset contributions to joint ventures, or contributions to joint ventures to purchase medical equipment for public facilities. This Circular set a series of requirements on making proposals, appraising equipment, approving purchase prices and obligations to pay taxes, transparency and openness, with a view to address investments in medical equipment through joint ventures in public hospitals. The Prime Minister issued Decision No. 47/2008/QD-TTg to approve the project to invest, upgrade and renovate district general hospitals and inter-district hospitals, using state treasury bonds and other legal sources of capital for the period 2008-2010.

In 2008, the health sector actively took appropriate measures to address overload of patients and improvement of hospital care services. The Minister of Health issued a Directive 06/2008/CT-BYT, on improving quality of hospital care with a focus on administrative measures, e.g. administrative reform, improvement of curative care procedures, application of information technology and measures to control overload of patients (i.e. arrange more beds, provide more ambulatory care). Active implementation of Project 1816 on rotating professional staff to support lower levels has preliminarily brought about positive changes in improving technical skills for health staff and contributed to reducing overload of patients at higher facilities. This has resulted in a reduction by 30% in patient referrals by hospitals that have received seconded doctors.

Regarding preventive care, the 12th National Assembly passed the Law on the Prevention and Control of Infectious Diseases. It became effective in July 2008, creating a legal corridor for the prevention of infectious diseases, especially in the context of emerging dangerous epidemics and reoccurrence of many diseases. Fortifying, consolidating and developing a preventive health network, especially at

the district level, has been done through strengthening staff training, upgrading professional skills, providing equipment for preventive medicine centres at different levels and developing a good model of a district health centre (responsible for preventive health).

National health target programmes for prevention and control of social and dangerous diseases have been implemented in all parts of the country. HIV/AIDS prevention and control have been paid due attention, and the legal framework and policy on prevention and control of HIV/AIDS continues to be refined. The Prime Minister issued Decision 38/2008/QD-TTg dated 8 January 2008 on coordination to prevent and control HIV/AIDS across borders – one of the complicated and difficult sites for controlling HIV/AIDS. On 3 January 2008, the Minister of Heath signed Decision 14/2008/QD-BYT approving the action plan for management and coordination of aid to prevent and control HIV/AIDS in Vietnam during 2008-2010 and a vision towards 2020. Issuance of this decision is significant in strengthening the governance of aid for HIV/AIDS. Other epidemic control programmes mainly use the government budget, but the HIV/AIDS control programme has at least 25 donors with about 121 projects throughout the country and a funding share of 80% to 90% of the total budget for this area [16].

2.1.2. Major difficulties and challenges

Vietnam's health-care delivery system is a mixed system with public and private actors, but the public sector dominates. In recent years, social mobilization in the health sector has been more strongly promoted, including mobilization of capital by public facilities and encouraging the private sector to develop and participate in providing and developing health services. However, the health sector is facing difficulties in formulating an appropriate public-private health service mix. For-profit health services are being provided in the private sector, but this also threatens to take place in public facilities. Private investment in joint ventures to finance medical equipment in public hospitals conceals risks related to patient safety and increased financial social/health burdens. If control measures are not proposed, health-care costs will skyrocket, especially increased out-of-pocket health spending. Therefore, it is recommended to strengthen state management in all health facilities (public and non-public facilities) by issuing prescribing criteria, checking technical standards, supervising quality assurance, meeting the needs of service users and reducing factors that encourage excessive provision of services.

Issues of quality in health services have yet to be appropriately resolved, especially the problem of resource disparities in assuring quality of care across localities. Quality improvement has been promoted with specific measures, and a comprehensive, synchronous solution is still lacking. The MOH is working to revise hospital regulations, including a system of appropriate standards for hospital settings in both the public and non-public sectors. A quality management system including technical standards and mechanisms to abide by these regulations should be institutionalized fully and synchronously. In line with implementation of universal health insurance, the role of quality auditing by health insurance should be strengthened and promoted as part of the health services' quality management system.

Patient rights and voice remain weak and have yet to make substantial contributions to supervision of health facilities and health workers, or protection of patients' rights.

Implementation of financial autonomy in public facilities (according to Decree 43) preliminarily shows encouraging results, creating radical changes in financing, professional practices and hospital management. However, in some health service facilities, autonomization has focused on increasing revenues and revenue surplus, combined with supplemental income payments to staff based on their contribution to increased revenues, which has entailed problems, e.g. abuse of services and increased service costs to patients. This has negative effects on the goal of equity and efficiency in the health delivery system. It is recommended to conduct a comprehensive study on the influence of autonomy mechanisms on the entire health-care system, focusing also on patients and not merely on individual hospitals.

2.2. Health workforce

The Joint Annual Health Review 2009 focuses on the health workforce. Subsequent chapters of this report will examine in greater depth issues related to the health workforce, including: quantity, distribution, quality of health workers, management and utilization of the health workforce. Basic information about the current health workforce in Vietnam is presented below.

Considerable progress has been achieved in development of the health workforce. The number of health workers per 10 000 population increased from 29.2 in 2001 to 34.7 in 2008. Ratios of health workers per 10 000 population are 6.5 for doctors, 10.4 for nurses and midwives, and 1.2 for university- and higher-level pharmacists. In addition, Vietnam has 5.7 assistant doctors per 10 000 population, working mainly at the communal level [7]. Some of these indicators are lower than average benchmarks in the Western Pacific region, but higher than in Southeast Asia [17]. With regard to quality of health workforce, efforts have been made to improve quality in the health workforce, e.g. increased post-graduate training, expanded training system and improved quality. Many policies have been issued to improve quality of the health workforce, e.g. direct recruitment to medical school without entrance exams for students from mountainous, disadvantaged areas, continuing education and policies on seconding professional staff from higher level facilities to work in lower level facilities. However, the problem posed here is not the need to expand the health workforce in general, but the need to selectively expand certain health workforce categories. In addition, needs-based training by specialty should also receive focused attention.

2.2.1. Major policy changes

The MOH has collaborated with relevant agencies to develop a proposal for the Prime Minister to supplement or amend existing policies on remuneration for health staff in the spirit of Resolution 46 of the Politburo, *"health work is a special profession"* and *"should be treated in a special way"*, including 24-hour on-call supplement, special supplement for health workers on-call during an epidemic and supplement for surgeries to replace Decision 155/2003/QD-TTg of the Prime Minister (i.e. policies to support health staff and seconded health staff, rotating to work in mountainous, disadvantaged and remote areas); Government Decree 64/2009/ND-CP (i.e. policy for health workers working in socio-economically disadvantaged regions); Decision 46/2009/QD-TTg, dated 31 March 2009 by the Prime Minister (i.e. special salary supplement for staff and workers in select hospitals); and Decision 75/2009/QD-TTg dated 15 May 2009 (i.e. stipend for village health workers). However, solving the problem of revenue disparity across localities requires more

profound changes in the entire health-care system and source of remuneration package.

To solve the problem of a shortage of health workforce and to upgrade technical skills for lower levels in the immediate future, hospitals/teaching institutions have seconded their professional staff to undertake rotations to support lower levels according to Decision 1816/QD-BYT by the Minister of Health, dated 26 May 2008, approving the project "Sending professional staff from higher level hospitals to work in and support lower level hospitals with a view to improving quality of examination and treatment". Hence, health workers in hospitals, medical education institutions standard II and above follow the policy on rotating professional staff with at least 3 month rotations per person to work in lower hospital/facilities. The implementation of this project is being closely monitored and managed. Every week, leader of the MOH holds regular meetings to acquire information about this and give prompt direction. An evaluation survey on impacts from this project is under way on a national scale. Through regular evaluation and assessment of the impact and difficulties of implementing this policy, timely revisions can be made so the policy will be more effective than similar policies implemented in other countries.

The health sector continues to implement Decision 1544/2007/QD-TTg of the Prime Minister that approved the "Project on training health workers for disadvantaged and mountainous areas of the northern region, central region, the Mekong Delta region and the central highlands by direct admission to university without medical exams". The health sector also gives strict instructions to universities, together with Ministry of Education and Training to review the appropriateness of legal documents to strengthen needs-based education of the health workforce in mountainous, disadvantaged regions. The MOH implemented: (i) increased admissions quotas for long-term education, (ii) expanded enrolment and increased admission to 4-year concentrated training of district level pharmacists and CHS doctors pharmacists, (iii) promotion of direct enrolment without exam, contracts between localities and training facilities to train local health staff and (iv) expansion of some new fields of training.

Regarding medical education, the framework curriculum for important fields like general practice and various specialties have been revised. New recruitment of students in 2008 increased by about 20% over that in 2007. Plans to consolidate educational institutions for the health workforce are under development.

2.2.2. Major difficulties and challenges

Number and distribution: Severe shortage of health workers is prevalent in preventive medicine, in the grass-roots health-care network, and in mountainous, remote and isolated areas. Although the distribution of health workers by facility level and geographical area has somewhat improved, some gaps continue to exist, causing an irrational distribution of health workforce. This leads to an imbalance in quantity and quality of the health workforce, e.g. between curative and preventive care, between specialties, between central and local levels, and urban vs. rural. Urban populations account for 27.4% of the total national population, but most university pharmacists (82%) and over half of doctors (59%) and nurses (55%) work in urban areas. Large gaps in incomes and working conditions between health workers in the public and private sectors and within state institutions at different levels have affected the migration of staff.

Quality of health workforce: Although quality in the health workforce has improved, it remains problematic. The number of staff having high qualifications is limited, and the distribution of these staff is irrational. Only 2.1% of health workers have post-graduate qualifications (master, PhD degrees), and they are mainly concentrated at the central level. Most health managers are staff having qualified medical skills (especially in hospitals) and are involved in examination and treatment. Hence, their available administrative time and management experience is somewhat limited. The capacity of health workers in preventive fields, and at the grass-roots level, is poor. Although attitudes of health workers in many facilities have improved, patient satisfaction with service provision in public facilities is low.

Management and utilization of health workforce: Planning and human resource management skills at various levels are limited. Monitoring and management of the health workforce has not been standardized. Performance appraisal has yet to be used as an effective human resource management tool, e.g. to form the basis for criticism or conferring bonuses. Complete and accurate information on human resources in health care is generally lacking, but this is particularly apparent in the private sector even though it is mushrooming and plays an important role in the health-care delivery system. These are major challenges facing planning and formation of health manpower policies and strategies.

2.3. Health information system

A good health information system is a system that guarantees supply, analysis and dissemination of reliable health information to policy makers at all levels of the health system regularly and on an *ad hoc* basis.

At present, health statistics are collected from the routine reporting system and from surveys. Routine health data collection is organized by the health system, from the MOH to the commune level, using standardized forms. However, this work remains largely paper-based and creates a considerable workload for health workers, especially at the communal level. Furthermore, national health target programmes have their own reporting forms and registers from the communal level up. Every year, the MOH publishes an Annual Health Statistics Yearbook that reflects health outcomes and performance. Information is collected from routine reports of 63 provinces/cities, national health target programmes, departments and institutions.

In the hospital system, the MOH has developed a software called *Medisoft* and disseminated this software to all public hospitals. However, the application of this software faces major challenges, partly because hospitals do not have sufficient infrastructure, e.g. computer and appropriate personnel, and partly because this software is unable to meet the current requirements for hospital management, especially in the context of autonomization. Currently, many hospitals use different hospital management software.

With regard to outbreak detection and monitoring, Vietnam has a preventive medicine system that operates very well on collection, surveying, disseminating and using statistical data on epidemiology to assist in effective control of dangerous epidemics like SARS, avian influenza A/H5N1, and most recently pandemic influenza A/H1N1, as well as for monitoring the national health target programmes.

With regard to data synthesis, the number of experts in the health sector and related agencies that have received training on quantitative analysis skills has increased considerably in the past few years. However, people need to accumulate

many years of experience to acquire the skills to use data effectively to analyse and assess health problems and policies.

2.3.1. Major policy changes

The health information system in the recent past has suffered from many limitations, due to lack of regular attention, and inadequate organization for implementation. On 25 February 2009 the Minister of Health issued a Directive 02/CT-BYT on promoting application and development of health information technology in every area of work: from governance, storage and information exchange to administrative reform. The Directive indicates that depending on local conditions, each facility should spare at least 1% of its revenue to pay for the application and development of information technology. Attention should also be paid to the databases of each health facility. Central and provincial hospitals have to apply hospital management software before 2010. Online direction, governance and information exchange between the Ministry and units under its direct supervision and provincial health bureaus has been strengthened and implemented. The Science and Training Department of the MOH has several projects to provide evidence to policymakers, indicating an increased attention to using information in policy-making.

2.3.2. Major difficulties and challenges

Of the six building blocks of the Vietnam health system, the health information system is the weakest component. The health information system is evaluated according to the following contents: governance and policy development, resources, data collection and quality of information, data analysis, and use of information [18].

Governance and policy: the MOH has enacted regulations on health information for all levels. However, coordination, integration of the different units and intermediaries of the health information system remain unclear. Penalties and incentives are inadequate. There is no regulation that mandates public and private health facilities to report data to serve the national health information system.

Resources: investment in health information systems is poor and irregular with insufficient supporting equipment. There is a shortage of information technology staff, while those who are working have poor technical skills, especially at the grass-roots level.

Data collection and quality: There is a lack of coordination, sharing of information within and between sectors and across health programmes, and an overlap of information collected and analyzed. Information on the same indicators varies between different Ministries and sectors; often it is not available and cannot be used for planning purposes. There is no guidance and criteria for data collection and reporting. Many databases are collected from small samples that are not sufficiently representative**.** There is a shortage of data disaggregation by sex, age, ethnicity and disadvantaged regions to allow assessment of policy impacts.

Data analysis: very weak at all levels, especially the grass-roots level, due to shortage of personnel with specialized skills in data processing and analysis. Data analysis is done without unified and integrated methods. In addition, results differ for the same health indicator across different sources of data, which further complicates data analysis work.

Use of health information: limited because of absence of guidance and regulations on the use of information for health planning purposes at all levels. Dissemination of materials is limited mainly to internal use, which hinders outsiders' access to the information. In addition, awareness of the importance of the utilization of information to improve the health-care delivery system is not high among the health sector management.

2.4. Pharmaceuticals, vaccines, biological products, medical equipment and technologies

A good health system must ensure equitable access for all people to medical products, e.g. vaccines, drugs and essential technologies of good quality, effectiveness and cost effectiveness.

In Vietnam, expenditures for drugs take a major share of total expenditures for health. This proportion is rising, from 41% in 2000 to 54.3% in 2005 [19]. During 2001-2008, average spending on drug per capita rose from US$6 to US$15.6. Total value of drugs consumed in 2007 showed a 17% increase over 2006. Among these drugs the value of domestically produced drugs increased faster than imported medicines at 26% vs. 14%. Volumes of domestically produced drugs have surpassed imported drugs (accounting for 51% of the total value of drugs used) [4]. There has been a considerable increase in the number of central, private pharmaceutical enterprises, joint-stock limited liability companies, licensed foreign-owned enterprises during the 1999–2008 period. As of 2008, there were 180 drug production facilities, 800 drug wholesale facilities and 39 000 pharmacies. The application of good practice in drug production, distribution, storage and retailing has created important improvements in drug administration. By the end of November 2008, inspection and accreditation of good manufacturing practice (GMP) had been granted to 28 Vietnamese facilities (of which 12 facilities were newly accredited); 28 laboratories achieved good laboratory practice (GLP) amongst production facilities, and 37 drug warehouses with 10 warehouses directly importing drugs achieving good storage practice (GSP).

2.4.1. Major policy changes

The pharmaceutical sector has focused on developing the contents set forth in the projects, programmes that have been approved by the Government, including:

- Detailed planning for development of Vietnam's pharmaceutical industry
- Planning for development of the circulation, distribution and supply system throughout the country
- Project to establish a regional and national centre for pharmaceutical information and monitoring of adverse drug reactions.
- Project to establish regional centre for testing of drugs, vaccines, biomedical products, food safety and cosmetics.

Regarding the provision of drugs to patients, the MOH issues lists of drugs covered by health insurance (essential drugs) and rare drugs required for treatment. Most hospitals have developed a list of drugs used in their facility, purchased the drugs according to the Law on Competitive Bidding and joint Circular of the MOH and Ministry of Finance, and provided drugs to patients at cost. In 2008, the pharmaceutical sector piloted a plan for national bulk procurement of drugs widely

used in public health facilities. The principle of *Good Pharmacy Practice* (GPP) is being implemented with the goal of 100% of pharmacies reaching the standards after 2010. The MOH issued Decision No. 24/2008/QD-BYT on organizing hospital pharmacies. These policies are in line with the WHO criteria for evaluation of pharmaceutical products management in assessment of the health system.

To orient health facilities in the efficient investment and procurement of equipment, in line with needs for health-care and professional competencies, the MOH issued Decision No. 3333/QD-BYT dated 8 September 2008 issuing the essential equipment list for district hospitals and Decision No. 431/QD-BYT issuing the essential equipment list for Regional polyclinics. The Prime Minister issued Decision No. 1107/2009/QD-TTg on strengthening the capacity to control HIV/AIDS in the provinces, including investment in building, improving and upgrading infrastructures to meet national standards.

2.4.2. Major difficulties and challenges

Within the context of market economy and integration, the pharmaceutical sector is an important input component of the health system, but it is also a key industry for the national economy. The pharmaceutical sector has shown positive changes and obtained encouraging achievements in the state management, stabilizing drug prices, production and sales. However, the sector faces difficulties and challenges in Vietnam, e.g. spontaneous, unplanned development of pharmaceutical enterprises, and under-developed pharmaceutical industrialization and antibiotics production industry. About 90% of materials for drug production are imported. Capacity of drug production in Vietnam is weak and unable to meet the requirements of the market. The network of drug supply, distribution is irrational and ineffective. State enterprises fail to play a decisive role in stabilizing drug prices when fluctuations occur. The negative influence on drug prices has not been contained and managed promptly. Prices of some drugs, especially name-brand drugs, are irrationally high due to advertising costs and commissions for doctors who prescribe these drugs. Purchasing drugs for self-medication remains relatively common. There is a shortage of highly trained pharmacists with an average of only 1.2 university-level pharmacists per 10 000 population, mainly concentrated in large cities.

Sharp increases in investments for medical equipment using joint-venture and business collaboration capital in public facilities has brought about positive changes, but also concerns about abuse of unnecessary services and escalating medical costs. To control the risk, it is necessary to issue guidance and technical standards for equipment investments. In line with standardizing treatment procedures, a study on replacement of the current fee-for-service payment is under way, and expected to contribute importantly to effectively regulating abuses of health services.

2.5. Health financing

Criteria for assessing a good health financing system requires ensuring adequate financial resources for health care that assures that people receive care when they need it, and that they are protected from financial catastrophe and impoverishment when they pay for health care.

In 2006, Vietnam's total social expenditures accounted for 6.4% of GDP. Average expenditure for health is US$ 46 per capita [19]. Statistics from the WHO reveal that these two figures are similar to other regional countries at 3.4% and US$

31, respectively [17]. Thus, Vietnam's expenditure for health is fairly high if compared to regional countries.

However, the proportion of public financing (including the state budget and social health insurance) out of total expenditure for health is lower than in other regional countries (29% vs. 34%). Household living standard surveys indicate a steep increase in out-of-pocket payment for health-care costs, from VND 82 560 in 1993 to VND 303 600 in 2004 and VND 351 600 in 2006 [14, 20, 21]. The share of households that have to bear catastrophic health costs (greater than 40% of ability to pay measured by non-food spending) in Vietnam is 8.2% (2004), quite high compared to other developing countries [22]. These rates may have fallen in recent years because the Government has increased its investment in the health sector and strengthened support to the poor, near poor, children under 6 years of age and several other social welfare beneficiaries. However, recent statistics show a clear improvement in the proportion of public financing share out of total expenditures for health, increasing from 23% in 2004 to 29% in 2006. The proportion of expenditure for health out of total expenditures from the state budget rose from 5% in 2002 to 6.2% in 2005 and 6.9% in 2006. This is a positive outcome that fully reflects the Government's intention of increasing the state budget for health and the policy on universal health insurance.

Health insurance covers nearly 50% of total population thanks to financial commitments and support from the Government. Issuance of the Law on Health Insurance has created an important legal basis for developing policy on health insurance. The roadmap for expansion of health insurance coverage is being implemented under the auspices of the Government with enrolment to date of 11 out of 24 specific groups to be eventually covered by universal coverage.

2.5.1. Major policy changes

Many important health financing policies have been issued recently. The National Assembly issued Resolution 18/2008/QH12 dated 03 June 2008 on promoting social mobilization of resources for improving quality of care, in which it clearly indicates the role of the Government and National Assembly in assuring financing and budget for health-care activities. The issuing of this Resolution has facilitated health sector implementation of health financing policies oriented towards equity and efficiency. The Prime Minister issued Decision 402/2009/QD-TTg dated 27 March 2009, issuing the Action plan of the Government to implement National Assembly Resolution 18/2008/QH12

On 2 April 2008, the Prime Minister signed Decision 47/2008/QD-TTG approving the investment project to upgrade district and inter-district hospitals using government treasury bonds and other sources of funding for the period 2008-2010. This decision allows use of treasury bonds to implement hospital upgrades thus resolving a basic barrier to progress related to ensuring a source of funds to implement this project, which had hindered implementation of Decision 225/2005/QD-TTg for CHSs.

Besides investment from public funds, social mobilization for health is also encouraged. On 30 May 2008, Decree 69/2008/ND-CP was issued, which encourages social mobilization for health, education, vocational training, culture, sports and environment. This policy is applied to public and non-public health facilities in

mobilizing sources through joint-venture, cost-sharing, and policies on concessions in land leasing, facility leasing, land tax, taxes and credit.

In 2008, a milestone was reached in the development of health insurance policy, when the National Assembly passed the Law on Health Insurance on 14 November 2008. The Law on Health Insurance has created a legal corridor to develop and implement health insurance policy with a goal of achieving universal coverage by 2014 as set forth in the Law. The roadmap to realize this goal is clearly indicated in the Law with committed funding from the state budget. On 27 July 2009, the Government issued Decree 62/2009/ND-CP regulating details and guiding documents for implementing some articles in the Law on Health Insurance. This Decree becomes effective since 1/710/2009 to replace Government Decree 63/2005/ND-CP and article 18 of Government Decree 36/2005/ND-CP dated 17 March 2005.

The Project to reform the operational and financing mechanism (including salary and user fees) in state health facilities is a major project with reform contents that cover the entire health delivery system. On 1 April 2009 the Politburo issued Conclusion 42-KL/TW regarding this Project, in which they basically agreed on the proposal. In the near future the Government will issue a Decree to stipulate how to implement these reforms.

The Politburo also produced Conclusion 43-KL/TW, on 3 years of implementation of Resolution 46-NQ/TW and 5 years of implementing Directive 06-CT/TW reaffirming the basic orientation for health financing, restructuring of health financing sources with the goal being that public funding (the state budget and health insurance) should account for a major share (at least over 50%) of total expenditures for health from different sources. The shift will continue moving from direct subsidies to public service providers to subsidies to users through purchasing health insurance as well as promoting the pace of implementing universal health insurance, gradually implementing compulsory health insurance, improving effectiveness and quality of care for the insured; reforming hospital user fees based on full and correct calculation of costs for patients

2.5.2. Major difficulties and challenges

Orientation for health-care financing in guiding documents of the Party and Government is very consistent and clear. However, difficulties have occurred during the implementation phase.

Health financing: Total societal expenditures for health account for 6.4% of GDP, in which the proportion of the public spending for health (state budget and health insurance) is below 30%. The proportion of health spending from out-of-pocket payment from users is high (over 60%). Analyses from the 2006 Household Living Standards Survey indicate that over 50% of household out-of-pocket health spending is paid to public facilities, 25% is for self-medication and the remaining 17% is paid to private facilities, mainly private clinics [23].

The state budget for health has been increasing recently because the government expanded subsidized health insurance to cover the poor, children under 6 years of age and the near poor. However, the proportion of state budget allocated to health service providers currently eats up most of the total government budget for health (84% in 2008). Coverage of health insurance remains limited; the financial sustainability of health insurance funding is low. In the context of economic recession, aid sources including official development assistance and NGOs could

possibly be cut back. Although the MOH and donors for health agree on a sector-wide support programme, no programme framework is available to implement this.

Regarding management and allocation of the health budget, there has been little progress in implementing the proposed shift towards results-based payment in the budget allocation for health-care providers. There are limitations in the fund-pooling function of the health financing system because of the high rate of out-of-pocket payment and relatively common problem of adverse selection in the health insurance system. The current method of fee-for-service payment in Vietnam poses many disadvantages, especially abuse of service, prolonged treatment times and an overload of patients. Shifting the payment method to replace fee-for-service payment with a more optimal payment method, e.g. case-based (or diagnostic related groups – DRG) or capitation, is being piloted on a small scale.

2.6. Governance

The governance concept of health systems links to the state regulatory functions in the health sector, including: developing strategies, plans and guidelines, monitoring and supervision; establishing and maintaining an effective health information system; and assuring preventive care services and health improvement. The health sector is managed as two layers: central and local. At the central level, the MOH is responsible for state management of health and population. In 2007, the Government issued Decree 188/2007/ND-CP regulating functions, tasks, obligations and organizational structure of the MOH. Notably in this Decree is the hand-over of accountability for population and family planning and responsibility for health insurance policy to the MOH, specifying regulations on drug management, food safety and hygiene, and training and management of human resources in health care. At the local level, the state management apparatus for health is organized by administrative layers including the provincial and district levels.

2.6.1. Major policy changes

The Law on Examination and Treatment was passed by the National Assembly in session 6, National Assembly XII in November, 2009. The law determines the rights and responsibilities of patients, practitioners and health facilities; conditions for practice and facility operation, professional regulations, use of new technologies and methods, medical error and grievance mechanisms for patients and ensuring conditions for examination and treatment. When it comes into effect in January, 2011, the Law on Examination and Treatment will create a fundamental change across the curative care system, helping to improve effectiveness in the management of curative care, increase transparency, and gradually harmonize Vietnamese regulations with international standards, facilitating the process of international integration. The Law regulates the issuing of licenses for practitioners and facilities applied to both public and private sectors. The Law also strongly encourages accreditation of quality for different types of curative care services and hospitals [24].

Over the past year, the organizational apparatus of the health sector has been further consolidated from the central to the grass-roots level. At the central level, the MOH is implementing Decree 188/2007/ND-CP dated 27 December 2007, which specifies functions and tasks of departments under the MOH to avoid overlap. The MOH has proposed the Prime Minister issue a revised list of public health institutions directly under the control of the MOH, and has developed a proposal to restructure these institutions. The MOH also proposed and the Prime Minister issued Decision

18/2008/QD-TTg dated 29 January 2008 regulating functions and tasks of the General Office of Population and Family Planning.

Regarding the grass-roots health organizational structure, Joint Circular 03/2008/TTLB-BYT-BNV was issued on 25 April 2008 guiding the functions, tasks, responsibilities and organizational structure of provincial health bureaus. Through Government Decrees 13/2008/ND-CP and 14/2008/ND-CP, the district health offices under the district people's committee have facilitated curative and preventive care activities at the district level, regulating the responsibility of administering CHSs. At present, however the organizational structure at the district level is not unified in all provinces: Over 40% of provinces have split district hospitals off from district health centres, who are in charge of managing the CHS (according to Decree 14); 40% of provinces retain the old model (district health centres include both curative and preventive care); 20% of provinces combine these two models (via Circular 03/2008/TTLT-BYT-BNV), mostly in districts with a shortage of government staff where the district hospitals are still in the district health centre [25].

Health policy development has received attention in recent years. Identification of priority health problems has been incorporated into the agenda of MOH leaders. In October 2008, the MOH organized a seminar on selecting priority policies, focusing on the grass-roots health system and hospital autonomy. After the seminar, the Minister of Health issued a document requesting departments and institutes to research certain priority problems. The issuance of legal documents must comply with the procedure, involving consultation from various ministries and social organizations. Attention is also given to implementation and the impacts of health policies.

The Health Inspectorate focuses on inspecting, checking and solving problems and complaints. In 2008, the MOH issued a guide document to inspect and check the performance of health activities, and amended and supplemented regulations for contact and reception of complaints. Procedures for inspection of drug price were submitted to MOH's leadership for approval, as were decisions regulating functions, tasks, responsibilities and organizational structure of the health inspectorate.

The process of health policy making has taken a participatory approach. The draft Law on Examination and Treatment and other health policies and legal documents have been circulated widely to the people and to local and international experts for comments. This is in line with the new trend in health sector governance reform, which involves the participation of relevant stakeholders (including health service users) in developing and implementing health-care plans, policies and laws.

2.6.2. Major difficulties and challenges

The increased demand and supply of health services in the current context of decentralization poses huge challenges and difficulties for governance of the health system. The intention of sector-based management is specified in Circular 03/2008/TTLT-BYT-BNV, but it still faces problems regarding budget allocations as regulated by the Law on Budget.

Giving autonomy to public health institutions requires the state management to reform its approach; away from directing specific activities/cases and towards guidance and checking the compliance with regulations and standards. Limitations and weaknesses of the health information system affect the capacity and effectiveness of governance of the health-care system.

In sectors that are strongly affected by the market economy, e.g. pharmaceutical and private health services, the state management of price and quality is facing substantial difficulties. In the pharmaceutical sector, major drug price control measures involve listing drug prices and selling drugs at a fixed price. But since prices are regulated by the market, and 90% of the materials for drug production are imported, control of drug prices appears to be infeasible.

3. Future directions for health-sector development

3.1 Orientations for development of the health sector

In the coming years, the health sector should focus on implementing policies following the viewpoints and orientations indicated in Party and Government documents related to the health sector. One recent important document is Politburo Conclusion 43-KL/TW, dated 1 April 2009 on 3 years of implementing Resolution 46-NQ/TW and 5 years of implementing Directive 06-CT/TW. Specifically:

- Organize and reshape the public health-care system, especially the grass-roots health network, to create an appropriate and stable model with sector-based management in local health (from the provincial level and below). Reform the organizational mechanism, financial and human resource management in public health facilities, and create favourable conditions to encourage the development and expansion of private facilities.
- Train staff and formulate satisfactory remuneration mechanisms for health workers. Design more appropriate salary supplements for health occupations (in the immediate future, this special supplement should be at least as high as that for teachers), for work in disadvantaged regions, and hazardous and dangerous specialties. Legalize the responsibilities of health workers in regions having a disadvantaged socio-economic status.
- Reform financing mechanisms in public health institutions, linking closely to the roadmap towards universal health insurance coverage and followed by full and accurate calculation of health-care costs. The public funding source (state budget and health insurance) must hold a major share and take on an increasing share out of total social expenditures for health (at least over 50%). Give priority to using the state budget for preventive health and for investing in and upgrading health facilities, especially in disadvantaged and remote areas. Continue to shift direct state budget subsidies from allocation to service providers towards allocation to service users by purchasing health insurance cards for beneficiaries. Push for progress to achieve universal health insurance, gradually implementing compulsory health insurance and improving quality and effectiveness of health-care services for the insured.
- Actively direct and strictly implement policies for the poor, children under 6 years of age, the elderly, ethnic minority groups and other social welfare target groups.
- Implement synchronous measures to improve the effectiveness of health, education and communication, and improve communications on health-care policies and plans of the Party and Government for people's health care.
- Summarize and draw conclusions on investment in various forms of fund sharing in public health facilities.

3.2. Key tasks for 2009 and 2010 *(According to Report 714/BC-BYT dated 30 July 2009 by the MOH on implementing the strategy for socio-economic development 2001-2010 and socio-economic development strategy for 2011-2020)*

- Regarding development and refinement of policies, strategies and plans for health delivery system development:
  - To develop the strategy for care and protection of people's health for 2011-2020; a 5-year plan for health system development (2011-2015); the strategy for population and reproductive health (2011-2020).
  - To develop and submit draft health legislative documents to the National Assembly and Government for approval (based on the list indicated in the Decision 402/QD-TTg, dated 27 March 2009 by the Prime Minister).
  - To request the Government to issue a Decree on reforming governance and a health-financing mechanism for public health institutions in the spirit of Conclusion 42-KL/TW, dated 1 April 2009, by the Politburo.
- State governance, inspection: To focus on pushing for administrative reform, promoting democratic mechanisms at the grass-roots level, applying information technology in management of administrative institutions. To strengthen the health inspectorate, enhance discipline, rules compliance, efficacy and effectiveness in state management of health.
- Preventive medicine and food safety and hygiene: To gather all resources to implement measures for epidemic control, especially pandemic influenza A/H1N1, dengue fever and dangerous, acute diarrhoea. To strengthen inspection and supervision of food safety and hygiene.
- Curative care and rehabilitation: To focus on improving quality of health examination and treatment with special attention paid to avoidance of unnecessary use of pharmaceuticals, para-clinical tests and high-tech services. To reduce and address overload of patients and sharing of patient beds in provincial and central hospitals in large cities. To develop private hospitals.
- To develop traditional medicine in both the public and non-public sectors, based on effective implementation of Prime Ministerial Decision 222/QD-TTg and Directive 24 of the Central Party Secretariat.
- Organization and development of human resources: To continue to refine the health-care system from central to local level as regulated by Decree 188/2007/ND-CP; Decree 13; 14/2008/ND-CP on organizational structure at the local level; Decree 79/2008/ND-CP on organizational system for management, inspection and testing of food safety and hygiene, management of vaccines, bio-medical products and injury prevention.
- To strengthen investment in upgrading health workforce training institutions; to increase enrolment at least 30% over 2008, promote direct recruitment without entrance exams for students from disadvantaged provinces and contracts between localities with workforce shortages and training facilities, expand forms of training to assure sufficient health workforce and labour structure in health facilities in the future. Continue to implement project 1816 of the MOH on rotating professional staff to work and support lower levels.

- Population, family planning and reproductive health care: To continue consolidating and stabilizing the organizational apparatus at the provincial and district levels. To promote health education and communication and synchronously implement measures to contain the population growth rate, improve quality of piloting and expanding appropriate models and interventions with technical, socio-economic measures to attain the goal of maintaining the low fertility rate, ensuring a balanced sex ratio at birth. To implement programmes and measures to improve the quality of the population.
- Pharmaceutical issues: To assure sufficient, essential drugs for treatment and implement effective measures to stabilize drug prices. Strengthen inspection and supervision to assure quality of drugs. Promote measures to assure safe and rational use of drugs, and gradually reduce prescribing of unnecessary drugs at public and private facilities. Develop a master plan for development of the pharmaceutical industry, pharmaceutical materials and Traditional herbal medicines. Direct localities and facilities in organization of competitive bidding for procurement of drugs as regulated, to contribute to stabilizing drug prices.
- Health financing: To focus on investing in and upgrading district and inter-district hospitals by Prime Ministerial Decision 47/2008/QD-TTg and Decision 18/2009/QD-TTg on using state treasury bonds to upgrade district hospitals (Project 225/2005/QD-TTg) and specialized hospitals for TB, mental health, paediatrics, oncology and to upgrade some provincial general hospitals in disadvantaged regions (Project 930/2009/QD-TTg). To invest in upgrading CHSs following Decision 950/2008/QD-TTg of the Prime Minister; to establish competent pharmaceutical testing centres according to Decision 154/2006/QD-TTg of the Prime Minister and Government Decree 79/2008/ND-CP; and to strengthen investments in upgrading and fortifying the provincial preventive medicine system and district health centres.

4. Implementing recommendations from JAHR 2007 and 2008; a brief evaluation

One of the objectives of developing the Joint Annual Health Review (JAHR) is to jointly identify problems and priority issues of the health sector with the active participation of all stakeholders. This is an instrument to assist in preparing annual plans and helping the health sector orient towards the goals it has laid out. The JAHR in 2007 assessed the entire health system. That report presented recommendations grouped into four categories: organization and governance, development of human resources for health, health financing and service provision. The JAHR in 2008 focused on health financing. That report presented 41 recommendations grouped into eight categories including: state budget for health, health insurance, external aid, reducing out-of-pocket spending on health, social mobilization of funds for the health sector, implementing the autonomy and accountability policy, provider payment mechanisms, and assisting the poor and other disadvantaged groups to obtain medical care.

Comparing the recommendations presented in the JAHR in 2007 with the health-sector policies issued in the past two years shows that many of the recommendations have been reflected in the issuing of new policies at different levels. For example, the recommendation related to organization and governance of the

health system to "supplement and refine basic health policies", shows that basic laws in the health sector have been issued, or will soon be issued, including the Law on Health Insurance, Law on Infectious Disease Prevention and Control, Law on HIV/AIDS Control, Law on Examination and Treatment, Draft Law on Food Safety, Draft Law on Tobacco Control. However, many recommendations still remain that are not reflected in legal documents, e.g. recommendations on curative care, primary care, ensuring quality of human resources in health care and training of specialists.

Of all recommendations on health financing in JAHR 2008, those that are crucial to the sector have appeared in the form of new policies. Recommendations on increasing state investment in health, reducing out-of-pocket spending on health, reforming allocation of the state budget, adjusting policies to expand coverage of health insurance in a sustainable way, pilot testing of case-mix payments, assessing the impact of mobilizing investment capital for joint ventures and effect of implementing hospital autonomy have all been mentioned in the new orientation found in Conclusion No. 42 and 43 of the Politburo and Prime Ministerial Decision 402/QD-TTg dated 27 March 2009. However, it is also important to remember that there is currently no formal procedure to enforce implementation of policy recommendations in the JAHR report, so impact has remained limited.

