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**Vietnam's Health System on the Threshold of
the Five-year Plan 2011-2015**

Hanoi, December 2010

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The Joint Annual Health Review (JAHR) 2010 is the fourth annual review implemented under the direction of the Ministry of Health together with health development partners. The 2010 report analyzes the situation of the health sector, identifies priorities and solutions for the coming period, contributes to the development of the Strategy for the Protection, Care and Promotion of the People's Health for the period 2011-2020, the 5-year Health Sector Plan for the period 2011-2015, and at the same time reviews progress in implementing solutions and recommendations made in previous years' JAHRs.

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Editorial board

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Abbreviations

ACTD	ASEAN Common technical dossier
ACTR	ASEAN Common technical requirements
ADB	Asian Development Bank
ARV	Anti-retroviral drugs
ASEAN	Association of Southeast Asian Nations
AusAID	Australian Agency for International Development
CHITI	Central Health Information Technology Institute
DHS	Demographic and Health Survey
EPI	Expanded Program on Immunizations
GAVI	Global Alliance for Vaccines and Immunizations
GDP	Gross domestic product
GLP	Good laboratory practice
GMP	Good manufacturing practice
GPP	Good pharmacy practice
GSP	Good storage practice
HIV/AIDS	Human immune-deficiency Virus/ Acquired Immuno-Deficiency Syndrome
HPG	Health Partnership Group
JAHR	Joint Annual Health Review
MDG	Millennium Development Goals
MICS	Multi-indicator Cluster Survey
PEPFAR	Presidents Emergency Fund for AIDS relief
PHC	Primary health care
SAVY	Survey Assessment of Vietnamese Youth
TRIPS	Agreement on Trade related aspects of intellectual property rights
UNICEF	United Nations Children's Fund
VHLSS	Vietnam Household Living Standards Survey
VNHS	Vietnam National Health Survey
VSS	Vietnam Social Security
WHO	World Health Organization

Introduction

Objectives of the JAHR report

In 2007, The Health Partnership Group (HPG), including international and foreign organizations providing support to the Vietnamese health sector and the Ministry of Health, agreed to implement a Joint Annual Health Review (JAHR) on an annual basis.

The general objective of the JAHR is to undertake a situation analysis and identify priority issues in the health sector, in order to assist the Ministry of Health in its annual planning. Simultaneously, it should create a basis for selecting topics to focus on, through cooperation and dialogue between the Vietnamese health sector and foreign partners. Depending on the topic chosen, specific objectives of the JAHR each year include:

- 1) Update the health sector situation analysis, including assessment of progress in meeting MDGs and Vietnam's development goals related to health;
- 2) Assess in detail the various building blocks of the health system to identify priorities and recommend solutions;
- 3) Assess progress in implementing recommendations in previous years of the JAHR.

The JAHR 2007 report comprehensively covered **the basic components of Vietnam's health system**, including: i) Health status and determinants; ii) Organization and management of the health system; iii) Human resources for health; iv) Health financing; and v) Health service delivery.

The JAHR 2008 report focused on **Health financing in Vietnam**, and covered issues related to the main health financing functions including: i) mobilizing funds from various sources (state budget, health insurance, external assistance, household out-of-pocket spending, resources from society); and ii) mechanisms for managing the use of funds for health (financial autonomy, hospital provider payment mechanism, financial support for the poor and other social welfare beneficiaries).

The JAHR 2009 report focused on **Human resources for health in Vietnam**, and covered the important areas of: i) Health human resource development policies; ii) Number and distribution of the health workforce; iii) Quality of health human resources; and iv) Management and use of health manpower.

The JAHR 2010 report again includes comprehensive content covering **the basic components of the health system**. The report was developed as the 5-year plan for 2006-2010 was coming to a close, and the health sector was preparing for a new planning cycle. So, besides the general objectives mentioned above, the 2010 JAHR also has the specific objective of supporting development of the 5-year plan to cover the period 2011-2015, on the basis of assessing achievements and results, as well as limitations and weaknesses, in order to make a correct assessment of the Vietnamese health system and the problems for which solutions should be focused in the forthcoming period.

Contents and structure of the JAHR 2010

The JAHR 2010 is the first JAHR that covers all six major components of Vietnam's health system, assessing the situation and recommending solutions for priority issues for all six components (with health service delivery being the focal point where inputs from human resources for health, health financing, health information systems, medical products and technologies, and health system governance meet).

Based on the theoretical framework of the health system developed by the World Health Organization, Vietnam's health system framework can be illustrated as in Figure 1 below.

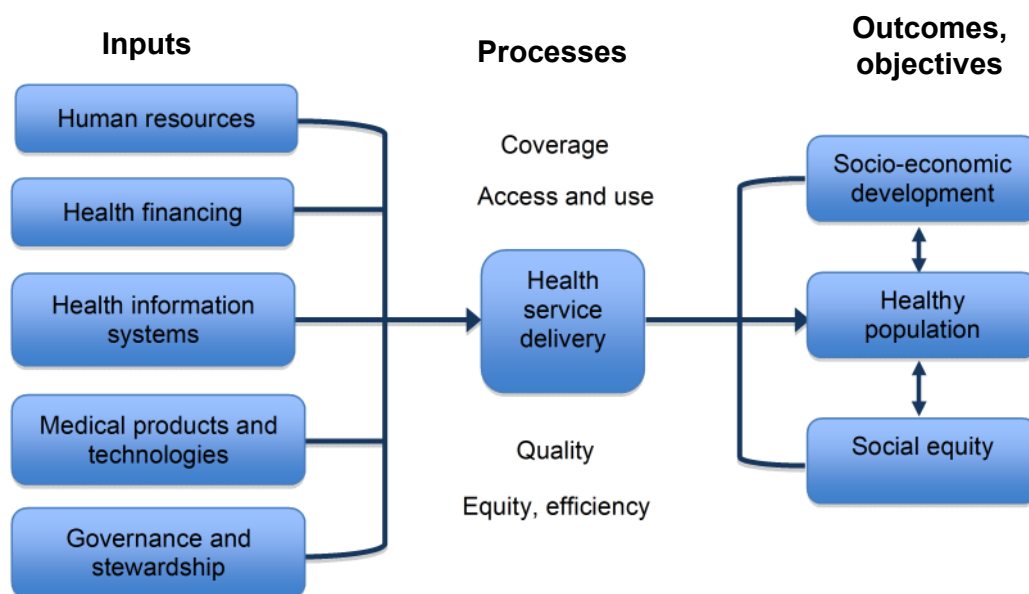


Figure 1: Vietnam's health system framework (According to Dr. Nguyen Hoang Long, PhD)

The input resource components of the health system have the following basic criteria.

Human resources for health must be adequate in number and structure, appropriately distributed, have an assured level of professional qualifications to meet their assigned responsibilities, and work with a high level of accountability and responsiveness.

Health financing mechanism must mobilize sufficient resources to invest in health with an appropriate balance between public and private spending, ensure that the population can access health care and use necessary health services, and that they are protected from financial risk or impoverishment related to health expenditures; at the same time it must encourage efficient use of available resources in the health sector.

Health information systems must collect, analyze and disseminate reliable information in a timely manner to assist in planning and management of the health system.

Pharmaceuticals, vaccines and other biologics, medical equipment, technology and infrastructure are input factors that must not be lacking for proper operation of a health system. These factors must meet required standards of quality so that health services can meet the goals of quality, safety and effectiveness.

Governance and stewardship must ensure that all the necessary policy and strategic frameworks are in place, and that they are combined with monitoring of effectiveness, development of linkages, legal documents, and address any concerns about design of the system and accountability.

All five input resource components above are aimed at ensuring that *health service delivery* can be the best for each member of the population, including examination and treatment, rehabilitation, preventive medicine and health promotion organized in a network with appropriate functions for each level of the system (See Figure 14 below). Health

services also need to meet basic criteria including population coverage, access (financially and geographically), plus services must be of good quality¹, equitable and provided efficiently.

Outcomes and final objectives of the health system are to improve the people's health, while contributing to social equity and socio-economic development of the nation.

Vietnam's health system framework is used throughout this report. On the basis of this framework, the JAHR 2010 report is structured according to the following 11 chapters and three appendices:

Chapter 1: Health status and determinants.

Chapter 2: Preventive medicine and primary health care.

Chapter 3: Medical examination and treatment.

Chapter 4: Population, family planning and reproductive health services.

Chapter 5: Human resources for health.

Chapter 6: Health information systems.

Chapter 7: Drugs, vaccines, blood and other biologics.

Chapter 8: Medical equipment and technology.

Chapter 9: Health financing.

Chapter 10: Health system governance.

Chapter 11: Conclusions and recommendations.

The nine Chapters 2 through 10 cover the six major components of the health system, with health service delivery being covered in the three Chapters 2 through 4 (preventive medicine, examination and treatment, and family planning and reproductive health), and the component on medical products and technologies being covered in the two Chapters 7 & 8 (drugs, vaccines, and blood products and medical equipment). All chapters have a similar structure including: i) Concepts; ii) Situation analysis; iii) Priority issues; iv) Recommendations.

The final Chapter 11 on Conclusions and Recommendations was synthesized from the main findings and assessments regarding each component of Vietnam's health system and a summary of recommended solutions for priority problems of 2011 and for the 5-year plan (2011-2015).

Appendix 1: Review of achievements related to recommendations from previous JAHRs.

Appendix 2: Summary of priority problems and solutions.

Appendix 3: JAHR monitoring indicators.

¹ Health service quality includes *technical quality*- precision in technique and method for prevention, diagnosis, treatment of illness and rehabilitation; and *functional quality*- related to health infrastructure meeting standards, the organization of the process of disease prevention, treatment, the care of the patient, code of conduct and attitudes of health workers,...

Organization and implementation

As in previous years, the JAHR 2010 was developed in collaboration with and under the direction of the Ministry of Health and the Health Partnership Group. The organizational structure for implementing the JAHR included:

JAHR working group, including members of the Ministry of Health and the HPG, with responsibility for guiding and supervising the process of developing the report and ensuring resources are available for related activities.

Secretariat, including representatives of the Ministry of Health (Planning and Finance Department), an international coordinator, a national coordinator, and support staff, is responsible for resolving daily management and administrative problems, organizing workshops, synthesizing feedback, ensuring that the process of writing the report involves participation from many stakeholders; editing, revising and finalizing the report.

Experts, consisting of national and international experts with knowledge and experience related to the components of the health system, are responsible for drafting chapters of the report, collecting feedback and comments from stakeholders and completing the chapters as appropriate.

Methodology

Development of the report was implemented mainly based on the process of analyzing, identifying issues and priorities and solutions with the participation of multiple stakeholders. In order to do this, the following main methods were used including:

- Recruiting national experts with knowledge and work experience related to each component of the report and international experts with health sector experience in Vietnam to participate in developing the JAHR report.
- Synthesizing references, including policies, laws, research reports, and surveys, among others.
- Collecting formal and informal comments from stakeholders, especially government staff and experts from various related ministries and sectors, management staff of the Ministry of Health and provincial health bureaus, international and national experts.
- Organizing discussions in working groups by proposing clear issues and ideas for discussion in summary tables, with the aim of collecting comments to contribute to the main topics of: i) situations and problems requiring solutions; ii) priority issues and solutions/actions; iii) mechanisms for monitoring and evaluation, and monitoring and evaluation indicators.
- Integrating and closely coordinating the processes of writing the JAHR 2010 and the 5-year plan, through organizing joint workshops, exchanging information on priority issues, recommending solutions and monitoring and evaluation indicators.

The general approach taken in the development of the JAHR 2010 report is as follows:

(1) It must be based on the *socio-economic context and situation of Vietnam's health system*. Vietnam's health system is in the process of reform and development. If we want to reform and develop the health sector effectively, it is important to understand clearly the situation of the health sector, how it is related to the socio-economic context, assess achievements objectively, and at the same time acknowledge clearly the problems that need

to be resolved, areas requiring investments, performance that needs to be achieved, and mechanisms for monitoring and evaluating the process of reform.

(2) It must be based on concepts about the functions and the criteria of *equity and efficiency in the health system*. The development of the JAHR 2010 report involved consideration and application of the generally accepted concept of a health system with six components. Strengthening the health system means refining all six components and their interactions, in order to improve the equity and sustainability of health services and to improve the people's health [1].

(3) It must be based on *appropriate analytical frameworks* for each component of the health system, including analysis of national policies and legal documents as well as analysis of standards that each component of the health system should achieve.

Chapter 1: Health status and determinants

1. Health status

In recent years, along with the socio-economic development of the country and Communist Party and Government attention towards investing in the health care of the people, the health status of Vietnamese people has improved considerably, as evidenced in the trends of various basic health indicators such as life expectancy at birth, infant mortality rate, maternal mortality rate, malnutrition rates.

Life expectancy at birth: Along with declines in mortality, the average life expectancy at birth of Vietnamese people has increased. Over a 10 year period, average life expectancy of Vietnamese people has increased by 3.7 years from 69.1 to 72.8 years (currently life expectancy of males is 70.2 years and of females is 75.6 years) [2]. Compared to the goal of 72 years set out in the Strategy for the Protection and Care of the People's Health to the year 2010, Vietnam has exceeded the goal. Compared to selected countries in the region, life expectancy in Vietnam has achieved a level on a par with or higher than Thailand (72 years) and the Philippines (70 years). One of the reasons that life expectancy of the Vietnamese has increased, is success in implementing national health programmes, expansion of the grassroots healthcare network, successful application and expanded access to modern therapeutic methods.

Infant mortality rate: Sound implementation of healthcare for mothers before and after birth, along with medical interventions, especially the expanded programme on immunizations (EPI), have directly led to reductions in infant mortality. In 2001, the infant mortality rate was 30‰, by 2006 it had declined to 17.8‰ and in 2009, the infant mortality rate was 16‰. Thus, the goal of the socio-economic development plan 2006-2010 to reduce infant mortality to 16‰ has been achieved (Figure 2).

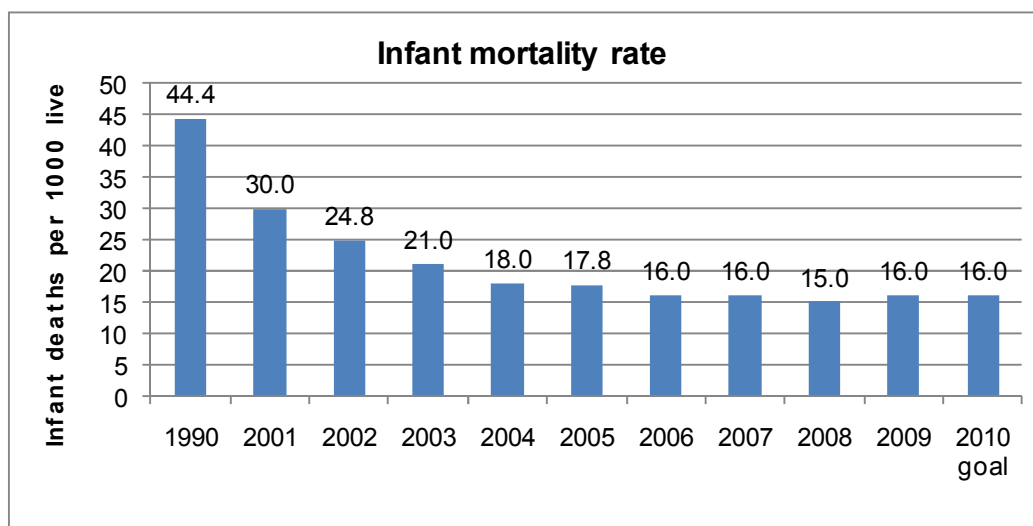


Figure 2: Infant mortality rate (‰), 1990~2009

Source: Health Statistics Yearbooks, various years

Under 5 mortality rate: Based on statistical data from the Ministry of Health, the under 5 mortality rate has declined from 58‰ in 2001, to 27.5‰ in 2005 and by 2009 had fallen to 25.0‰, achieving the goal set out in the Strategy for Protection and Care of the

People's Health for 2010. The Millennium Development Goal (MDG4) is to reduce by 2/3 the under 5 mortality rate during the period 1990-2015. According to this Goal, by 2015, Vietnam must reduce this rate from 58‰ in 1990 to 19.3‰ by 2015 (Figure 3). If the pace of reduction in under 5 mortality rates is maintained, by 2015 Vietnam will have achieved MDG4.