The JAHR reports have been widely disseminated to donors in the health sector and institutionalized in international development cooperation processes. Concurrently, during the process of developing the JAHR, leaders and experts from the MOH have become increasingly active in participating in discussions on the JAHR contents. Nevertheless, there is a continuing need to make greater efforts to assure that the content of recommendations in the JAHR report realistically reflect the issues of importance to the MOH.

Chapter 2: Overview of human resources for health

Human resources for health are regarded as an essential building block of the health system and the prime factor ensuring effectiveness and quality of health-care services. Health worker choices on use of resources (e.g. requesting lab tests, prescribing medications, or setting up standard equipment lists for different levels of the system) strongly affect efficiency across the entire health system. In developing policies, policymakers often focus on human resource development, while more attention is needed on effective human resource management, both from the government and facility perspectives [26]. Good governance of the health workforce will help improve the quality in health care, assure equity of health and should help improve efficiency in utilizing health resources [27].

The particular characteristics and importance of human resources in health care for determining the effectiveness, quality, efficiency and equity in providing health services means that appropriate policies and solutions are required for their effective use. The Party and Government orientation have clearly reflected the perspective that human resources for health deserve special attention. This is supported by recent strategy development concerning human resources for health supported by WHO in the Western Pacific and Southeast Asia regions. Analyzing the situation and comparing with international experience allows us to identify areas deserving greater attention in Vietnam as regards human resources for health. That is also the basis of the content in the next three chapters. The structure of this overview chapter is as follows:

- Introduce basic concepts regarding human resources for health.
- Explain clearly why health workers are different from workers in other sectors and how this justifies different kinds of policies.
- Describe the priority issues related to human resources for health in the region compared to priority issues identified in Vietnam, and identify gaps.
- Review recent Party and Government orientation towards human resources in the health sector.

1. Human resources for health – concepts

In 2006, WHO defined the health workforce as follows: “Health workers are all people primarily engaged in actions with the primary intent of enhancing health”. Thus health workforce includes health service providers, health managers and support workers. It includes both formal health workers and informal workers (e.g. community volunteers, family caregivers and traditional healers), and health workers in other sectors (e.g. the military or in schools and enterprises) [28].

Following the WHO definition, in Vietnam the “health workforce” includes all health staff either government employee or contractual staff in the public sector (including armed forces), educational institutions and scientific medical/pharmaceutical research institutes and everyone involved in management and provision of human health services (private workers, health volunteers, traditional healers and traditional birth attendants). While developing and implementing training plans, and using, managing and bringing in full play the health workforce, we should cover all those belonging to the “health workforce” mentioned above.

However, currently in Vietnam because of difficulties in information collection, information is missing on some types of health workers (e.g. the private sector, traditional birth attendants, traditional healers, ambulance drivers, health volunteers, medical equipment repair technicians, health insurance workers). Some groups are not disaggregated to allow in-depth analysis (managers, staff at training and research institutions) and some other categories of workers (physiotherapists, occupational therapists, podiatrists and others). This creates some difficulties for the JAHR 2009 to comprehensively analyze and evaluate the current situation and problems of the health workforce in Vietnam.

Two concepts are frequently used when discussing human resources for health. *Human resource development* is related to the mechanism to assist health workers to develop personal and organizational skills, knowledge and abilities [29]. Along with human resource development, there is a need to consider the concept of *human resource management*. According to Western Pacific Regional Office of WHO, "human resource management is the process of creating an appropriate organizational environment and ensuring that personnel perform adequately using strategies to identify and achieve the optimal number, mix and distribution of personnel in a cost-effective manner. The goal is to have the right number of people, in the right place, at the right time, doing the right work, supported in the right way and at the right cost" [30]. Traditionally, human resource management focuses primarily on recruitment, setting salaries and raises, managing social insurance, assessing administrative performance combined with incentives, firing when necessary, training and other administrative tasks. The responsibility of human resource managers is to implement these activities effectively, legally, equitably and in a uniform manner. Nevertheless, modern human resource management is broader than these administrative tasks and includes also human resource development. This report will cover both human resource development and management.

2. Conceptual framework for analysing human resources for health

2.1. Linkage between health workforce and other health system components

According to the WHO health system framework [11], a health system has six basic building blocks (Figure 2). The health workforce is regarded as one of the most basic and important components of the health-care system. Human resources must be closely linked to other components of the system. It is not enough just to create human resources for health through training; they must also be used and managed appropriately to effectively provide quality health services to the population.

It is necessary to have a clear model of the organization and functions of components of service delivery to know the structure and size of the health workforce required. Likewise, future health service provision depends critically on the organization and structure of the health workforce. Information systems must be in place to ensure appropriate planning and deployment to meet the health needs of the population for health-care services [31], but also to identify problems, e.g. irrational distribution of health workers [32], inadequate skills to meet the health-care needs of the people or community, or identification and analysis of the frequency of medical errors in order to reduce them. Financing of human resources in health care must ensure adequate resources to train and retrain health workers to meet the population's needs, to pay health workers enough to ensure a basic living wage, and to offer

incentive payments to motivate high-quality work, willingness to work in remote and disadvantaged areas or in dangerous specialties.

2.2 Special nature of human resources for health

The guiding principle regarding human resources for health in Vietnam stated in Politburo Resolution No. 46/NQ-TW dated 23 February 2005 is that "medical occupations are special occupations, requiring special care in recruitment, training, use and remuneration." Reforming the governance of health manpower requires a correct understanding of the special nature of human resources for health.

Health sector's aim is to save lives, improve health of the population, and is by nature labour-intensive

Human resources in the health sector play an important role because they are directly related to saving lives and improving the health and quality of life of the population; improving the quality of that nation's human resources serves to protect and develop the nation. The delivery of individual health-care services is intrinsically labour intensive. Each health-care service requires at least a single one-to-one contact between a patient and a health professional. Complex conditions can require a team to provide services to a single patient and even simple conditions may require a range of support services tailored specifically for one individual. The very nature of health-care service delivery requires a large workforce and, irrespective of the source of funds, this means a very high proportion of the health-care budget is invested in labour costs. The health workforce is a very significant economic and social investment and, like any investment, it should be well used and not wasted. Workers in the health sector often have to work with a high intensity (sometimes 24/24 hours, especially in overcrowded hospitals). The working environment is dangerous (e.g., epidemics, communicable diseases, radiation) and therefore health workers require special remuneration packages.

Health education and training requires extensive investment, coordination and planning

The sheer size of the health workforce requires an extensive investment in health-care training facilities for maintenance at current levels and also for growth to match population growth. Compounding this scale issue is the fact that development of health workers' knowledge and skills requires long periods of closely supervised, cost intensive training. A doctor, for example, requires 6 years training in university to achieve basic knowledge and then several years of supervised practice to gain competence to perform well. For specialists the period of training and practice is even longer. Training facilities and health-care educators must address both current and emerging health care and prevention needs. However, because of underlying population growth and aging, economic and social change and emergence of new or re-emergence of old diseases the volume and patterns of demand for health care changes rapidly. Addressing rapid change and ensuring current and emerging health-care needs are effectively met with appropriate medical services, equipment, pharmaceuticals and medical supplies and consumables requires coordination and long term planning within and between the education and health sectors.

Methods of prevention and treatment also evolve rapidly (the half life of knowledge in health care, i.e. the time it takes half of the knowledge to become obsolete – is now estimated to be about 5 years). Constant development of new

medical knowledge and technology demands that training facilities frequently update medical education programmes and individuals in health-care practice must also continuously upgrade their knowledge and skills throughout their working life.

Advantages of the market economy inconsistent with the nature of the health sector

Major market failures influencing human resources for health include asymmetric information (different levels of knowledge and information between providers and patients), weak competition between facilities or providers, and the nature of health services as a public good.

Regarding health workers, the greatest market failure is related to the knowledge gap that exists between a health worker and a patient that creates a situation of distinct advantage for the physician, which is called "asymmetric information". One aspect of this is just knowing whether the practitioner meets basic standards of competence, an information gap that can be considerably reduced through an effective licensing system (see Chapter 5).

However, even with an appropriate licensing system, when medical provider discretion is not held in check by appropriate standards and supervision, and when perverse incentives in the system encourage overuse of drugs and diagnostics, this asymmetric information can lead to widespread abuse or provider-induced demand.

Another important market failure relates to the monopoly power of medical workers in many settings. Health workers, with their high level of training and skills are special, because there is no effective substitute for their services when the need for essential health care arises, especially in rural and disadvantaged areas, but also in certain narrow specializations. They thus have a monopoly in provision of these essential services. Monopoly power of practitioners can be used to induce unnecessary demand to boost incomes or in other ways increase the costs of health care to the population.

In most countries the provision of health services evolves as some form of partnership between the public and private sectors. However, services to protect the population's health tend to be public goods. As a result, public health services are usually provided or financed by the public sector and, in developing countries they are funded at least in part by donors.

The intrinsic need for the public health workforce to belong mainly to the public sector significantly differentiates the health sector from other sectors, and the existence of market failures affecting human resources for health justifies greater government regulation of health workers than other professions.

Risks and Uncertainty

Health and medical care are fraught with risks and uncertainty. The patient cannot know who is the best practitioner to visit or what is the best treatment option. The practitioner cannot diagnose every case precisely, nor know exactly how each patient will respond to treatment. Although uncertainty is inevitable, clinicians frequently downplay its importance. Unfortunately, the ways in which clinicians respond to uncertainty and questioning of their practice may have adverse effects on complex decision-making processes, leading, for example, to unnecessary over investigation of patients in the desire to reduce diagnostic uncertainty to a minimum.

The nature of uncertainty for the health worker requires improved opportunities for sharing clinical experience, but also proper monitoring and investigation when adverse events occur to facilitate learning from mistakes and improve practitioner decision-making.

Special ethical issues for health workers

In Vietnam, the health sector always remembers the teachings of Ho Chi Minh "Physicians are like benevolent mothers." Former Prime Minister Pham Van Dong remarked quite eloquently on the special nature of health professions: "There are few occupations for which society demands high quality and talent like health workers. It is a special occupation, requiring deep knowledge, compassion, professional experience and practice, as each task, no matter how small, is related to the life of the people and happiness of families" [33]. The medical profession is a highly valued profession, and highly respected in society because its goal is to cure illness, save lives, protect life and improve the health of the people. It is an occupation that requires compassion, tolerance to put up with many difficulties, devotion to saving lives, respect for the dignity and rights of patients, and compliance to rules of conduct with accountability and without discrimination. However, this high expectation of society regarding the quality and ethics of medical practitioners is threatened by pressures from market failures and currently inadequate regulations and enforcement to ensure a high standard of medical ethics and good quality of health care for all, regardless of ability to pay.

Implications of special nature of health workers on need for state intervention

The labour-intensive nature of the health sector and the resulting large investments in human resources for health, including the need for continuous investments in training to maintain and upgrade skills to meet changing needs of the population, requires greater Government attention to human resource coordination and planning than in many other sectors.

A higher degree of regulation is required for health workers for reasons discussed above. First, patients do not have sufficient technical knowledge to know how to choose quality health services. This makes patients vulnerable to inappropriate and/or unethical health-care practices. Second, there are inherent risks in providing health services, and these risks must be properly monitored and managed to protect both patients and health-care practitioners. Third, and most important, poor-quality services can lead to death and/or physical or mental impairment of individual patients, and ineffective vaccination, inappropriate prescription and incorrect administration of dangerous drugs endanger the health of the public at large.

The mechanisms for planning and regulating human resources for health will be discussed in greater detail in chapters 3, 4 and 5.

3. Orientation for policy-making on human resources for health in Vietnam

The Party and Government have set out orientations and long-term policies for the health system, including policies on development of human resources for health. Of special importance among policy orientation documents is Politburo Resolution No. 46-NQ/TW dated 23 February 2005, which addresses the work of protecting, caring for and promoting health of the people in the new situation. This resolution set

the goals for the health system to: "Reduce morbidity, disability and death, improve health, increase life expectancy, improve the population, contribute to improving quality of life, improve the quality of the workforce, put in place a uniform system from the central to the grassroots level and promote healthy habits among the population, responding to the demands of industrialization and modernization, to develop and protect the nation."

This resolution proposed strategic objectives on human resources in health care, concretely: "Consolidate the health workforce in terms of quantity, quality and structure, rearrange the network, expand and upgrade training facilities, meet the need for appropriate health workers in line with the master plan for development of the health sector; pay special attention to training health-sector managers, especially hospital managers; develop and implement policies on appropriate remuneration for health workers in the state and private sectors; implement rotation of health workers; encourage practitioners to work in mountainous, remote, isolated and disadvantaged areas."

Strategic solutions of Resolution 46 are being operationalized under the Government Action Plan to implement Resolution No. 46-NQ/TW [34] the *Master plan for development of Vietnam's health system to 2010 and vision to 2020* [35] and the Government Action plan to implement National Assembly Resolution No. 18/2008/QH12 [36]. Activities on development and management of human resources that need to be implemented according to programmes, plans and master plans include:

3.1 Human resource development

- Balanced and rational development of human resources for health, ensuring the meeting of basic goals on human resources in health care; develop and promulgate a master plan on the health worker training facility network; develop rational standards and norms and skill mix to consolidate the health sector workforce; Collaborate with the Ministry of Education and Training to direct health worker training facilities with adequate unused capacity to increase the number of students trained each year; develop and present a proposal to the Prime Minister for issuing a mechanism to encourage students to study specific fields including: TB, leprosy, mental illness, paediatrics and preventive medicine.
- Make a proposal to the Prime Minister to issue a financial mechanism to implement Prime Ministerial Decision 1544/2007/QD-TTg for the project to train human resources in health care for disadvantaged, mountainous areas of the North, Central, Mekong Delta and Central Highlands regions under the affirmative action programme; develop a project for training talented health workers. Training to transfer high technology to all health facilities to develop a health workforce of high quality, responsive to the ever-increasing demands of the people and need for improving quality of health services.
- Reorganize, expand and upgrade training facilities, respond to the need for number and quality of health workers appropriate with the master plan for developing the health system. Ensure the skill mix of health workers is appropriate to improve efficiency of protection, care and promotion of the people's health. Issue financial mechanisms to invest, build new facilities and upgrade training facilities for health workers for the whole country. Issue a

mechanism/policy to encourage non-state entities to participate in training health workers; expand forms of training, including a priority to focus on training to meet society's needs so that by 2020 the supply of health workers will be adequate to serve the health-care demands of the population.

- Develop and propose to the Prime Minister a project on "clinical practice for doctors and nurses throughout the country to improve the quality of curative care, strengthen the state management of human resources in health care and ensure appropriateness with standards for international integration".

3.2 Human resource management

- Develop and propose policies for recruitment, training, use and remuneration of highly skilled/talented human resources; develop priority policies for health workers, especially workers at the grassroots level, health workers working in mountainous, isolated, remote, disadvantaged, border and island areas.
- Develop and propose to the National Assembly a Law on Examination and Treatment to regulate the rights and responsibilities of patients, practitioners and health-care facilities; protect the life, health, dignity of patients and health workers while undertaking their job; implement work accident insurance for health workers.
- Prepare conditions necessary for management, production and supply of health services to gradually satisfy requirements of the World Trade Organization (WTO) and other international agreements in the process of integrating with the international economy.
- Consolidate and strengthen the medical inspection workforce, ensure an increase in the number of health inspectors from the current 200 workers (equivalent to 0.025 inspectors per 10 000 population) to 400 workers (equivalent to 0.05 inspectors per 10 000 population) by the year 2010.
- Provide good stewardship and governance over the private health system. Strengthen inspections, checking so non-public facilities operate according to regulations and laws, especially in the area of prescribing and selling drugs.

In line with these orientations, the Government and MOH have developed and the National Assembly has approved the Law on Examination and Treatment and the Government is now reviewing for approval the *Master Plan for development of human resources for health and the medical training system to the year 2020* for approval. Both of these policies have strategic importance and are directly related to human resources for health. However, currently there is no plan for development of a comprehensive strategy on human resources for health in Vietnam.

4. Strategic orientation for health workforce in the region

Because Vietnam is a country undergoing industrialization, modernization, while integrating into the global economy, issues of human resources in health care are similar to those in other developing countries, especially in the Western Pacific and Southeast Asia regions. In addition, Vietnam has endorsed the Regional Strategy on Human Resources for Health of the Western Pacific Region in 2006 at a meeting of the Regional Committee in New Zealand. This section analyzes the strategies for human resources of the Western Pacific and Southeast Asia regions to contribute to an analytical framework to use in the remaining chapters of JAHR 2009.

4.1. Shortcomings and priority issues

In 2004, a network of global health leaders collaborated to analyze the human resource situation in health care and identify strategies to strengthen human resources for health [37]. Various joint problems and challenges affecting development of human resources in health care were synthesized and clearly and concretely identified including five main issues.

- Shortage of professional staff, mainly in developing countries. Many countries are unable to reach the ratio of 2.5 health workers per 1000 population (as a necessary and minimum ratio for a country to implement the MDGs for health).
- Unbalanced distribution of workforce across geographic areas is a common issue in developing countries and is worsening due to unplanned movement of health workers.
- Imbalances of workforce structure by qualification and competence leading to inefficient performance.
- Negative effects of working environment that is not supportive, e.g. lack of drugs, materials, equipment or low remuneration.
- Lack of information on human resources and knowledge of the impact of human resource policies. This hinders the ability to plan and develop policies effectively.

In 2006, following WHO's orientation on giving priority for health workforce development, WHO collaborated with member countries in Southeast Asia to develop a Regional strategic plan for human resource development [38] while the countries of the Western Pacific region (including Vietnam) developed a strategy on human resources for health for the region [30]. The two regional strategies identified similar priority issues requiring solutions within the region (Table 2). In particular, the priorities are grouped into three areas: (i) health workforce response to population and service needs; (ii) health workforce development, deployment and retention; and (iii) health workforce governance and management.

Regarding policies on human resources for health in Vietnam, most of the priority issues identified in the region have also been identified in the draft *Master Plan for development of human resources for health and the medical training system to the year 2020*. However the draft Master Plan clearly focuses on human resource development through training and not on management, planning or governance issues including workforce retention. The issue of migration is mentioned in the Vietnamese draft Master Plan, with priority on the need to meet regional human resource standards to facilitate international migration of health workers. In the regional strategy, the priority has been on coping with workforce shortages due to out-migration. As the Law on Examination and Treatment comes into effect, it will, to some extent, address gaps related to inadequate legislation, regulation and policy, specifically related to professional licensing to demonstrate minimum skills and competencies, continuing medical education requirements and a license suspension or revoking system related to medical errors or non-compliance with professional technical guidelines. Other policy actions in the pipeline as described in section 3 above respond to priorities similar to those identified in the regional human resource strategies.

Table 2: Priority issues in the Western Pacific Regional Strategy on Human Resources for Health 2006-2015

Health workforce response to population and service needs ▪ Ageing and growing populations; changing and emerging disease patterns; ethnic and cultural diversity ▪ Model of health-care provision (Tendency to invest in acute care and to undervalue preventive and primary care) ▪ Economic development increasing demand and cost of medical care services ▪ Technology and patient management practices influence health workforce demand
Health workforce development, deployment and retention ▪ Shortage of professional and health planning management staff ▪ Geographic, skill, institutional, age, gender and socio-economic imbalances; growth of private sector ▪ Workforce retention and participation ▪ Workforce deployment ▪ Workforce mobility ▪ Pre-service education and training ▪ Continuing education and training
Health workforce governance and management ▪ Inappropriate and inadequate legislation, regulation and policies; lack of effective leadership ▪ Lack of investment in workforce management and planning; lack of comprehensive and collaborative approach

4.2. Strategic vision of human resources for health in the region

The strategic vision for human resources in the two regions of the Western Pacific and Southeast Asia ultimately aim to achieve optimal health outcomes by ensuring equitable access to quality health services through balanced distribution of an adequate, competent and responsive health workforce supported by the health system. However, the goal of the Southeast Asian strategy is more focused on the development of human resources while the strategy in the Western Pacific places more emphasis on both development and management of human resources. The goal stated in Vietnam's draft *Master Plan for development of human resources for health and the medical training system to the year 2020* is similar, but uses a different approach: "build and develop a network of health worker training facilities in line with the socio-economic development conditions of each region, supply a health workforce of good quality to contribute to improving the quality of health services, satisfy the need for health care and protection of the people that is oriented towards the goals of the health sector: equity, efficiency and development."

4.3 Strategic objectives for human resources

Human resource strategies for health care in the Southeast Asia and Western Pacific regions present action plans aiming to achieve the common goals of ensuring that human resources for health in the region have the ability to respond to the health-care needs of the population, increase access to quality health services and improve health outcomes through five strategic objectives. These strategic objectives are

similar between the two regions (Table 3). The differences are that the strategy for the Western Pacific Region approaches the issue more comprehensively, covering more human resource management issues than the strategy in Southeast Asia. Second, the Southeast Asia Strategic plan approach focuses more on how WHO can support the countries to reach their goals while the Western Pacific Region emphasizes more on the responsibility of national governments in the region to implement the strategy with support from WHO.

The current draft *Master Plan for development of human resources for health and the medical training system to the year 2020* in Vietnam focuses almost entirely on training of health workers, and does not include any of the other strategic human resource objectives covered in the regional strategies for health care. However, Table 3 shows that many other strategic health system policies and plans in Vietnam cover partially or fully the other aspects of human resources not covered by the draft Master Plan.

Table 3: Comparing strategic objectives

Southeast Asia	Western Pacific	Vietnam
Ensure that health workforce planning and development based on sound evidence continues to be an integral component of national development plans of Member countries.	Ensure that health workforce planning and development is an integral part of national policy and responsive to population and service needs.	Develop and issue policies and plans that strengthen the health information management system to facilitate work of planning and management of human resources for health.
Support Member countries to scale up production of high-quality human resources to meet the skill and development needs of the workforce in changing service environments.	Enable the delivery of effective health services by addressing workforce size, distribution and skill mix. Improve the quality of education and training to meet the skill and development needs of the workforce in changing service environments.	Develop and issue the Master Plan for development of human resources for health and the medical training system to the year 2020 covering pre-service and continuing medical education capacity. Reform policy on staffing norms.
Strengthen stewardship and management of health systems to ensure the delivery of cost-effective services through a highly motivated workforce.	Strengthen health workforce governance and management to ensure the delivery of cost-effective, evidence-based and safe programmes and services.	Develop, issue and implement the Law on Examination and Treatment to strengthen legal basis for health workforce governance. Develop and issue policies to strengthen health worker supervision and the inspection system.
	Address workforce needs, including workplace environment, to ensure optimal workforce retention and participation.	Reform investments in physical infrastructure, equipment, and working conditions, reform policies on salaries and supplements, and develop policies on work accident insurance for health workers.

Southeast Asia	Western Pacific	Vietnam
Develop a platform where Member countries of the Region can share their experiences while assisting each other in developing human resources for health (HRH).		Prepare necessary conditions for management, production and supply of health services to gradually comply with requirements of WTO and other international agreements in the process of integrating with the international economy.

4.4 Key result areas and outcomes

Key result areas and outcomes of the Western Pacific Regional Strategy on Human Resources for Health 2006-2015 are quite comprehensive and cover nearly all outcomes of the Southeast Asia Region. Hence, Table 4 presents only the key result areas and outcomes for the Western Pacific region.

Table 4: Key result areas and outcomes of the Western Pacific Regional Strategy on Human Resources for Health 2006-2015

I. Health workforce response to population health needs (demand)

1. The health workforce is responsive to changing growth, cultural diversity and emerging demographic and disease patterns.
2. The health workforce meets the preventive and primary health-care needs and respects the cultural diversity of the population.
3. The health workforce is structured and deployed based on evaluation and prioritization of policies to improve health and reduce inequalities.
4. Strategies are in place to ensure that the number, types and skills of the health workforce will be sufficient to sustain changing or newly adopted technology.

II. Health workforce development, deployment and retention (supply)

Deployment

1. Effective strategies are in place to maximize the fit between the available workforce and the population's health needs.
2. Effective strategies are in place to minimize distribution imbalances.

Retention

3. Workforce needs are addressed to ensure optimal workforce retention and participation.
4. Links exist between workforce development and service development maximizing the flexibility of the workforce, including skill mix and new roles.
5. Improvements are realized in self-sufficiency of workforce supply and sustainable management of workforce mobility.

Development

6. The quality and quantity of pre-service education and training delivers: (1) a suitably qualified and effective health workforce; and (2) the skills and competencies appropriate and adaptable to country needs.
7. Continuing education and training supports an effective, adaptable and motivated health workforce at all levels of care.

III. Health workforce governance and management

1. Effective strategies are in place to support sound stewardship and governance.
2. Effective and efficient health management and planning systems are in place or are being put in place.

These key result areas have also been identified for Vietnam in a 2007 study on policy options related to human resources in health care [39]. The six groups of outcomes are similar to the Western Pacific regional strategy for health workforce development. Specifically they include:

1) Meet people's need for health care through training and distribution of health workers with appropriate professional skills to deal with disease patterns in different regions with focus on the poor and disadvantaged regions.
2) The workforce is trained and used (recruitment, arrangement and assignment) to take on the tasks of meeting targets for the health system. Give priority to recruitment of students into medical and pharmaceutical schools, training process and recruitment/deployment for health facilities in poor, mountainous and ethnic minority areas.
3) The workforce is optimally trained, used and coordinated at the lowest cost, but still assures expected outcomes. Assure the balance, harmonization of skill mix of the workforce; avoid waste of human resources, equipment and money.
4) Workforce development policies are clear, flexible and encourage health workers to work in public facilities and disadvantaged areas (attractive positions with guaranteed incomes). Health workers in poor and disadvantaged areas are given priorities of treatment bonuses and better working conditions so that they will be satisfied and stay with their profession in these regions, and to prevent "brain drain".
5) Strengthen the ability to update knowledge and skills through continuing education and technology transfer, developing a contingent of leading experts to meet people's growing health-care needs.
6) Ability to maintain the trust and confidence of the community, assuring medical ethics of health workers with a view to achieving greater community satisfaction with the services.

Through analysing the regional strategy on human resources for health compared to Vietnam's plans and policies on human resources in health care, one can see several problems that require more attention in the near future. These priority issues will be integrated into the following chapters as follows:

Chapter 3: Assess and identify priorities related to policies on deployment of human resources for health to improve the health status and reduce inequalities (especially in mountainous, remote and disadvantaged regions), taking into account differentials in need for health care, customs and local practices of each region.

Chapter 4: Identify priorities on development of continuing medical education, combined with issues of appropriate remuneration to support primary health care and preventive medicine workers. Establish mechanisms, standards and a system of accreditation of quality training institutions.

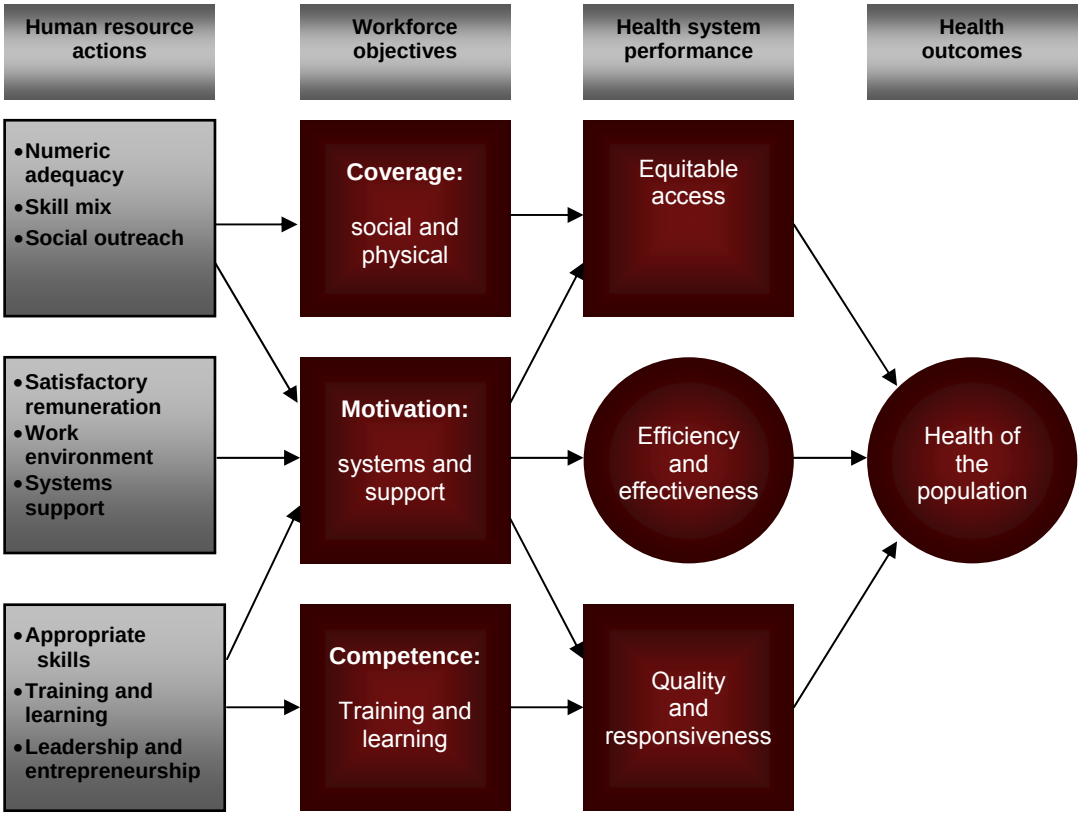
Chapter 5: Ensure adequate information and strengthen the mechanism for planning, supervising, assessing and ensuring the size, structure and distribution of the health workforce to appropriately satisfy needs of the population. Develop comprehensive plans and policies to retain, deploy and develop human resources appropriate to the health-care model being applied, with a priority on primary and preventive care. Strengthen cooperation between departments and units of the MOH related to development and deployment of human resources for health in both curative

and preventive sectors, human resource management, availability and appropriateness of equipment and pharmaceuticals to ensure that health workers can meet the needs. Establish a mechanism and standards for licensing of medical practitioners, standards for performance appraisal of health workers and standards for quality of health-care services. Establish mechanisms to ensure greater autonomy and flexibility of health facilities under different conditions for effective and efficient recruitment and deployment of health manpower, while monitoring output performance to ensure accountability. Adjust policies on working conditions, logistics and appropriate remuneration to attract and retain human resources for health in remote areas and less attractive specialties. Develop a system/mechanism for supportive supervision of work of health workers based on job descriptions and standards.

5. JAHR 2009 analytical framework

Although there is a regional strategy for human resources in health care, the development of policies and plans for human resources must fit with the characteristics and situation of each country. The main objective is to improve the performance of human resources in health care through ensuring adequate numbers and coverage and by strengthening competencies and motivation. These are important factors for achieving the ultimate goal of the health system, namely improving the health of the people, ensuring equity, efficiency, accessibility and quality of health services (Figure 3).

Figure 3: Managing for performance



Source: Human Resources for Health - Overcoming the crisis [37]

National and regional coverage: Coverage refers to the number of health workers with appropriate skills, adequate to meet the needs for health care of each region and the entire nation. Coverage is not only determined by the number of health workers, but also by the quality of human resources, distribution of workforce and the support of other resources. Many countries have abundant human resources for health, but low coverage because health workers lack practical skills or the distribution of workforce is unbalanced across regions (too few in disadvantaged areas). Some social factors, e.g. gender, language, ethnicity, region and social class also influence coverage of the health workforce. Hence, it is necessary to have a national strategy to ensure adequate human resources in health care through diversifying towards appropriate types of workers, at the same time distributing the workforce to respond to needs of different regions. The next chapter of this report will analyse the situation of national and regional coverage.

Develop professional competencies for health manpower: To achieve the above goals, it is necessary to have an appropriate education and training programme, especially continuing medical education and initiatives for innovation by health workers in both the public and private sectors. The training strategy must be appropriate to strengthen professional knowledge and skills appropriate for the health workers, improving their ability to manage and lead and helping all health workers to undertake continuing medical education. The strategy needs to create awareness amongst all health workers to actively learn to improve their qualifications. These and issues related to developing professional competencies for health workers will be discussed in Chapter 4.

Motivating health workers: Motivation for health workers is influenced by many factors, e.g. personal values, professional ethics, remuneration, working environment and support from the health system. Skills and competencies of health workers will be limited if they do not have appropriate motivation. Funding, drugs, equipment and services are wasted if motivation for health workers is weak. Low income, poor working conditions can make health workers disillusioned with the public health sector. If we want health workers to be highly motivated, it is necessary to strengthen their professional ethics, pay an adequate salary, create a good working environment and other support, especially to ensure that they have adequate equipment, essential drugs, physical infrastructure, health information systems. Issues of motivation will be analyzed in Chapter 5.

The three objectives – coverage, competency and motivation – are the basis for achieving equity, efficiency and development of the health system, and to achieve the ultimate goal of caring for, protecting and promoting the health of the population [37]. Because of special characteristics of the health workforce, the role of the State is especially important in planning and policy development, management and regulation of human resources in health care. This is not only true in Vietnam, but also true in other nations of the Western Pacific and Southeast Asia. Through analysis of the strategies concerning human resources in health care of these two regions, and the process of analyzing and writing each chapter in the JAHR 2009 report, we find that analyses of health manpower must be comprehensive and integrated into analyses of the whole health system. They must link human resources in health care and the need for health care of the people and other building blocks of the health system (e.g. service provision, financing, health information, equipment, pharmaceuticals and management/governance).

Figure 4 below describes the relationship between the key results areas in the Western Pacific Regional Strategy on Human Resources for Health 2006-2015 and the chapters of the JAHR 2009 report that are being drafted based on the analytical model in Figure 3.

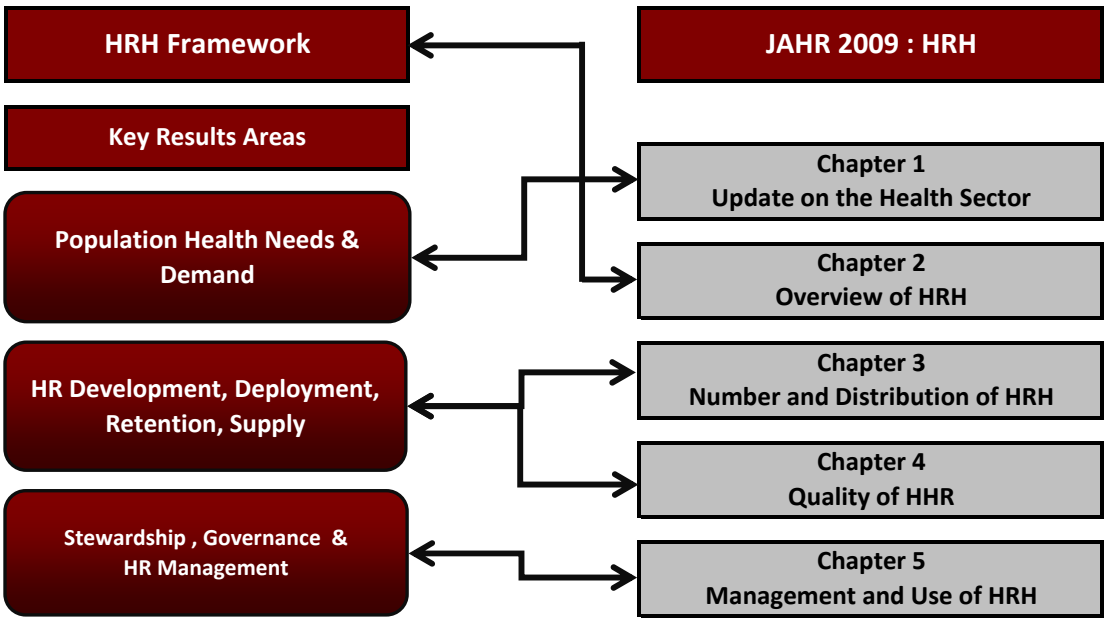
Chapter 3 assesses the overall situation and identify priority issues related to the quantity and distribution of health workers in Vietnam in relation to the needs and demands of the population and the demands of the health sector, which have been assessed in Chapter 1.

Chapter 4 focuses on describing and analyzing professional competency strengthening among health workers, especially long-term training and continuing medical education.

Chapter 5 covers the priority issues of use and management, including areas of governance and management at the facility level.

Chapter 6 summarizes the main conclusions and findings of the analysis in the report, and Chapter 7 presents the recommendations resulting from the discussion among stakeholders during development of the report.

Figure 4: Relationship between the Western Pacific Regional Strategy on HRH and the JAHR 2009



Chapter 3: Quantity and distribution of health workforce

This chapter describes the quantity, structure and distribution of human resources in Vietnam's health-care sector and analyzes possible shortages in the health workforce. Possible shortages are examined by specialty, level of qualifications and location. Further, we examine possible causes underlying shortages and poor distribution of the health workforce, e.g. policies concerning the health workforce and training of health workers; identify possibilities to respond to actual needs for health workforce in terms of quantity, structure and distribution; and identify priorities and recommend measures to address some priority issues in the coming years. The analyses are based on literature reviews of recent documents on the Vietnamese health workforce.

Due to limited reference information, this report concentrates on analyzing the following basic categories of health workers: medical doctor, university pharmacist, assistant doctor, secondary pharmacist, nurse, midwife, and medical and pharmaceutical technicians. Size of the health workforce is analyzed by examining: (i) the total number in the health workforce; (ii) the number of health workers per 10 000 population. Distribution of health workforce is analyzed through examining distribution across: (i) urban vs. rural residence; (ii) facility level and region. The structure of the workforce is analyzed mainly by: (i) gender; (ii) qualifications; (iii) ethnicity.