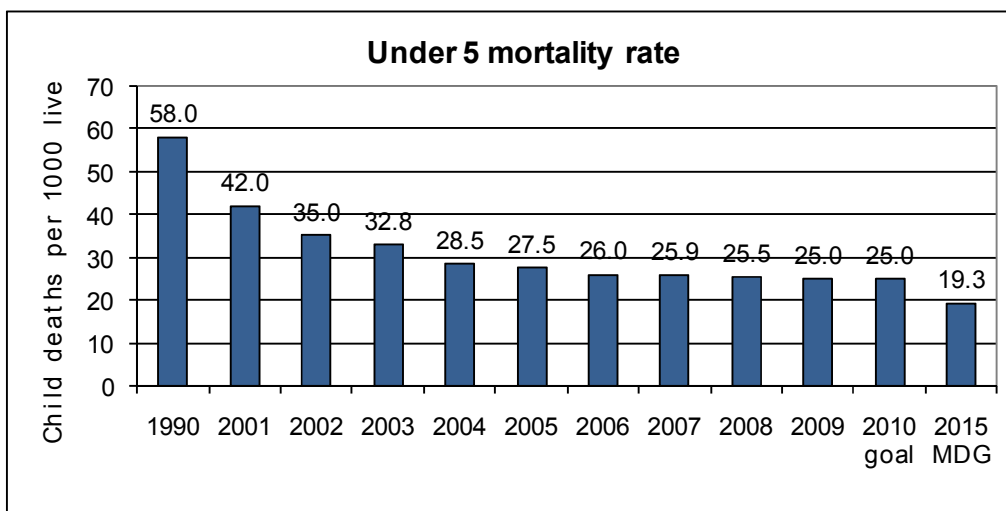


Figure 3: Under five mortality rate (‰), 1990~2009

Source: Health Statistics Yearbooks, various years

Maternal mortality ratio: According to reported data, the maternal mortality ratio has fallen from 165/100 000 live births (2001-2002), to 80/100 000 live births (2005) and according to the 2009 Population and Housing Census, the ratio has fallen further to 69/100 000 live births (Figure 4), achieving the goal set out in the Strategy for Protection and Care of the People's Health (the goal is 70/100 000 live births). In comparison with MDG5 to reduce maternal mortality by three-fourths over the period 1990 to 2015 (i.e. a reduction to 58.3 maternal deaths per 100 000 live births), Vietnam still needs to make a major effort to achieve this goal.

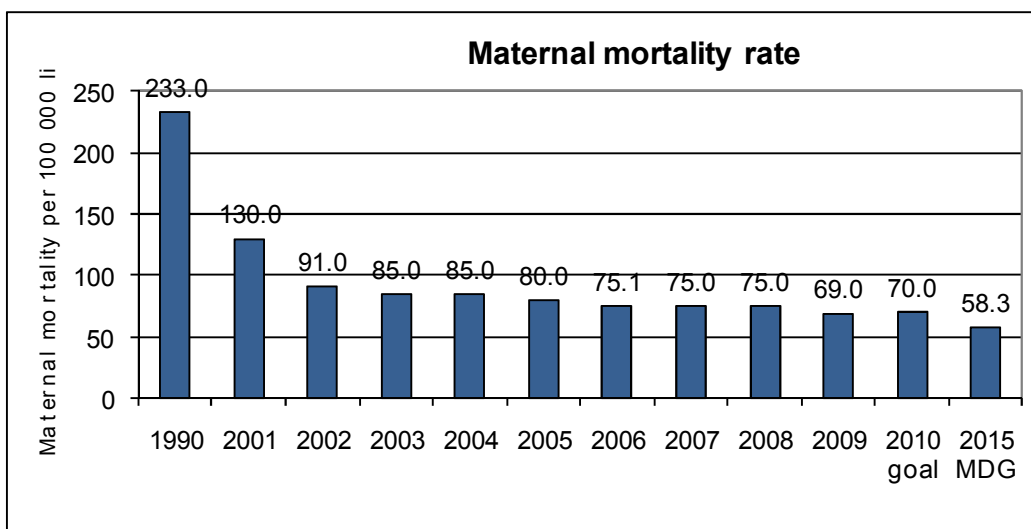


Figure 4: Maternal mortality ratio, 1990~2009

Source: Health Statistics Yearbooks, various years

Under 5 child malnutrition: Child malnutrition rates are usually measured as the proportion of children under 5 who are malnourished in terms of weight for age. This is an important indicator reflecting child health status. Data from the annual survey implemented by the National Institute of Nutrition under the Ministry of Health indicates that the malnutrition rate has declined steadily over the years, from 25.2% in 2005 to 21.2% in 2007 and 18.9% in 2009 (Figure 5).

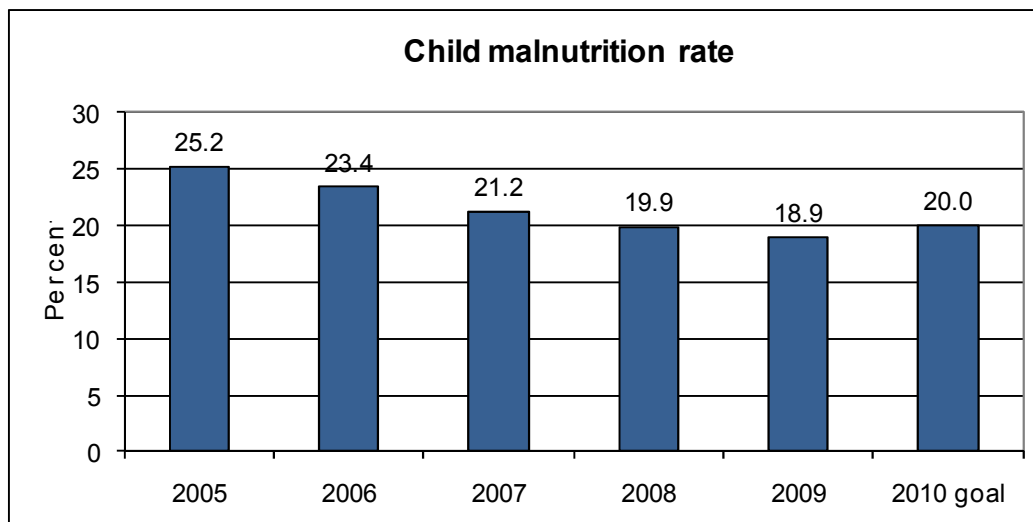


Figure 5: Under 5 malnutrition rate (%), 2005-2009

Source: Health Statistics Yearbooks, various years

The planned goal for the malnutrition rate (underweight) for children under 5 is a decline to below 20% by 2010. With the efforts of the health sector, close collaboration with localities and other government agencies and with socio-economic development, the rate of 19.9% was already achieved by 2008 (two years earlier than required in the 10th National Party Congress Resolution).

Although Vietnam has made noteworthy achievements in improving the health of the population, as evidenced by the above indicators, there remain several difficulties and challenges:

- *There are rather large disparities in health status between regions*, as seen in indicators such as the infant mortality rate, child malnutrition rate, etc. Although the infant mortality rate has declined in almost all disadvantaged regions (Northwest and Central Highlands), large gaps still remain between these regions and more socio-economically advantaged regions (Southeast and Red River Delta) (Table 1). Although the gap between the Northeast and the Southeast shows a declining trend: from 3 times in 2005 (33.9‰ compared to 10.6‰) falling to about 2.5 times in 2008 (21‰ compared to 8‰), the gap remains quite large. Thus, it is necessary to pay attention to investments in physical facilities and human resources and to develop priority policies in order to reduce child mortality in these regions in the coming years.

Table 1: Infant mortality rates by region (per 1000 live births), 2005-2009

Region	2005	2006	2007	2008	2009
Red River Delta	11.5	11	10	11	12.4
Northeast	23.9	24	22	21	24.5
Northwest	33.9	30	29	21	
North Central Coast	24.9	22	20	16	17.2
South Central Coast	18.2	18	17	16	
Central Highlands	28.8	28	27	23	27.3
Southeast	10.6	8	10	8	10.0
Mekong River Delta	14.7	11	11	11	13.3
National	16.0	16	16	15	16.0

Note: In 2009, the General Statistics Office changed the regional classification. The Northern midlands and mountains includes the former Northeast and Southeast. The North Central Coast and South Central Coast were combined into one region.

Source: Survey of Population Change, various years; 2009 Population and Housing Census.

Regional disparities are also apparent in the malnutrition rate (underweight) among children under 5. Although clear improvements have occurred in the period 2005-2009 as described above, the poorer regions of the Central Highlands and the Northwest still have the highest malnutrition rates (Table 2).

Table 2: Child malnutrition rates by region (%), 2005-2009

Region	2005	2006	2007	2008	2009
Red River Delta	21.3	20.1	19.4	18.1	16.7
Northeast	28.4	26.2	25.4	24.1	22.3
Northwest	30.4	28.4	27.1	25.9	24.6
North Central Coast	30.0	24.8	25.0	23.7	22.9
South Central Coast	25.9	23.8	20.5	19.2	19.3
Central Highlands	34.5	30.6	28.7	27.4	28.5
Southeast	18.9	19.8	18.4	17.3	16.4
Mekong River Delta	23.6	22.9	20.7	19.3	18.7
National	25.2	23.4	21.2	19.9	18.9

Source: Health Statistics Yearbooks, various years

Another indicator that shows large disparities in health status is the maternal mortality ratio with substantial differentials across regions and ethnic groups. According to data from a Ministry of Health study on maternal mortality in 2002 [3], maternal mortality in Cao Bang province is 8 times higher than in Binh Duong and Ha Tay provinces. Maternal mortality in rural areas is double that in urban areas, and for ethnic minority mothers it is 4 times higher than for the Kinh majority. What is of great concern is that the main causes of maternal mortality such as haemorrhages, infection, eclampsia, and unsafe abortions, are highly preventable. Out of all maternal deaths, 40% occurred at home, 8% during transfer between facilities. The babies of these mothers have a high mortality risk due to complications and adverse events to the mother during the pregnancy or during delivery, because they are not taken care of immediately after birth or due to malnutrition and other diseases resulting from not being breastfed or properly nourished.

- *A large number of Vietnamese children die each year.* Although child mortality in Vietnam has declined considerably, the population age structure still has a high share of children (children under age 5 account for 6.7% of the population, or a total of about 6 million children, and each year from 1.2 to 1.5 million babies are born) so the number of children who die each year remains high. According to an assessment by UNICEF [4], each year about 31 000 children under 5 years of age die, and among those about 16 000 were still in the perinatal period.

Perinatal mortality (within 28 days of birth) accounts for the largest share of child deaths. Perinatal mortality statistics are not reported annually by the Ministry of Health, but according to data from the Demographic and Health Survey 2002 [5], the perinatal mortality rate was 12‰, accounting for about 52% of all deaths to children under 5. Research in hospitals also indicates that perinatal mortality currently accounts for 70% of infant mortality. While mortality of children under 5 has declined considerably, perinatal mortality has seen little decline, especially in the early perinatal period (the first 7 days after birth). Early perinatal mortality usually accounts for 80% of total perinatal mortality, with more than half of these deaths occurring in the first day after birth.

- *Child malnutrition* in terms of low weight for age, has seen a substantial decline, yet it remains high compared to other countries in the region. Malnutrition in terms of stunting (low height for age) is quite serious with 31.9% of children under 5 suffering from stunting. Stunting remains prevalent in all regions [6]. Stunting is a chronic form of malnutrition, and has long-term consequences in terms of physical stature at maturity, and an increased risk of diseases in adulthood such as obesity, diabetes and several others. Stunting is also closely related to child mortality. By reducing stunting, we can improve the stature, strength and intelligence of the Vietnamese population.

2. Morbidity and mortality

Morbidity patterns in Vietnam at present are a complex mix of communicable and non-communicable diseases. Non-communicable diseases, accidents, injuries and poisoning have seen an increasing trend, both in terms of morbidity and mortality, especially cardiovascular disease, cancers, mental illness and injuries due to accidents. According to hospital statistical data from the health management information system, communicable diseases accounted for 55.5% of total morbidity in 1976, but had fallen to 25.2% by 2008. Non-communicable diseases have shown continuous increases from 42.7% in 1976 to 63.1% in 2008. The group consisting of poisoning, injuries and accidents still accounts for more than 10% of all morbidity. (Figure 6).

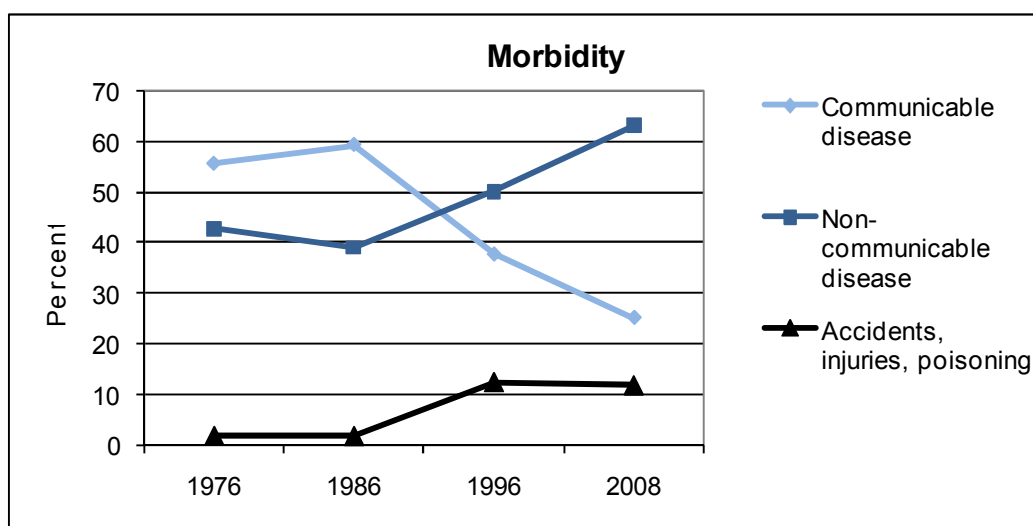


Figure 6: Morbidity trends, 1976~2008

Source: Health Statistics Yearbooks, various years

Mortality patterns as reflected in data from the health management information system also indicate trends similar to those for morbidity (Figure 7).