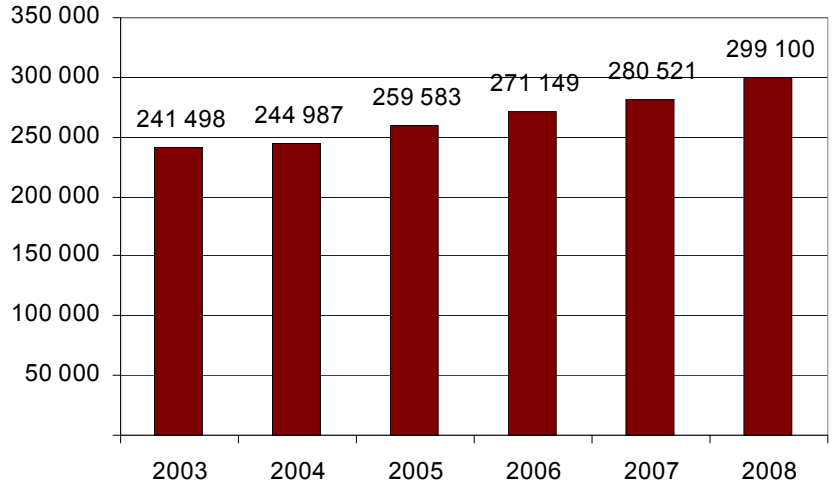
1. Situation analysis

1.1. Improvements and achievements

1.1.1. Increase in health workforce

Health staff in public facilities has increased over the past 5 years, from 241 498 in 2003 to 299 100 in 2008 (Figure 5). The number of health workers rose gradually in all staff categories. Total staff at the central, provincial, district and communal levels includes: 56 208 medical doctors (including PhD and master degree holders), 49 213 assistant doctors, 10 524 university pharmacists, 12 533 secondary pharmacists, 67 018 nurses, 22 943 midwives, 882 traditional medicine practitioners, and 15 682 technicians and pharmaceutical staff (Table 5).

Figure 5: Total number of health workers, 2003-2008



Source: Health Statistical Yearbook, 2003-2008 [40].

Table 5: Number of health staff by category, 2003-2008

Health staff category	Year					
	2003	2004	2005	2006	2007	2008
Doctor	47 587	48 215	50 106	52 413	54 910	56 208
Assistant doctor	48 325	48 059	49 674	48 519	48 738	49 213
University-trained pharmacist	6 266	6 360	10 669	10 700	10 270	10 524
Secondary pharmacist, pharmaceutical technician	10 078	10 424	11 154	12 620	13 324	12 533
Nurse	48 157	49 534	52 115	57 003	61 158	67 081
Midwife	16 218	17 610	18 313	19 242	20 920	22 943
Traditional medicine practitioner	317	293	295	656	677	882
Medical technician	9 637	9 763	9 954	11 317	11 940	15 682
Others	64 386	64 516	67 629	70 395	71 353	64 915
Total	241 498	244 987	259 583	271 149	280 521	299 100

Source: Health statistics yearbook, 2003-2008 [40]

Overall, government health worker numbers have been rising over time, especially doctors, nurses and midwives. However, the number of university-level pharmacists in the state sector remains low, and no increase has been seen over the past 3 years. In fact, the number declines in some years due to low enrolment. Statistics indicate a modest increase in public-sector practitioners of traditional medicine over the past 3 years, but overall the numbers remain low (less than 900 persons).

In 2008, the ratios of doctors, nurses and university-trained pharmacists per 10 000 population were 6.5, 7.8 and 1.2 respectively. Thus, these indicators have seen an increase over the past 5 years (Table 6). In fact, the increase in the ratio of nurses per 10 000 population has been more rapid than that of doctors.

Table 6: Ratio of selected health staff categories per 10 000 population, 2003-2008

Health staff category	Year					
	2003	2004	2005	2006	2007	2008
Doctor	5.9	5.9	6.0	6.2	6.5	6.5
Nurse	6.0	6.0	6.3	6.8	7.2	7.8
University-trained pharmacist	0.8	0.8	1.3	1.3	1.2	1.2
Total	29.9	29.9	31.2	32.2	32.9	34.7

Source: Health statistics yearbook 2003-2008 [40]

When comparing the government health workforce in Vietnam with other Asian Pacific and Western Pacific countries, we find that the ratio of doctors per 10 000 population in Vietnam is higher than in Thailand, Indonesia, Cambodia and Laos, but lower than in the Philippines, China and Malaysia. The ratio of nurses and midwives to population is on par with Indonesia and Cambodia, but much lower than other countries (Table 7). The ratio of pharmacists in Vietnam is not low compared to other countries in the region [17].

Table 7: Comparison of selected health workforce indicators in Southeast Asian and Western Pacific regions

Region, name of country	Doctors per 10 000 pop.	Secon-dary and higher nurses and midwives per 10 000 pop.	Ratio of nurses and midwives to doctors	Secondary and higher pharmacists per 10 000 pop.
Average in Southeast Asia	5.2	12.2	2.3	3.7
Indonesia	1.0	8.0	8.0	0.5
India	6.0	13.0	2.2	5.0
Thailand	4.0	28.0	7.0	3.0
Western Pacific	13.9	20.3	1.45	4.5
Western Pacific (excluding high-income countries)	13.1	12.9	1.0	3.1
Cambodia	2.0	9.0	4.5	0.5
Laos	4.0	10.0	2.5	0.0
Vietnam	6.0	9.0	1.4	3.0
China	14.0	10.0	0.7	3.0
Malaysia	7.0	18.0	2.6	1.0
The Philippines	12.0	61.0	5.1	6.0

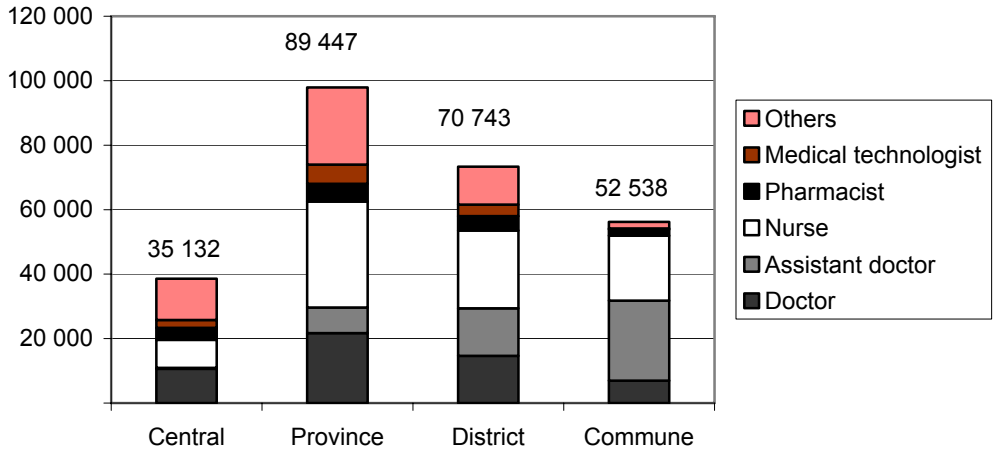
Notes: The most recent data for each country. As the data reported by each country were collected from different sources, the coverage and quality of the data may vary. Many countries do not report whether they include both the public and private sectors, or whether or not they include elementary-trained health workers.

Source: WHOSIS [17]

1.1.2. Distribution of health workforce by facility level and region

Overall, government health workers are available throughout the country, even in mountainous, remote, isolated, border and island areas. The state health system is organized to extend from the grassroots level (district, commune, and village) to the provincial and central levels. However, quantity and structure of health workforce in each district, region and area varies. Figure 6 shows that the provincial level has the largest concentration of health workers, including clinical workers, preventive workers and administrators. At provincial and district levels, nurses account for the biggest share while assistant doctors predominate at the communal level. At the central level, the "other" category of health workers holds a large share, in part because this level includes the MOH, research institutes and administrative agencies for health care. Pharmacists and medical technologists account for a very small segment of health workers in the public sector.

Figure 6: Structure and distribution of health workers by facility level, 2008



Source: Health Statistics yearbook, 2008 [7].

By the end of 2008, 65.9% of communes had doctors, 93.1% of CHSs had a midwife or assistant doctor specialized in paediatric and obstetric care and 84.4% of villages had active village health workers (Table 8). Thanks to the increase in the number of government health workers and widespread distribution, health services continue to develop. The vast majority of the population can access health-care services of reasonable quality. Many epidemics have been controlled in a timely manner, contributing to the care, protection and promotion of the people's health.

Table 8: Distribution of health workers at communal and village levels, 2008

Region	% of CHSs with a doctor	% of CHSs with assistant doctor specialized in paediatric and obstetric care, or midwife	% of villages with active VHWs
Red River Delta	76.6	87.9	71.8
Northeast	61.7	91.5	97.2
Northwest	32.4	86.2	90.6
North Central Coast	61.4	97.2	92.0
South Central Coast	59.9	95.6	75.9
Central Highlands	49.9	95.5	95.3
Southeast	76.1	96.1	70.1
Mekong Delta	80.0	95.5	92.1
Total	65.9	93.1	84.4

Source: Health statistics yearbook, 2008 [7].

*There is a relatively even distribution in the number of government health workers across regions (*Table 9). Even the Northwest region with over 2.7 million people has over 10 000 government health workers. The Mekong Delta region has the lowest number of government health workers per population. It has a population of over 17.7 million people, but only 40 000 government health workers (the Southeast region has over 14.6 million people, but it has nearly 43 000 government health workers; the Red River Delta region with a population of over 18.5 million people has over 43 000 government health workers).

Table 9: Distribution of population and health workers by region, 2008

Region	Population (1000 people)	Local government health workers	Health workers per 10 000 population	Doctors per 10 000 population
Red River Delta	18 545.2	43 280	23.3	4.9
Northeast	9652.3	31 104	32.2	6.4
Northwest	2665.1	10 139	38.0	5.0
Northern Central Coast	10 795.1	26 843	24.9	4.5
South Central Coast	7253.2	19 511	26.9	5.0
Central Highlands	5004.2	13 572	27.1	4.9
Southeast	14 600.7	42 960	29.4	5.6
Mekong Delta	17 695.0	40 385	22.8	4.2
Total	86 210.8	246 627	26.4	5.0

Source: Health Statistics Yearbook, 2008 [7].

The MOH has implemented many strategies to develop human resources for health, especially for disadvantaged areas including: projects to directly admit students from disadvantaged areas and ethnic minorities to medical school without entrance exams if they meet certain minimum requirements; training contracts between the local health sector and medical schools to train staff, in-service training; affirmative action in the form of lower requirements for admission to medical training among students from mountainous, isolated, remote areas; expanding the 4-year

community doctor training programme for eligible grassroots-level staff; implementing Project 1816 on seconding higher level staff to lower level facilities. The proportion of communes with a doctor has increased in the northern midlands and mountains, although in the Northwest the proportion of communes with a medical doctor remains low compared to other regions.

1.1.3. Growth in health workers in some specialties and in the private sector

Besides health workers managed by the government health sector (MOH, provincial health bureau, district health office) other government sectors also employ health workers (e.g. military, police, transportation, agriculture and rural development, and post and telecommunications sectors). In 2008, data compiled by the MOH indicate that health workers employed by other civilian sectors totalled 13 895 people, a 35% increase over 2000. In the staff structure of other sectors, university pharmacists account for 31%, doctors for 15%, nurses for 29% and assistant doctors for 11% [7]. These human resources are working in medical facilities of those sectors, serving health-care needs of government and other workers in those sectors. They also participate in providing private curative and preventive care services in all regions of the country.

The private sector plays an important role in curative care. Data from household surveys indicate that of total outpatient visits, one third are at private clinics, while the corresponding figure for total inpatient admissions is 2%. However, since the medical practice licensing system is not yet in place, and management of the private health sector is limited, statistical data on the private sector are incomplete. The private sector continues to develop in terms of both numbers and quality. Apart from officially registered practitioners, there are many unregistered private health workers and public health workers who also practice privately. Public practitioners have contributed greatly to people's health-care activities, facilitating access to health services and contributing towards reducing the work overload of public hospitals.

With almost 90 private hospitals with 5800 private hospital beds, equivalent to 3% of total beds in the country, there are approximately 0.7 private beds per 10 000 population. According to the *Master Plan for development of Vietnam's health system to 2010 and vision to 2020*, the goal is to achieve 2 private hospital beds per 10 000 population by 2010 and 5 private beds per 10 000 population by 2020. The current trend indicates that the private health sector is expanding in all regions, but remains concentrated in urban areas. Private-sector demand for health workers is increasing, attracting highly qualified and experienced health staff away from public facilities, but also attracting retired health workers and new graduates. In the future, because the private health sector will be recruiting a large number of well-qualified health workers, it will be important that the non-public sector also takes on more responsibility in training health workers.

1.2. Needs for health workforce and responsiveness

1.2.1. Estimates of health workforce needed by 2020

The MOH is drafting a *Master Plan for development of human resources for health and the medical training system to the year 2020*, for approval by the Prime Minister. The plan will be based on: the current population size and growth rate; on the norms approved by the Prime Minister and Ministry of Home Affairs on health worker numbers and structure based on the current health workforce, the number

expected to retire and the number needed to replace those who exit; socio-economic conditions; and the capacity for training by the medical school system.

According to the *Master Plan for development of Vietnam's health system to 2010 and vision to 2020* approved by the Prime Minister, it will be necessary to develop human resources for health in a balanced and rational manner. The plan calls for achievement of some basic targets including: over 8 doctors per 10 000 population and from 2.0 to 2.5 university-level pharmacists per 10 000 population by 2020. The plan calls for ensuring that the skill mix at curative care facilities will include 3.5 nurses per doctor (equivalent to 28 nurses per 10 000 population). The draft *Master Plan for development of human resources for health and the medical training system to the year 2020* also specifies its objectives in line with the *Master plan for development of Vietnam's health system to 2010 and vision to 2020*, and sets a target of 41 health workers per 10 000 population in 2015 and 52 health workers per 10 000 population in 2020 (Table 10).

Table 10: Ratio of health workers to 10 000 population in 2008 and 2020 targets

Indicators	2008	Target in the draft Master Plan by 2015†	Target in the draft Master Plan by 2020†	Target in the Master Plan 2020*
Total	34.7	41.0	52.0	
Doctors	6.5	8.0	10.0	>8.0
University pharmacists	1.2	2.0	2.5	2.0-2.5
Nurses and midwives	10.4		20.0	>28.0
Other health workers	16.6	31.0‡	19.5	

*Target in the Master plan for development of Vietnam's health system to 2010 and vision to 2020 [35]. †Target in the draft Master plan for development of human resources for health and the medical training system to the year 2020 [41]. ‡This number combines nurses, midwives with other health workers.

Source: Health Statistical Yearbook, 2007-2008 [7, 12]

According to the draft *Master Plan for development of human resources for health and the medical training system to the year 2020*, and based on the norms for different categories of health workers per 10 000 population by 2015, and with an estimated population of 90 million people by that time, the country would need about 369 000 government health workers. Similarly, by 2020, with an estimated population of 92.6 million people, the country would need 478 000 health workers in total. Using projections of staff expected to retire, move to other sectors and dropout for other reasons, the Science and Training Department, MOH, estimates the number of health workers to be trained every year (Table 11).

Table 11: Estimates of number of health workers to be trained annually, 2015~2020

Health staff category	By 2015		By 2020	
	Target per 10 000 people	Number of workers to be trained	Target per 10 000 people	Number of workers to be trained
Doctor	8.0	5 299	10.0	7 030
University-trained pharmacist	1.6	1 337	2.0	1 724
Nurse (all levels of training)	24.0	24 268	30.0	27 652

The aforementioned data do not include workers in the private sector – a rapidly growing sector. To prepare a comprehensive plan for health workforce development and utilization, future statistics must include health workers in the private sector, including current (active) staff and future needs. Statistics should also reflect the utilization of health workers after training.

Need for health workforce by disease pattern: There is a clear change in mortality and morbidity patterns with decreasing communicable diseases and increasing non-communicable diseases and injuries (Table 12). Hence, attention should be paid to training health workers in non-communicable and trauma specialties, e.g. cardiovascular disease, oncology, endocrinology, injuries/accidents.

Table 12: Trends in morbidity and mortality (%), 1976~2008

Disease group		1976	1986	1996	2006	2008
Communicable	Morbidity	55.5	59.2	37.6	24.9	25.2
	Mortality	53.1	52.1	33.1	13.2	17.2
Non-communicable	Morbidity	42.7	39.0	50.0	62.4	63.1
	Mortality	44.7	41.8	43.7	61.6	60.0
Accidents/injuries	Morbidity	1.8	1.8	12.4	12.7	11.7
	Mortality	2.2	6.1	23.2	25.2	22.8

Source: Health Statistical Yearbook, 2008 [7].

1.2.2 Ability to meet the need for size of health workforce

To meet health workforce needs, the MOH is preparing a *Master plan for development of human resources for health and the medical training system to the year 2020*. This master plan includes the following objectives and measures:

- By 2020, Vietnam will resolve the problem of health workforce shortages in disadvantaged areas, and assure sufficient staff for preventive medicine, paediatrics and para-clinical specialties.
- By 2020, 100% of central provinces/cities will have training institutions for the health workforce from secondary to junior college level, and at least 80% of them will be junior college level.
- By 2015, at least 5% and by 2020, at least 20% of students in health sciences will be studying in non-public schools.

Health workforce training system in Vietnam

The health workforce training system in Vietnam has made good progress, with 21 public medical and pharmaceutical universities/faculties (17 universities belong to civilian sector, 1 military medicine) and 3 private medical schools/faculties. These schools provide training in one or more pharmaceutical and health fields. Nearly all provinces have secondary medical schools or junior colleges. Table 13 presents the geographic distribution of training institutions and post-graduate training facilities in Vietnam.

Table 13: University and post-graduate training institutions for health workforce by region, 2009

Region	University	Administrative agency
Northeast	Thai Nguyen Medical University	MOET
Northwest	No medical university is available	
Red River Delta	Hanoi Medical University	MOH
	Hanoi Pharmaceutical University	MOH
	Hanoi School of Public Health	MOH
	Vietnam Academy of Traditional Medicine	MOH
	Nursing faculty of Thang Long University	MOET
	Health Science Faculty, Thang Long University	MOET
	University of Odonto-stomatology	MOH
	Hai Duong Medical Technology University	MOH
	Hai Phong Medical University	MOH
	Thai Binh Medical University	MOH
	Nam Dinh Nursing University	MOH
	Military Medical Academy	MOD
North Central Coast	Hue Medical, Pharmaceutical University	MOET
South Central Coast	Medical Faculty of Da Nang University	MOET
Central Highlands	Medical Faculty of Tay Nguyen University	MOET
	Nursing Faculty, Yersin- Da Lat University	MOET
Southeast	HCM Medical, Pharmaceutical University	MOH
	Pham Ngoc Thach Medical University	HCMC People's Committee
	Nursing Faculty, Hong Bang University	MOET
Mekong Delta	Can Tho Medical, Pharmaceutical University	MOH

Notes: MOET Ministry of Education and training, MOD Ministry of Defence.

Source: Draft Master plan for development of human resources for health and the medical training system to the year 2020. [41]

Vietnam has 30 junior colleges in 30 provinces that provide training for nurses, midwives, medical technicians and laboratory technicians. Some junior colleges are under the management of the MOH, most junior colleges are under the administration of the province.

There are 35 secondary medical schools in 35 provinces that train secondary and elementary medical workers.

Schools or faculties in research institutes or hospitals: Secondary medical technical school, Central Institute of Malariology – Parasitology – Entomology.

Training faculty of Quy Nhon Institute of Malariology – Parasitology – Entomology. Training faculty of Bach Mai hospital, Pasteur Institute in HCMC.

Some newly established provinces do not have secondary medical schools, e.g. Hau Giang, Dak Nong, but they make arrangements for facilities in other provinces to provide training.

In recent decades, considerable attention has been paid to training the health workforce in Vietnam. The number of medical schools has increased strongly and widely throughout the country. Some schools are under the MOH, some are under management by the Ministry of Education and Training, some are under the central level, some are under the provincial level, and some schools/faculties belong to hospitals or institutes. Some schools are public, some are private; some train only one type of medical worker, some train multiple types.

Health workers with junior college, bachelor, graduate and post-graduate education account for a large share because Vietnam has over 40 medical schools/faculties at the university and junior college levels.

If resources are properly invested, the target number of health workers and quantity of basic health workers (doctor, university pharmacist, midwife, nurse, medical technician) per 10 000 population in Vietnam will be achieved, placing Vietnam on par with other countries in the region.

Student recruitment

In the past, the Ministry of Education and Training, the MOH or other agencies allocated quotas for recruitment of students depending on the capacity of the school, the need for health manpower and availability of Government funds. Based on these quotas, the Government allocated state budget funding to training facilities. Since 2007, the Government has allowed medical schools to determine the number of students to recruit based on the training capacity of each school. This greater autonomy for recruiting students is intended to help resolve the health worker shortage, especially in remote areas [42].

Recruitment into medical training facilities is undertaken under three types of mechanisms, including: direct recruitment of specific population groups without requiring entrance exams; contracts between training facilities and local governments to train health staff to serve those localities; and normal entrance exams. Table 14 describes the features of these three mechanisms.

The Government has established policies to address areas having a health workforce shortage and a shortage of people eligible to study medicine. The policy of direct recruitment without entrance exams was put forth in Decree 134/2006/ND-CP; Decision 1544/QD-TTg approving the "Proposal for training of health workforce in disadvantaged, northern and central mountainous regions, the Mekong Delta and the Central Highland by direct recruitment without entrance exams". Direct recruitment means recruiting students without requiring them take the normal entrance exams for university, junior college and secondary medical schools. The intent is to train state medical workers for socio-economically disadvantaged regions and ethnic minority students for which there are no or few medical workers with university, junior college or secondary training. After graduation, these graduates will be recruited by the provincial people's committee and assigned work. The proposal plans to use the state

budget to train over 11 000 health workers for disadvantaged regions during 2007-2018 (Table 14).

Table 14: Characteristics of student recruitment mechanisms

	Direct recruitment without entrance exam	Recruitment by entrance exam	
		Contract between locality and training facility	Standard mechanism
Eligible candidates	Permanently reside in especially disadvantaged regions continuously for 5 consecutive years, ethnic minorities underrepresented among university, junior college and secondary trained medical staff. Proportion of the Kinh people eligible for this affirmative action should not exceed 15% of total targets	High school graduates (full-time student) Health workers in especially disadvantaged areas or rural areas working in CHSs, district health facilities that do not belong to central provinces, and they have been working in these facilities for 24 months or more (in-service training)	Other candidates
Qualifying criteria	Graduate from high school or secondary school Good conduct Academic achievement in the last year of the schooling scheme is average or higher (for ethnic minorities) and good and higher (for the Kinh people)	Sit for the normal entrance exams. But they are reviewed and selected based on a separate minimum reference selection point, giving them up to 2 points priority over other students	Must sit for examination and reviewed by the standard minimum selection points, Up to 1 point priority is given for selected candidates
Level of training	University, junior college, secondary	University, junior college, secondary	Post-graduate, university, junior college, secondary
Requirements to attend 1 year preparatory course	1 year	1 year for in-service training None for full-time students	None
Training programme	Full-time	Full-time; in-service; 4-year concentrated degree	Full-time; in-service; 4-year concentrated degree
Funding source for tuition	Funding source is allocated in the annual state budget for education as currently regulated	Funding source is provided by provincial people's committee or Ministry/sector where they sign contract and send students for study	Paid by trainees themselves

	Direct recruitment without entrance exam	Recruitment by entrance exam	
		Contract between locality and training facility	Standard mechanism
Work after graduation	Provincial People's Committee assigns graduates to posts	Commit to return to the workplace after training	No binding rules

Training on a contract basis between the school and local government employer involves employer commitment to receive the graduates to work in their facilities after the training. Student recruitment on a contract basis requires registration with the Ministry of Education and Training, and training can only start after obtaining official approval from the Ministry of Education and Training.

To strengthen doctors and pharmacists working at the grass-roots level, the MOH recruits students for a 4-year concentrated training programme with recruitment either by examination, affirmative action without examination, or a contract between the locality and training facility to train staff to return to work in the locality, creating favourable conditions for assistant doctors, secondary pharmacists working in CHSs to upgrade their professional skills by pursuing a university training programme so they will return and have greater proficiency after graduation.

At present, the MOH allows continuing training for assistant doctors in locations with a shortage of health workforce. Medical colleges and schools that are assigned this task should strengthen management work to assure training quality [42].

Strong development of in-service training for bachelor, graduate and post-graduate categories has enabled health workers to work and study concurrently. This helps retain staff and upgrade professional skills for health workers, especially those living in remote, isolated and disadvantaged regions.

Expected annual number of graduates and post-graduates

Each year, around 42 000 health workers of all categories graduate, including: 3200 post-graduates, 6200 graduates/bachelors, 500 college graduates, 18 000 secondary workers and 14 500 primary workers (Table 15). Although this is a great achievement, it also represents a burden on the national economy and the capacity of training institutions. The number, including post-graduate training, is projected to increase further, as is the number of health workers.

Table 15: Number of health workers expected to graduate each year by category, level

Level	Category	No.
Post-graduate	Total	3 200
	PhD	140
	Master	600
	Specialized level 1	2 000
	Specialized level 2	340
	Resident physician	120
University, Bachelor	Total	6 200
	Doctor	3 000
	Pharmacist	1 300
	Bachelor of nursing	1 400
	Technician	250
	Bachelor of public health	250
College	Total	500
	Nurse/Midwife	250
	Technician	250
Secondary	Total	18 000
	Secondary nurse	12 000
	Secondary midwife	3 000
	Secondary technician	700
	Assistant doctor	300
	Secondary pharmacist	2 000
Elementary	Total	14 500
	Nurse, midwife	9 000
	Assistant pharmacist	5 150
	Medical technologist	300
	Pharmaceutical technologist	50
	Total	42 400

Notes: The above figures do not include workforce trained by the military sector

Source: Department of Science and Training, MOH (2009) [43]

In 2008, there were about 6000 students at the bachelor level. By 2012, this figure will nearly double (Table 16). Hence, a considerable increase is expected in the number of people in the basic health workforce together with other workers from the secondary, college and primary levels. The problem does not lie in the number of health workers graduated annually; the problem lies in the recruitment and appropriate distribution of health workers.

Table 16: Number of graduates and expected annual graduates, 2007-2012

Type of degree	Graduated 2007	Graduated 2008	Expected graduates			
			2009	2010	2011	2012
Doctor	2 994	3 520	3 435	3 970	4 210	4 890
University pharmacist	877	870	1 070	1 350	1 660	1 755
Nursing bachelor	970	860	1 540	2 240	2 630	2 880
Medical technology bachelor	171	380	390	380	430	680
Bachelor of public health	144	180	350	400	330	400
Total	4 976	5 810	6 785	8.340	9 260	10 605

Source: Draft Master Plan for development of human resources for health and the medical training system to the year 2020 [41]

Each year, nearly 4000 post-graduate students enrol in medical schools, the majority at the Master level or specialized level I (Table 17). Most will serve at the central and provincial levels, so we should increase the number of intern doctors and appropriate professionals for the central and provincial levels. The number of enrolees in post-graduate programmes has declined for all types of degrees, except at the

Master level. Training of specialists, highly qualified experts in some specialties so that they will be on par with regional and international levels, still falls behind the need.

Table 17: Number of post-graduate enrolees in 2007-2008

Qualification	2007	2008
PhD	244	188
Master	510	881
Specialized level II	547	480
Specialized level I	3 120	2 122
Resident physician	298	183
Total	4 719	3 854

Source: Draft Master Plan for development of human resources for health and the medical training system to the year 2020 [41]

Training and ability to meet the need for health workforce

Statistics indicate that the current graduates are able to meet the recruitment need every year, and the number of graduates in 2007 was higher than the recruitment to public health institutions [39]. Some reports indicate that continuing the current trend of increasing the enrolment to medical schools will lead to an excess number of graduates [44]. Overall, Vietnam will be able to train and meet the quantity targets for the basic health workforce (doctor, university pharmacist, nurse, midwife, technician) by 2020, given a rational training strategy and proper investments [45].

However, the number of private health facilities has mushroomed in recent years, which attracts many fresh graduates from public training institutions. Consequently, the number of graduates may not be able to meet the recruitment needs of public health institutions, due to the lack of an appropriate competitive mechanism. Especially, shortages may affect preventive medicine, paediatric care, social diseases and primary health care. This would be due to the absence of a comprehensive master plan for health workforce development. Such a plan would indicate the workforce numbers needed and the current number of health workers, providing a foundation for medical schools to set rational admissions and to meet future needs.

1.3. Gaps and challenges

1.3.1 Shortage of health workforce in curative care

The health workforce for curative care falls far short of the staffing norms (number of staff per bed) and actual need. Staffing norms for curative care can be calculated using two options: Work calculated as administrative hours (including 24-hour shift for some workers), or work calculated in 8-hour shifts (According to Joint Circular 08/2007/TTLT-BYT-BNV, dated 05 June, 2007). Staffing norms for shift duty are generally higher than in the administrative hours option, and higher at higher level facilities than at lower level facilities.

Currently, the health sector uses administrative hours to calculate staffing norms. Moving to shift-based working hours would require a considerable increase in the number of health workers for public hospitals. Specifically, in curative care, there are 141 148 health workers, while the need according to the staffing norm is 188 182 staff. In curative care of all levels we use administrative working hours to calculate

staff, which indicates a need for 47 000 health staff. If we move to shift-based working hours, we would need over 80 000 staff (Table 18).

Table 18: Current situation of health workforce in curative care, calculated according to staff-per-bed norms

	Current	Work by administrative hours		Work by shift	
		Need	Supplement	Need	Supplement
Central	19 400	21 420	2021	27 640	8240
Province	68 994	104 809	35 815	119 782	50 788
District	52 574	61 953	9199	74 561	21 747
Total need	141 148	188 182	47 035	221 983	80 775

Source: Draft Master Plan for development of human resources for health and the medical training system to the year 2020 [41]

According to the forecast of need for health workers at the central level, the shortage is less severe and suitable for current context (a large number of health workers are concentrated at the central level). More staff are needed at the provincial and district levels, especially the provincial level. If provincial health services are improved, this would help reduce the workload at the central level. If district health services are improved, this would reduce bypassing to provincial or central facilities. Therefore, we should appropriately increase the number of staff at provincial and district levels.

According to current regulations, curative care facilities (including hospitals, research institutes with beds and health centres with beds) have three major sections: clinical, para-clinical and pharmaceutical, and management and administration. The staffing structure in these sections is 60% to 65%, 15% to 22% and 18% to 20%, respectively.

According to the staffing norms for curative care in the draft *Master Plan for development of human resources for health and the medical training system to the year 2020,* the projected need is for 47 035 people (if calculated by administrative hours) or 80 774 people (if calculated by shift). The draft master plan bases these numbers on the staffing structure in health-care facilities (Table 19).

Table 19: Current situation of health workforce in curative care, by section of health facility

Sections of health facility	Structure of workforce according to regulations (%)	Need to increase according to norms	
		Work by administrative hours	Work by shift
Clinical	60%	28 221	48 465
Para-clinical and pharmaceutical	22%	10 347	17 770
Management and administration	18%	8 466	14 539
Total need	100%	47 035	80 774

Notes: These figures do not include facilities belonging to schools/universities, research institutes and private facilities.

Source: Draft Master Plan for development of human resources for health and the medical training system to the year 2020 [41].

Shortage of nurses in the public sector

The ratio of nurses and midwives (including university, college, secondary and elementary levels) to doctors is 1.6. This ratio is lower than the Government's regulation at 3.5 nurses per doctor. At 9.0, the number of nurses and midwives per 10 000 population is lower than in other regional countries (average for the Southeast Asian region is 12.2 nurses and midwives per 10 000 population, and 12.9 for the Western Pacific region.) The ratio is particularly low at the central level (0.82).

Such a low nurse-to-doctor ratio is not due to insufficient student recruitment. A large number of nurses are trained, but the problem is how we deploy them, especially at the central level. Presently, secondary nurses are trained in almost all provinces. Hence, quantity is not a major problem. Rather, we should focus on training quality and gradually upgrade their qualifications to the bachelor level, especially in facilities without a doctor. It should also be noted that given the empowerment of autonomy and accountability, curative care facilities tend to recruit fewer nurses to save cost. Thereby, they fail to provide comprehensive care for patients, and the work is left to untrained personnel – the so-called "yellow coat team" who are hired by patients and tolerated by the hospital.

1.3.2. Severe shortage of health workforce in preventive medicine

The draft *Master Plan for development of human resources for health and the medical training system to the year 2020* also analyzes the current situation and need for health workforce in preventive medicine (Table 20).

Table 20: Current situation and needs for health workforce in preventive medicine

	Current	Needed	Need to supplement
Central	2 890	No change	0
Province	11 135	15 237	4 102
District	15 276	27 133	11 877
Total	29 301	45 260	15 979

Note: These data do not include facilities under schools or research institutes.

Source: Draft Master Plan for development of human resources for health and the medical training system to the year 2020 [41].

As regards regulated staff payroll, there is a severe shortage of staff at the district health centres (formerly the district preventive medicine centres), 90% of districts lack from 1 to 30 staff. Some facilities lack over 30 staff. If each district needs 5 additional staff, the country as a whole would need 3400 staff. If calculating by the MOH's draft plan, the provincial and district facilities would need 15 979 staff.[2]

Among preventive medicine staff, the main shortages are doctors and preventive medicine technicians. In the recent past the training system paid little attention to training technicians in preventive medicine (to test water, faeces, soil, air,

[2] The number of preventive medicine staff might be higher if we count those working at the communal level, village health workers, since most of their work relates to preventive medicine.

poisons, food, animals, industrial and agricultural environment), and environmental inspectors.

Information provided to the master plan for health workforce development was collected in the survey by the Department of Preventive Medicine and Environment 2006 in 60 representative districts with 1512 respondents, described below:

- Health workers trained at the secondary level account for 67.5%, college level 2%, doctors 11.2%, other universities 2.6%, and only 2% of health workers are certified specialists in preventive medicine (e.g. public health, occupational health).
- Only 26.7% of district health centres have a sufficient doctor ratio as regulated (medical doctors account for at least 20% of total staff – Joint Circular 08/207/TTLT-BYT-BNV), 13.3% of district health centres have less than 10% of their staff trained as medical doctors.
- There is a shortage of government paid staff at district health centres as below: 1.7% of district health centres are short over 30 people compared to the staffing norms, 10% of district health centres are short 21 to 30 people, 23.3% of district health centres are short 11 to 20 people, 51.7% of district health centres are short 1 to 10 people, and only 3.3% have sufficient staff according to norms.

As mentioned above, if compared to the staffing norm, there is a severe shortage of staff at district health centres. If referring to the MOH draft plan, the country needs an additional 15 979 staff at provincial and district facilities

Many factors are responsible for this situation, e.g. unattractive policies on the use of staff and financial incentives for health workers. On the other hand, over the last 10 years we have not provided training for doctors specializing in preventive medicine. Moreover, working conditions in these facilities are poor and inadequate; the organizational structure at the district level has been problematic for many years; and staff have no opportunity to earn more income (e.g. work extra hours). Hence, this segment of health care does not attract staff.

1.3.3. Shortage of health workforce for population and family planning activities

According to Circular 05/2008/TT-BYT regulating health workforce for population management activities at different levels, and referring to the current health workers with secondary qualifications and higher, *Vietnam needs 502 provincial-level staff, 2428 staff for districts and over 7471 staff for communes* (excluding village population collaborators) (Table 21).

Table 21: Workforce for population and family planning at different levels, 2009

Level	Current workers, total	Government paid staff	Contracted staff	Need according to payroll	To be added*
Central	282	152	130	319	167
Province	956	758	198	1 260	502
District	3 416	3 044	372	5 472	2 428
Commune	11 027	3 528	7 499	10 999	7 471
Total	15 681	7 482	8 199	18 050	10 568
Village**	149 429				

* the number that needs to be supplemented according to staffing norms of the MOH to have the full 20 staff of a Provincial Department for Population/Family Planning; 6 staff per District Centre for Population/Family Planning; 1 full-time staff per CHS. ** At the village level, only village population collaborators who are not professionally trained, or VHWs who take on additional responsibility for population and family planning..

Source: Population and Family Planning Administration , 2009 [46]

1.3.4. Health workforce needs in selected specialties

Odonto-stomatology. At present, there is no national data on the health workforce in the dental-related specialties, only data for the provinces in the South (Table 22). In this specialty, more staff work in the private sector than in the public sector, so it is more difficult to collect data. Data from some documents show:

- Northern region: 8 provinces have school dentists covering all communes in 2008 (Nam Dinh, Ninh Binh, Hai Duong, Thai Nguyen, Lang Son, Tuyen Quang, Thua Thien Hue, Da Nang) [47]
- Southern region: There are 4 specialized hospitals, 26 odonto-stomatology departments, 2 combined departments of odonto-stomatology - ophthalmology - ENT, 295 dental clinics belonging to 302 district hospitals, 240 dental clinics at CHS, 27 odonto-stomatology departments in general hospitals. 1733 health workers of all types work in the area of odonto-stomatology.

Table 22: Types and quantity of odonto-stomatology specialists in southern provinces, 2008

Type	Quantity
Full-time doctor of odonto-stomatology	680
Four-year trained doctor of odonto-stomatology	82
Doctor with minor specialization in odonto-stomatology	71
General doctor works on odonto-stomatology	17
Full-time assistant doctor of odonto-stomatology	186
Assistant doctors in paediatric dentistry	157
Dental technician/hygienist	54
General assistant doctor with short-course training on dentistry	116
General nurse working in dentistry	39
Technician of dental plastic surgery	328
Technician with minor training on dental plastic surgery	47

Source: Report at regular Conference of the odonto-stomatology specialty in southern provinces, 2008

At present, Vietnam has one university of odonto-stomatology, 3 odonto-stomatology faculties, and some schools that train technicians in dentistry. Given a population of nearly 90 million people, the number of odonto-stomatology schools/specialties in Vietnam is too small.

As one of the high-income specialties, the number of health workers specialized in odonto-stomatology has been rising in recent years; especially doctors specialized in odonto-stomatology. Presently, 100 districts out of 500 districts nationwide have doctors of odonto-stomatology. Many communes have assistant doctors working in dentistry in charge of school health. The ratio of odonto-stomatology doctors/population is: 1/25 000, which is too low compared to the need [48].

There is a very severe, health-workforce shortage in odonto-stomatology; doctors, dental technicians and doctors of school health, especially in the northern and central regions. Thanks to their historical background, southern provinces are more advanced than other parts of the country in terms of quantity and categories of the health workforce in dentistry-related fields. Overall, the national ratio of odonto-stomatology doctors/population is too low. The health workforce lacks adequate staff with training in odonto-stomatology and there is a shift leading to a growing disparity in the geographic distribution of dentists. Many dental students from rural and mountainous areas do not want to return to their native areas when they complete their studies as dentists in urban areas earn more than dentists in rural areas.

Tuberculosis and pulmonary diseases. There is a very severe shortage of health workers in this specialty, especially doctors. Experts and professionals are lacking, even at central level. In addition, health workers are lacking in clinical settings and in the community. Insufficient continuing education and the "brain drain" in the TB specialty causes adds to the severe shortages, also affecting TB control programme activities in the community [49].

Dermatology. There is a very severe shortage of doctors, nurses and technicians in dermatology. Compared to countries in the region, the ratio of health workers in dermatology to population in Vietnam is very low [50].

Paediatrics. There is a very severe shortage of paediatricians, specialized paediatric nurses (neonatal nurses) and a shortage of health workers in adolescent health to provide care for 22 million children and adolescents. Due to many reasons, including free health care for children below 6 years of age, many hospitals do not pay sufficient attention to developing paediatric departments because they are unable to benefit financially from these services. The paediatric specialty is not attractive, and few people enrol to study it. The Southern region's health workforce in paediatrics is stronger than that in other parts of the country because they have a stronger private sector [51].

Communicable diseases and HIV/AIDS. There is a shortage of health workforce for this specialty because Vietnam has not provided specialized, university training in infectious diseases for the past 10 years. The lack of specialized doctors is apparent from central to provincial levels. Hospitals must recruit general practitioners to deal with communicable diseases, but this is still insufficient. Due to the lack of specialized health workers, many hospitals have merged internal medicine, paediatrics and communicable diseases into one department. Hospitals also send their staff for post-graduate training, but in very small numbers. At present, the country has about

200 sites for examination and treatment of HIV/AIDS, with 1 or 2 general practitioners per site. Thus, this specialty has a very severe shortage of staff [52].

Pathology. In recent years, due to increasing needs for diagnosis involving histology and cytology, training of various levels of health workers in pathology has been promoted: pathology minor during medical training, specialized doctor level I, specialized doctor level II, Master degree, PhD degree, and technician. At present, only one province in the North and two in the South do not yet have pathology facilities. However, due to increasing demands to screen and detect cancers early, the pathology specialty should develop a plan for cytology-based diagnosis at the district level [53].

Forensic medicine. The workforce to perform autopsies is inadequate in numbers and skill in both forensic science and anatomy. Every year, Vietnam has thousands of criminal cases for autopsy, but we do not have sufficient staff to take on this work [53].

Oncology. According to the Vietnam Cancer Association, Vietnam has a shortage of all types of health workers in oncology, i.e. specialized oncologists, radiotherapy engineers, chemotherapy professionals, nurses and technicians. Vietnam has a very severe shortage of specialized health workers to establish cancer control units in the provinces.

Malariology – parasitology – entomology. Many specialized health facilities are unable to recruit any doctor (including the central level, e.g. Department of Parasitology at the Medical University, Institute of Malariology – Parasitology – Entomology). Vietnam needs hundreds of doctors in parasitology at medical universities, institutes and 63 provincial centres for preventive medicine throughout the country [54].

1.3.5. Maldistribution of health workforce by ethnicity and gender

Few health workers from ethnic minorities

Statistics from 2008 indicate that of total health workers from the provincial level downward, only 21 637 belong to an ethnic minority group, and most of them work for communes (9400 people) and districts (7780 people) (Table 23). Such a figure is too low. Although ethnic minority groups account for a small share of the total population, they live scattered in large areas and that cover about two thirds of the country. Hence, Vietnam should have a different distribution method for these health workers.

It is not easy to increase the number of ethnic health workers because there is not a reliable source of trainees. However, given the special cultural-social characteristics of ethnic minority groups, it is recommended to increase the proportion of health workers from ethnic minority groups to better care for the people's health.

Table 23: Share of health workers from ethnic minorities by level of service provider, 2007

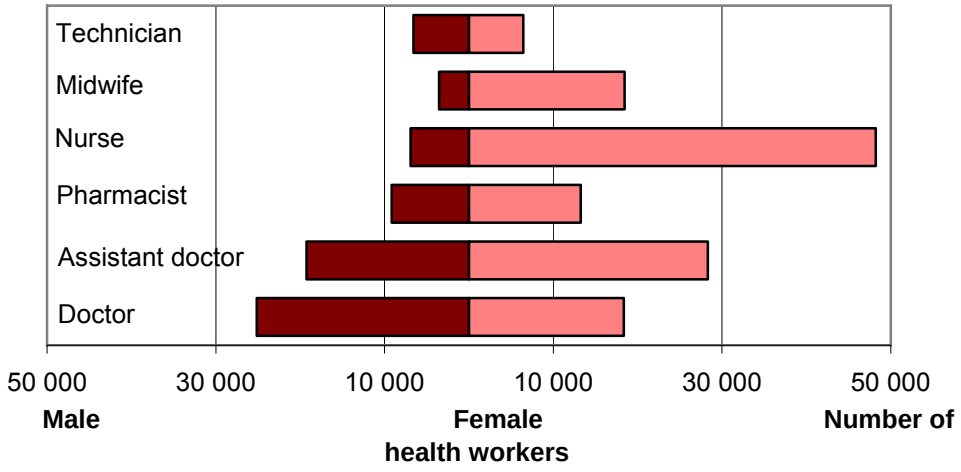
Ethnic minority health workers by level	Number	Percent (%)
Province	4 493	20.7
District	7 780	35.9
Commune	9 400	43.4
Total number	21 673	100%

Source: Draft Master Plan for development of human resources for health and the medical training system to the year 2020 [41].

Gender imbalance in human resources for health

The extent of gender inequality among health workers varies by field. Generally, the balance is even between male and female medical technologists. But among doctors there are many more male than female doctors. As for other types of health workers, females outnumber males, especially among nurses and midwives. For every 100 female nurses and midwives there are only 14 and 19 male nurses and midwives respectively (Figure 7).

Figure 7: Health workforce by sex, 2008



Source: Health Statistics yearbook 2008 [7].

Given the special nature of the health sector, female workers account for more than 50% of total health workers nationwide. However, among the more highly trained health staff, e.g. doctors, the percentage of females is low. Districts and communes in mountainous and ethnic minority areas, where the cultural traditions hold a strong preference for female health workers, have a shortage of female health workers. With a preponderance of men working in obstetrics, access to reproductive health care by ethnic minority women is reduced.

1.3.6 Uneven geographic distribution of health workforce

In terms of quantity, the geographic distribution of health workforce (Table 9) is appropriate. However, as mentioned above, coverage of the health workforce is determined not only by quantity, but by practice skills appropriate to each locality. This is a major challenge not only in Vietnam, but also in other developing countries.

The most notable issues related to uneven distribution of the health workforce in Vietnam are:

Large difference in professional qualifications between levels of care. In 2008, there were 38 578 health workers at the central level, accounting for 15% of the total health workforce; the provincial level had 97 906 staff, accounting for 37% (the greatest share); the district level had 73 345 staff, accounting for 29%; and the commune level had 56 205 staff, accounting for 21% (Table 24).

Most health workers are concentrated at the central and provincial levels, mainly in urban areas. This is a natural tendency, but if the concentration is too high it becomes inappropriate (Table 24). Urban areas account for 51.3% of the total number of staff (15% at the central level and 37% at the provincial level), but the urban population accounts for only 28.1% of the national population (although urban health workers do not only serve urban citizens). District health workers account for nearly 28% and commune heath workers for 21% of the total. Such a staff structure is acceptable because the district has many health facilities (district health offices, district hospitals and district centres for preventive medicine) that directly serve people living in the communes.

Imbalance is clearly reflected in the distribution of qualified staff, especially doctors with 60% living and working in urban areas (20% at central and 40% at provincial level) and university pharmacists with 84% in urban areas (45% at central and 39% at provincial level). Over a half of nurses (57%) are concentrated in urban areas. Other non-medical staff with high qualifications are also unevenly distributed, with 73% at the university level and 64% at the college and secondary level living and working in urban areas. Only assistant doctors and midwives, at 18% and 26% respectively, are evenly distributed across urban and rural areas.

Table 24: Distribution of health workforce by urban/rural residence, 2008

Health staff category	Urban				Rural				Total	
	Central		Province		District		Commune			
	No	%	No	%	No	%	No	%	No.	%
Doctor	10 627	20	21 678	40	14 657	27	6 957	13	53 919	100
Assistant doctor	302	1	7 985	17	14 759	31	24 842	52	47 888	100
University-trained pharmacist	1 749	45	1 503	39	608	16	8	0	3 868	100
Secondary pharmacist	1 965	17	4 028	34	3 867	33	1 912	12	11 772	100
Nurse	7 933	13	27 631	44	17 063	27	10 413	17	63 040	100
Midwife	734	3	5 200	23	7 047	31	9 739	42	22 720	100
Technical (medical and pharmaceutical)	2 451	20	5 944	49	3 564	29	279	2	12 238	100
Pharmacist aid	1 732	36	1 099	23	877	18	1 080	21	4 788	100
Traditional medicine, healer	495	57	48	6	137	16	188	13	868	100
Other university	4 441	38	5 433	47	1 772	15	4	0	11 650	100

Health staff category	Urban				Rural				Total	
	Central		Province		District		Commune			
	No	%	No	%	No	%	No	%	No.	%
Other college + secondary	1 833	19	4 421	45	3 386	34	267	0	9 907	100
Other staff	4 316	18	12 936	55	5 608	24	516	0	23 376	100
Total	38 578	15	97 906	37	73 345	28	56 205	21	266 034	100

Notes: Doctors include PhD and Master degree holders; Pharmacists include PhD and Master degree holders, university, secondary and primary pharmacists; Nurses and midwives include university, secondary and primary nurses).

Source: Health statistics yearbook, 2008 [7].

Uneven distribution of health workers at grassroots level

As regards commune health stations (CHSs), 65.9% have doctors, while over 90% of CHSs have assistant doctors trained in paediatrics/obstetrics or midwives. Regions having the highest proportion of CHSs with doctors are the Red River Delta, the Southeast and the Mekong Delta region (over 80%). The proportion of CHSs with doctors is low in the Northwest (below 32.4%). On average, nearly 70% of CHSs have doctors, which is low (Table 8). Most of the doctors are concentrated in cities and many do not practice medicine, which is a problem that needs to be addressed.

The share of CHSs with assistant doctors of paediatrics or obstetrics is highest in the North Central Coast and Mekong Delta regions (96%), whereas the share is low in remote and disadvantaged areas of the Northwest, Central Highlands.

Three regions report low coverage by village health workers (VHWs). This needs to be studied to determine whether the reason is because of a very low need for VHWs in urban areas, or because VHWs in the delta areas are not paid a stipend so the localities do not allocate funding for this activity. However, for village health workers, the key issue is not quantity but sustainable and stable performance of VHWs with timely substitutes for dropout/terminating (a frequent occurrence).

Reasons for poor distribution of health workforce

Wide differences exist in socio-economic conditions, transport infrastructure and living conditions between urban, rural and lowland, mountainous areas. These are the major causes leading to the over-concentration of health workers in urban areas, while remote, isolated, rural and mountainous areas have a shortage of health workers. These problems cannot be solved by the health sector alone.

Financial and non-financial incentives for health workers in remote, disadvantaged, mountainous areas remains weak. Special salary supplements for health workers in disadvantaged regions are regulated by Government Decree 64/2009/ND-CP, dated 30/07/2009, and stipends for village health workers are regulated by the Prime Ministerial Decision 75/2009/QD-TTg dated 11/05/2009. Even though these salary supplements and stipends have been increased, the ability to implement them depends mainly on the financial resources available in the locality.

The penalty is not yet high enough to force people who have benefited from affirmative action to return to their region to work after graduation. Due to the poor

conditions for health workers, the communal and district levels are unable to retain staff.

Uneven distribution of graduate and post-graduate education

The distribution of medical and pharmaceutical universities across the country has been uneven for decades. There are no medical universities in remote, isolated or mountainous provinces. For example, the Red River Delta and the Mekong Delta regions have similar populations (about 18 and 17 million people, respectively), but while the Red River Delta has seven medical universities, the Mekong Delta region has only one. There is no medical university/medical faculty in the Northwest.

Students can apply to any school if they comply with the current regulations. However, geographic distance means that:

- Many students from remote, isolated, disadvantaged areas are unable to pursue education or complete their training courses in distant locations, including city centres or large cities.
- Many students in these regions are not sufficiently qualified to pass the entrance examination to universities in city centres or large cities.
- Although these students are given priority to attend university (e.g. receive scholarships and are exempt from entrance exams and tuition) many of them, especially students from ethnic minority groups, find it difficult for various reasons (e.g. culture, customs, practice, lifestyle) to integrate into the learning environment of these schools.

Such a situation leads to wide disparity in the distribution of training institutions. This, in turn, affects the size of health workforce and the distribution of health staff in different regions, especially in the context that the policy on incentives for health workers in remote, disadvantaged areas is not particularly attractive.

Worker migration

Undesirable migration includes geographic shifts of health workers from the district up to the provincial or central levels, from rural to urban, from mountainous to delta areas, from preventive to curative care, from para-clinical to clinical, from medical schools to hospitals, from less desirable and higher risk to more desirable and lower risk specializations, from public to private and from medicine/pharmacy to other sectors.

Shifts of health workers in general do not change the total number of health workers, but high internal migration of health workers has affected plans for distribution of the health workforce across geographical areas, levels of care and specialties. As a result, there is imbalance in the workforce, e.g. lack of staff at lower levels, fewer people in preventive and para-clinical work, lack people to work in difficult specialties.

The shift of health workers from the public to the private sector (to private hospitals or foreign-invested hospitals) is increasing, especially for highly qualified medical workers.

"Artificial shortage"/ "Artificial excess" and health workers not yet mobilized to participate

A "true shortage" in the health workforce exists in disadvantaged areas and some less attractive specialties. However, many people do not live on their trained profession because they are unable to find work in cities, or do not want to work (without pay) for public or private health facilities but choose to wait for other opportunities, leading to "artificial excess".

Also, many health workers have not been mobilized to work, e.g. recent graduates who have not yet found work, retired health workers whose health remains strong and who wish to work (especially in the military medical establishments where retirement age is younger). There is a need to survey and assess the situation to find solutions to mobilize this currently unused workforce, especially to work at the grassroots level.

Nevertheless, a shortage of health workers exists in major hospitals due to an overload of work. If we do not employ effective measures, the phenomena of shortage and abundance may worsen for the health workforce. Excessive training, failure to use the capacity of the trained workforce, using the workforce for the wrong purposes, and not providing care due to a severe shortage of staff, together add up to enormous waste for society.

1.3.7. Conflict between quantity and quality of health workers

This conflict always appears when we try to increase quantity quickly. Training faces quality limitations when there is a rapid increase in the quantity of the health workforce in the context of a less developed economy, poor physical infrastructure and weak technical skills and facilities.

To address the problem of shortage in the health workforce, it is important to increase recruitment. According to the current regulations, the number of students admitted is continuously increasing, even to the extent that it exceeds some school's training capacity, making it hard to ensure quality. Another problem is that once the students graduate, it is necessary for the health sector to have a policy and remuneration that is attractive enough to attract and retain highly skilled health workers. In order to increase quickly the number of health workers, it is important to expand the direct recruitment of students from disadvantaged areas without exams, or contracts between localities and training facilities to train medical staff,… although the trade-off is a reduction in quality of health workers.

Currently, there is a severe shortage of specialized, well-qualified medical workers at all levels in the system, especially at the district and provincial levels,[3] which leads to limitations in the quality of health services (to be analyzed further in Chapter 4).

[3] According to plans, the head of a department at the provincial level must have a PhD or secondary specialization, and at the district level they should have, at minimum, the first level specialization.

2. Priority issues

2.1. Shortage of health workers in preventive medicine and other specialties

- The number of staff in preventive medicine is too low compared to the plan and policy for establishment of centres for preventive medicine, HIV/AIDS prevention and control, and inspectorate of food safety and hygiene.
- The number of nurses per 10 000 population in public facilities and the nurse-to-doctor ratio is too low compared to other countries, despite the large number of nurses trained each year.
- There is an imbalance across less-attractive specialties, especially a severe shortage of university-trained pharmacists, preventive medicine staff, para-clinical staff and staff in other less-attractive specialties.

2.2. Inappropriate distribution of health workforce

- Many remote, isolated and disadvantaged districts lack a health workforce and have an asynchronous staffing structure. Many regions have an insufficient enrolment intake and lack the policies to attract health workers from other places, a problem that is complicated by severe “brain-drain”.
- Recruiting qualified health workers (e.g. doctors, secondary midwives) to work at the communal level in remote, isolated and disadvantaged areas, and creating conditions for them to live and work comfortably, still faces major difficulties, and effective measures are lacking. Training of sufficient health workers of good quality for the district level (especially mountainous, remote and isolated areas) is very important for the health system, but not easily resolved in the immediate future.
- There is a severe shortage of qualified staff at the provincial and district levels.
- Financial penalties/rewards are lacking, as are appropriate regulations and policies to attract and retain health workers holding bachelor and graduate degrees to work for facilities over a long period.

2.3. Lack of highly qualified health experts/specialists

- Many specialties have a severe shortage of highly qualified staff. Little attention has been paid to training qualified experts/specialists in some key areas where Vietnam can reach regional/international standards. On the other hand, we have given insufficient attention to training and upgrading skills of skilled health workers in specialized fields..
- Insufficient attention has been paid to developing family doctors. Currently doctors are too concentrated in hospital settings, while patients are rarely provided medical care in their community or at home (even in urban areas).

Chapter 4: Quality of human resources in health care

The quality of health staff can be measured from many perspectives, e.g. technical proficiency, productivity and responsiveness to fulfil assignments. This chapter focuses on assessing the quality situation regarding human resources for health in Vietnam, emphasizing issues related to professional competencies, e.g. training, retraining, the Law on Examination and Treatment related to continuing medical education, and other important issues. The aim is to identify priority issues and make recommendations for solutions to increase competencies of human resources for health in the coming years. Chapter 5 will address issues related to responsiveness and accountability of health workers. The issues discussed here will be based on available reference materials from the MOH and research institutions of related ministries and international organizations.

1. Concepts

Human resource development is an area of on-going reform in Vietnam. Hence, certain concepts need to be clarified to avoid misunderstanding, particularly notions relating to human resources management theory and practices concerning the system of education and training in Vietnam that may be unfamiliar to some.

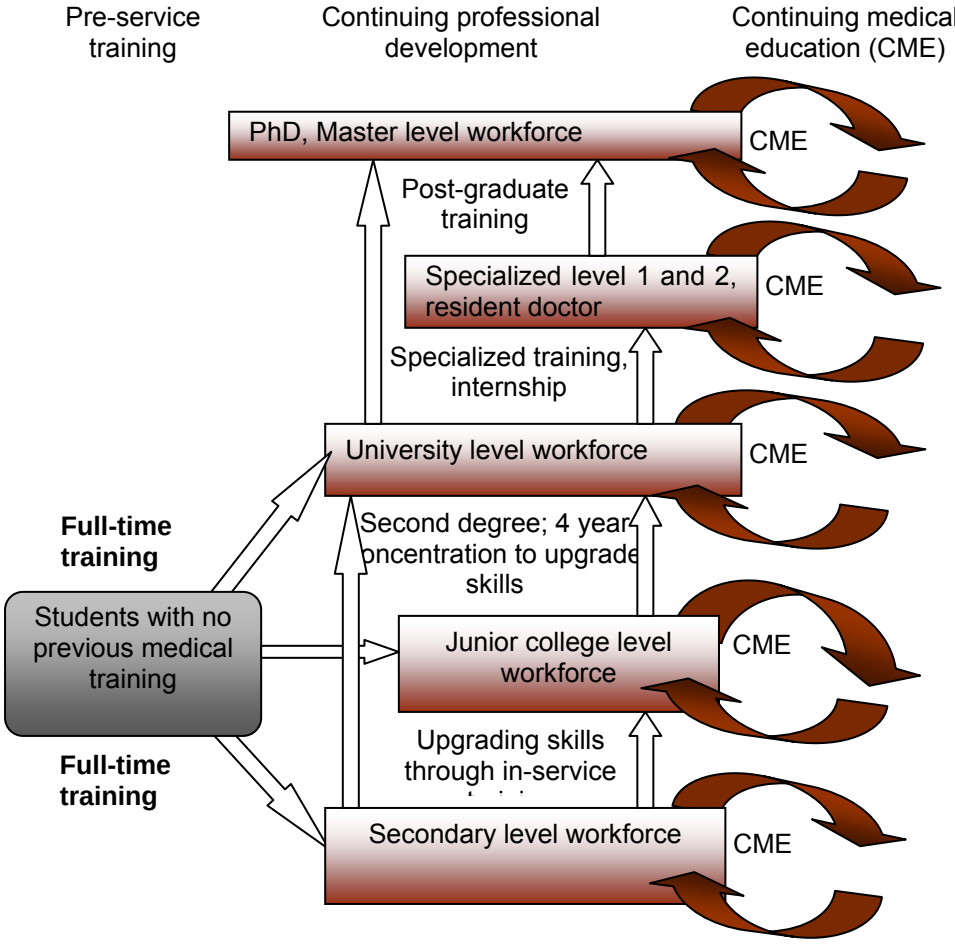
- **Competencies**: Knowledge, understanding, skills and attitudes that an individual develops or acquires through education, training and work experience.
- **Responsiveness:** Treating others with respect, regardless of health status or social status. In Vietnam, this can be referred to as the medical staff showing appropriate responsibility and attitude towards patients.
- **Licensing**: Legal recognition of a qualified medical service for it to start legitimate operation (professional certificates, certification of practice time and capacity, health certificate and certification that he/she is not forbidden from practicing)
- **Accreditation:** Approval or formal recognition of an institution or educational programme by an authoritative governmental or professional body through systematic assessment based on established, explicit standards.

Figure 8 presents some of the concepts related to a training system. The training system can be divided into purpose of training, pre-service training, upgrading professional skills and continuing education.

- **Pre-service training***:* To train those who have not yet practiced following the full-time training programme.
- **Continuing professional development**: Training to achieve a higher-level degree. This consists of a training process that provides recognition of academic achievement by the learner to allow that person to continue his/her education at a higher level in the same profession, or to change to a different field of education, under a different form and at a different level. Coordinated training is applicable to institutions of higher education, junior colleges and high schools in the form of on-the-job, 4-year school-based training using the curriculum issued by the Ministry of Education and Training and MOH.

- **Continuing medical education (CME)**: consists of short-term training courses including training, updating knowledge, increasing knowledge and techniques in the professional field in which an individual is working; retraining, training through mentoring by higher levels, training to transfer technology and other professional training courses in the health sector that do not involve issuing degrees.

Figure 8: Training mechanisms in the health sector



2. Current quality of health workforce

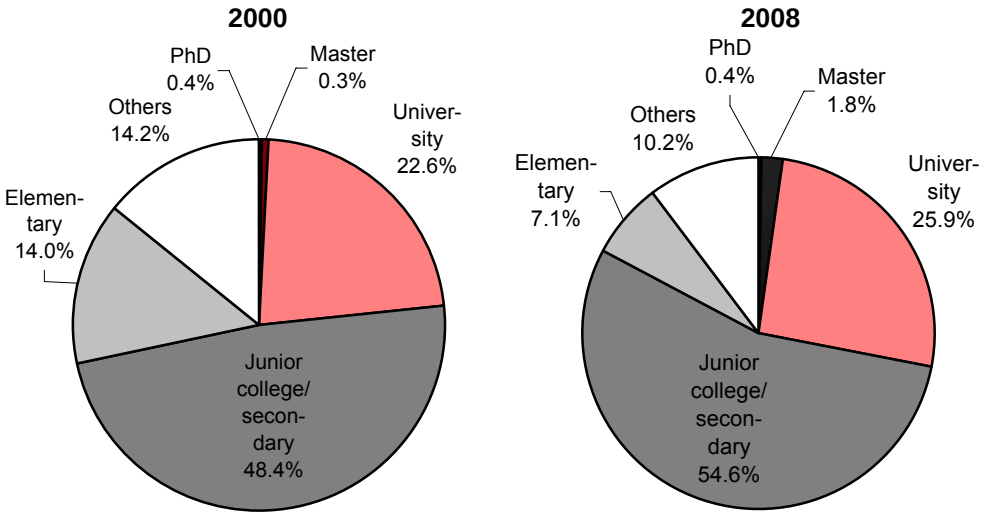
The quality of human resources in health care depends on many factors and can be evaluated by the outcome of the health system, i.e. status of the public's health. The quality of the health workforce may also be judged by the competence and responsiveness of its members. The lack of appropriate instruments and information, however, limits the discussion in this review to a general evaluation of the quality of human resources in health care training and development – an element of decisive importance to the quality of the health workforce. Other vital factors that affect the quality of human resources in health care, e.g. working conditions, motivation and incentives, monitoring and evaluation will be discussed in Chapter 5.

2.1 Progress and achievements

2.1.1 Quality of health workforce much improved

Beyond the significant increase in workforce size, many other achievements in raising the quality of the health workforce have also been acknowledged, e.g. new types of health workers. In 2008, only 7% of total government health workers were at the elementary level (nurse, midwife, technician and assistant pharmacist). There are 163 322 staff with junior college and secondary qualifications, accounting for about 55% of total health workers. The proportion of the workforce with university qualifications is 26%, or 77 395 people. About 2% of staff have Master degrees and 0.4% have doctorates (Figure 9). This qualification structure is much advanced over that in year 2000, with a reduction in the proportion of staff with elementary qualifications and an increase in those with higher qualifications. Projections for the future show a downward trend in secondary graduates and an upward trend in the junior-college-level workforce since many secondary medical schools have been upgraded to the college level. Given the current context in Vietnam, such a trend is acceptable. However, the proportion of health workers with graduate and higher-level education should be strengthened and deployed at the provincial and district level.

Figure 9: Structure of health workforce by qualifications, 2000 and 2008



Source: Health statistics yearbook, 2000 and 2008 [5, 7].

Many new health staff categories are arising, e.g. bachelor of nursing, bachelor of public health and bachelor of medical technology. Many health workers have been trained and upgraded their professional skills to the post-graduate level, e.g. resident doctor, specialist level 1, level 2, master and doctorate (Table 25). The number of post-graduates in 2007 indicates that although public health is a new major, it accounts for a relatively high proportion over other majors (about 15% of total).

Table 25: Medical post-graduates, 2007

Education and forms of training	Total	Public health	Medical disciplines	Pharmacy
Doctorate	244	37	158	49
Masters	510	62	260	188
Specialist class 2	547	169	369	9
Specialist class 1	3120	400	2452	268
Resident doctors	298		298	
Total	4719	668	3537	514

Source: Health Statistics Yearbook, 2007 [12]

Training of specialist doctors and pharmacists class 1, 2 and resident doctors (a traditional category in the health sector) started in 1973 when other types of training facilities in Vietnam did not have doctorate and master programmes. Resident training (which started from the French colonial period) is a special form of supplemental training for especially talented health workers. These post-graduate health workers have later proved to be a vital part of the health service delivery system.

In 2000, the MOH set in motion a programme to develop high-tech medical centres. Vietnam medicine now hosts a workforce of professionals capable of performing many modern techniques on par with advanced countries in the region and the world, e.g. organ transplants, in vitro fertilization, neurosurgery using gamma knife, open heart surgery and separation of Siamese twins. In addition, many of these advanced health services have been equipped with state-of-the-art facilities and technologies that provide an ideal platform for medical scientists to train, conduct scientific research and develop to their full capacity [55].

2.1.2 Expanded and quality-improved medical training system

The network of medical training facilities has been extended, both public and private (Chapter 3). The Department of Science and Training reported that the recruitment quota and number of graduates has nearly doubled compared to 5 years earlier [56].

Training programmes at training institutions (all levels) rely on the framework curricula approved by the Ministry of Education and Training and MOH. Presently, 48 framework curricula are approved for medical and pharmaceutical education at the university, junior college and secondary levels [44, 57]. The schools are responsible for developing detailed training programmes following these framework curricula. Training programmes can be 6 years, 5 years, 4 years, 3 years, 2 years and 1 year depending on the category of health worker. VHWs have their own training programme of 3 months or 9 months.

The physical infrastructure of many educational institutions has been upgraded. Many of them now have a university hospital providing good opportunities for practicing students. For instance, Ho Chi Minh Medical and Pharmaceutical University and Hanoi Medical School, with advanced equipment have given their students valuable medical practice opportunities. Other training facilities have also managed to develop impressive community-based practice sites for public health

students. Examples include CHILILAB in Chi Linh, Hai Duong (Hanoi School of Public Health) and FILABAVI in Ba Vi, Hanoi (Hanoi Medical University).

Many universities are developing a *pre-clinical laboratory (skill lab) model*. The Netherlands' NUFFIC programme has assisted skill labs to be installed in eight universities so far. The human resources for health development programme, a component of the Netherlands-supported programme to upgrade teaching capacity in medical junior colleges and secondary schools, also offers skill labs for 11 medical junior colleges and secondary schools.

In the past 10 years, with technical and financial support from international organizations, teaching methods in schools have been given major upgrades. Most medical universities now adopt an interactive, community-based teaching method. A combined practicing laboratory and reproductive health syllabus was developed in Hue Medical School with the help of Pathfinder International. New methodologies like problem-based learning have been used in universities such as Hanoi Medical University and Hanoi School of Public Health. Can Tho Medical Pharmaceutical University employs a multiple module learning method supported by the Dutch government.

2.1.3 New policies issued and implemented to raise quality of health workforce

To further develop the capacity of medical staff in health services, the MOH issued a policy that recognizes previous coursework (Circular 06/2008/TT-BYT), which facilitates health workers with secondary school and junior college education to continue their education at the university level. Continuing professional development (through higher degree training) involves schools that provide university and junior college level training and higher, starting from junior college and secondary level degrees, and follows the in-service training model, or a concentrated 4 years of training according to the programme issued by MOH and Ministry of Education and Training.

As indicated in Chapter 3, regarding disadvantaged areas, Circular 06 allows training of health staff through contracts between medical schools and localities in need of more medical staff. Trainees are health workers in disadvantaged or rural areas or at the communal level who commit to return to their original workplace after training. In parallel with this training module, a 4-year concentrated programme aims to strengthen doctors and pharmacists who are working at the grassroots level to pursue higher education so that they can better contribute to the locality. These policies have removed obstacles for remote regions and allowed health workers to improve their professional skills.

To enhance the capacity of the existing health workforce, in 2008, the MOH issued Circular 07/2008/TT-BYT on continuing medical education (CME) for the health workforce. As defined, CME includes: a) training to update and supplement present knowledge and technologies; b) re-training; c) re-training to provide technical support to lower levels; d) training on technology transfer and e) other training courses in health that are not part of the national degree programmes. The Circular on continuing medical education for health workers specifies the number of training modules (hours) that a health worker is required to accumulate in a year through CME courses. The MOH also nominates institutions authorized to provide CME programmes. This is part of the preparation process to implement the Law on

Examination and Treatment, which mandates continuing medical education for health workers.

To increase the capacity of lower-level health workers through on-the-job training, skills update and technology transfer, the MOH has initiated a programme of staff rotation to send experts from higher-level hospitals to support hospitals lower down the line to improve their quality of care under project 1816/QD-BYT, dated May 26, 2008 and endorsed by the Minister of Health. The programme has been active for 9 months, and the MOH has planned an implementation evaluation to inform appropriate adjustments before submitting the project to the Prime Minister for approval. The project is called *Rotational secondment of staff from higher levels to support lower levels* and is intended for regular and long-term implementation nationwide [36]. An advantage of the 1816 project is embedded in its approach of team learning and on-the-job technology transfer based on actual conditions in each hospital. As the capacity of health workers improves, they can further learn to achieve higher levels of proficiency, which allows them to perform many types of advanced surgery locally without the need to refer patients [58]. Preliminary results indicate that this proposal is effective and helps improve the quality of care in lower-level services. It also contributes to reducing the patient overload at central hospitals and in large cities.

The MOH has approved the *Proposal to invite retired professors and medical experts who retain good health, to voluntarily participate in training, research and advising on health services* according to Decision 1278/2008/QD-BYT. This programme, however, has not been rolled out to all training facilities. In the immediate future, the MOH intends to roll out the project in selected universities to enhance their quality of training and research.

To assure quality of training in general and training in health sciences in particular, the Ministry of Education and Training issued Decision 29/2008/QD-BGDDT, dated 06 June 2008, to regulate the schedule and procedures for quality assurance in universities, junior colleges and secondary vocational training institutions. The Ministry of Labour, War Invalids and Social Affairs issued Decision 08/2008/QD-BLDTBXH, dated 25 March 2008, concerning regulations on procedures for quality assurance in vocational/technical training.

Directive 06/2008/CT-BYT of the Health Minister, dated 27 June 2008, on strengthening the quality of training for health workers, requires all training institutions for health workers and all health facilities that receive medical and pharmaceutical students for practical training to implement certain tasks. Specifically, recruitment of students must comply with the allowed student/instructor ratios and the ratio of full-time students to total students. The Directive also requests health workforce training facilities to prepare investment plans, assuring sufficient physical infrastructure, equipment and teaching staff as regulated by the Ministry of Education and Training. Facilities for medical practice must satisfy technical standards as regulated by the MOH. Other facilities for practical training outside the school must follow the current regulations.

2.2 Drawbacks and challenges

2.2.1 Shortcomings in health workforce quality

Drawbacks of qualifications of health workers

As shown in Figure 9 above, the proportion of health workers with university qualifications and higher is below 30% of total health workers in the public sector. Comparing qualifications by type of health worker it is clear that of total doctors, 11% have post-graduate qualifications. The structure of pharmacists across university, junior college/secondary and elementary levels is fairly even. Most nurses have junior college and secondary qualifications with a decreasing percent of elementary-level nurses, and an increasing number of university-level health workers. Most technicians are at the junior college and secondary levels (Table 26).

Table 26: Structure of health worker by category and educational level, 2008

Category/educational level	Number	Structure of qualification by staff category (%)
Doctor	56 208	100.0
Post-graduate	6 098	10.8
University	50 110	89.2
Pharmacist	32 830	100.0
University and post-graduate	10 524	32.1
Secondary pharmacist and technicians	12 533	38.2
Elementary pharmacist (workers)	9 726	29.7
Nurse, midwife	90 024	100.0
Nurse, midwife (University)	2 272	2.5
Nurse, midwife (Junior college/secondary)	77 004	85.5
Nurse, midwife (Elementary)	10 748	11.9
Medical technician	15 682	100.0
Medical technician (University)	1 806	11.5
Medical technician (Junior college, secondary)	13 876	88.5
Assistant doctor	49 213	16.5
Traditional medicine practitioner	882	0.3
Other staff	54 308	100.0
University	13 192	24.3
Junior college and secondary	11 577	21.3
Unspecified	29 539	54.4
Total	299 100	100.0

Source: Health statistics yearbook 2008 [7].

There is a limited number of staff with high qualification and inappropriate distribution. The share of public health workers with post-graduate degrees (doctorate, masters) is low (2.2%), and they are concentrated in higher-level facilities (54% at the central level and 41% at the provincial level). Health workers with university qualifications (mainly doctors) account for 29% of total health workforce and are concentrated mainly at the provincial level (42%). Amongst those with

university-level education, some staff have higher qualifications because they have been trained in a specialty. However, there are no data on the proportion of health workers trained as specialists or resident doctors by which to analyze the quality of the health workforce. However, of 28 400 university graduates, about 14% are pursuing specialized training or residency. Also, some university-level students are following a 4-year training programme (in-service training) to serve disadvantaged regions. They have lower qualifications than full-time students, but account for about 27.5% of total trainees/year. Health workers with junior college and secondary qualifications represent the highest share of health workers in the public sector (55%), and they are distributed evenly across provinces, districts and communes. The number in the health workforce with elementary level training is declining, and they work mainly at the communal level (Table 27).