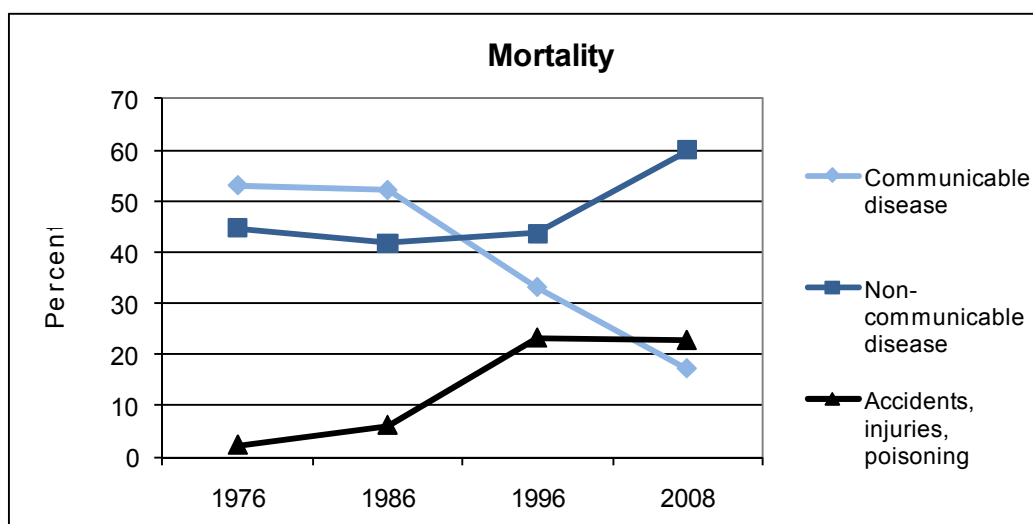


Figure 7: Mortality trends, 1976~2008

Source: Health Statistics Yearbooks, various years

Economic, social, urbanization, lifestyle, and nutritional factors in recent years have created risk factors leading to increases in non-communicable diseases such as diabetes, obesity, hypertension, cardio-vascular diseases, stress disorders, cancer, etc. The rise in non-communicable diseases has led to a rapid escalation in health care costs. Treatment costs for non-communicable diseases on average are 40 to 50 times higher than treatment of communicable diseases because they tend to require high technology, expensive specialty drugs, prolonged treatment periods, and have a high chance of complications. For example, a heart surgery can cost from 100 to 150 million VND; a course of treatment for hypertension can cost from 20 to 30 million VND; a course of treatment for diabetes also costs from 20 to 30 million VND and requires sustained treatment to maintain stability in the condition with

average monthly costs from 3 to 5 million VND depending on the severity of the condition. At the same time, facilities providing treatment services must increase investments in expensive medical equipment to detect and treat non-communicable diseases, recruit and train additional specialist doctors, which are all accompanied by increased service costs. This is a major challenge for Vietnam's health system in the upcoming period, requiring adjustments in policies in order to strengthen efforts to prevent these diseases and to more appropriately organize health care service delivery.

Although the morbidity patterns have moved towards greater prevalence of non-communicable diseases, communicable diseases continue to exhibit complex dynamics. Many dangerous communicable diseases are at risk of re-emerging such as cholera, dengue fever, etc.

Dengue fever: In 2009, through the end of December, Vietnam had recorded 99 266 cases of dengue fever, of which 83 cases resulted in death. The dengue fever incidence rate is high at 114/100 000 population. Compared to the same period in 2008, incidence had increased 2.9%, while mortality had declined 16.2%. Outbreaks of dengue fever don't only occur in Southern and Central provinces, but have spread to all areas of the country. In 2009, outbreaks occurred in several northern provinces; in Hanoi alone, there were 16 034 cases of dengue fever with 4 deaths [7].

Dangerous acute watery diarrhoea epidemic: After many years of being under control, diarrhoea epidemics broke out again in 2008 with incidence of 2.24/100 000 population, with new cases continuing to break out up to the present. Counting only the year 2009, the whole country had 239 cases that tested positive for cholera (incidence of 0.29/100 000) (Figure 8).

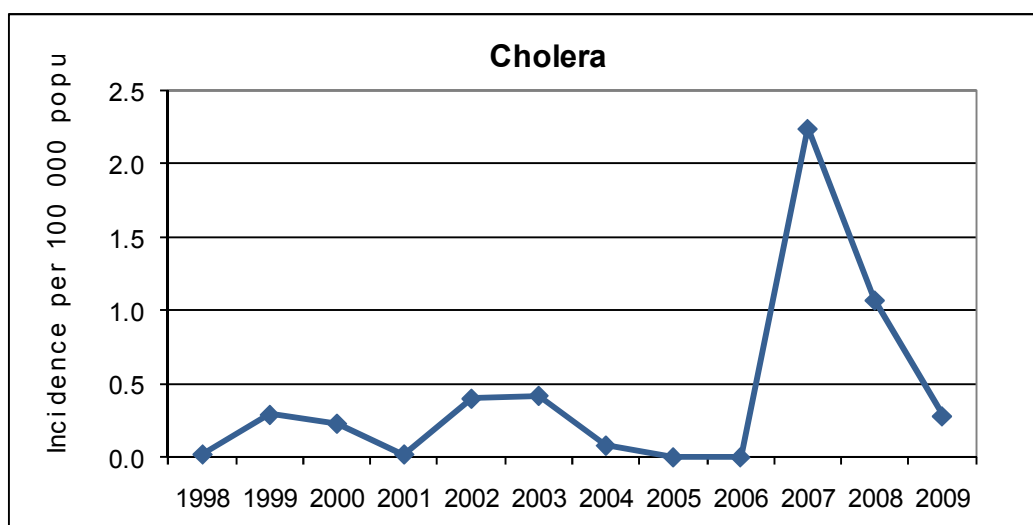


Figure 8: Cholera situation (incidence per 100 000 population), 1998–2009

Source: Health Statistics Yearbooks, various years

Malaria has been driven back and reduced in many areas. While in 2006, the incidence of malaria was 108.9/100 000 population, by 2009 the rate had fallen to 68/100 000. Nevertheless, these results cannot yet be considered “sustainable”, as the risk of a return of malaria, or the risk of outbreaks in some regions remains high. In 2009, there were still 24.2 million people living in malaria endemic areas (accounting for 27.6% of the entire population), primarily in forested mountain areas, coastal wetlands, regions with ethnic minority populations, remote, isolated and border areas [8].

Tuberculosis: During the period 2007-2009, the AFB positive lung tuberculosis detection rate was 62.7/100 000 population; the detection rate for all forms of tuberculosis was 116.5/100 000 population. Among those cases, the detection rate for new cases declined from 64.2/100 000 in 2007 to 62.4/100 000 in 2008 and 59.8/100 000 for 2009 estimates. Tuberculosis remains very prevalent in Vietnam. A large number of tuberculosis cases in the community have not yet been detected or have not yet been covered in the reporting system. Some tuberculosis cases have relapsed, failed treatment or abandoned treatment and these have not yet been detected to continue treatment. This leads to a high risk for development of multi-drug resistant tuberculosis. Therefore, it is necessary to strengthen detection activities, especially for new AFB positive tuberculosis patients, as well as for relapse, treatment failure and treatment abandonment.

HIV/AIDS is exhibiting slower increases in new cases compared to previous years, however, in general the HIV epidemic cannot yet be considered to be under control in Vietnam. This is apparent from surveillance data of injecting drug users, sex workers and other key populations at higher risk.

The HIV prevalence rate in 2009 was 187/100 000 population, equivalent to 160 019 people living with HIV throughout the country. Dien Bien province is the locality with the highest prevalence rate at 599/100 000, followed by Ho Chi Minh City with 578/100 000. Provinces in the Central Coast and Central Highlands regions have the lowest prevalence of HIV compared to the national average, with prevalence rates of less than 100/100 000 population.

HIV/AIDS in Vietnam remains a concentrated epidemic. HIV/AIDS prevalence is very high among injecting drug users and sex workers. According to best practice guidelines, when HIV/AIDS is in the concentrated period it is the best time to implement interventions to prevent transmission within the key populations at higher risk and between these groups and the general community.

Although the HIV epidemic has begun to exhibit a deceleration (Table 3), risk factors for a major epidemic remain if interventions are not implemented effectively. According to a behaviour surveillance survey, the two main risk behaviours for HIV transmission are shared needles among injecting drug users and sexual relations without condoms.

Table 3: New HIV and AIDS cases, deaths from AIDS, 2006–2009

	2006	2007	2008	2009
New HIV infections	26 929	27 628	20 260	15 713
AIDS cases	8 723	7 160	4 451	5 785
Deaths from HIV/AIDS	6 477	4 023	2 070	2 017

Source: Health Statistics Yearbook 2009

Pandemic influenza: In addition to the challenges posed by communicable and non-communicable diseases, during the period 2006-2010, the health sector has had to face challenges related to emerging epidemics of dangerous and new diseases with potential for becoming pandemics, such as influenza A (H1N1) and A (H5N1). For influenza A (H5N1), since the first case was detected in December 2003, 38 provinces have detected cases, with a total of 112 cases and 57 deaths. The first case of influenza A (H1N1) in humans was registered on 30 May 2009. By the end of December 2009, Vietnam had registered 11 104 cases positive for influenza A (H1N1), of which 53 had died. Although the outbreaks were not as serious as originally expected, their rapid spread and high share of A (H1N1) among

all influenza cases, means that this virus will continue to remain a potential threat for the world, especially if it combines itself with a more virulent form of influenza virus.

3. Determinants of health

3.1. Population factors

Preliminary results of the Population and Housing Census of 01 April 2009 indicate that Vietnam's population had reached 85 789 573 people; the population growth rate having declined dramatically. The average annual population growth rate in the period 1999-2009 was 1.2%, the lowest rate of increase in the past 50 years. Several population factors influence the people's health as will be described below [2].

- Large population size and continued increases in population density in Vietnam from 231 people/km² in 1999 to 259 people/km² in 2009. Population density in Vietnam is high, the third highest in Southeast Asia (after Singapore and the Philippines). The Red River Delta has the highest population density at 930 people /km², followed by the Southeast (594 people/km²), and the Central Highlands has the lowest density (93 people/km²). High population density is a risk factor for many health problems, including communicable diseases, and affects people's ability to use health services.
- Population age structure is undergoing rapid change. The proportion of the population below 15 years of age has fallen from 33% in 1999 to 25% in 2009. In contrast, the proportion of the population in the ages 15-59 (the main age group of the workforce) has increased from 58% in 1999 to 66% in 2009, and the age group of 60 years and older has increased from 8% in 1999 to 9% in 2009. According to the United Nations population models, Vietnam's population could be considered a "golden population", as it has an optimum population age structure with a high share of the population in working ages compared to the low share of dependents. Nevertheless, the age group of women entering reproductive ages is also very large, and this will heavily influence demand for reproductive health services and paediatric services in the coming years.
- In addition, because the elderly share of the population has been increasing while the proportion under age 15 has been decreasing strongly in the 10-year period from 1999 to 2009, "the ageing index" has increased 11 percentage points (from 24.5% in 1999 to 35.9% in 2009). The ageing index in Vietnam is currently higher than the average for Southeast Asia (30%), on par with the ageing index of Indonesia and the Philippines, yet lower than in Singapore (85%) and Thailand (52%) [2]. Accompanying the ageing of the population there is generally an increase in non-communicable disease, with potential for substantial increases in upcoming years.
- The sex imbalance at birth is becoming more and more serious. The sex ratio at birth has increased over the past 10 years, most clearly in the past 5 years. In 1999, this ratio was 108 boys for every 100 girls born, by 2009 this ratio had increased to 111 boys per 100 girls. This is a hot social issue to which a lot of attention is being paid.
- Although average life expectancy has increased, population quality is not meeting its full potential. Vietnam still belongs to the group of countries with only an average level of the Human Development Index (HDI). Healthy life expectancy is only 66 years, and the country is ranked 116 out of 182 countries assessed in 2009 [9].

3.2. Globalization, industrialization, urbanization, migration and changes in lifestyle

Migration is increasingly putting pressure on health care for the population in large cities and on the organization of health service delivery. Migration from rural to urban areas creates many problems that influence health. The number of migrants in the past 5 years is estimated at 3.3 million people, an increase of 163 000 people compared to the previous 5-year period. Over the 10-year period 1999-2009, the total number of migrants increased 1.4 million people, with an increase in migration in proportion to the distance migrated. The Southeast and Central Highlands have long been major in-migration regions attracting a large number of migrants. The Southeast has the highest in-migration rate. Concentrations of industrial zones and large cities are always a strong attraction for wage workers: The net in-migration rate to Binh Duong was 341.7‰, to Ho Chi Minh City it was 116‰, and to Da Nang it was 77.9‰.

In 2009, 29.6% of the population lived in urban areas, compared to 23.7% in 1999. The Southeast is the region with the highest level of urbanization, with the urban population accounting for 57.1% of the total (compared to 55.1% in 1999). The Red River Delta has a level of urbanization that is also relatively high at 29.2% of the population living in urban areas (in 1999 this was 21.1%).

Rapid urbanization along with the process of intensified industrialization are creating important challenges for health care. The increase in the pace of life is a risk factor for mental illness, cardio-vascular disease and other non-communicable diseases. Industrialization increases the risk of contact with agents causing occupational disease. Air and water pollution resulting from rapid increases in capacity utilization of urban infrastructure also threaten the population's health. In addition, the social infrastructure is having difficulty keeping up with the increase in the population, especially supply of clean water, waste disposal, sewage, health care facilities, schools, housing, etc. The need for physical exercise to improve health is increasingly important, while parks and other green spaces are increasingly crowded and in short supply.

3.3. Climate change

Climate change is one of the largest challenges of our age. Climate change includes global warming and rising water levels leading to flooding, drought and other extreme weather phenomena globally, as well as in Vietnam. Climate change does not only threaten to change our lifestyle, but also directly influences the health of the population, environment, biodiversity and water resources.

Vietnam is one of the countries that will be most heavily affected by climate change and increasing water levels. The climate change situation in Vietnam indicates:

Temperature: From 1951 to 2000, the average temperature increased 0.8°C, the negative consequences are changes in the ecological system; increased pressure of temperature on people's bodies and increases in tropical and communicable diseases.

Precipitation: In recent years, the amount of rain has declined in the months of July and August, but increased in the months of September through November. Drizzle in Hanoi has declined gradually from the period 1981-1990, and fallen to only half (15 days per year) over the past 10 years. From 1958-2007, annual rainfall has declined 2%. The consequence is a clear influence on the emergence and development of several disease vectors.

Rising ocean levels: According to the General Meteorological Administration: ocean levels each year have increased about 3 mm. In 1990, ocean levels had increased 5 cm

compared to 1960. The consequence is the creation of conditions amenable for the development of disease vectors [10].

Because of climate change, the increase in dangerous communicable diseases and vector-transmitted diseases threaten the people's health, especially the poor and near poor [11]. Diseases sensitive to climate are among the diseases accounting for the highest share of mortality in the world. Globally, diarrhoea, malaria and malnutrition kill more than 3 million people each year [12]. The warmer weather means an expansion of areas where mosquitoes develop or changes in the migration patterns of birds and other animals. The emergence of SARS, avian influenza A(H5N1), and a large number of unusual events related to dengue fever are occurring in Asia and the resurgence of dengue fever in Vietnam in recent years shows us clear evidence of the impact of climate change.

Besides these issues, natural disasters have an enormous effect on the people's health due to the aftermath, including loss of a source of clean water, food shortages, accidents, injuries and difficult access to health services. A model for ensuring stable health service provision and public health measures during natural disasters needs to be developed and assured.

If Vietnam doesn't have solutions and plans set up now, then climate change will threaten to reverse progress Vietnam has achieved in the fight to prevent and control disease, poverty and hunger in recent years. Climate change also increases the disparities in conditions for health care and health status between the richest and poorest [11].

3.4. Environmental health

Environmental health is one of the issues that attracts the attention of the whole society and creates challenges for the health sector to educate and improve awareness of environmental sanitation and to face environmental related diseases, especially in disadvantaged rural, mountainous, remote and isolated areas.

According to preliminary results of the Population and Housing Census on 01 April, 2009, some 87% of households use water considered clean, 54% of households use sanitary toilet types. The Northern midlands and mountains² have the lowest proportion of households using water from clean sources (61.5%). The proportion of households with sanitary toilets is below 50% in the Northern midlands and mountains (26.1%), North and South Central Coast regions (47.3%), the Central Highlands (46.5%) and the Mekong Delta (42.4%) [2].

Accompanying the ongoing industrialization and urbanization, the problems of urban environmental pollution and air and water pollution in residential areas are becoming increasingly serious, and directly affecting the people's health. Urban air pollution is primarily a result of transportation (70%) because of the overcrowding of cars and motorcycles due to the rapid construction and urbanization [13]. There are all kinds of problems related to acute and chronic disease that are arising due to short-term and long-term exposure to air pollutants. Air pollution is most dangerous for people with respiratory and cardio-vascular disease and the elderly.

The work environment and working conditions have improved considerably, especially since investors and manufacturing facilities imported integrated production line technologies. However, some production facilities still use old, obsolete, and pollution-causing production lines. Some manufacturing facilities treat waste in a manner that does not meet standards, leading to severe environmental pollution in some localities. For small

² Formerly the Northeast and Northwest regions.

enterprises, private enterprises and traditional handicraft enterprises, working conditions are rarely or never monitored. A large flow of migrants from rural to urban areas to earn a living are working in many types of jobs and the working conditions of these people are not ensured, and there are many risk factors for health and disease while there is inadequate assistance from occupational health programmes [13].

3.5. Food safety and hygiene

Unsafe foods may cause food poisoning, acute or chronic disease related to microbes, chemicals and new untested technologies.

In many countries, in the past few decades, there has been a considerable increase in the incidence of disease related to **microbes** transmitted through food like *Salmonella* or *E. coli*. Some new risks are emerging from animal diseases that are crossing over to humans, which are creating new challenges for food safety.

Chemical risks in foodstuffs are still an important cause of disease related to food. Chemicals contaminating foods include natural sources such as fungus, poisonous seafood, environmental pollutants such as mercury and lead, and natural ingredients in plants. Chemicals added to food during processing, agricultural chemicals and veterinary pharmaceuticals are also actively used in the food production chain, but may have negative effects on health.

New technologies, such as genetic techniques, food irradiation and food packaging, may improve food processing and food safety, yet they may also contain inherent risks [14].

The effects of lack of food safety on health include diarrhoea and cancer. WHO estimates that diarrhoea related to food and drinking water kills about 2.2 million people each year, including 1.9 million children.

Incidence of food poisoning in Vietnam is high. According to official data from the National Target Programme on Food safety and hygiene, each year 150-250 incidents of food poisoning are reported with from 3500 to 6500 people affected, killing from 37 to 71 people each year. However, the actual figure is likely to be substantially higher. Currently there are many incidents of food poisoning in institutional kitchens at factories, joint venture enterprises, industrial zones or even at weddings and funerals. Food poisoning related to chemicals, especially chemicals used in agriculture such as plant protection chemicals and food preservatives, account for some 25% of all food poisoning incidents [13].

While food poisoning has declined recently, the dynamics are complicated. The strong development of industry is likely to increase the risk of food poisoning due to the increase in institutional food service establishments serving hundreds of people and large batches of foodstuffs processed using industrial techniques and sold widely. Food poisoning occurs due to many causes, including microbes (7.8%), chemicals (0.5%), natural poisons (25.4%) and other undetermined causes (66.3%). Incidence is concentrated in institutional kitchens, street food, weddings/anniversary of death banquets, while deaths are primarily related to food poisoning from family kitchens [15].

3.6. Lifestyles

Tobacco is the most important preventable cause of death. There is enough evidence to conclude that tobacco is a direct cause of many types of cancer (lung, urinary tract, upper aero-digestive tract, oral cavity, oro- and hypopharynx, oesophagus, larynx, pancreas, nasal cavity and paranasal sinuses, nasopharynx, stomach, liver, kidney, uterine cervix, myeloid leukemia) [16]; four types of cardio-vascular disease (aortic aneurysm, atherosclerosis,

cerebrovascular disease, coronary heart disease); lung diseases (Chronic obstructive pulmonary disease (COPD), pneumonia, reduced lung function of newborns of mothers who smoke, and reduced lung function and other respiratory symptoms of children including asthma, diseases and reduced lung function and respiratory symptoms in adults); reproductive health problems (reduced fecundity, poor fetal development and low birth weight, obstetric complications); and other health problems (cataracts, hip fractures, osteoporosis, stomach ulcers, weakened health leading to inability to work). If we include only the three most dangerous diseases, the share of cases attributed to tobacco is very high: 90% of lung cancer, 75% of COPD, and 25% of coronary heart disease. In addition, there is evidence to suspect but not yet confirm that tobacco is related to many other diseases [17].

Second-hand smoke exposure also causes diseases among people who don't smoke directly [18]. Second-hand smoking can cause many serious diseases such as lung cancer, cardio-vascular disease, respiratory infections, and premature delivery. Non-smokers exposed to second-hand smoke have a 25-30% increase in risk of arterio-vascular disease and 20-30% risk of lung cancer. In children, second-hand smoke exposure can lead to respiratory infections, middle ear infections and sudden infant death syndrome (SIDS).

On average, smokers will die earlier than non-smokers by about 15 years. Some smokers will die in middle age and lose up to 20 years of life expectancy [19]. Globally, each year tobacco kills more than 5 million people. This will increase to more than 8 million people by the year 2020 [19]. If effective measures to control tobacco use are not applied then in the 21st century tobacco will kill 1 billion people globally.

Tobacco consumption in Vietnam has shown an increasing trend: in 1998, smoking prevalence was 50%, by 2002 it had increased to 56%. However more recent data from the VHLSS in 2006 and the 2010 Global tobacco survey both indicate male smoking prevalence falling to 47%, indicating that the trend has recently reversed. About 1.8% of adult women smoke tobacco. Smoking prevalence by age is highest among men aged 25 to 55 years (68 to 72% of this group smoke), and for women aged 55-64 (5.8% of this group smoke). Among 3rd year medical students, 20.7% of males smoke compared to 2.7% of females [20]. Among teachers, 21.5% of male teachers and 1% of female teachers smoke [21]. According to results of the first and second Survey Assessment of Vietnamese Youth (SAVY), the proportion of youth aged 14-25 who have ever smoked in 2009 was 20%, a decline of 2% compared to 2004 (22%). However, it is worth noting that among youth who have ever smoked, the proportion who still smoke has increased between 2004 and 2009 [22].

In Vietnam, it is estimated that annually tobacco kills about 40 000 people. This means that each day more than 100 people are dying from diseases attributed to tobacco use. It is estimated that this figure will increase to about 70 000 people per year by 2030 [23].

Besides the burden of disease and death, tobacco also creates financial burdens. Tobacco creates a huge expenditure for treatment of diseases attributed to tobacco use.

Inappropriate *consumption of alcoholic beverages* has a large impact on health through three channels: intoxication, alcoholism and alcohol poisoning. Alcohol intoxication is related to risky behaviour (e.g. unsafe sex), violence (domestic violence or in the community) and accidents. Alcoholism is associated with regular and prolonged use that leads to disease, mental disorders and social problems. Alcohol poisoning, especially among users of alcohol distilled in a crude manner (accounting for about 80% of the alcohol consumption in Vietnam) [24], is linked to 60 types of diseases and disorders such as congenital birth defects among mothers who use alcohol during pregnancy, damage to brain cells affecting ability to learn, liver diseases, some forms of cancer, reduced immunity, heart

failure among people who over consume. Alcohol is the cause of 3.7% of all deaths and 4.4% of the disease burden in the world. Alcohol creates a burden of disease among men four times higher than among women. The main causes of death related to alcohol are unintentional injuries, heart disease and cancer. As for the disease burden measured in disability adjusted life years (DALY) lost, mental illness related to alcohol accounts for the greatest share [25].

Preliminary results of a study on the burden of disease in Vietnam by the Health Strategy and Policy Institute in collaboration with the University of Queensland, Australia, indicates that mental disorders related to alcohol are among the top 10 diseases accounting for the burden of disease among men in Vietnam.

Alcohol consumption continues to increase. According to the National Health Survey 2001-02, the proportion of men aged 15 and older who drank alcohol was 46%. The proportion drinking alcohol was highest among people with the highest educational attainment: among men with upper secondary and lower levels of education, 40% drink alcohol, while among men with post-secondary education, including both urban and rural areas, this proportion is 60%.

Alcohol consumption among youth is an issue of concern for many countries. Self-control among youth is lower than among adults, so when they are intoxicated, they undertake riskier behaviour such as speeding on a motorcycle, or racing motorcycles, causing accidents, swerving dangerously, fighting, killing, or sexual abuse. According to the SAVY 1 and 2, the proportion of youth who had ever consumed at least one cup of beer or alcohol among youth aged 14-17 in 2004 was 35%, but by 2009, this proportion had increased to 47.5%, and for the group aged 18-21, in 2004 this share was 57.9% and by 2009 it had increased to 66.9% [22].

Nutrition and physical exercise: Diet, including the amount and composition, together with regular physical exercise, play an important role in maintaining, protecting and strengthening health. Inappropriate diet or lack of physical exercise are two main risk factors of hypertension, hyperglycaemia, hyperlipidemia, overweight/obesity, and a risk factor for major chronic diseases like cardio-vascular disease, cancer and diabetes. Evidence from many studies indicates that regular exercise can reduce cholesterol in blood, reduce hypertension, improve body composition by burning fat, facilitate achieving good levels of blood sugar, help to maintain bone density, improve immunity and relieve stress, and reduce the risk of depression. Simply walking regularly can improve the strength of the cardio-pulmonary system, reduce heart disease and stroke, reduce complications of diabetes, muscle and joint pain, hypertension, high cholesterol, help to strengthen bones and improve the ability to maintain balance in the body, increase muscular strength and reduce overweight. According to WHO, every year about 2.7 million people die from eating too few vegetables and fruit, and 1.9 million people die because of a lack of physical exercise.

Vietnam is still facing high child malnutrition rates. Physical activity is still primarily related to the nature of manual labour that consumes many calories. Therefore, overweight and obesity rates remain low. In 2001-02, according to the National Health Survey, the overweight rate in children below age 10 was less than 2%, while in people aged 16 and older, it reached only 12%, with an extremely small share of these cases actually reaching the level of obesity. In general, the current diet of Vietnamese people consists largely of vegetables and fruit, with a low level of fat, making this a strong protection factor for health. However, this situation can change very rapidly, especially among the wealthy, in urban areas, where high calorie foods are readily available.

Vietnam is an agricultural country, with 80% of the population working in active agricultural and manual labour. Participation in physical exercise and sports activities is primarily among young people, the elderly and a few people who have sedentary occupations. According to the National Health Survey, among people aged 15 and older the proportion not getting physical exercise is 65%, among people with sedentary occupations it is 57%. According to the National Health Survey 2001-02, the proportion of people aged 15 and older who actually workout or play sports is 34.9%, with about one half of these people undertaking regular exercise 5 or more times per week.

Narcotics and sex work: Narcotics have many effects that are harmful to health, from risk of infection by bacteria or virus from sharing injection equipment to take drugs, to cancer from smoking marijuana, reduction in immunity, heart disease, congenital birth defects, mental disorders and death from overdose [26]. Sex workers have a high risk of sexually transmitted diseases including HIV/AIDS, and are vulnerable to violence, or pressure on their mental health.

The number of people who use narcotics in Vietnam has increased rapidly in recent years, especially among young people. HIV/AIDS is strongly linked with injecting drug use in Vietnam, and it is estimated that about 56.9% of all people infected with HIV/AIDS were exposed through injecting drugs. The proportion of drug addicts who had sexual relations with sex workers in the past 12 months is estimated at 11% to 48% (depending on the province), indicating a high risk of transmitting HIV from the injecting drug users to sex workers and their sexual partners. Injecting drug use is more prevalent among males (accounting for more than 90% of drug addicts), and young people. Currently 80% of drug users are less than 35 years of age and 52% are below 25 years. According to the Behaviour surveillance survey in 2009, more than half of all injecting drug users are below 30. The proportion HIV positive among injecting drug users has fallen in all areas under surveillance, except for Ho Chi Minh City [27].

3.7. Accidents, injuries and gender violence

Occupational safety, traffic safety, and safe communities are all important factors for protecting the people's health. However, due to a lack of awareness, lack of worker protective devices, and a lack of concern in society, accidents continue to happen on a regular basis.

Accidental injury is one of the main causes of death in Vietnam. According to results of the National Health Survey 2001-02, accidents are the fourth leading cause of death. In 2008, 7370 people were injured and 10 506 people killed in road traffic accidents. Ho Chi Minh City, Binh Duong and Dong Nai provinces are the localities with the highest number of people affected by or killed in traffic accidents (total accidents 411, 358, 322 and total deaths were 954, 437 and 441 respectively) [28].

Poisoning by plant protection chemicals is an emerging problem in recent years, according to provincial statistics in 2006, there were 2504 cases of poisoning by agricultural chemicals and 4943 people affected. There were a total of 155 deaths accounting for 3% of all poisonings [13].

In Vietnam, there is still an attitude of “respect for men and disrespect for women” – which is one of the important reasons leading to the imbalance in the sex ratio at birth.

Violence against women strongly affects their physical and mental health. According to a study by the Vietnam Women's Union, out of all women who have ever been beaten by their husbands, 6% have had to be hospitalized, and 51.8% received bruises that lasted

several days. Beating to cause injury can lead to miscarriage or premature delivery among pregnant women. This is also a leading reason for suicide among women and strongly negatively affects the normal living and studying environment of many children. A study of 883 married women in Ba Vi district of former Ha Tay province indicated that 60.6% of married women suffered at least one form of violence (physical, sexual or psychological) in their life, 30.9% were victims of physical violence, 6.6% of sexual violence and 32.7% of both forms of violence. Among these women 14% were victims of severe physical violence. This study also indicated that low income, low educational attainment of the husband and wife, multiple wives/sexual partners among men, observing violence between one's own parents while a child, are all risk factors leading to domestic violence against women and have a strong negative effect on women's health [29].

Research on violence directed against women in Vietnam indicates that it occurs in both urban and rural areas, in all different socio-economic groups. The survey performed by Vu Manh Loi and colleagues indicated that if one considers all forms of abuse, from physical, verbal, emotional and sexual, then approximately 80% of women have been abused by their husband, from 10 to 25% (from rich to poor families) have ever been beaten, and from 16% to 25% (depending on living standards of the household), have ever been forced to have sex [30].

The role of the health sector is important not only in terms of treatment, monitoring, and providing professional medical support to victims of injuries, but is also important to detect violence early, establish written records, collaborate with local authorities, the Women's Union, and other social organizations to prevent domestic violence [13].

4. Priority issues

1. **Health status disparities:** Rather large disparities in health status across regions, between living standards quintiles, as evidenced by several health indicators such as child mortality rate, child malnutrition rate and maternal mortality ratio.
2. **Perinatal and child mortality and child malnutrition:** Perinatal mortality remains rather high, accounting for 70% of all child deaths below 1 year of age and 50% of all child deaths below 5 years of age. Underweight malnutrition has declined rapidly, but stunting remains prevalent throughout all regions of the country.
3. **Changing morbidity patterns:** Morbidity and mortality patterns are changing, demand for health care is increasing over time. Several communicable diseases are at risk of re-emerging; the prevalence of chronic, non-communicable disease and injuries is increasing day by day; some new epidemics are developing in a complex manner making the evolution of the epidemic difficult to predict.
4. **Non-health factors affecting health:** Risk factors negatively affecting health are on the increase, including environmental pollution, lack of food safety, labour accidents, traffic accidents, spread of disease from increasing international travel and exchange, climate change, lifestyles (smoking, drug addiction, alcohol abuse, unsafe sex), population dynamics.

5. Orientation for solutions

Health status disparities

- Continue to prioritize and strengthen investments in developing the grassroots healthcare system, health services in mountainous, remote, isolated and disadvantaged areas.

- Continue to strengthen and implement effectively solutions to support health care for vulnerable target groups (the poor, near poor, children under age 6, the elderly, ethnic minorities and other social welfare beneficiaries).

Perinatal and child mortality and child malnutrition remain prevalent

- Continue to strengthen investments in National Health Target Programmes for the period 2011-2015, especially programmes related to reproductive health, to strengthen implementation of interventions aimed at reducing maternal mortality, perinatal mortality and child malnutrition (especially stunting).

Changing morbidity patterns

- Develop and implement the Strategy on the Protection, Care and Promotion of the People's Health for the period 2011-2020 with a vision to 2030, the 5-year Health sector plan for 2011-2015 and the Master plan for the healthcare network appropriate for the changing trends in morbidity over the next few years.
- Expand and improve effectiveness of non-communicable disease control interventions.
- Strengthen inter-sectoral and international collaboration to resolve problems of newly emerging diseases.

Non-health factors affecting health

- Prioritize investments in health in general, especially related to preventive medicine and health promotion.
- Strengthen coordination of ministries and sectors involved in developing and implementing long-term environmental health and public health strategies.