Table 27: Distribution of health workforce by level, 2008

	Central		Province		District		Commune		Total	
Educational level	No.	%	No.	%	No.	%	No.	%	No.	%
Post-graduate	3 578	54	2713	41	327	5	0	0	6618	100
Graduate	14 343	21	28 086	42	17 413	26	7 010	10	66 852	100
Junior college & secondary education	13 753	9	50 354	33	45 978	30	42 526	28	152 611	100
Primary education	2 093	13	3 769	24	3 882	25	5 965	38	15 709	100
Other fields of training	4811	20	12 984	54	5 745	24	704	3	24 244	100
Total	38 578	15	97 906	37	73 345	28	56 205	21	266 034	100

Notes: These data do not cover public pharmaceutical production and business facilities, including 19 171 workers.

Source: Health statistics yearbook 2008 [7].

Qualifications of preventive health workers remain weak. The share of university-trained health staff in the preventive system remains low (11.2%) and only 2% hold professional preventive medicine degrees/certificates (e.g. public health, occupational) [59].

Managers formally trained in management fields are also few in number, negatively affecting the efficiency of operations in many health facilities and making it difficult to implement Decree 43 on self-financing [8].

The poor capacity of lower-level health workers may be responsible for inadequate delivery of health services and widespread medical errors in diagnosis and treatment. Research statistics indicate that in 2001 [60], only 64% of the patients referred from provincial or district hospitals to central services were given an accurate diagnosis at the lower levels, and only 51% of the patients transferred from the districts to the provinces had been accurately diagnosed in the districts. Although these percentages grew to 75% and 59% respectively in 2003, it is obvious that incorrect diagnosis in lower-level hospitals remains high [61].

Ability to perform technical tasks is poor

The quality of services in health institutions is affected *by the lack of staff in some lines of expertise such as primary care, social diseases and paediatrics*. Also, due to the limited capacity of lower-level health workers, the ability to perform

clinical tasks according to division of responsibilities across levels of the system has not been achieved. Evaluation of performance of standard tasks in CHSs reported in the Rural Health Project (ADB) *End-project evaluation in 2008* shows that in 2006-2007, only 79.1% of CHSs were able to perform at least 60% of commune-specific, standard issue clinical procedures [62]. This low quality of services is probably part of the reason why people continue to bypass the lower levels and go straight to the higher end of medical services, which in turn, results in overcrowding of central hospitals.

The current disease pattern has changed from communicable to non-communicable diseases, which entails a sharp increase in the demand for treatment of non-communicable diseases. Consequently, lower-level health workers are caught by surprise since they never received training on these diseases, resulting in the influx of patients in specialist hospitals like the Endocrinology Hospital or Hospital K, causing overcrowding in these hospitals [63].

The lack of specialized qualifications in some fields of expertise also affects the ability to meet the need for service delivery. As indicated by findings of the latest review on the health-care system for mothers and children in 64 provinces of the country, trained health workers in rehabilitation, anaesthetics and obstetric surgery are in serious short supply at the district level in many provinces. As a result, C-sections cannot be performed at district clinics in as many as nine provinces [64]. Until now, endoscopic surgery has been performed only in central hospitals or more advantaged provinces. Liver, kidney and heart transplant techniques have been available in the country for almost 30 years, but coverage of the population remains limited. The pace of applying new technologies on a wide scale is very slow. In part, this is due to the lack of equipment and the absence of experts who know how to use the advanced equipment [41]. There is a shortage of health workforce in some specialties, and the capacity of post-graduate training in some universities and institutes is also limited due various shortcomings, e.g. qualifications of instructors, physical infrastructure and teaching equipment. In addition, since the remuneration mechanism is not attractive, those with high qualifications can easily find a job in the private sector and urban areas. Hence, it is difficult to attract and retain highly qualified staff to work at the provincial and district levels.

2.2.2 Impediments in the degree training system

The degree training system consists of educational institutions at primary, secondary, and junior college to university levels. Many factors may influence the competence and capacity of newly graduated health workers, of which the curriculum is one of most important. In addition, other concerns such as the number and quality of newly admitted students, facilities of the school, instructors, training process and school-based quality assurance are of no less importance.

Quality of students admitted to many schools is declining

With the introduction of many new policies that allow higher student quotas and acceptance of candidates with lower examination scores, the input quality of training schemes is degrading and tends to affect the quality of output, i.e. new medical graduates. Similarly, current criteria for enrolment are based mainly on entrance examination scores, which do not sufficiently address certain ethical considerations.

Factors influencing the increase in enrolment quotas of universities include the pressure of self-financing under Decree 43, applicable to medical and pharmaceutical educational institutions. Confronting the low level of funding (low state budget, low tuition fee) and invariably rising training costs, one of the primary solutions that schools employed to guarantee income for their staff and to cover other areas of operation was to raise admissions quotas [63].

The average student-to-instructor ratio is 6.5 in medical school [65]. Although this average is lower than that established in Directive 06/2008/CT-BYT on strengthening quality of health workforce training, some schools have very high ratios (18 students/instructor, e.g. Hai Duong Medical Technology School and 12 in the Odonto-stomatology University 2007) [44, 65]. Overcrowding often occurs at schools with multiple levels of training (university and junior college mix). This suggests that if schools are to continue their present trend to increase input quotas, then *training* quality will be severely affected as they will fall short in the human resources and physical conditions needed to assure good training [63].

Many have shown concern for the input quality of students that studied under the direct enrolment mechanism for disadvantaged areas and admission of students in non-public sectors. As already reported by the schools, the academic level of the students directly enrolled without entrance exams is often very low and well below the entry requirement of most educational institutions, particularly those with high entrance score benchmarks, e.g. Ho Chi Minh Medical and Pharmaceutical University [57]. This, of course, will affect the quality of graduating medical workers. Consequently, while training under the direct enrolment mechanism may seem to resolve the priority problems associated with specific regions and ethnicities, in the long run the option of training under contract between local government and medical schools may be better. Therefore, to improve the quality of training, it is necessary to supervise and follow-up training and facilitate continuing medical education.

Presently, private universities providing medical training only provide training in nursing, medical technology, public health and hospital management. Entrance score minimums required by private universities are generally low compared to public schools. For example, in 2009, the entrance exam minimum score for admission in nursing is 18.4 at public training facilities, while it is only 15 in two private schools, meanwhile the legally mandated minimum exam score in B levels (math, physics, chemistry) is 14. This evokes concern about the *quality of graduates from non-public medical schools and their ability to practice medicine*. In addition, some reports also indicate that non-public schools are expanding their student admissions as a means to recover training expenditures, as the current tuition covers only 40% of operational costs and taxes [63]. Hence, monitoring of training quality in private schools should be an issue of special concern.

Many training programmes not updated regularly (every 5 years)

To date, the MOH has approved 48 framework curricula from secondary school to graduate levels. Based on the framework curricula, directors of institutes and rectors of universities and junior colleges develop detailed curricula for their schools; composing and approving textbooks for all subjects as official training materials for the schools.

Table 28 shows a continuum of study from the high school to post-graduate levels in areas such as pharmacy, traditional medicine and odontology. Some

programmes are available only for undergraduates and higher levels, e.g. general doctors and public health. Some lines of education are limited to secondary school, junior college and universities, e.g. medical technology, nursing and midwifery. Hence, health workers are offered several opportunities for continuing on a career path from high school through post-graduate education if they choose to pursue it. Training programmes, however, need to be designed to enable students to acquire certified course credits in ways that will allow them to spend less time in school, but yet lead to the necessary diplomas, in all areas of training, for those who wish to upgrade their education.

Table 28: Training fields and programmes

Types of training	Docto-rate	Masters	Specia-list level 2	Specia-list level 1	Bache-lor	Junior College	Secon-dary School
General medicine	x	x	x	x	x		
Pharmacy	x	x	x	x	x	x	x
Traditional Medicine	x	x	x	x	x	x	x
Odonto-stomatology	x	x	x	x	x	x	
Nursing		x			x	x	x
Midwifery							x
Public health	x	x		x	x		
Medical technology					x	x	x
Preventive medicine	x	x	x	x	x		

Source: Department of Science and Training, MOH, 2009.

The framework curricula are normally updated every 5 years. But the evidence shows that many programmes have been left unaltered, which implies that on-going changes in society, e.g. morbidity patterns, diagnosis and treatment methods and health policies are not updated in a timely manner in the curricula [66]. Last year, under the direction of the MOH seven universities updated their curricula, e.g. for general doctors, graduate medical technicians and pharmacists. To date, these curricula are still waiting approval by the Ministry of Education and Training. Due to funding and bureaucratic constraints, many curricula have no chance to be updated in time to comply with the prescribed 5-year schedule. This will affect, in part, the modernity of training programmes and the quality of training.

Except for the framework curricula endorsed by the Ministries of Health and Ministry of Education and Training, the development and updating of programmes in each school have never been monitored in detail. Rather, it is left to the discretion of the educational institution. If all facilities acquire accreditation, then supervision will become a regular activity at each school and will contribute towards improving the quality of training.

Under-developed physical infrastructure

Medical training institutions have a serious shortage of physical infrastructure, particularly practice facilities like clinics, basic medical laboratories and libraries.

The MOH has introduced many policies to support educational institutions in sending students for field exercises and practice, e.g. Circular on collaboration of hospitals and medical schools (Circular 09/2008/TT-BYT, 01 August 2008).

Nevertheless, resources and infrastructure challenges have *prevented many medical schools from having their own university hospitals*, including Thai Binh Medical University and Nam Dinh Nursing University.

Cooperation among universities and hospitals remains weak. Medical schools often complain that hospitals are not giving the students what they need for productive practical training. The hospitals argue that the universities often ignore their recommendations on the optimum number of students they can accept for practice and don't supervise their students on hospital practice rotations [44]. This situation is complicated by the overcrowded situation of most hospitals. Under Decree 43, many self-financing hospitals have asked that a fee per student be paid for field practice and student oversight in hospitals. Again, resource constraints do not allow many schools to pay the fees, nor do they have enough instructors to supervise the students in hospitals, which is not an ideal situation for the students' performance.

Among the daunting tasks that schools are facing is the *lack of community-based medical practice laboratories* [44]. The MOH has planned to set aside loan funding from ADB Bank to help 18 ministry-affiliated schools upgrade their community-based medical practice laboratories. The schools are required to prepare for accepting and operating the practice facilities, starting from infrastructure and human resources training to running the facilities once the equipment arrives [57].

Other essential conditions for training, e.g. libraries, materials and classrooms, are also inadequate in nearly all schools, both public and private [63].

Inadequate number and quality of medical school instructors

In most schools, the teaching staff is comprised of both permanent and part-time instructors. Part-time instructors are mostly experienced experts from hospitals and research institutes. Substantial disparities exist in the proficiency level of instructors at different schools. For instance, instructors at major universities in large cities like Hanoi and Ho Chi Minh City are often better than in instructors other areas. This suggests a *possible disparity in teaching quality between schools.* Modifications of financial partnership systems can be considered for exchanging instructors as a means towards improving the teaching quality of local schools [63].

Despite the increased standards of instructors [44] it remains an uphill task to achieve government targets on instructor standards by 2020. The targets require that at least 90% of university instructors and 70% of junior college instructors hold a master's degree or higher; of which at least 75% of university instructors and 25% of junior college instructors hold a doctorate degree [67].

The lack of financial support from host agencies and limited English proficiency are among the key reasons that deter instructors from using the government's scholarship programme for overseas, post-graduate training.

All universities currently have a shortage of basic health science instructors [44]. Existing sponsorship programmes are mainly narrowed down to a few areas like public health and management. On the other hand, the poor language skills of the instructors further limit their opportunities to find scholarships for *basic health science* training. More noticeably, recruitment of students to *basic health science* is also difficult due to low future income prospects.

Training and preparation of the next generation of health workers remains less than expected. About one third of the junior college and secondary school instructors

have spent 20 to 30 years in their career, but the other third have less than 5 years of work experience and need mentoring and support for career development [44]. Even some major universities, e.g. Hanoi Medical School, have as few as four professors[4] [68]. Hence, there is an urgent need to train and prepare the next generation of medical teaching staff to meet high standards.

The adoption of interactive learning methods remains sparse, inconsistent and relies mainly on the capacity of each institution and instructor to mobilize external funds and technical assistance [66].

Higher number of graduates, but demand still not met

Many are concerned about the quality of health workers, especially about newly graduated doctors and their ability to perform independently. Very few graduates are retained for residency training (10%). The others all need, but lack, extensive hands-on mentoring after graduation. Part of the reason for poor quality of newly graduated health workers is associated with the lack of practice facilities and conditions during training, including post-graduate education [69].

Very few universities have seriously considered new graduates' *ability to work independently* to meet the demands of society. To date, only the Medical Faculty of Central Highlands University has conducted a study on the responsiveness of graduated students in the workplace. Hanoi School of Public Health also holds annual conferences with employers where its former students can learn about adapting to the job. These two institutions then make adjustments accordingly in an effort to better meet the demands of society.

Standards for evaluation are needed to assess work performance of graduates. A blue book developed by medical schools, which lists essential competencies that a general doctor should possess, is in the process of being updated, but no standards exist for other medical majors [66].

The MOH drafted the Law on Examination and Treatment, which was approved by the National Assembly in November, 2009. The Law requires that medical workers meet certain academic and practice standards in providing health services. Only those who meet such standards will be issued practitioner's licenses.

This poses a new challenge to medical training institutions, particularly as regards clinical health workers (doctors, nurses). Training facilities must now conduct training quality control by mandate and must monitor the proficiency standards of graduates to update their curricula. They must also make relevant instructor and infrastructure arrangements to enable graduates to pass medical practitioner licensing exams. The MOH has developed a plan to help schools amend their training programmes in the right direction to meet the requirements of practice licensing, through the ADB project and other AusAID support [63]

In addition, by 2010, the agreement to mutually recognize equivalent certificates for nurses among the ASEAN block nations will be in effect. In preparation for this, it is vital that the Law on Examination and Treatment be enforced effectively, as nursing schools must have a standard curriculum comparable to other

[4] Professor in the Vietnamese system is an honour bestowed only on those with outstanding contributions to the field, a large number of publications and years of experience training others.

ASEAN countries if they wish to be part of the programme. This programme makes it possible to export nurses to the other countries, and conversely, allows nurses from those countries to work in Vietnam without compromising the quality of care.

2.2.3. Setbacks in continuing medical education

Although the Government issued Circular 07/2008/TT-BYT, dated 28 May 2008, guiding continuing medical education for the health workforce, the implementation of CME faces shortcomings, e.g. the absence of a quality assurance mechanism for the training programme and a rule requiring all health workers to comply with the regulations, and the lack of joint coordination for effective implementation of training programmes.

Lack of mechanisms to manage content and quality of CME

Topics addressed by in-service training courses commissioned by the MOH are identified to meet the needs of public administration reform in areas such as governance, hospital management principles, leadership, international economic integration and fundamental principles of health economics [70]. A re-training committee, chaired by a Vice Minister responsible for training, has been formed by the MOH and involve the Department of Organization and Manpower, Department of Science and Training and educational institutions, including the Hanoi School of Public Health, Ho Chi Minh City Public Health and Hygiene Institute and MOH Information Centre. The Hanoi School of Public Health and HCMC Public Health and Hygiene Institute are assigned to deliver in-service retraining courses in the North and South. An in-service retraining centre of Hue Medical School is expected to join the process in the future. In this period of self-financing under Decree 43, leaders of agencies have received considerable training in *management skills* [68]. The MOH has also prepared plans regarding standards of managerial staff, including obligatory skills such as leadership and management.

As regards clinical proficiency, disadvantaged areas and the grassroots health system tend to have health workers with lower qualifications, and are in much greater need than other places of strengthening, updating and improving quality. Major government investment programmes have been initiated at the district level (Prime Ministerial Decision 225/2005/QD-TTg and 47/2008/QD-TTg), in preventive medicine (Decision 1402/2007/QD-TTg) and at the communal level in disadvantaged regions (Decision 950/2008/QD-TTg). Such programmes include the goal of improving professional and technical skills for health workers by focusing on training and upgrading in the first 2 years of implementing the proposal so we will have sufficient qualified staff, ensuring that newly upgraded facilities will be utilized effectively.

Many other short-term courses are organized by support projects, and overlapping training themes are quite common [66]. At times these themes are not a close match to what the health services really need. Contract-based training programmes are now available and could be a good choice to meet the needs of grassroots health workers. However, contract-based training programmes can be organized only with available funding sources.

The quality of training courses remains low, as the programmes focus mostly on theory and less on practice [44]. Hence, health workers do not seem interested in these short-training courses as a way of learning.

Barriers to implementation of CME policy

The lack of funding due to low financing norms presents a major challenge to short-term courses. The current available state budget for in-service training targeting administrative reform is limited and barely enough to accommodate 50 courses and about 2000 students from MOH-affiliated institutions. Many health workers wish to attend the courses, but have been ruled out for this reason. For the training programme under Decision 225/2005/TTg, the available annual budget is about VND 5 billion. By Decision 47/2008/TTg, investing in district hospitals during 2008-2010, the funding for training and upgrading professional skills of health workers is taken from annual recurrent expenditures regulated by the Law on State Budget. According to Decision 1402/2007/QD-TTG, the local budget is prioritized to implement specific tasks as set forth in the *Proposal for consolidating and development of District Preventive Medicine Centres*. This is not easily done in disadvantaged areas. There are places that have funds (according to Project 1816), but have not implemented and disbursed the funds.

At times, the health services cannot afford to send their staff to refresher training courses. The chronic, "short-staffed" situation in lower-level health services means that sending staff members for in-service training (under Decision 225/2005/TTg), or any other training programme, would leave the health facilities with a serious shortage of workforce. Appropriate funding, convenient locations and time for training are essential [44].

Currently there is a shortage of staff to manage training of health facility staff, including even central level health facilities where they usually have someone who has only received minimum training in management of CME. There has been little coordination of short-term courses. Course topics frequently overlap. To solve this problem, in 2008, the MOH issued Circular 07/2008/TT-BYT on continuing medical education for health workers. The Circular elaborates on the number of training modules (number of hours) that health workers must accumulate in a year through CME courses. The MOH also specifies which institutions are authorized to deliver these courses. This will form the prerequisites for enforcing the Law on Examination and Treatment, which specifies CME as a mandatory requirement for health workers. There are not yet any regulations currently in effect that require obligatory participation in short-term courses.

The government has also planned to allow VHWs nationwide to participate in short-term training. Various training programmes are currently available for this group, e.g. the government-funded programme, or donor-supported programmes such as GAVI and the previous Sida-funded training programme. A major issue in VHW training is associated with input quality, since the learners must start with an appropriate basic educational level to be able to absorb the basic skills required to perform their tasks as VHWs while remote areas are invariably in a state of human resource shortage, particularly women with adequate basic education [71].

2.2.4 General drawbacks in management of health workforce training

Accreditation of training quality faces limitations

Quality accreditation is a key measure to guarantee training quality. The Ministry of Education and Training has issued a framework and roadmap to execute training quality accreditation and regulations for training, using a system by which

students earn credits. The MOH also issued Directive 06/2008/CT-BYT, dated 27/6/2008 on *strengthening quality of health workforce training*.

Nevertheless, training quality accreditation in universities remains limited. Only a few universities (e.g. Hanoi School of Public Health) have submitted their internal audit reports to the Examination and Quality Control Bureau. Monitoring by the MOH as regards training quality assurance remains challenging due to resource constraints [44]. Noticeably, quality assurance monitoring of non-public training institutions is still left open by the MOH.

Training budget inadequate to meet demand

The total state budget earmarked for training in institutions affiliated to the health sector has increased over the years (Table 29). But as a percentage of the total state budget spent on health care, it shows a conspicuous declining curve. The training budget in public schools consists mostly of state subsidies. Every year the government subsidizes VND 3.5 million for a secondary student and VND 6.5 million for a university student, norms that have been in place for decades without change. Given the increasing training costs, the state budget allocation and norms for revenue collection for training are failing to meet the requirement of funds for expenditures to ensure training quality [44]; the financial mechanism for training facilities is outdated, with revenue norms inadequate to cover expenditures, and this also affects training quality.

Table 29: Training budget

Year	Total state health-care budget (VND billion)	Total training budget (VND billion)	Percentage (%)
2000	5 098.70	87.97	1.73
2005	18 976.30	295.32	1.56
2007	31 481.16	382.80	1.22

Source: Health Statistics Yearbooks

A study from 2001 designed methods to calculate medical training costs in Vietnam [72]. In 1997, the estimated training costs for a doctor at Thai Binh Medical University was VND 111 462 989 (US$ 9527). In Hanoi, the expense to train a doctor is 14 times higher than that to train a nurse. Doctor training represents a huge and lengthy investment. In planning for human resources development, policy makers have not paid adequate attention to the cost and cost-effectiveness factors in determining suitable training structures, cost-effective training models and ultimately, in terms of output, the mix of medical staff that offers the optimum workforce.

3. Priority Issues

3.1. Quality of training in medical schools remains low

- Training curricula are not updated (both short-term and long-term programmes);
- Lack of mandatory requirements for accreditation;
- Lack of opportunities for practice during training.

3.2. Clinical practice capacity of fresh graduates is weak

- Lack of a post-training period of supervised practice (only 10% of fresh graduates undertake a residency);
- Lack of standards and mechanisms for assessing clinical practice capacity as a means to grant practice licenses.

3.3. Mechanism for CME is weak, especially in disadvantaged areas

- Weak state governance mechanism for continuing medical education – lack of guidance, standards and a mechanism for accreditation of continuing medical education programmes;
- Lack of funding for continuing medical education, absence of support for staff to participate in continuing medical education, especially in disadvantaged areas;
- Lack of mandatory regulations/framework for participation in continuing medical education by health workers; and lack of mechanism for supervising implementation of continuing medical education.

Chapter 5. Management and utilization of human resources for health

This chapter reviews issues related to the management and utilization of human resources for health, and clarifies what is being effectively implemented as well as the drawbacks and challenges that remain. Concepts about management and administration of human resources in health care are briefly introduced as yardsticks for the review. Based on this situation analysis on the management and use of human resources, the chapter presents priority issues and recommendations aimed at responding to these issues.

1. Concepts associated with governance and management of the health workforce

Governance and management of the health workforce is implemented at central, provincial, district and facility levels (hospitals, health centres and schools) with different characteristics and roles.

Governance and management at the macro level has vital importance, primarily in policy making and development of human resource plans and strategies. Enactment of quality assurance frameworks and standards for human resources and services is also a task of the Government because the health workforce differs from the workforce in other sectors. To support the management and governance of health, a management information system is being developed at all levels to respond to changes in health workforce policy making and supervision of compliance with plans, regulations and work performance. Finally, governance also involves mobilizing financial resources to improve the effectiveness or remuneration mechanism for the health workforce.

Governance and management at the provincial/municipal and district levels are essential for implementing government policies and plans. National-level cooperation is essential to develop clinical standards and procedures and to guide, monitor and supervise implementation of health services. Such cooperation is also necessary to provide input for reports and feedback to the lower levels, to remove local impediments in preparation, implementation, maintenance and regular upgrading of human resource quality, and to mobilize investment and financial resources to address local health problems.

With the direction and support of higher-level authorities, the facility level is responsible for guiding and regularly monitoring operations so that every health worker will fulfil the mandates and tasks defined in their job descriptions (in line with operating procedures, human resource management protocols, and personnel-related operations at the facility level) and recommend ways to raise resources and funds to improve service quality.

2. Situation analysis

2.1 Progress and achievements

This section analyzes the current situation by examining six topics: 1) development of strategies, plans and policies for the health workforce; 2) a system to secure quality of the health workforce and health services; 3) a health management information system; 4) mobilization of resources; 5) management of the health

workforce of health facilities or employers, focusing on work environment and motivation; and 6) management competency in the health system.

2.1.1 The Ministry of Health and other agencies develop plans, strategies and policies under the leadership and direction of the Party and Government

Resolution 46/NQ-TW of the Politburo, Directive 06/NQ-TW of the Central Party Secretary, Resolution 18/2008/QH12 of the National Assembly, master plan for health sector development, etc are important documents for directing the development of health strategies, plans and policies – including health workforce policies. Prime Ministerial Decision 243/2005/QD-TTG, dated 05 October 2005, issuing the Government Action Programme to realize Resolution 46/NQ-TW and Prime Ministerial Decision 402/2009/QD-TTg issuing the Government action plan for implementation of Resolution 18/2008/QH12 also provide specific guidance for the MOH to develop policies and plans.

Management of human resources for health, from training and recruitment through deployment and remuneration is regulated through many legal documents, e.g. the Law on Education, Ordinance on private medical and pharmaceutical practice, Law on Government employees and Civil servants, Law on Awards for Outstanding Performance, and the National Public Administrative Reform Programme. To manage civil servants, the Government has given various ministries the responsibility to develop policies according to their various functions and responsibilities.

The MOH has been allocated responsibilities including: national workforce planning; issuing and revoking licenses for private medical and pharmacy practice in hospitals or foreign-invested facilities, developing training policies and implementing training of health workers; and managing civil servants and promotions in the health sector according to legal regulations [73]. However, the health sector depends on other ministries and sectors to develop and implement other policies on human resource management.

By Government Decree, the Ministry of Home Affairs is responsible for developing policy proposals to allocate work and positions to civil servants; to administer the permanent employment system for state service and administration workers; to train and supplement training; to remunerate, utilize, evaluate and rotate workers; to give awards for outstanding performance and penalties for misbehaviour; to nominate people for leadership; to review permanent employment in the state sector on an annual basis; to determine the various positions and professional standards; to recruit and promote civil servants to higher levels of the pay scale [74]. The Ministry of Labour, War Invalids and Social Affairs is responsible for developing policies on labour, salary, wages, social insurance, employment, labour export, worker safety and hygiene, and vocational training [75]. The Ministry of Finance implements and makes arrangements for state budget funding to pay salaries and supplements for civil servants [76].

The Law on Government employees and Civil servants (which comes into effect on 01 January 2010) will have a strong impact on recruitment and remuneration of health workers in the public sector. According to the Law on Government employees and Civil servants, only people recruited and nominated to hold leadership and management positions will be considered civil servants. Most people directly performing professional activities for public service providers will no longer be considered civil servants. This is a radical and very important change relating to

public administrative reform in public service facilities. This change also facilitates more effective performance of contract-based personnel management in public institutions, based on employees' competencies, quality and performance. This change will definitely have a wide influence in society and will directly affect current government employees and civil servants, especially those working in the education and health sectors. Thus, it will take time and an appropriate roadmap for the law to bring its positive changes into full play and to prevent unexpected consequences.

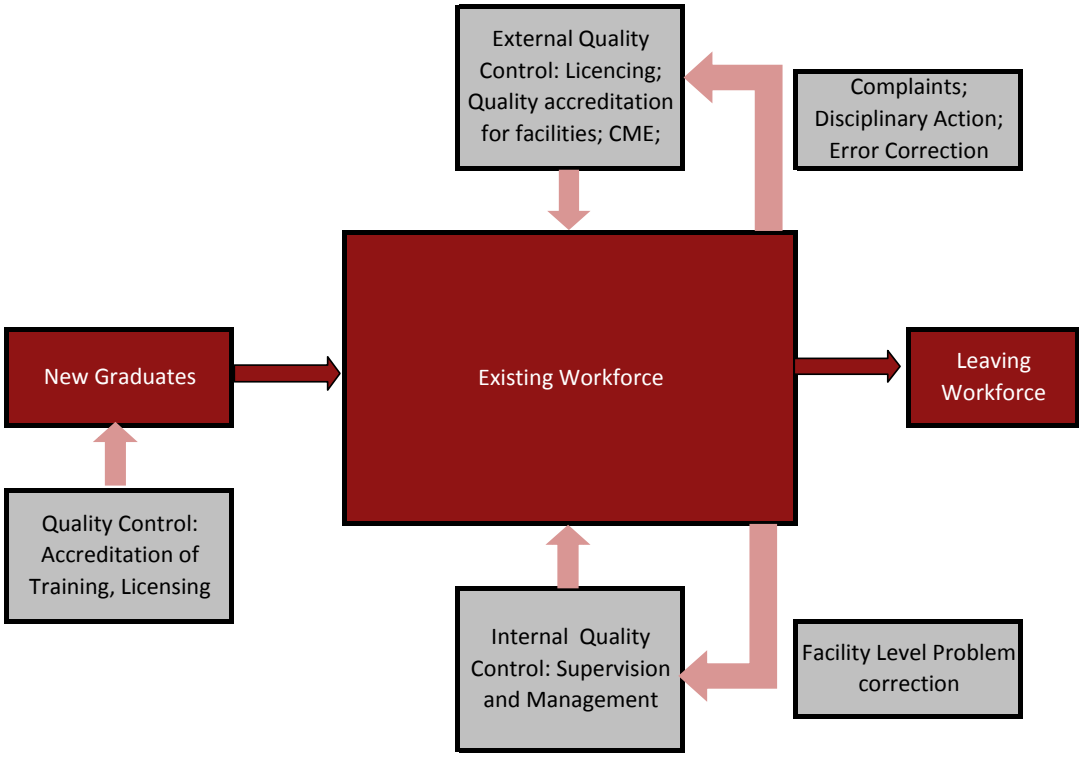
Every national policy and strategy on the medical workforce has been rolled out in the localities, albeit at different levels depending on local conditions. Implementation has reportedly encountered serious hindrances in disadvantaged areas, e.g. the uplands, borders and islands. The human resources divisions of provincial and municipal health departments have the responsibility for managing the entire health workforce in their area of jurisdiction, with the lower-level network being the human resources management offices of facilities themselves, or the leadership of district-level facilities.

2.1.2 Establishment of national quality assurance system

As analyzed in Chapter 4, quality assurance of health workforce used to rely on strengthened capacity primarily through degree training. In recent regulations, in particular the Law on Examination and Treatment, just recently passed by the National Assembly, the issue of medical quality assurance is reflected in a systematic manner. Figure 10 describes the quality assurance mechanism for the health workforce.

The health workforce can be divided into two major groups (Figure 10). The first group includes fresh graduates and those who are about to practice medicine, and the second group includes current practitioners. At the pre-service stage, there will be a mechanism to accredit training quality and grant new practitioner licenses. For the current practitioner group, there will be an external mechanism for supervision, encouragement of training to continuously update professional knowledge. In addition, practitioners confirmed to have caused medical errors will be penalized, and their license will be revoked. A more important mechanism is internal supervision and medical management, avoiding situations that lead to medical errors and the consequent suspension or revoking of practice licenses.

Figure 10: The quality assurance mechanisms for the health workforce



Certification of pre-service professional competency

Presently, a mechanism to certify pre-service practice capacity is determined by a recruitment committee established by a competent agency, or the unit authorized to recruit staff. The recruitment committee will assess professional proficiency through exams and review of personal profiles. However, the criteria for assessing knowledge and competency is still unclear. When signing their first labour contract, employees will sign a 3-12 months probation contract to assess their competencies. Regarding the private sector, the MOH or the provincial health department will have the responsibility for granting practice licences to the director or technical manager of the facility based on the certificate's conditions, certification of practice experience, health certification, and agreement to comply with applicable regulations. Both mechanisms also prohibit certain people from taking exams or granting certificates, e.g. people under criminal investigation, or who are currently imprisoned.

Continuing medical education

A new regulation on continuing medical education (CME), was issued in 2008 (Circular 07/2008/TT-BYT) as discussed in Chapter 4. Mechanisms are being developed to implement the CME policy as set forth in Circular 07. The Ministry of Health (Science and Training Department) is responsible for managing programmes, contents and conditions to ensure quality of continuing education, giving specific guidance to the programme, materials and conditions to organize training courses and certificates, directly managing CME courses for facilities or programmes, projects under the control of the MOH. Directors of provincial health bureaus are responsible for: managing CME for workers under their management; directing facilities under their management to develop CME plans; allocating funding; and implementing

training. The state management mechanism for CME relies mainly on facilities to make plans for training, briefly review the training programmes and list of trainees, and review the training programmes implemented in a given year.

External quality control

Previously, quality criteria for health facilities were based primarily on inputs, e.g. quantity and category of health workers or quantity and type of medical equipment. Recently, there has been a reform in developing criteria to ensure that health workers perform technical procedures properly. These include technical standards, e.g. national standard for reproductive health [77], treatment protocols, regulations for safe and rational use of drugs, criteria for lab tests and diagnostic imaging.

Some of the particularly important standards include: hospital regulations; national standards for provincial preventive medicine centres; and technical supervision mechanism for certain national target programmes. The hospital regulations [78], address detailed hospital management issues and technical regulations, e.g. infection control, emergency, intensive care and toxic control, regulations for filing and medical records. Cross-facility supervision trips are organized annually to determine the degree of compliance with technical practice in both public and private facilities. In preventive medicine, the MOH recently developed national standards for provincial centres for preventive medicine for the period 2008-2015 [79]. The standards also regulate performance of technical activities, e.g. prevention of epidemics and ensuring food safety and hygiene. The national standards include, apart from criteria, a mechanism of quality accreditation and a supervisory mechanism for compliance with current rules. Direct and indirect supervision is conducted relatively well in some national health target programmes. e.g. EPI, malaria and TB control, and there is a good health management information system, so the supervision and outcomes of the programmes are secured.

Many levels have responsibilities to supervise and monitor the private sector. At the MOH, the Medical Services Administration and Health Inspectorate have major responsibilities. At provincial health departments, the Division of Medical and Pharmaceutical Practice Management works closely with the Department Inspectorate to do the job. At the district level, the district health centres will take on the responsibility, and at the communal level, CHSs work with public safety forces and market management boards to monitor, inspect and manage private practitioners in the locality.

Medical errors and mechanism for registering complaints

At present, supervision of medical errors and registering of patient complaints takes place mainly within each health facility. For example, regulations require hospitals to have a monitoring and reporting system of problems, medical errors, at the departmental level and for the entire hospital. The report should analyze causes and preventive measures. Compliance with the regulations is determined annually by checking the monitoring records of each department and hospital, meeting minutes and reports to higher levels, taking random samples of mortality cases and records showing medical errors, complications, and especially cases that are reported in the mass media.

Internal quality control

To encourage good performance and effectiveness, the Government issues many policies relating to supervision and evaluation of health workers. Important policies include the Ordinance on Government employees and civil servants [80] (from 01 January 2010, by the Law on Government employees and Civil servants 22/2008/QH12), the Labour Code [81], and the Law on Emulation and Awards [82]. In addition, there are other guides/documents on implementation of laws and ordinances, e.g. Circulars on emulation and awards in the health sectors [83], Decree on government staff and civil servant disciplinary action [84] and Decree on recruitment, use and management of health workers and civil servants in state institutions [85]. Staff supervision and evaluation mechanisms rely on the accomplishment of designated work and performance, compliance with legal regulations, and technical procedural and administrative requirements based on self-assessment by staff members and through self-evaluation of each staff member, recommendations by employer units and approval by competent agencies. Implementation of the policy has yielded many benefits for health facilities and staff management at all levels.

Everyone in a leadership or management position is responsible for monitoring and evaluating the employees under their jurisdiction to ensure the smooth flow of day-to-day operations and implementation of regulations on emulation, awards and discipline. The year-end review of health services is often a typical performance evaluation process that takes place in the following the order: staff self-evaluate their performance; collectively staff comment and classify the performance of their colleagues; consulting the collective comments the facility director evaluates individual staff, then reconciles and classifies the staff; and each staff member is informed of the final performance review. Common methods used to monitor health workers in health services and health management agencies include:

Time sheets: The advantage of this method is that it is possible to monitor employees at work on a daily basis through time keeping for payroll calculation. Its drawback is that it does not allow evaluation of the quality or productivity of the employees' work. Hence, it cannot motivate and encourage the passion, willingness and creativeness of the workers.

Awards and discipline: Based on the Labour Code, the guiding circulars and Law on Emulation and Awards [86] and the Ordinance on Government employees and civil servants, by year end, every employee needs to prepare a *personal self-review*. This plays a role in human resource management as it motivates and promotes the "working spirit" of staff and improves service quality.

In addition, other mass organizations, e.g. Trade Union, Youth Union, Women's Union, participate in monitoring, supervising and evaluating staff depending on the specific regulations of each organization.

Control of medical ethics, spirit and work attitudes

In 1996, the MOH established 12 points on medical ethics (standards of moral conduct) for employees throughout the health sector [87]. Government Decree 45/2005/ND-CP defines administrative and punitive arrangements in the health sector that also involve ethics and responsibility of health workers. Also, it specifies infringing behaviours, the penal degrees and punitive jurisdiction. In 2008, the MOH released the code of conduct for staff of public health services under Decision 29/2008/QD-BYT, defining what health workers can and cannot do with regard to

their patients and colleagues and rules of conduct for entity management. In 2009, the MOH drafted a plan to implement the movement "Learn and follow the moral example of Ho Chi Minh" throughout the entire sector, which aims to purify morality and lifestyle at work, raise awareness and responsibility in delivering health services and epidemic control, strengthen the sub-national health network, provide drugs, medical equipment and supplies, increase the public health status, avert the deterioration in ideology, morality, lifestyle and avoid other social vices in the health sector. The MOH also decided to use February 27th every year as an occasion for mid-year review of performance related to the movement [88]. As a result, many good examples have emerged, contributing to reversing moral degradation among health workers, e.g. establish a hot line, prohibit pharmaceutical representatives from marketing in hospital, patients can only purchase drugs at hospital drug stores.

The Prime Minister called for strengthening education for health workers, government employees, and civil servants to enhance medical ethics and accountability as way to implement the Law on prevention and control of corruption, Law on thrift practice, prevention of waste [36]. Medical ethics has a great impact on the quality of health services. Beyond these efforts, many other mechanisms are needed to improve the attitude of health workers towards patients and to supervise and create motivation for staff to work.