Chapter 2: Preventive medicine and primary health care

2010 is the final year of implementation of the “Strategy for the care and protection of the people’s health for the period 2001-2010” according to Prime Ministerial Decision No. 35/2001/QĐ-TTg dated 19 March, 2001. Looking at the totality, after nearly 10 years of implementation, through undertaking multiple solutions in an integrated manner, the health sector in Vietnam has rapidly developed and realized some major achievements. Among the general achievements of the health sector the preventive medicine system has played an important contributory role.

This chapter focuses on assessing the situation, achievements, limitations and weaknesses to be overcome, on the basis of determining priority problems and recommending an orientation for development, tasks and solutions to focus on in the Five-year Health Sector Plan for the period 2011-2015.

1. Concepts

Public health is the science and technique of preventing disease, prolonging life and promoting health through organized efforts and informed choices of society, public and private organizations, communities and individuals. Public health is concerned with threats to the overall health of the community based on population health analysis and is usually divided into a few sub-fields such as epidemiology, biostatistics, health services, environmental and social health, behaviour change communication and occupational health, health economics and health financing. There are two distinct characteristics of public health, these are: it deals with health problems through priority on preventive measures, and it deals with population-level rather than individual-level health issues.

Preventive medicine refers to intervention measures to prevent disease, rather than curing or treating them. In contrast to public health, preventive medicine involves interventions at the individual-level, while public health refers to interventions among specific cohorts, population groups or the entire population. In preventive medicine there are four levels. Primary prevention aims at preventing the development of the disease. Secondary level prevention aims at early detection that increases the chance of early intervention and prevention of further development of the disease. Tertiary prevention is related to reducing the negative impact of the disease by restoring function and reducing disease-related complications. Quaternary prevention refers to the set of health activities that mitigate or avoid the consequences of unnecessary or excessive interventions in the health system.

Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. It forms an integral part both of the country's health system, of which it is the central function and main focus, and of the overall social and economic development of the community. It is the first level of contact of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process [31].

After more than 30 years of implementing the Alma Ata Declaration on healthcare for all and primary health care, many countries have reviewed the situation to reform primary health care implementation in a more appropriate direction in order to meet the goals set out.

The left-hand column in Table 4 shows the characteristics of the primary health care system implemented in Vietnam and other developing countries. The right-hand column shows the orientation for reform of primary health care in the upcoming period. Concepts on reforming primary health care will help us to have a clearer vision on reforms that will be needed to improve the efficiency and effectiveness of the health system.

Table 4: Comparison of characteristics of primary health care in the past and at present.

Primary healthcare in the past	Current concerns for PHC reforms
Extended access to a basic package of health interventions and essential drugs for the rural poor	Transformation and regulation of existing health systems, aiming for universal access and social health protection
Concentration on mother and child health	Dealing with the health of everyone in the community
Focus on a small number of selected diseases, primarily infectious and acute	A comprehensive response to people's expectations and needs, spanning the range of risks and illnesses
Improvement of hygiene, water, sanitation and health education at village level	Promotion of healthier lifestyles and mitigation of the health effects of social and environmental hazards
Simple technology for volunteer, non-professional community health workers	Teams of health workers facilitating access to and appropriate use of technology and medicines
Participation as the mobilization of local resources and health-centre management through local health committees	Institutionalized participation of civil society in policy dialogue and accountability mechanisms
Government-funded and delivered services with a centralized top-down management	Pluralistic health systems operating in a globalized context
Management of growing scarcity and downsizing	Guiding the growth of resources for health towards universal coverage
Bilateral aid and technical assistance	Global solidarity and joint learning
Primary care as the antithesis of the hospital	Primary care as coordinator of a comprehensive response at all levels
PHC is cheap and requires only a modest investment	PHC is not cheap: it requires considerable investment, but it provides better value for money than its alternatives

Source: WHO, *Primary Health Care - Now More than ever. World Health Report 2008* [32].

2. Situation analysis

2.1. Progress and results

2.1.1. The legal framework related to preventive medicine has gradually been refined

Legal regulations related to preventive medicine are gradually being refined, creating a legal basis for the development of the preventive medicine system in all its facets. The major orientation for preventive medicine was determined clearly in Politburo Resolution No. 46/TW dated 23 February, 2005 on “Protection, care and promotion of the people’s health in the new situation”. The Law on control of Communicable disease (2007) and the Law on HIV/AIDS control (2005) together with the Vietnam National Strategy for preventive medicine to the year 2010 and orientation to 2020, and the Vietnam National Strategy for HIV/AIDS control to the year 2010 with a vision to 2020 are gradually being put into operation. In 2008, the National Assembly passed Resolution No. 18/2008/QH12 which included the statement: “...Increase the share of state budget for health each year, ensure that the rate of increase in spending on health each year is higher than the rate of increase in overall spending from the state budget. Reserve at least 30% of the state health budget for preventive medicine...”. Prime Ministerial Decision No. 153/2006/QĐ-TTg, dated 30 June, 2006 approved the Master plan for development of the Vietnamese health system for the period to 2010 and the vision to 2020, which concretized the plan for development of the preventive medicine network. Following this, the Prime Minister approved the “Project to support development of district preventive medicine centres” and the Policy for developing provincial HIV/AIDS centres (Prime Ministerial Decision No. 1402/QĐ-TTg dated 15 October, 2007). The ADB has provided funds for the “Preventive Health System Support” project which includes investments in preventive medicine equipment and training for preventive health staff. To create conditions supporting the work of preventive health staff, commune health workers, and village health workers, the Government is debating a decree to increase the salary supplement for these health workers.

Recently, the “Programme for disease control in state education facilities” (Prime Ministerial Decision No. 401/QĐ-TTg dated 27 March, 2009) was approved by the Prime Minister in order to strengthen school health programmes. The Government has passed several resolutions on implementing the Framework Convention on Tobacco Control, and policies on alcohol, ensuring a sanitary environment, prevention of animal diseases transmission to humans, food safety and hygiene, labour safety, and traffic safety, among others. Many Ministerial and joint ministerial level documents have been issued to provide concrete guidance for implementation of Government policies on preventive medicine.

2.1.2. The preventive medicine network has been strengthened

After many years, Vietnam has developed a widespread preventive health network from the central to local areas, with the ability to effectively implement regular tasks and unplanned interventions in the area of preventive medicine. The preventive health network at the central and provincial levels currently consists of 11 leading research institutes, 63 provincial preventive medicine centres, 60 provincial HIV/AIDS control centres, 23 social disease control centres, 28 malaria control centres, 11 international quarantine and border control centres and 8 labour and environmental health centres. At the grassroots level, the preventive medicine network consists of 679 district preventive medicine centres, more than 11 000 commune/ward, school, enterprise health stations, more than 100 000 village health workers and other collaborators active in preventive medicine at the community level [33].

The preventive medicine network also includes the participation and collaboration of the military preventive medicine units and other armed forces located throughout the country.

With a large preventive medicine workforce and active participation from the community, the preventive medicine network is continuing to play an active role in the protection, care and promotion of the people's health in the new situation.

2.1.3. Primary health care work is maintained and further developed

After more than 30 years since the Alma Ata Declaration (1978), primary healthcare in Vietnam has been maintained in a sustainable manner, and further deepened with improved quality. National health target programmes have been implemented effectively on a large scale. In the period 2006-2010, there were four national target programmes including the National Food Safety Programme, the National Water and Sanitation Programme the Population and Family Planning Programme, and the National Target Programme for control of social diseases, dangerous epidemics and HIV/AIDS. Within the latter programme there are 13 projects including: malaria control, TB control, leprosy control, child malnutrition control, dengue fever control, HIV/AIDS control, expanded programme on immunization, reproductive health, community mental health, hypertension control, cancer control, diabetes control and military–civilian medical cooperation.

By 2006, the child malnutrition project covered 100% of communes/wards throughout the country. The malaria project covered 90-91% of all communes/wards, the TB project covered 100%, the leprosy project covered 99.6%, the dengue fever project covered 91%, iodine deficiency disorders project covered 93.2%, the food safety programme covered 100% of all provinces, 86% of all districts and 55% of all communes throughout the country. The community mental health project covered all 65 provinces, but only 66.5% of all communes/wards in the country.

Coverage by the expanded programme on immunization achieved high rates [34]. In 2008, the proportion of children under 1 who were fully immunized under the expanded programme on immunization was 93.9%, including 93.9% of children receiving the BCG vaccine against TB, 95.7% taking the polio vaccine, 95.6% immunized against diphtheria, pertussis and tetanus, 95.6% immunized against measles. Coverage by the expanded programme on immunization between different regions showed no substantial disparities: 93.9% of children in the Red River Delta, 93.7% in the Northeast, 95.1% in the Northwest, 94.8% in the North Central Coast, 95% in the South Central Coast, 95.6% in the Central Highlands, 94.4% in the Mekong Delta and 91.1% in the Southeast [28].

The effectiveness of national health target programmes in recent years is evident in the reductions in the incidence and mortality from vaccine-preventable diseases and dangerous communicable disease outbreaks, and early detection of disease in the community to treat or manage in a timely fashion. In upcoming years, there is a great need to continue implementation of new national target programmes, especially for non-communicable diseases, accidents and injuries.

Strengthening and refining the grassroots health network is a major policy orientation of Vietnam, to help the people, especially the poor, access health services more easily and conveniently. Primary health care activities are in need of a growing workforce of health workers, not only in preventive medicine, but also in curative care. Inter-sectoral collaboration in control of epidemics, implementing national health target programmes, has been improving. Equity and efficiency are cross-cutting principles for health service provision, especially for preventive medicine services. The primary health care perspective of “health for all” is transforming itself into “Everyone for health” [35].

Information, education, communication (IEC) work has been promoted in all localities through mass media (radio, television, newspapers), health clubs, direct communication methods, health programmes, health advising services, web pages of the private sector and government. The IEC system in the health sector has been established and is operating effectively. Thanks to these developments, information is reaching the people more easily, more rapidly, more accurately and is contributing to changing in a positive direction the awareness, attitudes and behaviour of the people towards protection, promotion of health and prevention of disease.

2.1.4. Scientific research and applications of technology and techniques in preventive medicine have shown substantial achievements

Vietnam has successfully developed 9 out of 10 vaccines in the expanded programme on immunizations, of these 7 out of 10 meet 100% of national need. Research to transfer biological technology for production of vaccines, biological products, virus and bacteria typing, application of communicable disease prevention models, molecular biology, vector control, etc. have improved the quality and effectiveness of the prevention of epidemic diseases.

Many scientific research studies in different fields of preventive medicine have been implemented, contributing in a practical way to policy-making and intervention solutions to protect, care for and promote the people's health in the community and improve technical capacity for monitoring epidemics and environmental pollutants [36].

2.1.5. Control of communicable diseases has been strengthened, allowing for timely detection, control and resolution of outbreaks to prevent major epidemics

Border quarantine activities have been implemented in almost all border posts, international airports and seaports. Medical control for immigration has been strengthened, contributing to preventing dangerous epidemics from spreading. In 2009, border quarantine services covered 100% of people entering the country (4.25 million visits), checked 6210 ships, 7215 airplanes, 209 104 buses/cars, 2450 trains (an increase of 10% compared to 2008) [37]. In 2010, the Government issued Decree No. 103/2010/ND-CP detailing implementation of some articles in the Law on Infectious Disease Control related to border quarantine activities.

HIV/AIDS control has been strongly implemented, especially in areas with high prevalence, and among key populations at higher risk. The programme has strengthened IEC, testing to confirm infection, prevention of mother-to-child transmission, expanded methadone use to replace opioid use, and other disease mitigation measures with good results. The HIV/AIDS control programme is expanding treatment to many more infected individuals to extend life expectancy, reduce opportunistic infection, while reducing the viral load which helps to prevent transmission of the virus.

Donors from many nations and international organizations have directly funded support in preventive medicine, especially in HIV/AIDS control, pandemic influenza A (H1N1) and avian influenza A (H5N1) control, provision of clean water and sanitation, tobacco control, agent orange harm reduction, etc.

According to a 2009 assessment by the Ministry of Health's Administration of Preventive Medicine, preventive medicine and epidemic control has achieved 48 out of 50 goals. The two remaining unmet goals are to build legal documents and limit dengue fever incidence [38]. In 2010, the Government issued Decree No. 101/2010/ND-CP detailing implementation of measures in the Law on Infectious Disease Control related to methods of

medical isolation, forced isolation for medical reasons and special epidemic control activities during periods of outbreaks.

2.1.6. Food hygiene and safety has been strengthened

Many policies and solutions for food hygiene and safety have been heatedly discussed in meetings of the National Assembly and Government. Many activities to ensure food hygiene and safety have been strengthened and deepened. Many problems have been detected in the manufacture, processing, circulation of spoiled food, food beyond expiration date, fake goods, poor quality goods, and those contaminated by dangerous chemicals. Over 9 years (2000-2008) there were more than 1800 food poisoning incidents recorded, almost 50 000 cases of food poisoning and nearly 500 deaths due to food poisoning. Collaboration between the health sector and other sectors in controlling food safety is increasingly tight, bringing with it greater effectiveness [39]. In 2010, the Ministry of Health issued 20 technical standards on food safety and is currently drafting decrees, circulars and strategies for implementing the Law on Food Safety.

2.1.7. Accident and injury prevention and non-communicable disease control have been widely implemented

Accident and injury prevention, and non-communicable disease control (hypertension, diabetes, cancer, cardio-vascular disease, depression, obesity, etc.) increasingly attract the attention and participation of communities. School health programmes are gradually being re-established and developed. Some health programmes (school dentist, control of myopia and scoliosis, and construction of school toilets, etc.) have been and are increasingly being brought into schools, with initial positive results for the protection of school children's health. In 2009, 28.5% of schools had school health workers; 33.8% of schools had organized health checkups for school pupils.

Occupational health care and protection, prevention of occupational disease and work accidents activities are being intensified. The number of samples tested to check the work environment each year has increased 5 to 10%. The proportion of workers who have had periodic health checkups and examinations for occupational disease has increased 50% since 2000. Activities to develop clean, green, beautiful production facilities, healthy workplaces, communication and training on labour safety and hygiene, and developing safe communities have been strongly promoted and achieved many good results.

WHO has ranked tobacco 2nd out of the top 10 risk factors threatening the health of people in developing countries. With a clear awareness of the multi-faceted harm of tobacco, Vietnam has ratified the WHO Framework Convention on Tobacco Control. In 2000, the Vietnamese Government issued Resolution No. 12/NQ-CP on the National Tobacco Control Policy for the period 2000-2010. The Draft Tobacco Control Law is being revised to present to the National Assembly for discussion and eventually approval in 2011. Methods including increasing taxes, package warnings, fines for smoking in public places, communication on the harm of tobacco, and limits on sales of tobacco products to youth are currently being implemented on a wide-scale. Tobacco control is considered as the most important solution to protect the health of young and working people in Vietnam for the first decades of the 21st century.

Lifestyle risk factors related to non-communicable diseases such as alcohol abuse, fatty and sugary diets, lack of physical exercise, etc. are being studied to develop appropriate programmes aimed at reducing the risk of non-communicable diseases.

2.8. Environmental health has seen some progress

In 2010, the Ministry of Health established the Environmental Health Management Administration (Decision No. 1278/2010/QĐ-BYT) and allocated responsibility for environment health, including environmental health facilities in the workplace, prevention of accidents and injuries, prevention of the effects of climate change, etc.

Environmental health work is being strongly implemented in all localities through national target programmes on clean water and sanitation by the Ministry of Agriculture and Rural Development. To date, over 75% of the rural population has access to clean water and from 40 to 60% have sanitary toilets (depending on the definition). Water quality is monitored by the health sector and is steadily improving.

Treatment of medical waste has seen some important steps forward. In 2005, the total solid medical waste amounted to 300 tons per day, of which 40 tons was considered hazardous medical waste. In 2010, the figures are 500 tons per day of which 60-70 tons per day are hazardous medical waste. Sorting of medical waste has been implemented in 100% of hospitals, 73.3% of hospitals treat solid waste through incineration on site or after consolidation at another facility, 17% of preventive medicine centres use small-scale incinerators to treat medical solid waste and 39% have contracts with hospitals to perform incineration. In 2008, some 37% of hospitals operated sewage treatment facilities and this has increased to 42% by 2009. Sewage treatment at preventive medicine facilities and commune health stations is now being piloted [40].