2.1.3 Information system supporting supervision of implementation of health policy and planning for health workforce

The health management information system is a tool that supports implementation of health workforce policies and assures that the health workforce is meeting people's needs. The health information system in Vietnam is structured in line with the administrative system and based mainly on statistical and administrative reports. Information is often collected via sample surveys, but the surveys are usually conducted by other government agencies.

At each level of the system and in every health service there is a division in charge of health data and statistics and another in charge of human resources. The government has specified the mandates and provided instruments, templates, registration books, and training courses on information and communication technology in relation to the health-care system. The MOH and other related ministries have also put in place a regular human resources reporting system for municipalities and health services to follow [89-91]. There are also other vertical support systems, e.g. the trade union for the health sector and the emulative and award system in the MOH [83], which has helped improve the health-related reporting system. The Government and MOH intend to modernize the national information system through the policy of computerizing public administration under Project 112.

Information on human resources for health and spending on salary and supplements in hospitals is collected annually in assessing performance of hospitals in the Medical Services Administration. Other small-scale surveys are implemented to identify and assess the situation on remuneration, working conditions, commune health workers, etc. Their use depends on the need for policy development, but these surveys cannot be relied on as a regular source of information to monitor the situation.

2.1.4. Mobilize resources and finances to improve the capacity to provide services and effectiveness of human resources

The policy on social mobilization includes advocating an increase in the state funding share for health-care activities and developing policy to mobilize more social resources. To improve quality of health workers, it is necessary to increase funding for training, strengthening staff capacity, assuring sufficient working facilities, drugs and materials, ensuring sufficient remuneration to put staff at ease and creating motivation for them to work.

Health workforce training budget

The state has mobilized a relatively large amount of money for training medical workers, including regular expenditures and investing in physical infrastructure of medical training facilities. Most recently available data from the National Health Accounts indicate that total spending on training medical workers accounts for about 1% of total social spending (including public, private and external assistance). Looking only at information on state spending for out-of-state training on health, the share is only about 2%. The amount of money spent on training medical workers has not been stable over time and appears to have declined in 2005, while need for training is clearly increasing. Data in Table 30 are reported by the National Health Accounts, and data in Table 29 are reported in the annual health statistics yearbook. They show some differences, but a low and downward trend in the state budget share for training is obvious.

Table 30: Medical worker training expenditures, 2001-2008

Indicators	Year				
	2001	2002	2003	2004	2005
Total social spending on medical training (billion VND)	306	305	408	342	294
Training expenditure/social health expenditure	1.1%	1.1%	1.3%	0.9%	0.6%
Total state spending on medical training (billion VND)	218	238	274	203	180
State spending on medical training/total state spending on health	3.8%	3.8%	3.6%	2.5%	2.0%

Note: Data covers both the health sector and other sectors.

Source: MOH, National Health Accounts [19].

Improving the working environment

To develop and operate the health system, the MOH has lobbied effectively to increase the amount of state budget for health and mobilized external assistance and funds from society at large (social mobilization) for basic infrastructure development in the health sector. Prime Ministerial Decision 47/2008/QD-TTG, dated 02 April 2008 approved the proposal on investing in construction, renovating and upgrading district and inter-district hospitals. Total investment was about VND 17 000 billion, in which the central budget from state treasury bonds during 2008-2010 takes VND 14 000 billion, annual local budget account for VND 2200 billion and mobilized from other legal sources of VND 800 billion. Decision 950/2008/QD-TTg, dated 27 July 2007, on investing in building CHSs in disadvantaged areas 2008-2010 also aims to improve working environment at the grassroots level. Funding to implement this programme is taken mainly from the state budget, especially the funding from

Programme 135 period II and other related local programmes. The rest are foreigner-invested projects and investment of the private sector for upgrading and procuring modern medical equipment.

These investments have served well to improve physical conditions in public health facilities at all levels to ensure that health workers have appropriate conditions and means to perform their work and adequate equipment needed to diagnose and treat patients effectively.

Funding salaries for government staff

Every year, much of the state budget spending on health is used to pay salaries and supplements to health workers and health insurance workers. Up to now, most state health workers are permanent employees, which means that the state trains, uses and manages them according to state regulations on state workers, i.e. recruitment, assignment of work, remuneration, supervision and performance evaluation.

According to the National Health Accounts, payments for salary, supplements, bonuses, contributions to social insurance for health workers (both public and private) account for about 16% of total social spending on health. However, when we examine spending for state worker remuneration out of recurrent spending of state medical facilities and agencies, the share ranges from 42% to 51% depending on the year. This share is highest at the commune and district levels and declines at the provincial and central levels (Table 31).

Table 31: Total spending on remuneration of health workers

Indicators	Year				
	2001	2002	2003	2004	2005
Total spending on remuneration (billion VND)	4298	4209	4844	7606	7969
Total spending on remuneration/ total social spending on health (%)	16.0	15.3	15.1	19.3	16.1
Total remuneration expenditure in public sector (including health insurance) (billion VND)	2066	2179	2976	4747	2940
Total remuneration spending in public sector/ total public health spending (%)	36.2	34.6	38.6	59.7	32.4
Total remuneration spending in the public sector/ total state recurrent spending on health (%)	48.6	49.1	50.8	63.0	42.3
Central (%)	32.0	29.0	31.3	50.1	31.7
Province (%)	49.9	51.2	52.7	34.5	47.2
District (%)	61.9	62.8	62.4	72.5	44.5
Commune (%)	59.7	63.4	61.8	61.8	61.8

Note: Data include both health and other sectors with health workers
Source: MOH, National Health Accounts [19]

2.1.5 Governance of health workforce at health facilities

There are many factors that affect staff performance and ensure medical ethics. For example, working environment should be well equipped, e.g. facilities, equipment and drugs. Moreover, tools for technical and workforce management should be applied effectively, ensuring that improved capacity will be better used, e.g.

develop clear job description and tasks, effective and equitable supervision and evaluation of performance, appropriate remuneration package. Governance of the health workforce should be effective so that qualified staff can work in both the public and private sectors with quality services. Competency evaluation at the recruitment stage was presented above. This section will focus on working environment, tools for personnel management and motivation at work.

Working environment supports quality performance of health workers

Ensuring a fully-furnished working environment (physical facilities, equipment, staff structure and consumables) is a prerequisite to provide quality health-care services. Currently, Vietnam has various policies to ensure the physical infrastructure and personnel necessary to do the tasks as designated by decentralized technical division, e.g. national benchmark for commune health [92], criteria for classifying hospitals [93], and standards on knowledge, skills and medical equipment in essential injury care [94]. Major investments from the state budget have been made recently to upgrade physical infrastructure and equipment at the communal and district level (Section 2.1.4 above).

The Government also developed necessary regulations to assure sufficient essential drugs, containing the drug prices and drug management in hospitals.

Health workforce management tools

Many regulations on employment recruitment, appointment, use and management of government personnel have been established, and are being applied in public health institutions. The State also created regulations concerning inspection, monitoring, complaint resolution, censure to be applied by heads of government health agencies to medical/pharmaceutical production and service units, administrative bodies under the control of MOH, health facilities under the supervision of provincial health departments, Department of Population – Family Planning, Department of Food Safety and Hygiene [95]. The State also created favourable conditions for heads of health facilities to have autonomy in implementing their administrative functions, including management of the health workforce.

Health services in large cities are in a good position to recruit the right people. Candidates for the job not only have to follow the employment procedures set by government rules, but also tests designed by employers, e.g. foreign language, computer skills, and aptitude tests. Decree 43 allows autonomy in staff employment, which paves the way for many national-level health services to find competent personnel. In the next few years, when the Law on government employees and civil servants comes into effect, many health workers in public services will no longer be public servants and inevitably have to change to long-term contractual employees, which will enable health services to be more flexible in staff recruitment. This new way of thinking will create more pro-activeness in human resource management of health services.

Leaders and managers in public health facilities under the autonomy and accountability of Government Decree 43/2006/ND-CP [96] will also comply with the regulations of the Ordinance on government staff and civil servants and other Government Decrees on recruitment, appointment, use, management, increased grade, promotion and penalties [85, 97, 98], and other regulations on staffing norms [99], salary, wages and supplements [100].

The State is gradually moving autonomy and accountability over to health service providers, health workforce training institutions, health research institutes and phasing out direct management of all aspects including personnel management.

The adoption of autonomy under Decree 43 has given many entities more leeway in their own human resource management. In accordance with Decree 43/2006/ND-CP, the head of a health service is allowed to:

- Develop a staffing plan each year to send to the higher levels for compilation and approval
- Decide to contract workers for positions considered not to require permanent regular workers
- Decide on recruiting health workers through recruitment examination or selective recruitment
- Decide to appoint staff in government employee pay grades
- Allocate, assign and utilize civil servants
- Decide on mobilizing, secondment, retirement, resignation, termination of work contracts, awarding and punitive acts concerning employees under jurisdiction
- Decide on pay rises on schedule, in advance of schedule for staff within the same pay grade and receipt and pay grade changes for those of Senior Officer rank and below.

Create motivation at work

In the spirit of the 5th viewpoint of Resolution 46-NQ/TW "Health occupation is a special profession, and should be recruited, trained, used and given special treatment." The Prime Ministerial Decision 243/2005/QD-TTg, dated 05 October 2005, laying down a Government action programme to implement the Resolution 46-NQ/TW with a task of designing a special remuneration regime for health workers. Until now, there has been a decree and three Prime Ministerial Decisions on increasing salary supplements and stipends for government health workers and civil servants and VHWs [101-104].

Major motivation for good performance is moral and ethical values of health workers, accompanied by a material remuneration system, including salary and salary supplements. Salary and salary supplements for staff, in general and health staff, in particular have been regularly improved [105, 106], contributing to improved health-care services. In 2009, the Government has increased the preferential salary supplement to attract workers to disadvantaged areas to 70% of basic salary according to grade and step, plus the leadership supplement and supplement for people whose seniority puts them beyond the highest salary step [102], and created special salary supplement for health staff and civil servants working in certain hospitals [104]. For some health areas having difficulties to attract health workers, the Government directed the MOH to chair and work with the Ministry of Home Affairs, Ministry of Finance to review, develop and submit to the Government and Prime Minister proposals to amend and supplement some special salary supplements for health staff and civil servants with special attention paid to health staff working in certain specialties (TB, leprosy, mental health, HIV/AIDS, paediatrics and preventive medicine) [36]. In those policies, there are both financial incentives (e.g. opportunities

for early pay increases, bonuses, additional income or housing) and non-financial preferences (e.g. opportunities to study, improve skills, promotions, granting and recognition of emulative titles, qualification status and scientific titles).

Besides formally trained health workers, there are types of health workers providing support, such as VHWs. These people are primarily involved in IEC work. Some have been trained according to a special VHW curriculum. To motivate them to do good work, the State has paid a stipend every month. In the past this stipend was very low, but more recently the State has increased the monthly stipend for health workers up to 0.3 or 0.5 times the minimum wage [103], helping to stabilize the village health network, retain VHWs in the community and strengthen their ability to implement health programmes at the grassroots level.

In regard to nominations and appointments, employees in health services can cast ballots to recommend the ones they think qualified to be reviewed and evaluated by superior authorities. Finally, through some other reference channels (Party leaders, civil societies), a short-list of candidates will be chosen for nomination. These people (candidates for health service leadership) will need to prepare a proposal for development of the agency in the next office tenure and present it before a plenary of the staff. At the plenary meeting, everyone can freely ask questions to the candidates. After this question and answer session, the staff will cast ballots again to recommend who they think should lead the team. To appoint or nominate a leader, there may be some other phases (7 phases altogether or 7 steps).

2.1.6. Capacity and management policies

Considering the rapidly increasing health expenditure and the fact that health services are feeling the pressure of competition, the health sector more than ever needs professional managers for administrative work. Similarly, upgrades of management capacity for managerial staff of various levels and public health services have received special attention.

Normally, after being nominated, the nominee will be allowed to attend a 3-month training session on governance at the National Administration Institute. In recent years, several foreign aid projects have also turned their focus to strengthening the management skills for managers at the provincial level and below, including the National Health support project (1999-2005), the UNICEF-funded project on strengthening human resources for health (1992-2000), the Central Highlands health project (2005-2010), among others. These courses often last 5 to 7 days and introduce the basics of management while focusing more on steps of health planning and providing a glimpse of monitoring and evaluating the implementation of health programmes or plans [107].

Some medical schools are at the beginning of developing more professional management training programmes. The Public Health University is providing more intensive, in-depth managerial training for bachelors and graduates in public health. Hung Vuong Private University, Thang Long Private University and Hanoi School of Public Health are starting to provide training on hospital management.

2.2 Drawbacks and challenges

Governance and management of human resources in health care at the macro level and the provincial/municipal, district and service-based levels are encountering multiple setbacks and challenges. Analyses from health workforce strategies of the

West Pacific region and current situations in Vietnam found that some areas are lacking policies and regulations, some areas have newly-issued policies, but implementation is still being worked out (e.g. the Law on Examination and Treatment) or some policies are under development. Being fully aware of such setbacks and challenges is vital to find responses for increasingly effective development of the health workforce. Desk studies have resulted in the following findings.

2.2.1 Process to develop policies, strategies and plans has some shortcomings

Despite clear task assignment and distinction of coordinating responsibilities in development and implementation of health human resource policies among ministries, pitfalls still arise. First, there is no comprehensive master plan or strategy for health workforce development and management in place to have a comprehensive orientation vision and to formulate appropriate policy framework. Health workforce problems are solved by separate policies, and failure to integrate between development and use health workforce, between professional capacity, supervision of medical errors and continuing medical education. Preventive medicine is a typical example. Although preventive medicine is regarded as a prioritized health area, policy for preventive medicine development fails to prove this priority, e.g. policy for strengthening training for preventive medicine, policy for securing remuneration package for preventive workers similar to curative care workers, who often have other incomes beside salary.

Second, health policy makers lack information to develop policy to address health workforce problems. For example, there is no available information on graduates from pharmaceutical and medical universities, junior colleges or secondary schools that can find health work to facilitate the plan for health workforce development for the future.

Third, with the mushrooming growth of the private sector, there are pressures on planning and policy making. The need for pharmaceutical and medical work is growing. Projection for health workforce recruitment as a base for training planning is getting more complicated. Insufficient attention is given to the need to facilitate a mechanism motivating the private sector to train the health workforce, especially medical doctors in response to the need for human resources in the private health-care sector. Until now, most of the health workforce in private sector mainly relies on health resources from public facilities. The existing policies and planning methods do not take into account impacts from labour market. Better working conditions and higher income from the private sector has posed great pressure on public facilities in retaining staff, especially highly qualified staff. This situation also brings about difficulties for public institutions because staff are paid higher when they work extra hours or off hours than administrative hours.

Fourth, health workforce planning is weak for many reasons. Apart from common reasons about limited knowledge and skills, and lack of basic information, other important reasons are: i) top-down planning approach, and regulations and management of planning is below expectation, ii) there is little scientific research to support the grassroots level, iii) planning work is often done by functional divisions without participation and consultation from other staff, civil servants in the facilities, especially beneficiaries. Thus, limitations in general planning for health, and planning for the health workforce in particular, should be a priority.

2.2.2. Drawbacks in assuring health workforce quality

Certification of pre-service professional competency

There is a major limitation in the certification of pre-service competency because it fails to unify competency criteria between localities, the public and private sectors and even between health facilities. Although the Ordinance on Government staff and civil servants regulates a mechanism for taking exams at recruitment, there are different criteria and assessments by different recruitment committees in each health facility, and these committees may be under pressure not to follow the criteria. In the private sector, the competency recognition mechanism relies mainly on papers and documents, e.g. certificates, certification of practice timing, rather than on assessment of clinical practice skills.

Many district health facilities, especially in remote and isolated areas, may accept incompetent staff because few, if any, staff return to work here. Because few people accept work in disadvantaged areas, e.g. islands, remote, mountainous areas, recruitment procedures are often very simple, perfunctorily done as paperwork only, without requiring quality to regulate professional competency.

Decree 43 allows freedom in recruiting employees while arrangements to secure accountability remain weak, resulting in an environment amenable to corruption in recruitment of staff into permanent employment. Such negative phenomena result in reducing quality in recruitment of government staff and civil servants. Competent people might not be recruited while incompetent people are.

To overcome such limitations, to ensure practitioners with true competency, the Law on Examination and Treatment was passed by the National Assembly. The law will establish a practice licensing system for all types of health workers, including doctors, assistant doctors, nurses, technicians, midwives and traditional medicine healers in both public and private sectors. However, decentralized implementation of practice licensing under the Law on Examination and Treatment will require developing a unified mechanism for setting national standards, organizing medical licensing exams according to these national standards and otherwise enforcing these national uniform standards.

However, the draft law proposes a mechanism of decentralization. If so, it will entail a lack of unity of criteria, and it is recommended to have other policy to assure that all criteria and tests are consistent and unified throughout the country.

Continuing education

Given a mechanism to ensure that every health worker will be continuously updated on their professional skills, as described in Chapter 4, many difficulties remain because the regulation for continuing education of health workers was issued only in 2008. Funding to organize classes, mechanisms to assure compliance of practitioners and quality audits of training programmes are weak. In recent years, disadvantaged provinces have received assistance from external aid projects to enable them to send their personnel for training, e.g. the Central Highland health project, the Mekong Regional Health Support Project, and the National health support project for 7 poor provinces in the Northern Uplands.

Implementation of the Law on Examination and Treatment recently passed by the National Assembly has potential to overcome current limitations in the management and supervision of continuing medical education. In order to implement

the Law, it will be necessary to issue regulations, standards on CME, mechanisms for supervision to know whether practitioners have complied, and are thus able to retain their license, or whether they have not complied, and should have their license revoked. This mechanism has a great potential to improve quality in the health workforce in a short time because it relates closely to all health practitioners, including fresh graduates and working practitioners. This mechanism also partially overcome the main weakness in the current CME policy, i.e. there is no mechanism in place to force practitioners to comply with regulations.

External control of work quality

The Government has not yet unified management of medical specializations for the public and private sectors according to the spirit of Party Resolution 46/2005/NQ-TW, especially regarding checking, supervising, assessing and training medical and pharmaceutical workers. Hence, the number and quality of private practices has not yet been tightly regulated. Currently the regulations make no mention of a mechanism for collaboration between the public and private health sectors in examination and treatment, preventive medicine, health education, training, referrals, scientific research or management.

Cross-health facility checking is conducted every year but these checks primarily focus on administrative procedures, and fail to evaluate quality of services [63]. The Law on Examination and Treatment has added many concrete regulations on medical ethics of medical practitioners, as well as regulations on attitude, behaviour of patients. The newly passed Law on Examination and Treatment allows for the establishment of independent quality accreditation agencies to check and certify quality of curative care services.

Implementing state management on private medical facilities is facing many difficulties because this sector contains many small, fragmented units. There is a lack of organization, and on occasion unstable provisions over time. At the same time, the state has insufficient health inspectors (e.g. in HCMC with tens of thousands of private health facilities, there are only 10 medical inspectors) [108]. Statistical information on the private medical sector is not regularly reported, further complicating the ability to manage this sector. Currently, a unified mechanism to manage quality of the private sector is lacking.

Medical errors and complaint appeals mechanism

Medical errors in hospitals is a problem of concern [109-111], although Vietnam does not yet have a database to assess it. Supervision of medical errors is mainly an internal mechanism in each facility. The health inspectorate intervenes only in cases of death, or cases with complaints, and facilitates negotiation between patients and physicians or service providers. The problem is that if a practitioner makes a serious medical error on a patient, this error may be repeated on other patients if no measures for retraining are proposed, no supervision mechanism is made, or a checklist is used to remind staff within the facility. For this reason it is important to have a mechanism to monitor medical error to draw from the experience to overcome systematic errors, or to effectively suspend or revoke licenses of irresponsible medical practitioners. The Law on Examination and Treatment stipulates the responsibilities of the MOH including development and management of a database on licensed practitioners and facilities. This can form the basis to begin collecting, synthesizing and analyzing information on medical errors.

At present, many countries have used indicators to assess health workforce quality, e.g. report of errors in treatment, accuracy of diagnosis and accuracy of treatment and prescription. This reporting system helps improve safety of patients through learning from mistakes of the health-care delivery system. WHO has introduced guidelines for recording medical errors to help countries improve their reporting system to ensure safety for patients [112]. However, presently Vietnam has only one National Centre for Drugs Information and Monitoring of adverse drug events in the Hanoi Pharmaceutical University, and was officially open on 09 June 2009.

The Law on Examination and Treatment includes a chapter on medical errors and complaint resolution for patients. The state management mechanism for medical errors may have greatest influence on two aspects in quality of care. First, practitioners found guilty of medical error, violating professional protocols in medical examination and treatment, may have their practice license suspended. During the period of suspension, these people will not be allowed to obtain a new practice license. Thus, poor quality practitioners will temporarily, or permanently, be prevented from practicing medicine. Second, practitioners are afraid of being punished or having their practice license revoked, so they have strong motivation to comply with technical regulations in health examination and treatment. If technical protocols are updated regularly and applied consistently, this will contribute towards improving health-care quality.

One of long-term solutions to enhance medical ethics is to have effective procedures for complaint resolution once the Law on Examination and Treatment comes into effect. The Law calls for temporary professional councils to be set up soon after complaints are registered to investigate the complaint, evaluate technical competency or verify health status of practitioners when they provide service, and apply disciplinary measures. This system will receive complaints, investigate complaints and implement short-term measures to mitigate the impact. Findings from investigations will be communicated to personnel managers to determine solutions in cases of violation (compensation, penalty, revoing of practice licenses). In addition, the MOH also gives attention to education in medical ethics at medical schools.

Internal service quality control

Some health facilities use technical-standard-based performance review. Presently, however, quality assurance is limited to sharing information about new regulations on service quality.

Supportive supervision from clients to ensure service quality in response to current market need is not done effectively and widely. Although hospital regulations require each facility to assess patient satisfaction, the availability of this information is limited. Major reasons for this include patients' limited access to information, which makes it difficult to assess quality of service and (technical) quality. Patients can only make observations of some criteria, e.g. waiting times or attitudes of health workers. In remote areas where the private sector is underdeveloped, patients have no other choices so the assessment is also limited [113].

Medical ethics control

Violation of medical ethics has been referred to many reports and on mass media channels [114]. Conclusion 43-KL/TW, dated 1 April 2009, of the Politburo on three years of implementing Resolution 46-NQ/TW and 5 years of implementing

Directive 06-CT/TW observe that: "… deterioration in morality of some health workers and staff has not been averted and addressed properly." Conclusion of the Politburo set forth some solutions, including "Strengthening efficacy, efficiency, discipline and rules in the state management of health sector; strongly reform administrative procedures in health examination and treatment to reduce inconvenience and disturbances for people; strengthening state management on health insurance; strictly complying with the legislation of drug prices, management of private medical and pharmaceutical practice; management of food safety and hygiene, enhancing medical ethics and responsibilities of health workers, and strict penalties on any act of violation of health practice". In the announcement of the Prime Minister on implementation of health work 2008, the Prime Minister pointed out some key tasks, including health workforce quality and medical ethics, specifically: "To eradicate any act of disturbances, trouble-causing, and indifferent attitudes towards patients, promoting the prevention and control of corruption at all levels, every unit" and "renovate and improve quality of training and enhancing mortality of physicians, health workers and staff" [115].

Some causes of a deterioration in medical ethics, and accountability of health workers and staff should be reviewed. These include: i) lack of clear role models of medical ethics and inadequate discipline in management of some leaders in some health facilities; ii) education on professional ethics is poor, sanctions for violations are not strong enough to prevent them, and no available competent agencies check for and punish acts that violate professional ethics; and iii) there is not yet strong legal regulation to ensure strict compliance with regulations on professional ethics of health staff [87].

Education in medical ethics for health workers should be implemented on regular basis. Integrating the movement of 'Learn and follow the moral example of Ho Chi Minh" with a focus on learning the teachings of Uncle Ho "physician as benevolent mothers" to routine review meetings of the health facility. Health workers should do their jobs well, strictly following technical regulations with special attention to attitudes while communicating with patients and their relatives. Drug abuse and para-clinical tests and high-tech services that are unnecessary for patients, especially patients with health insurance, should be prohibited.

It is recommended to address and maintain effective performance through a hotline. The hotline number should be displayed in places where it is most visible. Inspections, checks and penalties applied to violation of technical regulations in health facilities should be strengthened. Material and spiritual awards should also be conferred to individuals and collectives that demonstrate outstanding achievements [116].

2.2.3 Health management information system on human resources is weak

Apart from the problem of specified and unclear role and significance of health workforce management information system, there is a drawback that little investment has been made to upgrade health statistics system.

In fact, however, a law providing for health-related information management is absent in Vietnam. For the MOH and sub-national levels, collection, verification and validation of statistical data based on the reports of health services, municipalities and health target programmes are conducted in accordance with health statistics procedures, issued in the MOH's Decision 379/2002/BYT-QD. However, there are no

legal grounds to force private health services (both traditional and modern medicine) to report statistical data including private health workforce information [117]. Incentives (bonuses, penalties for non-compliance) are lacking to make public and local health services feel compelled to provide information on time, in full and with reliable quality.

Apart from basic national statistic indices, the central and sub-national levels have failed to clearly identify their information needs in planning and allocating relevant resources for the collection and more serious analyses of workforce-related information. Some basic information is either missing, or only estimated with significant error margins, e.g. the number of private medical practitioners, health workers' income, especially non-salary income or types of training, including on-site, on-the-job, intensive, contractual training and so forth. Notably, distribution by age, location, disadvantaged area (135 programme communes) and ethnicity of health workers, information on the rotation of health workers in the country, working conditions of health workers, working hours, among others have never been accounted for or fully recorded [63].

Insufficient and inaccurate statistics also impede planning and policy making in relation to human resources. Most information that serves as input for policy making on human resources in health care comes from health services but because limited capacity in data collection and difficult conditions, low incentives regime and achievement-label, so information collected at the grassroots is biased from reality, especially at the communal level.

Health information management, including planning, development of information quality criteria, audit, inspection, monitoring and evaluation seems non-routine and overlooked and as a result, many health workers have shown slack concern and poor responsibility in data collection, storage and processing, making health information inadequate both in quantity and quality. On the other hand, health programmes lack cooperation and alignment as every programme seems to create its own information management rules and record format, resulting in an overload of records and reports at CHSs, costing time and effort of commune health workers as they try to keep track of the information, yet with poor performance.

Data collection and storage system of health workforce quality, productivity, performance is not designed and managed effectively. The problem is that indicators of staff quality, e.g. professional qualifications, foreign languages, informatics and management (seen through certificates, degrees) are changed regularly; it is difficult to measure the professional ethics and accountability of staff. Indicators of performance results from curative care and preventive care activities, education and communications, and client satisfaction most accurately reflect the quality of health staff and quality of management, but they also hide errors that are difficult to define and collect. Another concern is that the state inspection network is too small, especially at the district and communal levels (which do not have specialized inspection teams). Hence, no inspection of health information systems has been done so far, so shortcomings in this area are understandable.

2.2.4. Mobilizing financing for health workforce

The stage budget set aside for the health workforce consists mainly of salary for public health workers and expenses of health workforce training (tables 30 and 31). International comparisons indicate that while Vietnam uses a relatively low share

of general government health spending for remuneration (from 32% to 35%), other countries with information available average around 42.2%. In the Southeast Asia region, the proportion is 35.5% and in the Western Pacific region it is 45% [28].

Investments should be made if we want a quality health workforce and equitable distribution. To ensure equity in access to the health workforce, financial incentives must be promoted to encourage staff to work in remote and isolated areas. To enhance planning and policy making, ensuring more effective organization and operation of the system, investments should be made to reform health management information systems. To strengthen technical competency and practice skills, investment should be made in health workforce training institutions to upgrade training programmes, creating conditions for students to practice under strict supervision. To ensure quality of the health workforce under the Law on Examination and Treatment, investments will be required for establishing and stabilizing the practice licensing system in both the public and private sectors. Continuing medical education requires a relatively expenditure to obtain the goal of increasing the quality and productivity of the health workforce.

A higher remuneration package mechanism to pay for those working in disadvantaged areas should be designed. However, the autonomy mechanism allows revenue-raising for health workers while conditions to charge high costs are not consistent across the country, entailing increased inequity. Even implementation of autonomy policy may result in local health facilities being unable to provide services because they lack necessary financing sources to pay salaries for staff and other incentives to attract and retain staff to work, or encourage them to work with efficiency and quality in areas with economic disadvantages [118].

Implementation of autonomy by Decree 43 has contributed to increased disparity in income and working conditions between central hospitals, hospitals in large cities and hospitals in poor provinces, in remote, isolated areas, district hospitals, preventive medicine units, staff movement from lower level to higher level, from rural to urban areas, making the shortage of health workers at the grassroots level and in preventive medicine sphere even worse.

2.2.5. Management of health workforce in health facilities

Many important factors affect the performance of health workers, e.g. working environment should be well-equipped – physical infrastructure, equipment and drugs. Supervision and task- and function-based performance review also influences the accomplishment of work, creativity in work with quality, and providing services equitably while ensuring medical ethics. Financial and non-financial incentives are other important factors.

A report describes the current situation of health workforce management in Vietnam as presented in Table 32 below:

Table 32: Decentralization of health workforce management in Vietnam

Area of work	Level of decentralization
Career development opportunity	
Appointment to higher position/title	*
Rotation of staff at facility level	**
Management of work performance	
Direct and indirect supervision	***
Evaluation of work efficiency	*
Bonus in kind	**
Disciplined/dismissal due to violation	**
Salary/bonus policy	
Salary scale	*
Bonus scale in each facility	**

*: not yet decentralized, depending on common policy. **: Partly decentralized. ***: Fully decentralized

Source: Scott A Fritzen (2007) [113]

As shown in the table, in Vietnam power decentralization to health facility is limited. Decentralization should be undertaken on conditions that it will bring about efficiency, but a clear plan and roadmap to decentralization should be developed to strengthen health workforce management capacity to meet the need for quality health-care services in the localities.

Poor workplace conditions that fail to support health workers

From the perspective of health service managers or supervising state agencies, working conditions are a two-fold matter. First, if a workplace is well furnished, comfortable, safe, it is easy to attract workers without having to pay additional compensating payments for danger or hardship. Second is related to conditions for performing work e.g. equipment, drugs, materials, information that ensure higher productivity and quality of work, and also help attract highly skilled people. Working conditions include both physical and non-physical conditions.

Safe and attractive working conditions

From the first perspective, health facilities currently are only beginning to be concerned about worker safety. Even though the Government has regulations and procedures on labour protection, compliance in many health facilities is poor and many labour accidents have occurred [119]. A small survey in three hospitals in Hanoi found that about 70% of labour accidents are due to needle sticks. The risk of labour accidents is more prevalent in emergency, surgery, obstetrics, paediatrics and intensive care units [120].

One reason for poor labour safety is the lack of professional training among health workers on labour safety and worker protection. Another reason is the lack of funds to implement worker safety. The supervision and monitoring of worker safety by higher levels is also weak [121]. The financing system in public health services does not encourage workplace safety. Most of worker's protection expenses are not reimbursed from user fees, while the state budget allocation for health services remains too limited to provide any uniform worker's protection solution. Lack of concern combined with lack of physical infrastructure, means and rules for workplace safety has hindered enforcement of worker's safety policies.

According to the Labour Code, working time of state health workers is 8 hours per day, 5 days per week (40 hours), with the total hours of overtime per worker in a year not to exceed 200 hours. However, because of the special nature of health care, many health facilities require health workers to work 24-hour shifts, especially at the commune health stations and hospitals. According to Joint Circular of the MOH, Ministry of Finance and Ministry of Home Affairs 09/2003/TTLT-BYT-BTC-BNV dated 29 September 2003, guiding implementation of the 24-hour shift salary supplement in the health sector, health workers who undertake a 24-hour shift in one day should be given one day off from work with pay, or if the 24-hour shift falls on a holiday, the individual worker should be given 2 days of from work with pay. In addition they are paid the 24-hour shift supplement [122]. However, this regulation is not currently relevant to most health services as they have a chronic shortage of staff.

On-the-job learning is one of basic learning methods to help health workers upgrade their qualifications, whereby experienced staff coach inexperienced workers. However the opportunity for on-the-job training is not evenly distributed across localities because highly qualified staff often concentrate in wealthy facilities in wealthy provinces and major cities, while full-time trained staff is limited in disadvantaged areas [58]. In large-scale hospitals and research institutes, learning opportunities for health workers, e.g. through regular meetings, seminars and consultations are better than at lower levels, especially in matters related to modern medical technologies [39].

Working conditions

Results from many studies indicate that working conditions of health workers are poor, especially at lower levels and mountainous areas. According to the latest evaluation report of the maternal and child health-care system in all 63 provinces, there are 26 provinces with full physical infrastructure to implement functional departments per Decision to establish Provincial Centres for Reproductive Health Care (Decision 23/2006/QD-BYT). Many provinces do not have reproductive health-care departments for adolescent and male diseases (12/63 provinces). Six out of 63 provinces still only have a simple one-story, tile-roofed building for the reproductive health centre [8].

In regard to working facilities, many district health services have a shortage of facilities and equipment. According to a statistical study at the end of 2008, the entire country has 713 district hospitals/health centres. Almost none of the district facilities meet national standards for buildings – 45% of districts have an area 60% of the standard norm, 34% of districts have an area 30%-60% of the standard and 21% of districts have less than 30% of the standard. In terms of medical equipment, in examining availability of 30 main types of equipment from the MOH list, most facilities only have 30%-50% of standard equipment, with some districts only reaching 20% [123]. According to a research study and many news articles, after the Government issued Decree 172/2004/ND-CP and Circular 11/2005/TTLT-BYT-BNV, the district health centre was split into three units leading to considerable waste in equipment, physical infrastructure and human resources [124, 125]. Many areas still lack electricity and clean water. Given the situation described above, one can see that the district and commune levels in general have difficulty to attract new employees. At the provincial level, the situation regarding working conditions is much better, but many provincial hospitals remain very poor, lacking most in working conditions, e.g. in Lai Chau, Kon Tum [126].

Because of no operating rooms, no anaesthetic machines or competent staff, nine provinces cannot perform caesarean sections at the district level. Therefore, a well-equipped working environment (physical infrastructure, equipment, human resources) is a requisite condition to ensure quality health-care services.

Use of performance-based management tools in health workforce management

Although the government encourages autonomy by Decree 43 and guiding circulars, and many modern tools are introduced in personnel management, presently health facilities fail to bring in full play of these mechanisms. Most health facilities depend on government regulations on organization, government payroll and staffing norms [44]. Some recruitment-related issues are presented above, this part will refer to use performance-based management tools in personnel management.

Supervision of staff based on job description is one of the most commonly used methods in the world, but not in Vietnam. Another problem of concern is that job descriptions of staff are not clear so *it is difficult to evaluate work performance*.[i] This has impacted negatively on motivation to accomplish work. Good staff are not evaluated appropriately to be given appropriate incentives, and there is no discipline mechanism regarding those who fail to meet expectations [127].

Implementation of decentralization in human resource management in health care is problematic because while health staff are managed at lower levels, they face many restrictions from higher-level policies and regulations since important aspects of the personnel management system (e.g. remuneration, staffing norms) in Vietnam remain centralized [113]. Results from a study in implementation of autonomy in hospitals in 2008 [128] indicate that only the higher-ranking level has jurisdiction to sign decisions on promotion, nomination, dismissal and upgrading of salary grades of staff as regulated. In many localities, health facilities have not been decentralized to undertake autonomy and accountability as regulated by Decree 43/2006/ND-CP; government payroll quota is provided by the supervising agency (many localities have lower payroll quotas as regulated in the Joint circular between MOH and Ministry of Home Affairs), and recruitment tests are given at a more centralized level, which causes problems for these autonomous facilities in performing their technical responsibilities [25].

Direct and indirect supervision is done fairly well in many health facilities. However, technical and supportive supervision is not undertaken on a regular basis, and has low quality [129]. One reason is that the information system is weak and does not support the supervision process. Some key programmes, such as expanded immunization, malaria and TB control have a relatively good information system, and supervision in these programmes is much better than others. Besides, downstream supervision from higher to lower levels is less effective due to lack of feedback to supervisees to improve service quality [130].

Staff promotion is also an important incentive, but in many places, the process of promotion and nomination takes place in the absence of transparency, clarity and involvement of the staff, as promotion is often conducted in line with the workforce master plan, based on the recommendation of institution managers and leaders. Such a promotion and nomination system may have created serious loopholes for corruption, which in turn badly affect the quality of promotion and nomination.

Remuneration package

The remuneration package is a special tool to attract and maintain health workers at health facilities and to encourage staff to fully implement their assigned tasks with responsibility. However, the current remuneration regime is facing problems.

Salary and salary supplements for health workers in almost all public facilities, even though they have recently been increased, fail to secure living conditions for health workers and are far below the expectation and their contributions (much lower than in the private sector), which does not provide adequate incentives for them to work with a high level of responsibility nor to bringing their capacity into full play. The hospital financing mechanism restrictive, limiting the ability to pay adequate remuneration to highly skilled health workers, and limiting their motivation to perform. This is one of the important reasons leading many public heath workers to move from the public to private sector, or having to work after hours to earn additional income.

Incomes of health workers depend on administrative revenues of the facilities, which poses an inequality in the remuneration regime across health facilities and localities because health facilities have different revenue earnings. Health facilities at lower levels and in disadvantaged areas, due to incapability to pay salary and incentives, unfavourable working conditions and fewer opportunities to earn extra income, are facing huge difficulties in attracting and retaining competent staff. Budget constraints in some localities, occasionally result in delay or non-compliance with Government policies (e.g. when they upgrade minimum salary grade, implement social insurance policy for communal health workers). A mechanism for supervising government policy implementation in general, and health workforce policy in particular, is lacking.