During the first decade of the 21st century, substantial changes in climate and weather have occurred. The preventive medicine sector has coped in a timely manner with the effects of typhoons, flash floods, inundations, drought, etc. to protect the people's health, and limit pollution of the living environment. In this way, illness and accidents have been controlled, epidemics have been averted, and people's lives have been quickly stabilized after natural disasters [41].

2.2. Difficulties and challenges

2.2.1. Awareness among the majority of people of the need to take action to protect and promote health, prevent disease, and develop healthy lifestyles remains limited

The ability to access health information and education varies according to locality, ethnicity, custom and habit, educational level, living standards, working and living conditions. In some localities, backward customs and practices are even harmful to health.

IEC campaigns have focused on specific health topics such as harm from tobacco, alcohol and narcotic use, diet, child nutrition and feeding, pregnancy care, safer sex, accident and injury prevention, but have yet to have a particularly strong impact on the target groups.

There is not yet an IEC campaign at a national level with clear impact evaluation indicators to evaluate effectiveness. Methods of IEC implemented at the community level in some localities are inappropriate and inflexible. Some localities, units, agencies and enterprises have not yet paid much attention to investing in health IEC activities for their constituencies, and have not yet created strong campaigns for maintaining hygiene and protecting health.

Vietnam's population is also ageing [42]. The increase in the number of elderly people in the population will be accompanied by an increase in non-communicable diseases among the elderly such as cardio-vascular disease, diabetes, cancer, mental disorders, joint and bone diseases, and endocrinological disorders. There is a clear need for a National

Programme for healthcare of the elderly for the period 2010-2020, aimed at promoting health, managing disease and preventing more severe illness among the elderly.

Coverage of healthcare activities, prevention of accidents and injuries, and control of school-age diseases is still low, and the quality is not yet high enough; there are still many difficulties and constraints to maintaining and developing model school health programmes to protect the health of school children.

2.2.2. Increasing trend in risk factors in the community

Communicable diseases that cause epidemics have complex dynamics and are hard to forecast. Many communicable diseases are at risk of resurgence such as TB, dengue fever, malaria, cholera, dysentery, typhoid, and viral encephalitis. Newly emerging diseases are appearing that are hard to detect and treat, and have the risk of leading to a pandemic such as SARS, influenza A (H5N1) or HIV/AIDS. There is a risk of diseases from overseas, such as Bovine Spongiform Encephalopathy (BSE), Ebola, yellow fever, invading Vietnam and causing outbreaks [43].

There are still many shortcomings in providing clean, safe water in adequate quantities and quality. Hygienic waste treatment of faecal matter, garbage, and waste water in rural areas, mountainous and insular areas still face many difficulties. The consequence is high prevalence of helminths, diarrhoea and child malnutrition.

Environmental pollution of the air and water continues to increase due to traffic, industry and urbanization. Household solid waste and hazardous waste (including medical hazardous waste) are not yet well treated. Harm to people's health from air pollution has not yet been adequately monitored or regularly assessed in order to provide evidence for action to reduce the risks threatening people's health.

Typhoons, floods, flash floods, tidal surges, drought, landslides, and forest fires are natural disasters that occur frequently, suddenly, and cause upheaval for many people's lives, lead to injuries and create opportunities for diseases to break out. The effects of climate change on the people's health are becoming increasingly clear and severe, especially in coastal and island areas.

The work environment has not yet been improved to the desired level. Many production facilities violate labour hygiene and safety regulations, with labour accidents and occupational disease having an upward trend. Healthcare for workers and establishing safe workplaces are not yet a major concern of most enterprises. Assessments of the impact of dangerous work environments on the health of workers and residential areas have yet to be satisfactorily performed. Many workers have not yet received adequate healthcare, and are at substantial risk of occupational disease and labour accidents in the workplace.

The traffic environment is a major concern of the Government and many strong measures such as mandatory helmet use and heavy fines for violations of the traffic law have been put in place. Nevertheless, because of low awareness by many of the people who participate in the traffic, poor road infrastructure conditions, and the continued high prevalence of drunk drivers, etc. many traffic accidents still occur, stealing the lives of too many people every year.

The need to monitor and detect the risk factors to health in the community and epidemic diseases is an increasingly urgent issue. Coping with natural disasters and epidemics in terms of protecting the people's health will require more active and thorough preparations.

2.2.3. Increase in diseases related to individual behaviour and lifestyle

Along with increases in life expectancy, industrialization and modernization that are occurring, life for a large part of the population is improving substantially, but the prevalence of non-communicable diseases such as hypertension, cardio-vascular disease, diabetes, cancer, depression, and obesity are also increasing [39].

Although there are many policies to control social vices, narcotics, sex work, and domestic violence have not yet declined as rapidly as desired. Measures to reduce harm are being applied, but have not yet adequately covered the population.

Smoking prevalence among men is still very high, because they are unaware of the harm due to diseases attributed to tobacco smoking, which tend to appear 20-30 years after starting smoking. The risk of cancer, cardio-vascular disease, and lung disease related to tobacco use in the future is very high. The understanding on the part of the population related to the harm of tobacco use is inadequate, methods to support people to quit smoking (such as nicotine replacement therapy), barriers to ease of smoking (high taxes, non-smoking areas in public spaces), or to increase knowledge of the harm of tobacco use (effective IEC, graphic warnings printed on tobacco packaging) are still insufficiently implemented.

Alcohol abuse is related to accidents and disease. Negative effects on health among alcohol consumers and alcoholics are widespread and serious. Although in recent years, traffic safety has begun to be a concern including prevention of traffic accidents caused by drunk drivers, and the Law on Domestic Violence contains articles related to alcoholic rehabilitation in order to reduce abuse, there are still no clear strategies or comprehensive policies to prevent harm from alcohol abuse, and current measures have yet to be applied nationally.

2.2.4. Development of policies, legal documents and leadership to implement policies has not been as effective as desired

Some policies and regulations related to preventive medicine need to be amended, revised and operationalized to ensure effective implementation, such as guiding regulations for implementation of the Law on control of communicable disease; policies related to ensuring food hygiene and safety; environmental health, tobacco control, preventive interventions for the Law on the Elderly, the Law for People with Disabilities, the Domestic Violence Law, etc. There is a need for a monitoring mechanism to support implementing policies that have been issued and target programmes in the community; policies and measures to strengthen the organization of preventive medicine at all levels, and strengthening capacity and reforming remuneration for workers in the field of preventive medicine.

Leaders in some localities have yet to pay much attention to preventive medicine or provide adequate funding for preventive medicine activities in the locality. Capacity of preventive medicine centres at the provincial level are often limited in terms of financial resources, human resources, planning, equipment and materials, and supportive supervision for lower levels on technical issues. Health workers in commune health stations and village health workers do not realise their potential for preventive medicine activities in the community. Support and supervision in the process of implementation is not yet at the desired level. Quality of information is poor, with reports often being incomplete and inaccurate.

2.2.5. Preventive medicine system is facing problems and inter-sectoral coordination is not yet meeting its potential

The preventive medicine network at the provincial level is fragmented, the district level has not yet been strengthened, the commune and village levels have not yet been consolidated, while tasks and responsibilities assigned for preventive medicine are increasingly heavy and complex. The border quarantine system, although it has operated effectively, still lacks quality staff and equipment.

The preventive medicine workforce is short on people and does not yet have high quality (staffing at the central level meets only 77% of need, at the provincial level only 54% and at the district level only 41.6%). The remuneration policy does not yet provide a reasonable preferential bonus for preventive medicine staff, leading to frustration on the part of many preventive medicine workers who have worked long-term in this field, and is leading to difficulties in attracting students and young health workers to specialize in preventive medicine [36].

Infrastructure for the preventive medicine system has gradually been upgraded, and medical equipment has been renovated, yet it still does not meet demand. At the provincial level, 80% of Preventive medicine centres need to be upgraded, repaired or rebuilt. At the district level almost all districts are lacking an independent physical facility to work in, and most lack equipment. The share of the budget spent on preventive medicine fluctuates over the years, but the latest figure for 2007 indicates that it accounts for about 28% of total state budget health spending, while Resolution No. 18/2008/QH12 of the National Assembly recommends that it should reach at least 30%.

The relationship between the preventive medicine system and other sectors and social organizations in localities is not yet tight or regular, influencing the quality and effectiveness of primary health care and health promotion. Some leaders in different levels do not yet see the importance of preventive medicine in the care, protection and promotion of the people's health, and have not yet made appropriate levels of investment in preventive medicine.

3. Priority issues

Among the limitations and weaknesses mentioned regarding preventive medicine, three priorities can be identified requiring resolution in the upcoming 5-year plan, those are:

3.1. Awareness of the people and of government officials on protection and promotion of health remains weak

If awareness and behaviour of the people and government officials at all levels regarding disease prevention, health protection and promotion is not improved, then it will be difficult to meet the goals of preventive medicine. Thus, preventive medicine activities must focus on improving awareness and behaviour of the people and government officials about the need to protect and promote the people's health.

3.2. Risk factors for health related to environment and lifestyle have not yet been controlled

Because of industrialization, modernization and international integration, many risk factors for health such as environmental pollution, lack of food safety and hygiene, labour and traffic accidents, spread of disease due to expanding international interactions, climate change, expansion of unhealthy lifestyles (smoking, alcohol use, inappropriate diet, unsafe sex, low physical activity, stress in family life and society, etc.) are appearing and increasing.

These problems must be resolved through interventions in the community. Preventing and minimizing the effect of these risk factors is considered a top priority of public health in the long-term, as well as in the immediate future. Interventions are necessary to change behaviour and create conditions for the people to make appropriate choices for protecting and promoting their health and preventing disease.

3.3. Preventive medicine organization and inter-sectoral coordination mechanisms are not meeting the potential to prevent disease and promote health

The organization, human resources and operating mechanisms of the preventive medicine system are not yet in line with the demands of the diverse and complex responsibilities and tasks of the preventive medicine work in the new situation. Thus it is necessary to consider this one of the priorities, and a precondition for developing preventive medicine in the upcoming years.

4. Recommendations

To gradually resolve the priority problems in provision of preventive medicine services, the report recommends the following groups of solutions below (see details in Chapter 11):

4.1. Actively control outbreaks, avert large epidemics

4.2. Strengthen implementation of programmes to control non-communicable disease

4.3. Strengthen information, education and communication (IEC) on health

Chapter 3: Medical examination and treatment

This chapter gives an overview of the situation, provides a summary analysis of the main problems in providing and using curative care services, and on that basis proposes priority issues and recommendations for solutions to improve service delivery for examination and treatment services in Vietnam.

Health service delivery is considered a main function of the health system, and has a coordinating role for activities of the entire health system. According to the World Health Organization, “good health services are those which deliver effective, safe, good quality, personal and non-personal care to those that need it, when needed, and with minimal waste” [1]. On that basis, the analytical framework of this chapter focuses on the main contents below:

- Organization and provision of examination and treatment services
- Access and utilization of medical examination and treatment services
- Managing quality of medical examination and treatment services
- Hospital management.

1. Policies on medical examination and treatment

The reform process in Vietnam’s health sector over the past 20 years began with reforms in policies related directly to provision of health services in general and examination and treatment services in particular, that is the policy of partial user fees (1989), the Ordinance on private medical and pharmaceutical practice (1993 and further revised in 2003), the health insurance policy (1992), and policy of exemptions and reductions in user fees for the poor, ethnic minorities and several other social welfare beneficiaries.

More recently, several strategic documents that provide an orientation for the health sector, including for medical examination and treatment, have been issued by the Party and Government, such as: Politburo Resolution No. 46-NQ/TW on 23 February, 2005 on protection, care and promotion of the people’s health in the new situation; Prime Ministerial Decision No. 153/QĐ-TTĐ dated 30 June, 2006 approving the Master Plan for Development of the Health System in Vietnam for the period ending in 2010 with a vision to the year 2020; Prime Ministerial Decision No. 30/2008/QĐ-TTĐ dated 22 February 2008 approving the Master Plan for Development of the Medical Examination and Treatment Network to the year 2010 with a vision to the year 2020; Health Insurance Law 2008; Law on Examination and Treatment (2009); Government Resolution No. 05/2005/NQ-CP, Decree No. 10/2002/ND-CP, Decree No. 43/2006/ND-CP and Decree No. 69/2008/ND-CP on implementing social mobilization and autonomy to government social service providers. These legal documents have had a major impact on the operating mechanisms of medical examination and treatment service providers.

The Law on Examination and Treatment sets out the rights and responsibilities of the patient, medical practitioner and medical facility; conditions to allow someone to practice medicine or to license a facility; technical/professional regulations; application of new technology and methods for examination and treatment; medical error and resolution of patient complaints; and conditions to ensure effective examination and treatment.

The Health Insurance Law regulates the health insurance mechanism and policies, including organization of examination and treatment for people who participate in health

insurance; reimbursements of medical examination and treatment costs by health insurance; and the rights and responsibilities of all stakeholders involved in health insurance.

The driving perspective is that reform and refinement of the medical examination and treatment network should be towards equity, efficiency and development, appropriate with the socio-economic development conditions of the country, improving quality of services to be on a par with advanced nations in the region, and to satisfy medical examination and treatment needs of the people. In summary, some major orientations on medical examination and treatment services are as follows:

- Ensure rational and balanced development between general and specialized hospitals, develop broad-based general health care combined with specialized care when needed, and combine modern medicine with traditional medicine.
- Ensure the systematic nature and continuity of care across all levels of the system.
- Reform the hospital financing mechanism, improve efficiency of activities. Implement policies to support welfare policy beneficiaries and the poor to use medical services.
- Increase state budget spending for health, develop towards universal health insurance coverage, and combine this with social mobilization for health care activities.
- Strengthen quality assurance for medical services following Ministry of Health regulations, develop service quality accreditation systems for all medical facilities.
- Comprehensively reform the management, administrative, financing, and human resource mechanisms in all hospitals to promote initiative taking and innovation of facilities in the process of mobilizing, managing and using resources effectively.
- Implement autonomization in all public examination and treatment facilities, along with the roadmap to expand health insurance and eventually achieve universal health insurance coverage.

2. Situation analysis

2.1. Progress and results

2.1.1. Organization and provision of examination and treatment services

The organizational model for the curative care network has a strong impact on the equity and efficiency of the health system. When discussing the organization of health service delivery it is necessary to consider the availability of all types of health facilities in the public and non-public sectors, the roles and functions of each level of the system, the referral system, and integration between preventive care and curative care between all levels of the system.

A curative care network developed to satisfy the needs of the people

Organization of the curative care service delivery network has been strengthened in its orientation towards equity, efficiency and service quality improvement. The network of curative care services in Vietnam includes both public and non-public sectors, including many different types of facilities such as general hospitals, specialist hospitals, traditional medicine hospitals, rehabilitation hospitals, regional polyclinics, commune health stations, sectoral health centres and employer-sponsored health centres (Table 5).

According to the Health Statistics Yearbook of the Ministry of Health in 2008, there were 44 state curative care facilities at the central level managed by the Ministry of Health.

Facilities managed by various localities consisted of 383 provincial level facilities, 1366 district level facilities and 10 866 commune level facilities. Among health facilities of different sectors (post and communication, transportation, agriculture, etc.) there are 47 medical facilities receiving state subsidies and 717 sectoral facilities operating with funding from their own sector. In terms of hospitals, there are 774 general hospitals and 236 specialist hospitals.

Table 5: State medical facilities, 2002–2008

Year	State facilities by type						Sector		Total
	General and specialist hosp.	Trad. Med. hosp.	Rehab. Hosp. and lepro-sariums	Clinics and health centres	Maternity clinics	Health stations	Health sector	Other sectors	
2002	770	43	72	988	78	11 103	12 163	891	13 054
2003	818	45	71	930	76	11 161	12 242	860	13 101
2004	831	46	68	1033	31	11 357	12 525	841	13 366
2005	833	46	88	953	28	11 389	12 517	820	13 337
2006	854	49	88	955	29	11 458	12 622	811	13 433
2007	905	48	57	861	24	11 544	12 673	766	13 439
2008	910	51	67	802	17	11 576	12 659	764	13 423

Source: Health Statistics Yearbooks, various years

Grassroots healthcare consists of the district, commune and village levels and has been identified as a priority because it is the level of care closest to the people, and is easiest to access in terms of finance and geography. All provinces have provincial general and specialist hospitals. Almost all districts have district general hospitals and some areas also have regional polyclinics or regional maternity clinics. There are a total of 10 866 commune health stations covering 98.6% of all communes/wards throughout the country. Health workers are operating in 99 409 villages throughout the country accounting for 84.4% of all villages.

The number of treatment beds by level of care in the state medical system managed by the health sector is presented in Figure 9 (also including commune health stations). According to the data for 2008, commune health station beds account for 22% of the total, compared to 29% for district hospital beds, 41% for provincial hospitals and 8% for central facilities. Besides medical facilities managed by the health sector, there are also 5180 beds for which the state budget supplies funding through other sectors and 710 self-funded beds.

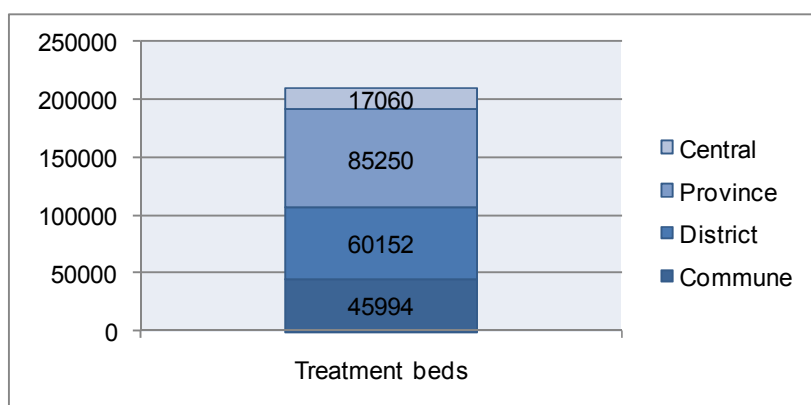


Figure 9: Number of beds by level of public facility, 2008

Source: Health Statistics Yearbook, 2008

One basic indicator to assess availability of medical services is the number of beds per 10 000 population (not including commune health station beds). Since 2002, the number of beds per 10 000 people has been increasing (Figure 10). By 2010 this indicator had reached 20.5 beds/10 000 people [44], higher than the average in other low-income countries (12) and middle income countries (16), higher than Indonesia (6), the Philippines (13), Malaysia (18), yet still slightly lower than Thailand (22) and China (22) [45].

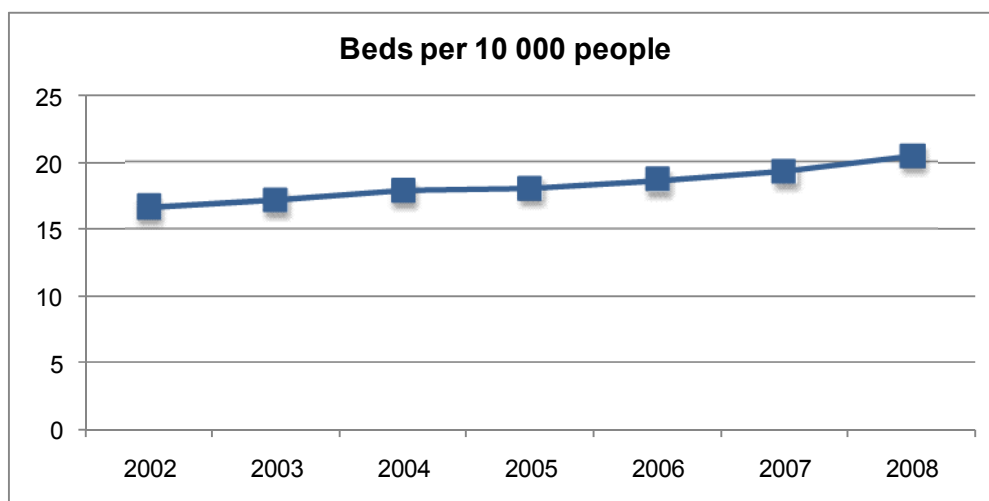


Figure 10: Number of beds (not including CHS) per 10 000 population, 2002-2008

Source: Health Statistics Yearbook, various years

Regarding medical services in localities (not including central level hospitals) the number of beds per 10 000 people and number of medical workers per 10 000 people in each region are presented in Table 6. In general, in the northern mountainous region, where there are great economic difficulties, the number of beds and number of medical workers per 10 000 people is quite high (because of low population density).

Table 6: Availability of curative care services by region, 2008

	Hospital beds /10 000 people	Medical workers / 10 000 people
Total	16.9	28.6
Red River Delta	15.5	23.3
Northeast	18.4	32.2
Northwest	19.4	38.0
North Central Coast	14.3	24.9
South Central Coast	17.0	26.9
Central Highlands	13.9	27.1
Southeast	23.4	29.2
Mekong River Delta	14.3	22.8

Note: This table does not include the central level facilities

Source: Health Statistics Yearbook, 2008

The private medical sector continues to develop and contribute to medical service provision. According to reports from the Medical Services Administration, up to 2009, nationwide there were more than 30 000 private health facilities, with more than 100 private hospitals containing more than 6000 hospital beds (accounting for 3.6% of all hospital beds throughout the country), 300 regional polyclinics, 87 maternity clinics, with the remainder being specialist clinics and general health services [46].

Traditional medicine

Traditional medicine has been identified as playing an important role in the health care of the people. In 2003, the Prime Minister approved the National Policy on Traditional Medicine to the year 2010 and the Strategy for Development of Traditional medicine (222/2003/QĐ-TTg). In terms of the driving perspective, the Strategy identified traditional medicine as a cultural heritage of the people with the important role and potential for providing health care and protection for the people, and therefore in need of a greater focus to learn from the past, and preserve and further develop this heritage [47]. The main goal is to learn, preserve and further develop traditional medicine, combined with modern medicine, in the care and protection of the people's health; develop a Vietnamese medico-pharmaco foundation that is modern, scientific, based on local traditions and readily available to all. In 2007, the Ministry of Health issued Directive 05/2007/CT-BYT on strengthening traditional medicine and pharmacy to overcome difficulties in implementing the Strategy and Policy of traditional medicine.

Implementing the Traditional medicine strategy and policy in recent years has helped to expand the network of traditional medicine providers. By 2009, the entire country had 58 hospitals specializing in traditional medicine, 75.4% of all provincial general hospitals and 38.3% of all district hospitals had a traditional medicine ward and 10 873 private facilities provided traditional medicine services. At the Commune level, 79.3% of all commune health stations had a medicinal herb garden, 76.2% of commune health stations provided medical services using traditional medicine techniques. In 2009, the proportion of people who received treatment using traditional medicine techniques at the provincial level was 7.2%, at the district level 5.8%, and at the commune level 20.6%; inpatient treatment using traditional

medicine or traditional combined with modern methods accounted for 14.1% of all admissions, and 19.7% of all outpatient visits were treated using traditional medicine [48].

Rehabilitation

Rehabilitation and nursing are part of the four main tasks of the health sector. The proportion of the population with disabilities in Vietnam is relatively high. According to WHO estimates, Vietnam has more than 6 million people with disabilities, of which about 2 million are children. The number of people permanently affected by accidents, strokes, or other diseases that require rehabilitation services is increasing.

The Master Plan for the curative care network (Prime Ministerial Decision No. 30/2008/QĐ-TTg) includes the goal of transforming nursing-rehabilitation facilities in the health sector into rehabilitation hospitals and by 2020, for all provinces to have rehabilitation hospitals. By 2008, the health sector had 35 rehabilitation hospitals, other sectors subsidized 9 facilities and there were 5 other sectoral facilities that operated independently. In recent years, the network of rehabilitation hospitals has benefitted from upgrading investments.

In order to expand access to rehabilitation services, the Ministry of Health issued Circular No. 11/2009/TT-BYT dated 14 August, 2009 clarifying the list of rehabilitation services and average length of treatment for some diseases and disease groups that would be reimbursed by health insurance.

Mental health care

In the past in Vietnam, concern for mental illness was primarily focused on schizophrenia. Currently, the National Target Programme on control of social diseases, dangerous epidemics and HIV/AIDS for the period 2006-2010 includes a project on community-based mental health with the goal of implementing a model that integrates community mental health into the commune health station; detects and manages treatment in the community for 50% of mentally ill patients (schizophrenia, depression, and the neurological disease epilepsy); stabilizes treatment for 70% of mentally ill patients; and assists patients to assimilate back into their families and the community. In 2008, this project provided treatment to 174 898 schizophrenic patients in the community.

Service provision capacity

The capacity for provision of primary health care services has also been strengthened as is evidenced by the indicator of the proportion of communes that meet national commune health benchmarks. The commune health benchmarks include 10 groups of standards, assessing many different aspects of commune health stations including human resources, medical equipment, services provided, etc. In 2006, 38.5% of communes met these benchmarks. By 2010, this share had risen to nearly 80%.

Hospitals have also improved their capacity for service provision. In 2009, the health sector performed more than 2 million surgeries (type 3 and above), an increase of 8% compared to 2008 [46]. The number of “special” surgeries was 121 266 (an increase of 22% compared to 2008), the number of type 1 surgeries was 564 810 (an increase of 12.8% compared to 2008). Many advanced techniques, on a par with other countries in the region, have begun to be implemented on a regular basis, including 42 kidney transplants (double the number in 2008), 26 corneal transplants, 20 stem cell transplants, 1 liver transplant. The total number of new clinical techniques performed in hospitals reached 3062 (an increase of 27.3%), the total number of new paraclinical techniques performed was 2481 (an increase of 52.2%). The rotation of health workers and transfer of technology to lower levels of the system have been effective, with many provincial hospitals now able to perform complex

surgeries, while previously these cases had to be referred to higher levels, for example phaco surgery for cataracts, endoscopic surgery, open heart surgery, etc.

Referral system

In order to strengthen the effectiveness of the referral system, the Ministry of Health developed and issued a list of services and the level of medical facility that should be capable of performing those services (hereafter called the referral guide). In 2010, the Medical Service Administration has revised the referral guide and is seeking feedback. This referral guide is the basis for the development of the referral system. Investment projects to purchase medical equipment, train medical workers and rotate health workers from higher level to lower level facilities are all measures to strengthen the capacity for medical examination and treatment of lower level facilities in line with the lists of services provided by different levels of the system and reducing the need for referring patients.

To implement the Health Insurance Law (2008), the Ministry of Health has issued Circular No. 10/2009/TT-BYT dated 14 August, 2009 guiding registration of the first point of care for insured patients. Co-payments have been set higher for patients who bypass their registered point of care to encourage people to follow the referral system. In the Project for reforming the financial and operational mechanism, a proposal is being made for user fees at higher levels to be set at higher levels to encourage people to seek care at the most appropriate level of the system.

Integrated care and continuity of care

An integrated model in healthcare is the general global trend. The various subsectors being integrated is diverse, and aimed at ensuring comprehensive health care for the people. Examples of models include integration of preventive medicine into primary health care, or for non-communicable disease patients there is a need to integrate across levels of treatment facilities in order to reduce costs for the patient, yet to continue careful management of the patient's condition and treatment to avoid the need for hospital admission. There is also the need to integrate between health work and social work, especially for the poor and people with low educational levels. Some programmes have been designed with the objective of integration from the start, while others need to be considered for integration in order to operate more efficiently, for example the national health target programmes.

Integrated models of care are being expanded to management of chronic disease, treatment combined with prevention of complications and adverse events, such as ARV treatment of people with HIV/AIDS that includes programmes for prevention of opportunistic infection, or diabetes programmes that combine treatment with guidelines for appropriate diet and exercise regimes.

As awareness of the need for integrated care is increasing, university education programmes have begun to organize professional training curricula on health social work. As the Law on Domestic Violence is implemented, the health sector is also realizing the need to integrate treatment of injuries with mental health treatments for victims, and the need to collaborate with social work professionals to resolve the problem at its source, if we want to be successful in protecting the health of the victims.

2.1.2. Access and utilization of medical examination and treatment services

Access to medical examination and treatment services is primarily related to geographic, cultural, economic (ability to pay) and social factors. To help the people gain geographic access to health care services, Vietnam has placed priority on developing the

grassroots healthcare network throughout the country as was described in Section 2.1.1. In addition, health insurance and policies to assist the poor to use health services have contributed significantly to reducing financial barriers and increasing access to healthcare services. In 2010, approximately 60% of the Vietnamese population participated in health insurance. More than 70% of commune/ward health stations provide primary curative care services for people with health insurance.

The total number of medical consultations and hospital admissions is at a high level. In 2008, public hospitals and commune health stations provided 188 295 310 medical consultations, and public hospitals provided inpatient care for 10 851 310 admissions [49]. The trend from 2002 to 2008 has been that, on average, each individual has had 2 consultations per year in state health facilities, and there has been little fluctuation over time. If we add in consultations at non-state health facilities, the number of outpatient visits is even higher. Regarding inpatient care, in the period 2002-2006, on average there were nine admissions per year for every 100 people (Figure 11). In the two most recent years of the data, the ratio has increased to 12 admissions per 100 people. This rate is rather high when compared internationally, even when compared with developed nations such as the United States (11.7)[50], Canada (7.8) [51], Singapore (9.39)[52], and countries with much older populations or with higher rates of chronic illness.

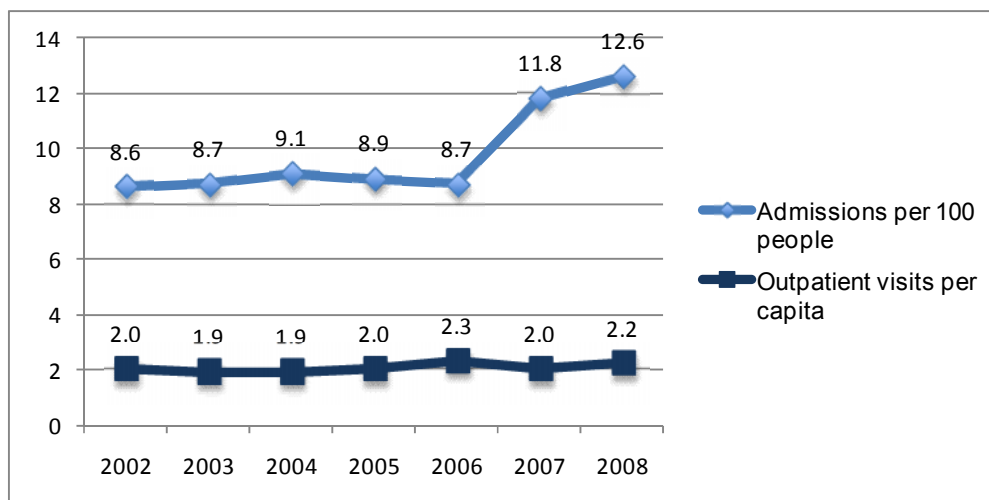


Figure 11: Trends in outpatient and inpatient care in state health facilities, 2002-2008

Source: Health Statistics Yearbook, various years

Regarding reproductive health, statistical data indicate that the proportion of pregnant women who have received three or more antenatal exams, the proportion who have had a post-partum exam, the proportion of women who have delivered with assistance from a trained medical worker, and the proportion of couples using contraception are all at high levels, and almost all have continued to show an increasing trend from 2006-2008, while the number of abortions and menstrual regulations have declined (Table 7). Nevertheless, because of a lack of data from the private sector it is more difficult to confirm whether these trends are due to shifts from private to public facilities or vice versa, or a change in the population's access to reproductive health services.