Table 33 is based on data from the National Health Accounts, calculated by taking total spending on remuneration at each level and dividing by total number of workers at each level. The results are no stable across years. However, one can see that the commune level is receiving the lowest state-funded salaries, followed by the district level. The level of remuneration from the state budget is lower than officially regulated salary at health facilities. This may be explained by the fact that since implementing Decree 10 and Decree 43 on autonomization, health facilities are now expected to use part of their revenues to pay the part of salaries not covered by state budget allocations.

Table 33: Spending on remuneration from state budget, 2001-2008 (1000VND/month)

Indicators	Year				
	2001	2002	2003	2004	2005
Average remuneration per month	747	782	1012	1195	780
Central	743	712	868	1422	1279
Province	1294	1318	1716	1964	1001
District	516	586	757	889	723
Commune	207	249	327	251	182
Share of remuneration from supplements	58%	60%	39%	44%	69%

Source: National Health Accounts implemented in Vietnam from 2000-2006

Salary coefficients of state health workers follow the general civil service pay scales so it is difficult to adjust these to pay priority salaries to health workers. Sectors requiring additional remuneration because they are priority sectors will do that through special salary supplements. However, in the remuneration system in Vietnam, salary supplements for health workers are not very high, ranging from about 40% to 70% of salary. In Thailand, salary supplements at the provincial level are equivalent to twice the basic salary, while at the remote district level they are up to 5 times basic salary.

Because of limited revenue, directors of many health facilities face difficulties in offering an attractive remuneration package. This leads to encouragement of service abuse to increase revenues for the facility rather than ensuring good health outcomes at low costs.

To ensure effective, quality performance, salary grades should be linked to performance. One of difficulties in performance-based salary payment is that it is hard to measure outcomes of health care while payment for current work experience and a qualification-based payment mechanism is relatively easy. Some people have a misconception that they regard "balance of revenue and spending" as the "performance of the facility", and use it as a foundation to increase income for their staff.

The current salary levels in the public sector are low, as most employees in health services can hardly rely on the formal salary and supplements to support their lives. However, some study results reveal that financial incentives are not sufficient to encourage staff to work with quality and efficiency, but non-financial incentives also play an important role, e.g. training, respect, supervision and staff development [130]. In reality, implementation of this policy faces some drawbacks.

2.2.6. Most health managers are medical professionals who have not had basic management training

Most managers at the various levels, particularly directors of health departments, hospitals and health centres, are medical professionals, many of whom are highly qualified. Yet they often have had no basic training in management or health workforce policy making, and their management and policy making capacity generally remains weak. This is a major issue that needs to be closely examined from three perspectives. First, amid the workforce shortage, management positions have

drawn a considerable number of medical professionals of high clinical calibre, especially at the district level. Second, training medical professionals to become good managers is a costly and time-consuming task. In fact, many refresher training courses on management have been organized, but very few directors of provincial health departments or directors of hospitals, or health centres attend these classes because they are busy or fail to recognize the importance of these courses. Third, it is considered that to advance in one's career, it is necessary to be appointed a management or leadership position, the rewards from advancing one's career in practicing medicine are limited.

Modern human resource management has a four-pronged role: an administrative routine, protection of staff's rights, keeping track of variations in the operational environment and linking human resource and leadership strategies for development of the organization. Nonetheless, human resource management and utilization is often limited to the first two functions, while the other two are generally overlooked. In general, both health services and health governance agencies have not performed well in human resource management, taking into consideration the unprofessional performance of managers and the lack or holding back of real autonomy in various policies.

In recent years, some external aid projects have focused on training in management skills for management staff at the provincial level and below, but sending employees to these training courses often seems difficult for health services, e.g. as they are in such constant shortage of staff. Management training for medical students in medical universities is not adequately addressed, as training time is often too short and mainly theoretical.

3. Priority Issues

3.1 Insufficient strategies, policies and laws

- There is no master plan on human resource development that covers both the public and private sectors.
- There are no laws, mechanisms or policies to more appropriately redistribute human resources in health care, e.g. sending new medical school graduates to the grassroots level or disadvantaged areas to work, or a law mandating that medical students when they graduate must practice what they have studied.
- The remuneration policy is inappropriate in terms of ensuring a basic standard of living and encouraging efficient, quality work.
- Policies on management in the private health sector do not ensure quality of care like the mechanisms in the public sector do.

3.2 Low state budget earmarked for human resources in health care

- State budget for training and continuing medical education is too low and does not encourage expansion of nor improve the quality of training.
- Salaries, supplements and additional income depend too heavily on revenues from service provision, while the state budget does not play an important role in redistribution between health facilities to ensure more equitable conditions.
- Inadequate budget to ensure worker safety in the health sector.

- Inadequate budget allocated to ensure effective operation of the health management information system.

3.3 Management capacity inadequate to meet demand

Management and planning capacity are weak, little training or upgrading of management skills for leaders and managers.

Waste resulting from shifting highly-skilled medical professionals to work on leadership and management tasks.

3.4. Weak human resource management system

- Inadequate information to plan for health workforce development, taking into account the demand for health workers in the private sector.
- Absence of evaluation of demand for necessary information for human resource management purposes.
- Lack of mechanisms to regularly collect information from the private health sector.
- Lack of information on medical errors in both the public and private sectors.
- Lack of information from patients and the general population to evaluate performance of health workers.

3.5. Health workforce drawback attributed to autonomy empowerment and socialization

- Health facilities are impeded by many strict regulations imposed by higher levels and are not able to make autonomous decisions on many aspects of human resource management.
- Social mobilization and autonomy policies encourage revenue generation, abuse in providing health-care services to increase salaries, with little concern for the impact on affordability of health services to health insurance of the general population.
- District- and commune-level health facilities and facilities in disadvantaged areas face many difficulties in implementing autonomy in management of human resources because few people ask to work at those facilities and because it is difficult to obtain adequate revenues to pay reasonable remuneration.

Chapter 6: Conclusions

1. *The numbers of health workers have increased considerably in recent years,* from 241 498 people in 2003 to 299 100 in 2008. The rate of increase in high qualification categories, e.g. doctors, pharmacists, university-level nurses is higher than lower qualification groups, e.g. assistant doctors and assistant pharmacists. The number of university-trained pharmacists has remained static and even declined some years due to limited student intake to university. The ratio of health workers per 10 000 population also increased respectively, e.g. 5.9 doctors per 10 000 population in 2003 versus 6.5 per 10 000 population in 2008.

The health workforce in the private sector tends to increase. Vietnam has over 30 000 private health facilities nationwide with 85 private hospitals and 5800 patient beds. This has facilitated grassroots access to health-care services, helping to reduce the workload in public health facilities and generating demand for health workers, especially those with good qualifications and skills.

Distribution of health workforce by level and geography tends to be more rational. Data in 2008 indicate that 93.1% of communes have midwives or assistant doctors specialized in obstetric and paediatric care, 65.9% of communes have doctors, 84.4% of villages have active VHWs. Distribution of the health workforce per population is relatively equitable in 8 regions. The Mekong region has the lowest proportion of health workers with over 17.7 million people, but only just over 43 000 health workers. Gender distribution in the health workforce is uneven in all health staff categories. Very few health workers represent ethnic minority groups.

2. *Nevertheless, there are still too few health workers to meet the need.* The Master Comprehensive Plan for Viet Nam Health System Development by 2010 and Vision to 2020, approved by the Prime Minister, indicates that Vietnam must have 52 health workers per 10 000 population by 2020 (including 10 doctors, 2.5 university-trained pharmacists, 20 nurses at secondary level and up, and 4 technicians). At present, Vietnam has only 6.5 doctors, 1.2 university pharmacists and 10.4 nurses and midwives per 10 000 population (2008). If in 2020, Vietnam has a population of about 96 million and we want to reach a ratio of 52 health workers per 10 000 population, then from 2010 to 2020, Vietnam needs to train about 478 000 more health workers (on average, about 49 000 health workers trained per year, while in 2007 Vietnam trained 28 900 health workers).

The shortage of health workers is uneven by specialty. The shortage is more severe in specialties with higher risks, less attractive incomes or lack of rational development strategies. These specialties include preventive medicine, pharmacy, para-clinical services, oncology, mental health, ENT, odonto-stomatology, ophthalmology, anatomy, forensic medicine, trauma, traditional medicine and professional management.

With regard to preventive medicine, severe shortages are prevalent at both the provincial and district levels. At the provincial level, 11 135 staff work in preventive medicine, covering two thirds of the need, while the district level has only 15 276 staff, covering only half of the actual need. The shortage of health staff in preventive medicine can be attributed to many factors, e.g. policy for utilizing staff, unattractive financial incentives, Vietnam has not trained preventive workers in medical schools for over 10 years, poor working conditions in many preventive medicine centres and low income.

A severe shortage of qualified health workers exists at the provincial and district levels, entailing poor service quality at these levels. There is wide disparity in qualifications between the central and local levels, urban vs. rural. Most of the proficient workers, especially doctors, are concentrated in cities. Urban populations represent only 28.4% of the national population, but have 84% of university pharmacists, 60% of doctors and 57% of nurses nationally.

3. *Quality of the health workforce has improved considerably in recent years*. Great strides have been made in professional capacities of health workers. Many health workers have upgraded their qualifications and skills, e.g. registrars, specialized level I, level II, master's degree and doctoral degree. The health sector has specialists who can perform modern procedures, e.g. viscera transplantation, in vitro fertilization, cerebral neurosurgery using Gamma knife; open heart surgery, coronary stent placement and separating twins.

Much improvement has been made in training and upgrading professional skills of the health workforce. The medical training system in both public and private sectors has been strengthened, with many new specialized fields, ranging from secondary, junior college and university to post-graduate levels. Physical facilities have been upgraded; especially pre-clinical laboratory systems and teaching facilities have been established in some universities. Qualifications of instructors have also been improved. Teaching methods have been reformed in some training facilities with state-of-the-art, active teaching methodology. Some framework curricula have been updated and renewed.

Re-training and continuing medical education (CME) are organized to include diversified programmes that are suitable for learners, e.g. civil servants, concentrated full-time training; non-concentrated full-time training, in-service training, short-course training with certificates. Disadvantaged localities receive substantial funding from staff training projects.

To date, many policies and measures for improving the capacity of the health workforce have been enacted and implemented. These include MOH's policies for: upgrading training certificates; nomination and free student recruitment to schools; and address-based training formation**,** which creates favourable conditions for health workers to strengthen their skills. This helps address the shortage of health workers, especially in mountainous and difficult areas. A Circular on guiding audits of training quality in medical-pharmaceutical schools has been issued to assure training quality. Regulations on CME are being implemented nation-wide, in preparation for implementing the Law on Examination and Treatment in the near future.

To support strengthening capacity for health workers, especially in disadvantaged areas, the MOH has implemented Project 1816 to bring health workers from central hospitals to work in disadvantaged, mountainous health facilities. There is also the Project on employing retired professors, associate professors and specialists who are still healthy and willing to participate in training, scientific research, counselling and provision of health-care services. The MOH is giving greater attention to supervising implementation of regulations concerning the functions and tasks of health workers and medical ethics of health-care providers. Establishment of medical sociology and medical ethics departments in universities is a demonstration of the MOH's efforts in this regard.

4. *Quality of health workforce in Vietnam, however, falls short and faces difficulties and challenges*.

A limited number of health workers have high qualifications and specialties. Qualifications and skills of preventive medicine workers are very poor. Few managers have been trained exclusively in management. The capacity of health workers at lower levels is poor. Hence, responsiveness to health-care services is weak and medical errors (in diagnosis and treatment) are fairly prevalent. Shortage of health workers occurs in some specialties, e.g. community health, social diseases and paediatrics. Transfer and application of new technologies is slow due to a lack of modern equipment and qualified technicians.

Quality of medical training institutions is low, and fails, for many reasons, to meet society's needs. Quality of student intake is poor. There is a concern about the quality of student intake as regards "nomination for free student recruitment" and entrance examination to non-public universities. It is difficult to recruit students for some specialties, such as paediatrics, preventive medicine (university), specialties in social medicine, e.g. TB, leprosy, dermatology, community health and forensic medicine (postgraduate). Many training programmes have not been updated, thus affecting training quality at these schools. Training institutions lack physical facilities, e.g. teaching facilities, hospitals, laboratories, pre-clinical facilities and libraries. Coordination between some schools and hospitals is far below expectations. Quantity and quality of instructors is irrationally distributed. Most schools lack instructors in community health. Training of resource instructors is not good. Application of active teaching methods is segmented and asynchronous, and a linkage between training and labour recruitment is lacking.

Re-training and continuing medical education faces major problems and ineffectiveness, especially regarding health workers at the grassroots level. Health workers in disadvantaged areas have limited opportunities and access to training in their locality, and the quality of available training courses is weak.

Supervision and accreditation of training quality is supposed to be a basic measure to assure quality of training in universities, but this work is still limited, especially in non-public training institutions.

*Responsiveness: s*ome health workers display inconsiderate attitudes towards patients. Medical errors in hospitals are a true concern. Education in professional ethics is not linked to measures for detecting acts that violate ethics.

5. Management and deployment of the health workforce is regulated by various legal documents, e.g. Law on Education, Ordinance on Private medical and pharmaceutical practice, Law on government workers and civil servants, Law on Emulation and Awards, National Public Administrative Reform programme, and many other normative legal documents.

The Government and MOH have enacted many policies in response to the demand for health workforce at the grassroots level: increasing the number of doctors, midwives or assistant doctors in paediatrics and obstetrics at CHS, increasing the number of VHWs to work in the community, regulating the number of staff for training institutions, enterprises based on staffing norms; approving "Project of training health human resources for disadvantaged, mountainous areas in the northern, central, Mekong Delta regions, and the central highlands by nomination and free student recruitment to schools". Policies on bringing higher-level professional staff to

work and support lower-level facilities through mentoring and especially through Project 1816 (secondment of health workers and staff working at the higher levels to work at the lower levels for 3 or more months to improve skills of local staff). Many localities have proactively and creatively formulated local policies, e.g. policy for attracting and retaining health workers; policy for pursuing medical and pharmaceutical tertiary education and higher education; policy for VHWs stipends, thereby addressing most concerns and complaints about local health workforce.

Regulations for worker recruitment procedures in the public sector, staffing norms for different types of health facilities are stipulated in the Joint Circular of the MOH and Ministry of Home Affairs. *Working conditions for health workers have been improved*, especially at the central and provincial levels. The Government has mobilized resources to invest in medical equipment and devices for district-level, and higher, health facilities, and use public funds to upgrade CHSs.

Education on improved medical ethics and accountability of health workers receives special attention through the regulation addressing 12 Articles on medical ethics and the issuance of Behaviour Principles for health workers. Improvements have also been observed in career promotion, bonus mechanisms and upgrading of professional skills for health workers.

The Government and localities have issued many policies to encourage and motivate health workers to work towards quality and effective results, and to attract staff to work in rural, difficult and remote areas through financial incentives (e.g. early salary promotion, bonuses, increased incomes and providing housing) and non-financial incentives (e.g. opportunities to pursue higher education, promotion, nominations for honorary titles and positions).

Strengthening management capacity for managers at all levels and in public facilities receives special attention. Nominees for promotion take a 3-month course in state management. Some foreign-invested projects also focus on strengthening the managerial capacity of managers from provincial level and downward.

Decree 43 has helped many facilities become more dynamic in human resource management. They are empowered, autonomous, and accountable to enter into contracts with labourers, recruit staff via entrance testing or nomination; appoint officials; organize and utilize staff; address staff secondment, retirement, dismissal, contract termination, bonuses and staff discipline; and upgrade salary scales earlier than scheduled.

6. *Governance of health workforce is irrational*

Some strategies and policies are lacking and irrational: There is still no mechanism to distribute the health workforce rationally, and policies are not satisfactory to assure living conditions for health workers. There is no preferential policy to attract staff to work in preventive medicine and other difficult specialties.

Health workforce planning at the grassroots level is weak due to lack of basic information on health-care system as a whole, including both the public and private sectors. Funding for training is limited and unable to meet the actual need. Planning for health workforce development is weak at the grassroots level due to a weak management information system for the health workforce. The information system is unable to provide the necessary information for managing and planning the development of the health workforce.

Government budget for health workforce accounts for a small proportion of total health spending: the most recent data from the National Health Accounts (2005) shows that out of total recurrent expenditures for health, only 16.1% is for remuneration of health workers. Out of total Government expenditures for health, only 2% is for education and training. Spending on remuneration of health workers accounts for 42.3% of state budget recurrent spending on health.

Linkage between training and recruitment is below expectation. Many people do not live on the profession for which they have been trained because they are unable to find a job in large cities, or they are willing to wait for opportunities at private facilities. Yet, many large-scale hospitals lack health workers due to patient overloads. Recruitment of staff is also a problem, especially at the grassroots level, in preventive medicine and in some other specialties where income is low.

Bonuses and remuneration for health workers are poor, and disparity in income between health facilities is becoming wider. A majority of health workers are unable to live on their salary and supplements alone. Income of health workers depends on the revenue of the facilities. This gives rise to inequality in remuneration packages offered at different health facilities and localities. Income in the form of gifts from patients and pharmaceutical representatives encourages irrational provision of health services and drugs. Financial and non-financial incentive mechanisms for human resources in health care are weak and inadequate to motivate workers. Effects of the Government's incentives mechanism are limited.

Working conditions are limiting. Most health facilities are short of technical equipment and a safe working environment. Only recently have health facilities become concerned about safety in the workplace. Many accidents occurred because compliance with safety regulations was not strict and because of unprofessional skills of safety/security staff, lack of prevention in occupational diseases, lack of funding to implement and monitor work-safety regulations, and inadequate education and communication about self-protection for staff.

No regulations in place to monitor and evaluate work performance of health workers. A system for data collection and storage is not yet available to monitor and evaluate quality, productivity, and performance of workers.

Capacity of managing staff is below the need. Most health managers are professionals who have not been trained in management, and consequently their management capacity is poor. However, many qualified professionals are now taking management positions, especially at the district level.

State management of private sector appears to be ineffective. No policies are in place to encourage the private sector to work in the sphere of preventive medicine, or develop services in mountainous, remote and isolated areas. Likewise, no policies have addressed training, monitoring, supervising and evaluating work performance of medical and pharmaceutical staff.

Chapter 7: Recommendations

This chapter presents some of the solutions recommended to address prioritized health-workforce issues. The recommendations aim to facilitate planning by the MOH and promote a cooperative focus and dialogue between the Vietnamese health sector and international partners as regards the health workforce. The recommendations are based on: defined priorities concerning the future health workforce; discussions with officials, MOH experts and other relevant ministries and line agencies; and consultations with members of the Health Partnership Group.

Solutions to the health workforce shortage in selected specialties and in rural and especially disadvantaged regions

1. Policies to attract health workforce to some specialties and disadvantaged regions

- Study and propose amendments and supplements regarding salary and remuneration mechanisms to attract and retain workers in specialties, e.g. TB, leprosy, mental health, HIV/AIDS, paediatric and preventive medicine and to attract more nurses to work in public facilities to overcome the low ratio of nurses to doctors.
- Develop and submit a proposal to competent bodies to issue special mechanisms to encourage students to pursue studies in certain specialties: TB, leprosy, mental health, paediatric and preventive medicine. Encourage the training of family doctors.
- Develop and implement incentive policies and regulations on: "social responsibility and obligations of health workers for areas with disadvantaged socio-economic conditions"; and policies and regulations to assure that students from disadvantaged areas will return to their locality, especially those with graduate qualifications (including financial and non-financial incentives).

2. Improve working conditions in some specialties and disadvantaged regions

- Improve working conditions in commune and district health facilities based on the review of investment in CHSs in disadvantaged regions (2008-2010) by Decision 950/2008/QD-TTg; the proposal for district health centre development support (2007-2010) by Decision 1402/2007/QD-TTg; the proposal for investment in constructing, renovating and upgrading district hospitals and inter-district hospitals using state treasury bonds and other funding sources (2008-2010) by Decision 47/2008/QD-TTg.
- Study recurrent budgets for CHSs, district hospitals and district health centres; make specific recommendations to motivate communes and district people's committees to allocate more resources in the local budget for health-care activities in their localities and communities.

3. Strengthen training and upgrade professional skills of health workers in disadvantaged regions

- In order to improve effectiveness, review experience of implementing policies on training based on contracts between localities needing health staff and local training facilities, direct recruitment without entrance exams and medical

student recruitment by regions: northern mountainous regions, central coast, central highlands, and the Mekong Delta.

- Increase the enrolment quota for training health workers in northern mountainous regions, central coast, central highlands, and the Mekong Delta.
- Guide and direct localities to develop master plans for health workforce training, sending staff to training or linking with training institutions/facilities to promote training in the locality.
- Study to develop plans (physical infrastructure, teaching workforce) for opening more facilities and faculties to train a health workforce for disadvantaged areas, and those with a health workforce shortage (northwest, Mekong Delta and central highlands).

Solutions to improve quality of health workforce

4. Promote continuing medical education and short-term training

- Medical universities, hospitals and institutions should develop plans for regular continuing medical education courses to improve qualifications and skills for doctors, health workers, nurses, midwives and technicians for provincial, district and communal levels based on the needs defined in the local plan for improving the quality of health workers.
- Develop projects and propose to the Government that it increase state investment in continuing medical education, especially for unattractive specialties, and mobilize contributions from employers of the learners.
- Develop supportive mechanisms for staff in disadvantaged areas to pursue continued learning and support these regions to organize training courses locally to allow trainees to study and avoid extended absence from work. Continue to translate policies and intentions of the MOH into actual work to improve staff capacity in difficult areas, promote technical support from higher levels and rotate staff to support lower levels.
- Gradually institutionalize continuing medical education as a requirement for re-granting a practice license, audit continuing medical education programmes and assure adequate budgets to develop training programmes and continuing medical education.

5. Improve training quality of medical schools

- The MOH should issue a regulation that requires all medical training institutions to update their framework syllabuses every 5 years. The Ministry of Education and Training and MOH should increase funding, and international support should be mobilized to update training programmes.
- Develop strategies to train and upgrade professional skills of instructors and researchers in training facilities, together with reforming training methods.
- Recommend forming 2 major medical/pharmaceutical training facilities in Hanoi and HCMC, on the basis of the existing Hanoi Medical University, Hanoi Pharmaceutical University, Hanoi School of Public Health, Odonto-stomatology University and the Vietnam Academy of Traditional Medicine

and in HCMC on the basis of the HCMC Medical and Pharmaceutical University.

- Strengthen supervision and audit quality in teaching institutions. Follow the roadmap for the quality audit as regulated by the Ministry of Education and Training. The MOH supervises the unified roadmap for quality auditing at public and non-public teaching institutions. Performance and capacity at teaching institutions should be seriously studied to avoid quantity preference, especially when these institutions have the autonomy to decide number of students admitted.
- Produce a plan and roadmap to develop standards for granting certificates and practice standards that support performance evaluation.
- Drawing on various sources, strengthen the physical infrastructures for teaching institutions. Reform the financing mechanism, allow medical schools to increase revenues.

6 Strengthen training for specialized health workers and talented staff

- Review and issue a mechanism that facilitates masters and PhD training by accepting results of courses taken during specialist training to satisfy requirements for getting the higher degree to contribute towards improving the skills of health professionals.
- The MOH should have a plan for staff development through specialized training, in which it clearly identifies leading specialties and levels of specialization based on analysis of information on disease patterns, measures for mobilizing resources, and responsibilities of training and research institutions and localities. Remuneration levels and responsibilities to serve in the state sector for specialized health workers who have received training with assistance from the state budget needs to be clearly specified in regulations.
- Strengthen international cooperation to improve health-workforce quality, post-graduate training, medical technology and technology transfer. Attention should also be given to long-term training of specialized health workers overseas.

Solutions to improve utilization of health workforce at health facilities

7. Strengthen management capacity of managerial staff

- Develop short-term, management training courses for senior managers, especially hospital and school managers. Plan for re-training of managerial staff according to the new training programmes.
- Expand training codes to hospital management and design a training programme on health management for graduate and post-graduate students.
- Revise policies on granting promotions, appointing leaders and managing health facilities based on democratic rules, and assuring criteria for quality and the capacity of management and leadership.
- Develop guidelines for health facilities to mobilize clinical workers involved in technical management to enhance the efficiency and quality of services.
- Study measures to help highly qualified professionals to focus on technical work and avoid wasting their competencies in managerial tasks.

8. Apply effective measures to health workforce management in health facilities

- Develop strategies/plans to update and issue technical treatment protocols and national care pathways in curative care as a base to develop criteria for work performance evaluation.
- Develop strategies/plans to update and issue technical guidelines for preventive medicine as a base to develop criteria for work performance evaluation.
- Guide health facilities to develop standard performance procedures, including job descriptions, monitoring and supervising the performance of health workers, and promoting performance-based incentives.

Solutions to improve governance in health workforce development

9. Develop strategies, policies and legal documents

- Complete the development of, and submit to the Government for approval, the master plan for health workforce development by 2020. Develop mechanisms and policies to encourage all economic actors to engage in health workforce training. Develop, and submit to the Prime Minister for approval, projects on training of talented human resources and training for technology transfer to health facilities.
- Develop plans to implement the Law on Examination and Treatment, especially provisions related to granting practice licenses and addressing medical errors and ethics. Focus on studying, developing and enacting treatment guidelines and national standards on health examinations and treatment. Develop, and submit the Prime Minister for approval, the project "Clinical practice for fresh graduates as a step to grant practice licenses for doctors and nurses nationwide".
- Develop a project on consolidating the health inspection system. Submit to the Government a proposal for issuing a new Decree on health inspection.
- Develop, and submit to the Prime Minister for approval, the "Project on rotating professional staff to work in lower levels on a routine and long-term basis", and issuance of Government Decree on "Obligations, societal responsibilities of health workers for regions with disadvantaged socio-economic conditions".
- Develop a 10-year strategy (2010-2020) and a 5-year plan for the health sector (2010-2014) and an annual plan for 2010, integrating all six components of the health delivery system and ensuring that the health workforce can satisfy the requirements and support other input components.

10. Strengthen health workforce management information system

- Develop and conduct a comprehensive survey, assess the existing health workforce (including public, private and health workforce from other sectors), and identify specified human resource needs for health by 2020 to provide evidence for policy-making and (strategic) planning to train and utilize the health workforce.

- Organize and prepare the workforce to strengthen computerized information management systems. Develop mandatory regulations that require the private sector to report information on a routine basis.
- Develop methods for health workforce training institutions to monitor outputs, assess the degree of met needs and adjust training programmes.

11. Increase the state budget for the health workforce

- Develop, and submit to the Prime Minister for approval, the project on upgrading the system of health workforce training institutions during 2010-2015. Implement the ADB-loaned project for a human resources development programme in the health sector (2009-2013). Mobilize resources to upgrade training facilities, e.g. approved Decision 420/QD-TTg dated 27 March 2009.
- Develop, and submit to the Prime Minister, a proposal for issuing financial mechanisms for the "Project on training of health workforce for disadvantaged, mountainous areas in the northern region, central coast, the Mekong Delta and the central highlands using the nomination for free entrance to medical schools" via Decision 1544/QD-TTg, dated 14 November 2007 by the Prime Minister.
- Assure the state budget for designing and operating health information systems and labour safety regulations until these costs can be included into the user fees.

Appendix 1: JAHR 2008 recommendations and implementation results

State budget		
Key issues	**Expected outcome**	**Outcome by end of 2009**
State budget allocation for health is inadequate to meet people's healthcare needs	▪ Growth rate of spending on health higher than growth rate of general state budget ▪ Propose, lobby for state budget expenditure to reach 10% of total state budget expenditure ▪ Develop norms on the share of state budget invested in health for basic sub-sectors of the health sector. ▪ Establish a mechanism for monitoring and supervising implementation of the policy calling for "the rate of increase in state budget expenditure on health care to be higher than the average rate of increase of overall state budget expenditure" implemented in central and local areas ▪ Continued priority on funding from external assistance (ODA, NGO), government bonds, bank loans and other legal financial resources to achieve a breakthrough in investing in and improving quality of health services at all levels. ▪ Reform the mechanism to allocate preventive health funding, based on assigned tasks and performance on these tasks. ▪ Develop a roadmap and monitoring mechanism to increase expenditures on preventive health, so total state budget expenditure on this sub-sector reaches at least 30% by 2010, in particular at the local level.	▪ In 2008, the rate of increase of state health budget was higher than the rate of increase of the general state budget (8,3%) ▪ Monitoring system for state budget allocation to health sector not yet established ▪ Share of investment for health from government bonds has increased (According to QD 47/TTg providing 14 trillion VND from government bonds to upgrade district hospitals) ▪ MOH set policy to increase borrowing for domestic investment projects through credit from the Vietnam Development Bank with the total amount of capital approximately 1.6 trillion VND to invest in some state hospitals. ▪ MOH developing budget mechanism to allocate state budget for preventive medicine based on workload. ▪ No information to check if state budget spending on preventive medicine out of total state spending on health NSNN reaches 30%.

State budget		
Key issues	**Expected outcome**	**Outcome by end of 2009**
Efficiency in use of state budget funds for health is limited	▪ Continue to reform state budget allocation for health facilities in the direction of prioritizing the poor, disadvantaged regions, grassroots health care and preventive medicine. ▪ Prioritize state budget spending to implement basic health policies, especially policies to support the poor, the near poor, children under age 6 and other social policy beneficiaries ▪ Move towards mechanism for allocating and managing state budget based on assigned tasks, volume and quality of work, linked to a supervisory and evaluation mechanism to assess performance.	▪ No information available on state budget allocated to health facilities in disadvantaged regions, grassroots level, preventive medicine. ▪ The Government has increased the state budget allocation for paying health insurance premiums for social policy beneficiaries including the poor. ▪ Policy on budget allocation based on performance has not yet been passed.
	▪ Strengthen reporting system on state budget spending on health in order to have accurate information for planning and policy-making ▪ Explore alternatives to adopt the medium term expenditure framework (MTEF) ▪ Initiate an array of studies on efficiency of state budget utilization, especially with regard to core sub-sectors of the health sector	▪ No regulations passed on the reporting system on state budget spending for health ▪ Research on efficiency in use of state budget funds in sub-sectors has not yet been implemented.
Remuneration for health workers inappropriate, especially at the grassroots level, does not create motivation to attract workers to the grassroots level facilities, especially in remote, isolated and disadvantaged areas	▪ Supplement and refine the remuneration system appropriately to encourage health workers to work in the grassroots level, in mountainous and disadvantaged areas.	▪ Decree 64/2009/ND-CP increase salary supplements for health workers in regions with difficult socio-economic circumstances ▪ Remuneration system for health workers based on performance and skill has not yet been built.

Health insurance		
Key issues	**Expected outcome**	**Outcome by end of 2009**
Difficulties in achieving universal coverage	▪ Develop legal regulations allocating responsibility to the health insurance agency the responsibility to supervise, check and penalize people and entities in the formal sector who are not complying with compulsory contributions to health insurance.	▪ Law on Health Insurance passed by National Assembly in November, 2008. ▪ Currently legal penalties related to health insurance still follow general regulations on administrative sanctions. Currently in the process of developing regulations for sanctions specific to violations of the Law on Health insurance. ▪ No information on compliance with compulsory health insurance in the formal wage sector. ▪ Program on “Improving quality of curative care services in health facilities in order to achieve the objective of satisfying health insurance patients” was issued by the Minister of Health.

Health insurance		
Key issues	**Expected outcome**	**Outcome by end of 2009**
Imbalance of the health insurance fund	▪ Study and review health services, drugs, consumables included in the list paid by health insurance, develop a basic health insurance package of services on the basis of cost-effectiveness, appropriate with the level of contributions and ability of the health insurance to balance the fund, and on this basis set the health insurance contribution amount in order to balance the health insurance fund ▪ Health insurance gradually apply case-mix payments or DRG to replace the fee-for-service mechanism. Overcome the situation of unlimited spending by higher level facilities which is taken out of lower level facility health insurance funds by revising the regulations on payments across levels of facilities in Joint Circular 21/2005/TTLT-BYT-BTC.	▪ Minister of Health Decision 06/2008/QĐ-BYT dated 01 February, 2008 updated the list of drugs covered by health insurance. ▪ Minister of Health Decision 21/2008/QĐ-BYT dated 09 June, 2008 issued the list of consumables covered by health insurance. ▪ List of drugs, services materials paid by health insurance has not yet been studied by the MOH in order to make revisions towards cost-effectiveness. ▪ Government Decree 62/2009/ND-CP dated 27 July, 2009 provides detailed regulations and guidelines on implementing articles of the Law on Health Insurance and the roadmap for increasing health insurance contributions. ▪ 12-month pilot study on case-mix payment was approved by the Minister of Health in November, 2009.
	▪ Restrict adverse selection for health insurance by appropriate technical solutions. The Social Insurance Agency must implement IEC, improve awareness of the people about health insurance to reduce adverse selection ▪ Revise, amend Decrees guiding implementation of the Law on Insurance business, create a comprehensive legal basis for implementing voluntary commercial health insurance on the basis of commercial health insurance not replacing social health insurance, ensuring that participation in commercial insurance after having made social insurance contributions.	▪ Adverse selection has not yet been reduced, surveys in many localities find adverse selection very common among voluntary health insurance holders. ▪ Decree guiding implementation of the Law on Insurance business has not yet been revised

Health insurance		
Key issues	**Expected outcome**	**Outcome by end of 2009**
Management organization and competency of the health insurance system does not yet meet need	▪ Strong and consistent leadership by the Party and government at all levels is imperative to ensure that health insurance is considered as one of the key political commitments of localities, and an integral part of the local socio-economic and health care development plans. Close collaboration between relevant agencies and organizations (Ministry of Planning and Investment, Ministry of Finance, Ministry of Labor, War Invalids and Social Affairs) along with assistance from mass organizations, and society in developing health insurance are also vital to the development of health insurance ▪ The health insurance system must be organized along professional specializations, not as a set of extra tasks assigned to someone also managing pension or unemployment funds. ▪ The health insurance system should be unified with a single fund, but with increased decentralization for provincial health insurance agencies; Create a central level reserve fund. ▪ Establish dedicated professional agencies serving health insurance work ▪ Employees in the health insurance system need basic health insurance management training, relevant to their roles and the mandates of their positions. ▪ Health insurance management needs to be systematically computerized and integrated with hospital patient management, and health insurance reimbursement systems.	▪ Directive 38/CT-TW dated 07 September, 2009 of the secretariat on promoting health insurance work in the new situation requires localities to consider developing health insurance as a key political commitment. ▪ No decree has been issued on professionalizing health insurance management ▪ Minister of Health Decision 5205/2008/QĐ-BYT dated 20 December, 2008 issued a regulation on cooperation in activities of implementing policies and laws on health insurance. ▪ No decree has been issued related to decentralized management of health insurance fund, so health insurance does not have a unified fund. There is a reserve fund. ▪ No new health insurance related agencies have been set up. ▪ No information available on how many health insurance staff have received professional training on health insurance management. ▪ No information available on hospital use of computers to manage health insurance.

External aid		
Key issues	**Expected outcome**	**Outcome by end of 2009**
Absence of a framework for aid coordination and management harmonized to the health sector master plan	▪ The MOH should formulate a consistent development plan for the health sector, elaborating upon strategies and priority areas essential for the future development of the sector, especially in the five-year plan (2011-2015). This plan should give an overall picture of how much funding is needed for the entire sector, including from various sources, along with an estimate of funding shortfalls, to serve as a basis for mobilizing external assistance and other supplementary funding sources and effectively coordinating health financing resources. ▪ The MOH and its development partners should work together to implement the Hanoi Core Statement and Accra Agenda for Action (AAA) to increase aid effectiveness; develop together a joint agreement to strengthen effectiveness of external assistance in the health sector. ▪ The MOH and its development partners should continue to implement the JAHR. Donors should commit to continue financial assistance for the JAHR under the coordination of the Planning and Finance Department of the MOH.	▪ The International Cooperation Department has distributed the external partner database and request that it be updated by end of November, 2009. This will be a useful source of information to assess whether plans for use of external aid in the health sector in the short-term (2009-2010) and for the period 2011-2015 are in line with the master plan for the sector for the period 2011-2015. ▪ Agreement has been reached on the Statement of Intent between the Government and donors for implementing the Hanoi Core Statement in the Health Sector. ▪ JAHR 2009 was completed and plans and budget are being made for JAHR 2010.
Aid coordination and management are falling short of requirements, resulting in duplication, fragmentation and low aid effectiveness.	▪ Strengthen the activities of the HPG in an effective manner through reforming the working mechanism, revising the TOR of the HPG and strengthening further the participation of relevant parties (Departments, Administrative Units, General Departments, Institutions) affiliated with the MOH, other relevant ministries, policy beneficiaries, etc.). Consolidate the Secretariat and working sub-groups through defining clear and specific roles, tasks and mechanisms for operation.	▪ TORs in the Statement of Intent have been approved by the MOH. A draft TOR for the HPG secretariat has been developed and work is on-going to develop specific TORs for secretariat members. ▪ Unclear whether the working program of the HPG 2008-2010 includes priorities identified in the JAHR.
Lack pre-conditions for implementation of new aid modalities, lack of evidence on effectiveness of new modalities in Vietnam.	▪ Study to understand better the advantages and disadvantages and the conditions necessary to implement new aid modalities (sector support, programme support, budget support) and on that basis, identify concrete conditions, specific health sub-sectors and preparatory steps necessary to apply these new approaches.	▪ No study results available on aid modalities.

External aid		
Key issues	**Expected outcome**	**Outcome by end of 2009**
Lack of consistency and uniformity between Government and donor procedures, guidelines and regulations; remaining limitations in aid absorption capacity.	▪ Improve information system on external aid to ensure this information is comprehensive, accurate, up-to-date and easily accessed to contribute to health planning at the central and local levels ▪ Coordinate with the Ministry of Planning and Investment, Ministry of Finance to implement simplification of administrative procedures and procedures for project management, especially procedures for approving and adjusting plans; agree on more appropriate spending norms with donors.	▪ The Ministry of Planning and Investment is revising Decree 131 to simplify ODA management ▪ A framework for monitoring implementation and performance along with indicators and instruments for data collection is being developed under support from the EC linked with the JAHR. ▪ Development of an MOH website on external aid to the health sector has been delayed till 2010 due to lack of funds and limited personnel time of the International Cooperation Department. ▪ UN-EU Guidelines for financing of local costs in development cooperation with Vietnam Version 2009 was issued on 3 June, 2009

Household out-of-pocket health expenditures		
Key issues	**Expected outcome**	**Outcome by end of 2009**
Excessive household spending on health care	▪ Formulate clinical standards on prescribing use of laboratory tests, diagnostic imaging, especially for costly tests and tests related to joint venture and private business collaboration investments in equipment. ▪ Standardize and calibrate laboratory equipment to ensure that test results are valid and can be relied on at different health service providers. ▪ Reform hospital management, improve quality and efficiency of patient service, promote rational use of diagnostic tests, pharmaceuticals, and consumables, restrict misconduct and informal payments.	▪ 10 care pathways have been developed at Thanh Nhan hospital ▪ Clinical standards for use of laboratory tests, and imaging have not yet been issued. ▪ In Notice 130/TB-VPCP dated 17 April, 2009 Deputy Prime Minister Nguyen Thien Nhan requested the MOH, Ministry of Science and Technology, review, revise and amend legal documents on medical equipment, strengthen work of developing standards on medical equipment; strengthen periodic inspection and calibration of medical equipment at health facilities to ensure their safe and effective use. ▪ MOH Circular 06/2009/TT-BYT dated 26 June, 2009 specified norms on essential drugs and consumables in reproductive health services and medical procedures to help in standardizing inputs, and costing reproductive health services.
Inefficient health seeking and utilization behaviour of households	▪ Encourage use of services at the appropriate technical level of the health system, use lower level services appropriately to reduce costs related to health care, especially indirect costs. ▪ Restrict self-medication and sales of prescription drugs without a prescription.	▪ Proportion of patients seeking care at the correct technical level facility has increased (based on monitoring of Project 1816). ▪ Regulations on prescribing drugs has been enforced more strictly. MOH issued a list of drugs not requiring prescription in Circular 08/2009/TT-BYT dated 01 July, 2009 ▪ No information yet on whether self-medication has declined.

Household out-of-pocket health expenditures		
Key issues	**Expected outcome**	**Outcome by end of 2009**
Inadequate health-related social protection	▪ Develop various pre-payment schemes for different groups of people, especially focused on health insurance. ▪ The Government continues to allocate funds to pay premiums for the poor and other social policy beneficiaries. ▪ Need to increase the health insurance contribution level for the poor and near poor to ensure covering rising costs of services. ▪ Adjust health insurance reimbursement levels with an orientation towards higher levels for the poor and near poor. Localities need to pay more attention to mobilizing resources to help the poor, near poor to pay non-medical costs of seeking care (transportation, food)	▪ Health insurance coverage rate increased from 42.0% to 43.8% of the population ▪ State budget ensures funds to purchase health insurance for 100% of the poor and to subsidize 50% of premiums for the near poor according to Decree 62/2009/ND-CP starting 01 July, 2009 ▪ Health insurance premium for the poor and near poor has increased every year with the minimum wage because the Law sets the contribution rate at 3% of minimum wage, to be fully or partially paid from the state budget. ▪ The benefit package and ceiling of health insurance for the poor has not yet been adjusted to be more appropriate to encourage treatment of the poor. ▪ No information on amount of state and other funds to assist with non-medical costs of health care seeking for the poor and near poor.

Mobilization of social resources for health care		
Key issues	**Expected outcome**	**Outcome by end of 2009**
Failure of the health system to mobilize sizeable `not-for-profit' social resources	▪ MOH coordinates with other ministries, sectors and localities to continue to mobilize and use effectively development investment funds for state health facilities from development bank loans, government bonds, and other legal sources to invest in development of health facilities, especially health facilities at the commune, district and provincial levels.	▪ No information available on structure of capital sources at the district, commune, preventive medicine and specialized hospitals.
Lack of clarity in joint ventures and business operations operating in public hospitals	▪ Develop a transparent financing mechanism, specify details about public assets (for example: land, infrastructure, human resources, trademark/reputation,…) used in joint ventures and private business collaborations and mobilize capital from outside the state health budget. ▪ At the same time, there is a need for a mechanism to control prescribing and use of services of the joint-venture or business collaboration in order to ensure quality of care and efficiency as well as to ensure equity in health care services.	▪ No revisions or amendments have been made in Circular 15/2007/TT-BYT regulating joint venture and private business collaborations in the health sector. ▪ No procedures have been developed to regulate use of high tech medical equipment.
Many of the effects of social mobilization of resources for health care are not clearly understood, causing difficulties in formulation of relevant policies	▪ Implement a study to assess non-state capital investments in the health sector, including joint ventures, private business collaborations, on-request services in public hospitals, predict the effect of partial privatization of public hospitals and propose solutions to control this situation.	▪ Health Strategy and Policy Institute is implementing a study "Survey assessment of results of implementing Decree 43/2006/ND-CP on the public hospital system". ▪ No study report yet available assessing impact of partial privatization of public hospitals

Mobilization of social resources for health care		
Key issues	**Expected outcome**	**Outcome by end of 2009**
The private health sector has been slow to develop and remains fragmented; safety and quality control are weak; a data reporting system for monitoring and evaluation purposes is non-existent	▪ In the near future, there is a need to promote private health sector development (especially private hospitals, foreign-invested hospitals), as the keystone of the social mobilization policy in the health sector, instead of mobilizing private investments in on-request services, semi-public services, joint-ventures and private business collaborations in public hospitals. ▪ Develop regulations making it mandatory for private health facilities to report on their clinical operations to ensure safety and quality.	▪ No revisions yet made in regulations on licensing and operation of private facilities ▪ The number of private hospitals has increased from 77 in 2008 to 85 at present, from 5412 to 5800 beds. ▪ In 2008, the hospital inventory collected information on most hospitals including 66 private hospitals.

Financing autonomy in public health services		
Key issues	**Expected outcome**	**Outcome by end of 2009**
Inconsistent on-going process of autonomization due to the lack of specific regulations and implementing guidelines	▪ Amend and refine policies related to financial autonomy: (i) Adjust the user fee policy soon; (ii) implement effectively policies to assist the poor, near poor and other social policy beneficiaries; (iii) adjust regulations on contributions to hospital development funds, additional income, joint ventures, private business collaborations, business taxes…	▪ No revisions yet in user fees, health insurance, management and use of public health facility workers ▪ No amendments in Decree 43 regulating the development funds, additional income coefficient, joint ventures, private business collaborations. ▪ No new regulations regulating financial autonomy ▪ No new guidance on implementation of autonomy in different types of facilities
The monitoring system to minimize adverse effects from autonomy lacks comprehensiveness, consistency and effectiveness	▪ Strengthen openness, transparency and accountability of health facility financing; promote democracy in oversight of operations; Organize training to improve capacity for hospital management, especially management under the autonomous hospital mechanism. ▪ Strengthen the monitoring and inspecting role of supervising authorities over financially autonomous institutions to restrict the trend of chasing after profits. Strengthen supervision of the implementation of basic tasks of public hospitals at the higher levels, especially technical mentoring of lower level facilities, rotation of staff to support lower levels. ▪ Implement research studies and evaluations on the impact (both positive and negative) of financial autonomy in public hospitals on both the health system and service users themselves, especially the poor and near poor.	▪ No monitoring indicators developed yet. ▪ No review written based on minutes from supervision, inspection, checking visits of the MOH and related units. ▪ Vietnam Health Economics Association is undertaking a study to assess management training needs of hospitals with results available by January, 2010. ▪ MOH is directing development of standard treatment guidelines, with priority on diseases targeted in National target programs and common diseases presenting at hospitals. ▪ Plans and reports on results of supervision of implementation of management autonomy in health facilities, report supervising implementation of mentoring of lower level facilities by staff from higher level facilities. ▪ On an annual basis, all Provincial Health Bureaus and units affiliated with the MOH must report to the MOH.

Hospital service payment mechanism		
Key issues	**Expected outcome**	**Outcome by end of 2009**
The current method of setting user fees is irrational, and does not include all the costs of delivered services	▪ Provide leadership and guidance on implementing systematic costing of hospitals. ▪ Develop an appropriate and transparent fee schedule, for medical services and technologies	▪ The MOH has established a steering committee for provider payment reforms since September, 2009. ▪ No system of databases on costs and fees (service prices) has been developed yet.
Hospital financing modalities lack incentives to improve efficiency of the resources used	▪ Reform the method for allocating state budget to hospitals from one based on number of beds and staff towards a method that is based on assigned tasks, workload and quality of performance, and subject to a performance monitoring system ▪ Implement a pilot for transforming from fee-for-service payments towards package pricing based on case-mix or DRGs. First there is a need to pilot test case mix payments for certain common conditions, with standard criteria for diagnosis and clear treatment guidelines.	▪ No new mechanism for allocating state budget to health facilities has been developed. ▪ The Minister of health has agreed to pilot test case-mix payments and has established a steering committee to assist and promote the pilot. Case-mix payments will begin to be piloted in November, 2009.
Absence of a strong, uniform service quality monitoring and control system	▪ Step-by-step develop standard care pathways for common conditions, to serve as a basis for standardizing clinical care, limiting abuses in health service provision in health facilities	▪ Thanh Nhan municipal hospital continues to develop care pathways to apply for high-frequency inpatient cases, and will gradually expand the number of conditions for which they have care pathways towards even outpatient cases. This model has not yet been expanded to other hospitals.

Financial support for the poor and other social welfare target groups		
Key issues	**Expected outcome**	**Outcome by end of 2009**
Financial assistance policies for health care of the poor and other social welfare target groups still have limitations	▪ The Government needs to maintain state budget priorities for effective implementation of policies assisting the poor, children under age six and social welfare target groups, and ensuring health care equity in the context of the market economy, an increasing share of investment from socially mobilized funds and financial autonomy in health facilities. ▪ Provide free health care for children under age six in the form of purchasing health insurance cards. ▪ Effectively implement the policy to subsidize at least 50% of the health insurance premium for the near poor. ▪ Strengthen IEC on the rights and responsibilities of the poor when using health services. ▪ MOH should establish a liaison office (situation in the Planning and Finance Department) responsible for regular monitoring and reporting on the delivery of assistance for the poor and other beneficiaries of social welfare policies	▪ No information available on actual health insurance coverage rates for the poor, children under age 6, the elderly aged 85 and older and other social welfare target groups. ▪ The contribution for health insurance of the poor will be increased to 4.5% of minimum wage starting 01 January, 2009 according to Decree 62/2009/ND-CP. ▪ Begin to apply the health insurance mechanism to provide financial assistance for health care for children under age six starting 1 October, 2009 according to Decree 62/2009/ND-CP ▪ Mekong Regional Health Support Project of the World Bank is supplementing government subsidies to ensure 100% of health insurance premiums are paid for the near poor. ▪ No unit has been assigned responsibility to monitor health care for the poor and other social welfare beneficiaries.
Access to and use of quality health services by social welfare target groups remains a challenge	▪ Local authorities need to be committed to mobilizing resources to support indirect expenses (meals, lodging, transportation, etc.) to lessen the financial burden for the poor who have to seek health services far from their homes. ▪ Donors can play a supportive role in the process of creating and undertaking pro-poor health related policies in Vietnam.	▪ No information available on provinces mobilizing additional funding to pay for food, accommodations or transportation for poor patients. ▪ No accounting of donor funds for support to the poor has been implemented.

Appendix 2: Summary of key challenges and solutions

Priority issues	Solutions/activities		Expected outcome (2010)
	Short-term (to 2010)	Medium-term (2011+)	
1. Workforce size inadequate to meet need 1.1 Shortage of workers in preventive medicine and a few specialties	▪ Develop incentives for students to specialize in TB, leprosy, mental illness, paediatrics, preventive medicine, infectious diseases. ▪ Study and propose revisions, amendments to the salary and special occupational salary supplement policies, working conditions and other methods to attract human resources for health to work in the specializations of TB, leprosy, mental illness, HIV/AIDS, paediatrics, preventive medicine.		▪ Proposal on an incentive mechanism to attract students to study certain specialties including TB, leprosy, mental illness, preventive medicine, infectious disease. ▪ Propose to the Prime Minister to revise, amend the special occupational supplement for health workers in specialties of TB, leprosy, mental illness, HIV/AIDS, paediatrics, and preventive medicine.

Priority issues	Solutions/activities		Expected outcome (2010)
	Short-term (to 2010)	Medium-term (2011+)	
2. Deploy health workers in rural areas, especially in disadvantaged areas where need has not yet been satisfied 2.1 Lack of policy to attract workers or to encourage workers to work in disadvantaged areas.	▪ Assess effectiveness of policies allowing localities to contract training facilities to train staff who will return to work in the locality, concentrated 4-year training to upgrade CHS doctor and pharmacist and district hospital pharmacist, recruitment of students for the northern midlands and mountainous regions, the Central region, the Central Highlands and the Mekong Delta. ▪ Develop a policy to increase the number of medical graduates from disadvantaged areas who return to work, especially people with university degrees, (financial and non-financial incentives) ▪ Develop a policy on "Mandatory civilian national service of health workers in socio-economically disadvantaged areas" ▪ Increase the quota for student admissions from the Northern midland and mountains, Central coast, Central Highlands and Mekong Delta		▪ Reports assessing effectiveness of policies. ▪ Provincial statistics on number of graduates who were recruited directly without medical exams who return to work in their origin localities. ▪ Submit to the Government the draft Decree on Mandatory civilian national service of health workers in socio-economically disadvantaged areas" ▪ MOH increases the quotas for student recruitment from the Northern midlands and mountains, Central coast, Central Highlands and Mekong Delta

Priority issues	Solutions/activities		Expected outcome (2010)
	Short-term (to 2010)	Medium-term (2011+)	
2.2 Working conditions in the commune and district level are poor	▪ Review implementation of physical investments in CHSs in disadvantaged areas from 2008-2010 according to Decision 950/2008/QD-TTg ▪ Review implementation of construction, improvements, upgrades of district and inter-district hospitals using capital from Government bonds and other legal sources according to decision 47/2008/QD-TTg ▪ Review implementation of the Project assisting development of the District Preventive Medicine Centres from 2007-2010 according to Decision 1402/2007/QD-TTg ▪ Research recurrent operating budget of the CHS, district hospital, district health centre; Based on study results, specify clearly a policy to "encourage district and commune people's committees to supplement the budget of the district and commune for health care activities at the grassroots level and in the community	▪ Develop a plan to continue investing in physical infrastructure of commune and district level facilities ▪ Develop a policy to ensure recurrent budget for the CHS, district hospitals and district medical centres	▪ Report reviewing implementation of Decision 950/2008/QD-TTg ▪ Report reviewing implementation of Decision 47/2008/QD-TTg ▪ Report reviewing implementation of Decision 1402/2007/QD-TTg ▪ Research report on recurrent budget of CHS, district hospitals and district medical centres ▪ Directive of the Minister of Health encouraging the district and commune people's committees to supplement budgets for health care activities at the grassroots and in the community

Priority issues	Solutions/activities		Expected outcome (2010)
	Short-term (to 2010)	Medium-term (2011+)	
2.3 Distribution of medical training facilities is irrational	▪ Study and develop a plan (physical facilities, teaching personnel) to expand the number of facilities and departments training medical personnel in disadvantaged regions, where there are shortages of human resources for health (Northwest, Mekong Delta and Central Highlands)	▪ Open new health human resource training facilities and departments in disadvantaged regions, where there are shortages of medical personnel (Northwest, Mekong Delta, Central Highlands)	▪ Assessment report with recommendations on a roadmap for expanding the number of training facilities in disadvantaged regions
3. Shortcomings in quality of human resources for health 3.1 Qualifications of health workers at lower levels and in disadvantaged areas are low	▪ Review implementation of Project 1816 of the MOH and the program for mentoring of health workers by higher level facility staff to develop a new project on "Rotating health workers from higher levels to assist at lower levels" to present to the Government as a regular, long-term policy nationwide ▪ Guide localities to develop staff training plans (long term to get higher degrees, continuing medical education to update professional knowledge, priority on linkages between schools and institutes to organize training on location) according to the needs of the locality (including curative care, preventive medicine; commune, district, province levels; general, specialized and high tech medicine.)	▪ Decentralize to allow localities to develop their own health worker training plans based on guidelines from the higher levels, the MOH should coordinate local plans and health worker training facilities	▪ Report reviewing implementation of Project 1816 of the MOH and mentoring by higher level facilities to lower level facilities ▪ Submit to the Government for approval a proposal on "Rotating health workers from higher levels to support lower levels" ▪ Workshops guiding local areas on planning for health worker capacity building ▪ Mechanism to assist health workers in disadvantaged regions participate in continuing medical education

Priority issues	Solutions/activities		Expected outcome (2010)
	Short-term (to 2010)	Medium-term (2011+)	
3.2 Continuing medical education, and technology transfer faces many shortcomings (not yet linked to system of licensing)	▪ Medical universities, hospitals and health sector institutes develop plans for regularly organizing continuing medical education training courses to improve skills of doctors, nurses, midwives, technicians in the provincial, district and commune levels, based on needs identified in the local plans for health worker capacity building; Pay attention to assisting different regions to organize training courses locally so health workers can participate in training without having to be absent from their work for long periods of time. ▪ Develop a proposal to recommend to the State to increase funds appropriately for continuing medical education, especially for less attractive specialties, for health workers in disadvantaged regions, and at the same time mobilize contributions of funds for training among health facilities with health workers being sent for training.	▪ Institutionalize: continuing medical education as a condition for maintaining a medical practice license; accreditation of continuing medical education curriculum; ensuring budget for developing curriculum and implementing continuing medical education.	▪ MOH leads (coordinates) continuing medical education in medical universities, hospitals and central and local health facilities. ▪ Proposal recommending the State increase funds for continuing medical education, especially to help health workers in disadvantaged areas.

Priority issues	Solutions/activities		Expected outcome (2010)
	Short-term (to 2010)	Medium-term (2011+)	
3.3 Quality of training of medical schools does not yet reach high standards (including nursing and technician training)	▪ MOH issues a decision making it mandatory to update training curriculum framework at least every 5 years. Increase financial assistance from the Ministry of Education and Training and MOH for this work. ▪ Mobilize international assistance for updating training curricula ▪ Develop a training strategy, to upgrade and strengthen skills of medical school instructors and researchers in health worker training facilities. ▪ Expand resident doctor training and other opportunities for medical students to have regular contact with patients throughout their studies.	▪ Upgrade the professional qualifications of instructors in health worker training facilities, especially in the field of medicine. Pay special attention to recruitment of new instructors in order to build up a contingent of medical school instructors with high qualifications and professional ethics	▪ Issue Decision by the MOH to update the curriculum framework ▪ Continue to mobilize international assistance to update the training curricula ▪ Lead an expansion of resident doctor training.
3.4 Absence of a unified system for training quality assurance in public and private medical training facilities	▪ Implement a roadmap on accreditation of training quality according to regulations of the Ministry of Education and Training. MOH monitor implementation of the roadmap for accreditation in public and private facilities according to a unified process.	▪ On the basis of training quality accreditation results, MOH guide medical schools to develop physical facility and human resource development plans along with school regulations, focusing on training fields, policies and number of students to be admitted appropriate with state policy, society's needs, and the facility's ability to meet these requirements.	▪ MOH steer implementation of the roadmap for accreditation of training quality in public and private medical training facilities according to unified processes and assess the training capacity of schools.

Priority issues	Solutions/activities		Expected outcome (2010)
	Short-term (to 2010)	Medium-term (2011+)	
3.5 Absence of appropriate standards for issuing medical licenses, performance appraisal of health workers	▪ Develop a plan and roadmap for developing standards for issuing medical licenses and standards for medical practice to assist in performance appraisal.	▪ Develop standards for issuing practice licenses for all types of medical workers and standards for performance appraisal in line with the roadmap.	▪ Roadmap and plan for developing standards for issuing practice licenses and standards for health worker performance appraisal
4. Deployment of health workers in health facilities is ineffective 4.1 Competence of managerial staff does not meet requirements	▪ Develop short-term training curriculum on management for managerial staff at all levels, especially hospital and medical school managers ▪ Develop management training curriculum for undergraduate and post-graduate students in the health sector ▪ Revise the policy on promotions and appointments for leadership and management staff of health facilities to be more democratic and to require meeting ethical and professional managerial and leadership standards. ▪ Develop guidelines for health facilities to mobilize clinical staff to participate in professional management decisions in order to increase effectiveness and quality of health services.	▪ Develop a retraining program for managerial staff according to the new program ▪ Train undergraduate and post-graduate students following the management training curriculum ▪ Research feasibility and appropriateness of the hospital management model involving a management board with many members, including a chairman and chief executive officer.	▪ Short-term training curriculum on hospital management, medical school management ▪ Management training curriculum for undergraduate and post-graduate students. ▪ Revised policy on promotions and appointments of leadership staff in medical facilities ▪ Guidance on mobilizing clinical staff to participate in professional management decisions (Total Quality Management)

Priority issues	Solutions/activities		Expected outcome (2010)
	Short-term (to 2010)	Medium-term (2011+)	
4.2 Shortage of effective methods for human resource management in health facilities	▪ Develop strategy/plan to regularly update and issue treatment guidelines and national technical standards in the field of curative care in order to develop performance appraisal standards ▪ Develop strategy/plan to regularly update and issue guidelines in the field of preventive medicine, to serve as a basis for developing standards for performance appraisal. ▪ Issue the necessary legal documents to implement the Conclusions of the Politburo on the proposal for reforming the operational and financing mechanism (including salaries, health service user fees) for public health service units	▪ Develop a plan to implement the Law on Government staff and civil servants	▪ Strategy/plan for regularly updating treatment guidelines, technical standards, guidelines for implementing preventive medicine technical procedures. ▪ Reference materials guiding managers on non-financial incentive mechanisms ▪ Submit to the Government for approval the Decree on reforming the operational and financing mechanism (including salaries, health service user fees) for public health service units.
	▪ Guide health facilities to develop standard operating procedures, job descriptions linked to monitoring, performance appraisal of health workers and implement performance related pay.	▪	▪ MOH direct the implementation of the standard operating procedures, job descriptions lined to monitoring and performance appraisal of health workers and implement performance related pay.

Priority issues	Solutions/activities		Expected outcome (2010)
	Short-term (to 2010)	Medium-term (2011+)	
5. State management of human resources remains weak 5.1 Absence of plans and strategies for human resource development	▪ Develop a plan to implement the Law on Examination and Treatment ▪ Develop and submit to the Government for approval the Master Plan for development of human resources for health and the medical training system to the year 2020. Ensure the master plan meets the requirements for changes in population and epidemiological patterns, and is feasible. ▪ Develop a 10-year strategy (2010-2020) and a 5-year plan for the health sector (2010-2014) and an annual plan for the year 2010 that integrates 6 building blocks of the health system ensuring health human resources can meet the demands and support other building blocks.	▪ Submit to the Prime Minister for approval a project "Clinical practice for newly graduated doctors and nurses as a basis for issuing medical practice licenses for doctors and nurses throughout the country." ▪ Study to improve the mechanism for complaint resolution in the health sector that is convenient for the patients, transparent, effective in learning from experience, linked to the licensing system and license suspension system in order to increase accountability of health workers and contribute to improving health service quality. ▪ Develop master plan (or strategy) on use, management and development of human resources appropriate with reforms in the health system, prioritizing primary care and preventive medicine	▪ MOH develop a plan to implement the Law on Examination and Treatment ▪ MOH submit to the Government for approval, the Master Plan for development of human resources for health and the medical training system to the year 2020. ▪ MOH develop a strategy for the care and protection of the people for the period 2011-2020 and 5-year plan that integrates the 6 building blocks.

Priority issues	Solutions/activities		Expected outcome (2010)
	Short-term (to 2010)	Medium-term (2011+)	
5.2 Health management information system related to human resources operates ineffectively	▪ Conduct a comprehensive survey assessment of human resources in the health sector (including both public and private and health workers in other sectors), to determine the detailed needs for human resources in the health sector to the year 2020, and to serve as a basis for developing policies and plans (strategies) for training and deployment of health workers. ▪ Develop the organization and prepare human resources to strengthen the computerized health management information system. ▪ Develop mandatory requirements for private health facilities to regularly report statistical data ▪ Develop a methodology for medical training facilities to monitor graduates, assess the extent to which they are meeting need and adjust the training curricula appropriately.	▪ Continue to mobilize external financial aid and technical assistance from the HPG for the health information system and study how to strengthen the health information system	▪ Implement a census of health human resources ▪ Develop and implement a development plan for the health management information system supported by an adequate budget. ▪ Issue regulations on statistical reporting requiring the private sector to report similarly to the public sector ▪ Guidance on the method for monitoring graduates of medical training facilities.

Priority issues	Solutions/activities		Expected outcome (2010)
	Short-term (to 2010)	Medium-term (2011+)	
5.3 State budget for health human resources remains low	<u>Physical infrastructure investments</u> ▪ Strengthen physical facilities for the medical training system from many financial sources <u>Regular expenditures</u> ▪ Ensure funds for training health workers to serve in disadvantaged and mountainous regions of provinces in the North, Central, Mekong Delta and Central Highlands ▪ Ensure funds to implement practice licensing, monitor medical error (and its resolution), continuing medical education according to the Law on Examination and Treatment ▪ Ensure adequate budget for developing and running the health management information system ▪ Ensure funds to increase the salary supplement for fields of preventive medicine, HIV, paediatrics, etc. ▪ Ensure funds for the operating budget of district medical centers and CHS.	▪	▪ Government project for investment in upgrading the system of medical training facilities from 2010-2015. ▪ ADB loan project on "Preparing the Health Human Resources Sector Development Program" from 2009-2013 (funds to invest in physical infrastructure of training facilities and to support issuing medical licenses) ▪ Submit to the Prime Minister for issuing a financial mechanism for implementing "Project for training human resources for health for disadvantaged regions, mountainous areas of provinces in the North, Central, Mekong Delta and Central Highlands regions according to the direct student recruitment mechanism without entrance exams according to Prime Ministerial Decision 1544/2007/QD-TTG dated 14 November, 2007. ▪ Budget developed that ensures funds for the health management information system, occupational salary supplements and recurrent expenditures of the CHS and district hospitals.

Appendix 3: Monitoring indicators

	Proposed indicators	2003	2004	2005	2006	2007	2008	Source
	Health status and determinants of health							
1	Infant mortality rate (IMR) / 1000 live births	21.0	18.1	17.8	16.0	16.0	15.0	Population Change Survey (General Statistics Office)
	Under 5 mortality rate (U5MR) / 1000 live births	32.8	28.5	27.5	26.0	25.9	25.5	Health Statistics Yearbook
2	Maternal mortality rate (MMR) (per 100 000 live births)	85	85	80	75	75	75	Health Statistics Yearbook
3	Percentage of newborns who are underweight (%)	6.5	5.8	5.1	5.3	5.3	5.3	Health Statistics Yearbook
	Malnutrition rate for children under age 5 (low weight for age) (%)	28.4	26.6	25.2	23.4	21.2	19.9	Annual survey of National Institute of Nutrition
	Malnutrition rate for children under age 5 (low height for age) (%)	32.0	30.7	29.6	31.9	33.9	32.6	Annual survey of National Institute of Nutrition
	Malnutrition rate for female children under age 5 (low weight for age) (%)		26.5	25.4			n/a	National Institute of Nutrition
4	Pregnant women found to be infected with HIV	-	-	-	-	479	415	Vietnam Administration of HIV/AIDS control
	People living with HIV/AIDS	68 630	81 982	94 040	104 763	121 734	179 735	Vietnam Administration of HIV/AIDS control
	Women living with HIV/AIDS	-	-	4 029	5 440	6 030	n/a	Vietnam Administration of HIV/AIDS control
	HIV prevalence rate per 100 000 population	94.1	110.2	125.3	138.5	143.0	208.5	Health Statistics Yearbook

Proposed indicators		2003	2004	2005	2006	2007	2008	Source
	HIV incidence rate per 100 000 population	21.0	17.3	16.5	14.8	27.0	23.5	Calculated from Health Statistics Yearbook data
	AIDS-related mortality rate per 100 000 population	2.1	2.3	2.0	2.1	4.0	8.2	Calculated from Health Statistics Yearbook data
5	Newly detected TB patients per 100 000 population	114.5	120.9	115.5	116.8	115.5	114.5	Calculated from Health Statistics Yearbook data
	AFB+ TB incidence rate pre 100 000 population	69.3	71.2	66.9	67.0	63.9	62.0	Calculated from Health Statistics Yearbook data
6	Malaria prevalence per 100 000 population	203.5	156.8	119.4	108.9	83.3	70.2	Health Statistics Yearbook
	Malaria mortality rate per 100 000 population	0.06	0.03	0.02	0.05	0.02	0.03	Health Statistics Yearbook
7	Dengue fever prevalence per 100 000 population	61.5	95.9	68.8	81.4	118.8	182.7	Health Statistics Yearbook
	Dengue fever mortality rate per 100 000 population	0.09	0.14	0.00	0.06	0.10	0.09	Health Statistics Yearbook
8	Food poisoning cases reported to the Food Safety Administration	238	145	144	165	248	205	Vietnam Food safety Administration
	Deaths from food poisoning reported to the Food Safety Administration	37	41	53	57	55	61	Vietnam Food safety Administration
9	Traffic accident death rate per 100 000 population	-	-	19.9	21.2	21.7	12.2	Vietnam Administration of Preventive medicine and the environment
	Male traffic accident death rate per 100 000 population	-	-	30.8	32.8	35.7	n/a	Vietnam Administration of Preventive medicine and the environment

Proposed indicators		2003	2004	2005	2006	2007	2008	Source
	Female traffic accident death rate per 100 000 population	-	-	8.6	9.0	8.7	n/a	Vietnam Administration of Preventive medicine and the environment
	Injury rate from road accidents (rate per 100 000 population)	25.8	18.5	14.1	13.2	12.1	8.5	Calculated from Health Statistics Yearbook data
10	Cancer prevalence rate (hospital estimates) per 100 000 population	64.1	62.9	138.3	124.6	120.4	201.8	Calculated from Health Statistics Yearbook data
	Organization and management of the health care system							
11	Percentage of state health facilities granted autonomy under Decrees 43 and 10 (%)	-	-	46.2	-	88.0	n/a	Planning and Finance Department, MOH
	Percentage of central state health services granted autonomy under Decree 43 and 10 (%)	-	-	41.4	-	100.0	n/a	Planning and Finance Department, MOH
	Percentage of local state health services granted autonomy under Decree 43 and 10 (%)	-	-	46.4	-	87.5	n/a	Planning and Finance Department, MOH
13	Licensed private health services						n/a	No data available on this indicator
	Health human resources							
14	Number of doctors per 10 000 population (including central, sub-national levels and other sectors)	5.88	5.88	6.03	6.23	6.45	6.52	Calculated from Health Statistics Yearbook data
	Proportion of doctors who are female (including central, sub-national levels and other sectors) (%)	-	-	34.2	33.9	32.9	37.7	Calculated from Health Statistics Yearbook data
	Number of pharmacists per 10 000 population (including central, sub-national levels and other sectors)	0.77	0.78	1.28	1.27	1.21	1.22	Calculated from Health Statistics Yearbook data

Proposed indicators		2003	2004	2005	2006	2007	2008	Source
	Proportion of pharmacists who are female (including central, sub-national levels and other sectors) (%)	-	-	59	59.2	51.1	63.6	Calculated from Health Statistics Yearbook data
15	Proportion of CHS with a doctor (%)	65.4	67.8	69.4	65.1	67.38	65.93	Health Statistics Yearbook
16	Number of health workers with university training per 10 000 people including central, sub-national levels and other sectors)	7.7	7.7	8.5	8.8	9.2	9.7	Calculated from Health Statistics Yearbook data
	Proportion of district health workers with university training in the Northwest (typical of disadvantaged areas) (%)	19.8	16.5	15.4	15.6	18.1	14.7	Calculated from Health Statistics Yearbook data
	Proportion of district health workers with university training in the Southeast (typical of better-off areas (%)	29.4	30.0	30.6	29.6	27.9	25.2	Calculated from Health Statistics Yearbook data
17	Ratio of health workers to population in disadvantaged areas						n/a	No data available on this indicator
	Health financing							
18	Total health expenditure as a share of GDP (%)	5.22	5.52	5.91	6.44	-		National Health Accounts 2000-2006
19	State budget spending on health care as a share of total health expenditure (%)	27.25	23.14	21.74	28.77	-		National Health Accounts 2000-2006
20	Gross public expenditure on health care (net state budget, user fees, and other service fees collected by public health facilities, health insurance, aid/loans) as a share of total budget (%)	7.66	7.85	8.59	9.77	-		National Health Accounts 2000-2006
	Net state budget spending on health care (direct state budget funding and not including user fees and other service fees collected by public health facilities) as a share of total state budget (%)	4.8	4.3	4.2	5.7	-		National Health Accounts 2000-2006

Proposed indicators		2003	2004	2005	2006	2007	2008	Source
	Public health expenditure (net state budget, health insurance, aid/loans) as a share of total state budget [WHO] (%)	5.3	4.6	4.6	6.2	-		National Health Accounts 2000-2006
21	Health insurance coverage as a percentage of the total population (%)	20.3	21.1	28.1	43.8	42.0	43.8	Health Statistics Yearbook
22	Health insurance coverage for the poor as a percentage of total population (%)	-	-	4.9	15.3	15.5	18.3	Calculated from Health Statistics Yearbook data
23	Health insurance coverage for the near-poor as a percentage of the entire near-poor population (%)	-	-	-	-	-	-	No data available on this indicator
24	Preventive health expenditure as a share of total health expenditure (%)	15.0	14.0	13.8	-	-		National Health Accounts 2000-2006
	Public preventive health expenditure as a share of total public health expenditure (%)	29.8	30.8	27.7	-	-		National Health Accounts 2000-2006
	Health service delivery							
25	Annual hospital outpatient visits per 1000 population	68.8	68.4	73.8	84.3	296.3	309.3	Calculated from Health Statistics Yearbook data; In 2003-2006 includes unit was outpatient cases, in 2007-2008 the unit is outpatient visits
26	Annual hospital inpatient admissions per 1000 population	88.4	91.1	88.9	86.7	109.1	125.9	Calculated from Health Statistics Yearbook data
27	Overall bed occupancy rate (%)	92.1	91.8	89.7	103.1	116.1	125.6	Health Statistics Yearbook
	Bed occupancy rate at central facilities (%)	99.22	105.2	109.4	132.2	134.2	128.5	Health Statistics Yearbook
	Bed occupancy rate at sub-national levels (province, district) (%)	76.5	89.5	86.7	99.13	117.9	126.7	Health Statistics Yearbook

Proposed indicators		2003	2004	2005	2006	2007	2008	Source
28	Average length of inpatient stay (days)	6.7	6.5	6.6	7.8	7.2	7.2	Health Statistics Yearbook
	Average length of inpatient stay at central facilities (days)	10.0	10.5	10.6	11.6	11.0	11.0	Calculated from Health Statistics Yearbook data
	Average length of inpatient stay at sub-national level facilities (days)	6.2	6.0	6.1	7.3	6.9	6.8	Calculated from Health Statistics Yearbook data
29	Proportion of health facilities processing hazardous solid medical waste (estimates) (%)	-	-	-	30	-		Medical Services Administration
	Proportion of hospitals meeting the requirements for processing and incinerating hazardous solid medical waste (%)	-	-	-	73.3	-	n/a	Medical Services Administration
30	Proportion of women giving birth who had at least three antenatal checks (%)	83.0	87.9	84.3	84.5	86.2	86.7	Review report (2003-2004) – Reproductive health department-MOH; Health Statistics Yearbook (2005-2008)
	Proportion of pregnant women delivering at a health facility (%)	80	89	84.6	90.6	n/a	n/a	Review report (2003-2004) – Reproductive health department-MOH; Health Statistics Yearbook (2005-2006); Data no longer collected.
	Proportion of deliveries assisted by health workers (%)	95	94.7	93.4	92.7	94.3	97.1	Review report (2003-2004) – Reproductive health department-MOH; Health Statistics Yearbook (2005-2008)
31	Proportion of children under age 1 who were fully immunized (%)	97.1	96.5	96.5	95.7	81.8	81.8	Health Statistics Yearbook
32	Proportion of CHS meeting national benchmarks (%)	-	-	-	38.5	50.5	55.5	Health Statistics Yearbook

Proposed indicators		2003	2004	2005	2006	2007	2008	Source
	Health information							
12	Proportion of hospitals using hospital management software (estimate) (%)	-	-	-	-	52.7	n/a	Medical Services Administration

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