Table 1: Indicators of reproductive health care services in the public sector, 2006-2008

	2006	2007	2008
Proportion of pregnant women who have received 3 or more antenatal exams (%)	86.5	86.6	86.7
Proportion of women having post-partum exam (%)	87.7	87.5	88.5
Proportion of deliveries assisted by a trained medical worker (%)	97.0	94.3	94.7
Proportion of pregnant women receiving 2 or more tetanus vaccinations (%)	92.6	94.6	93.5
Proportion of couples using contraception (%)	78.0	78.0	79.5
Number of abortions	143 594	115 510	98 948
Number of menstrual regulations	345 482	256 992	233 206

Source: Health Statistics Yearbook, 2008

The Government has developed a policy to help the poor access examination and treatment services. According to an impact evaluation, the policy of providing health insurance to the poor has increased access to health services [53]. According to results of the Household Living Standards Survey 2008, the proportion of people with health insurance in households identified as poor in 2007 was 87.8%. However, there is still a need for the remaining poor households to receive health insurance cards in a timely manner, and to provide additional assistance to cover indirect costs related to seeking health services such as transportation and food for the poor when they are admitted to the hospital and to help cover costs when they are very high. In addition, it is necessary to strengthen assistance to the near poor so they can obtain health insurance coverage.

To implement the spirit of social mobilization, and to mobilize the support of society to help people facing difficulties to access health care services, some non-governmental organizations and private health facilities have organized activities to provide charity medical care, to exempt charges or charge only low fees, provide free surgery for children with harelips, people with cataracts, and to organize and operate charity kitchens in hospitals to serve inpatients.

Recent efforts to increase access to health services by the poor is evidenced in household survey data. Figure 12 indicates the proportion of the poor seeking outpatient care in the past 12 months has reached a level almost equivalent to that of other living standards groups, and the disparity between the group with average living standards compared to the poor has fallen. As for inpatient services, the proportion of the poor admitted for inpatient care is equal to or even higher than that for other living standards groups (Figure 13).

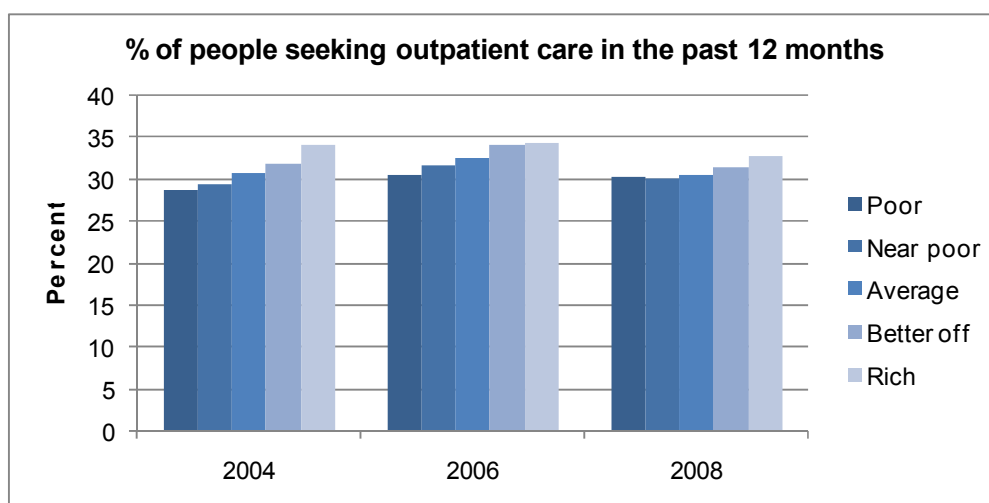


Figure 12: Proportion of people seeking outpatient care in the past 12 months, 2004~2008

Source: General Statistics Office, Household Living Standards Survey 2008. Hanoi: Statistical Publishing House, 2010.

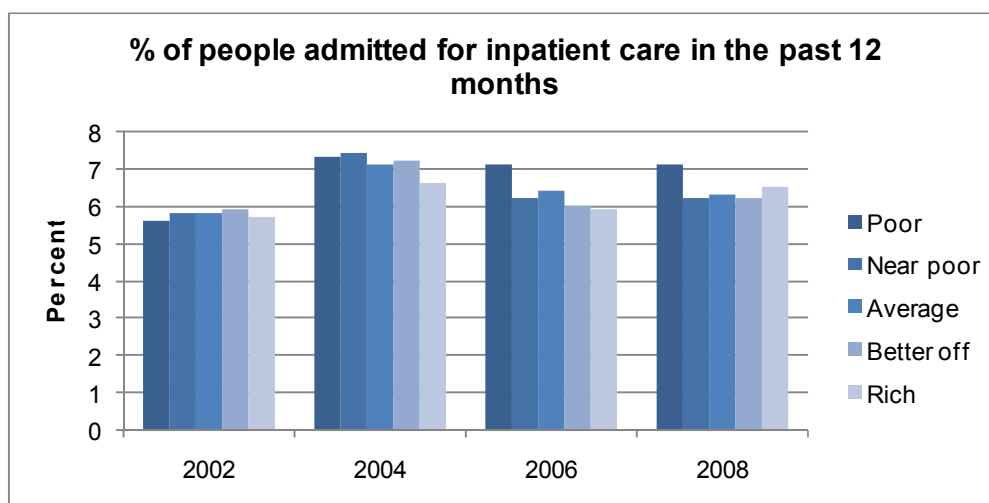


Figure 13: Proportion of people admitted for inpatient care in the past 12 months, 2002~2008

Source: General Statistics Office, Household Living Standards Survey 2008, Hanoi: Statistical Publishing House, 2010.

2.1.3. Managing quality of medical examination and treatment services

Improvement in the quality of medical and examination services is a complicated task, to be achieved with multiple solutions, including both investments in infrastructure and equipment, training to improve skills of medical workers, and, very importantly, solutions related to management. This section will discuss quality from the point of view of managing the health system to ensure quality. According to international approaches, quality management of curative care services includes three components: Quality control, Quality assurance and Quality improvement. *Quality control* is the process of checking and regulating quality of all inputs (drugs, equipment, human resources, service attitudes, etc.). *Quality assurance* is related to systematic monitoring and evaluation of all aspects of the process of providing healthcare services, or of the health care facility, to ensure that all

standards are met. Methods of *quality improvement* include activities aimed at improving quality of services, improving the process of providing services, and strengthening capacity of the health service providers. Some systems for quality improvement are beginning to be applied in Vietnam such as Total Quality Management (TQM), and standards of international standardization organizations (ISO).

Policies related to quality of medical examination and treatment

The Ministry of Health has developed many legal documents related to quality assurance of health care services including the Law on Examination and Treatment (regulates the licensing of health workers and facilities, resolution of complaints, continuous medical education); the Hospital Regulations (1997): Directive No. 06/2007/CT-BYT on improving the quality of medical examination and treatment for the people; and Programme No. 527/CTr-BYT dated 18 June, 2009 on improving the quality of medical examination and treatment at healthcare facilities; Ministry of Health Decision No. 1816/QĐ-BYT on rotating health workers from higher level facilities to lower level facilities to improve the quality of medical examination and treatment services, among others.

Currently the Ministry of Health is developing a plan for hospital quality management for the period 2011-2015, including concrete regulations on organization and implementation as well as on standardization of health workers and hospital quality management systems to be applied nationally.

Responsibility for ensuring quality of medical examination and treatment

The Medical Services Administration of the Ministry of Health is the management agency in charge of health services, and helps the Minister of Health implement the functions of state management in the areas of medical examination and treatment, nursing, rehabilitation, etc. including ensuring the safety and quality of medical examination and treatment services (Minister of Health Decision No. 16/2008/QĐ-BYT), through implementing its various responsibilities including: developing national technical standards, practice standards or licensing medical facilities; participating in the process of issuing, cancelling, revoking practitioner registration or facility licenses; leading, guiding, checking and organizing implementation of professional regulations, national technical guidelines on examination and treatment; leading, guiding and checking management of hospital waste, infection control in medical facilities; taking the lead in organizing expert committees to resolve technical professional issues; and guiding and checking appropriate and safe use of drugs in curative care. In the localities, the Provincial Health Bureau and the District Health Office are accountable for checking and inspecting quality according to Joint Circular No. 03/2008/TTLT-BYT-BNV of the Ministry of Health and Ministry of Home Affairs. At each hospital, various medical committees are accountable for examination and treatment services in the hospital, including quality of healthcare services. In addition, to ensure quality of medical examination and treatment services, it is necessary also to have the participation of all levels of the Party, authorities and relevant professional associations and mass organizations, and of patients and the general population to monitor the quality of hospital services.

Quality control

Quality control is the first component of quality management related to the processes of checking quality of inputs. The health sector has made many efforts to ensure the necessary basic resources for quality service provision. In recent years, the state hospital network has been renovated or rebuilt, equipped with modern medical equipment; curative

care staff have been trained and technology transferred. Solutions to improve the quality of human resources in health are an essential condition to ensure the quality of medical examination and health care services.

Quality assurance

The second component of quality management is “quality assurance”. To assure quality, first of all it is necessary to create sectoral standards, then it is necessary to monitor them and assess performance related to standards, and if necessary, to make adjustments to achieve greater performance.

Developing standards: Regarding medical equipment standards, the Ministry of Health has developed essential equipment lists for each level of the system, from central hospitals to commune health stations and village health workers. Regarding drugs, the Ministry of Health has developed essential and major drug lists aimed at ensuring availability of drugs in health facilities at all levels of the system. To assign clear functions to each level of the system, the Ministry of Health has issued the referral guide (the list of services and the level of medical facility that should be capable of performing those services) since 2005 (Ministry of Health Decision No. 23/2005/QD-BYT), and is drafting a revised referral guide that is being updated in line with developments in the sector.

Official hospital regulations were issued in 1997 and are used in all hospitals in the health system (Ministry of Health Decision No. 1895/1997/QD-BYT). More recently, the Ministry of Health has developed other important regulations, such as Circular No. 18/2009/TT-BYT guiding implementation of infection control in medical facilities, updating this very important regulation to ensure patient safety; General techniques for processing medications using traditional methods (Ministry of Health Decision No. 39/2008/QD-BYT); the emergency and intensive care regulations (Ministry of Health Decision No. 01/2008/QD-BYT); regulations on blood transfusion (Ministry of Health Decision No. 06/2007/QD-BYT); procedures for patient care (Volume II) according to Ministry of Health Decision No. 1108/2004/QD-BYT; Regulations on patient contact in medical facilities aimed at implementing ethical standards of medical workers (Ministry of Health Decision No. 4031/2001/QD-BYT); and the rules of conduct for managers and staff in medical service units (Ministry of Health Decision No. 29//2008/QD-BYT).

The Ministry of Health has developed and issued some diagnostic and treatment guidelines and technical guidelines, aimed at creating clinical standards and ensuring consistent methods for diagnosis and treatment based on evidence. Treatment guidelines issued recently are listed in Table 7 below. In 2002, the Ministry of Health issued national standard guidelines for reproductive health services. From 2002 to the present, the Ministry of Health has developed and issued more than 1000 technical guidelines for hospitals. In 2009, the Ministry of Health updated a list of essential drugs and consumables for reproductive health procedures and services. These guidelines are an appropriate model for other medical specialties to learn from and imitate. In February 2010, the Minister of Health issued a decision to set up a steering committee to compile treatment guidelines in order to promote more rapid development of up-to-date treatment guidelines for each disease.

Table 7: Diagnosis and treatment guidelines updated during the period 2002-2009

Disease	Year
Reproductive health services	2002
Puffer fish poisoning	2002
SARS	2003
Viral pneumonia	2004, 2005
Emergency care (18 types)	2005
Emergency obstetrics care (5 obstetric complications)	2005
Acute poisoning (22 types)	2005
Common respiratory diseases (10 diseases)	2005
Common infectious diseases (58 diseases)	2006
Delta muscle sclerosis	2006
Influenza A (H5N1) in humans	2006, 2008
Child acute encephalitis	2006
Palliative care for cancer and HIV/AIDS patients	2006
Cholera	2007
Hand-Foot-Mouth disease	2008
Dengue and haemorrhagic fevers	1999, 2008
Swine Influenza A (H1N1)	2009
Measles	2009
HIV/AIDS	2005, 2009
Adult and child asthma	2009
Tuberculosis	2009
Malaria	2009

Source: LuatVietnam database

Patient-centred care is the Government's policy and the hope of the people. The Law on Examination and Treatment has begun to develop the basis to protect the right of the patient. According to the Law, patients have the right to be informed about their health status, treatment options and treatment costs. In addition, patients have the right to be treated using safe, rational and effective methods following technical guidelines. Patients have the right to be treated with respect, as evidenced by the right to confidentiality of their patient information, their right not to be stigmatized or discriminated against. Patients also have the right to refuse treatment. In 2009, the Ministry of Health issued the Programme to satisfy patients through improving medical examination and treatment at medical facilities including improving the attitude and spirit of staff to serve patients, reforming administrative procedures, improving the quality of medical services and reducing over prescription of drugs, lab tests and technical interventions.

Monitoring and supervision: Besides developing standards, to ensure quality it is necessary to monitor and supervise. On an annual basis, the Medical Services Administration undertakes a hospital inventory. The information gathering instrument has gradually been improved and includes information on services provided, human resources, financing and a list of indicators related to quality that is based on various regulations and standards of the health sector. Currently this information is collected to determine standards of hospitals, and

to compile a report on the medical examination and treatment situation at the end of each year. However, this instrument lays a foundation for the development of a hospital accreditation system.

A pharmaco-vigilance system was established and put into operation in 2009. According to this system, whenever there is an adverse drug reaction (ADR), the medical facility has the responsibility to report this to the ADR centre. This centre will compile and analyze ADR reports in order to quickly detect any side-effects of drugs to withdraw licenses for their use in the market in order to reduce any further ADRs.

In 2009, the Ministry of Health issued Circular No. 17/2009/TT-BYT guiding the checking, inspection and resolution of complaints and accusations by leaders of health agencies, in order to have a mechanism for leaders of health facilities to use to check on their facility's compliance with policies, laws, responsibilities, regular and ad hoc plans and to resolve complaints and accusations in their jurisdiction.

In recent years the monitoring role of the people has increased through hotlines established in hospitals, patient committees that meet on a weekly basis, and feedback letterboxes set up in hospitals.

Care pathways is an instrument that is becoming more and more commonly used in medical care in other countries in an effort to put professional standards into practice. The development of care pathways in Vietnam has been initiated, relying on treatment guidelines and regulations currently in place and combining this with international experience. Care pathways in the form of a checklist used on a pilot basis in Vietnam have exhibited several advantages such as: reducing clinical errors, because they remind practitioners of each step of diagnosis and treatment; reduction in the burden of recording inpatient records, because in most cases the practitioner only needs to check boxes for actions taken on the checklist; and recording details only in the case of variances from normal. Currently there are several international projects in Vietnam aimed at developing posters, checklists and lists to put regulations and treatment guidelines into practice.

Quality improvement

Quality improvement consists of mechanisms to monitor, assess and find ways of changing systems and work processes in medical examination and treatment facilities to achieve more efficient and effective performance for patients. Aspects of quality improvement related to infrastructure investments will be further discussed in Chapter 9 on Health financing, and improvements related to training health workers will be discussed in Chapter 5.

By 2009, several hospitals had implemented one of several available hospital quality management models (20 hospitals apply ISO 9001 standards and 2 hospitals are applying models of total quality management (TQM)), some hospitals have begun developing and applying care pathways in clinical management.

According to the Law on Examination and Treatment (Article 50 and 51), quality management standards for curative care facilities are to be issued by domestic or foreign accreditation agencies after they are officially recognized by the relevant Vietnamese authorities. Quality management standards are used as standards for classifying and assessing quality of curative care facilities. Organizations that certify quality of curative care facilities should be independent of the hospitals, and established by agencies, organizations or individuals. When implementing certifications of quality for curative care facilities, the certifying agency must ensure independence, objectivity, honesty, openness, transparency,

and legal accountability on the results of their certification. The above regulations of the Law on Examination and Treatment serve as an important legal basis for implementing quality management of curative care facilities in the forthcoming period.

2.1.4. Hospital management

In the past 10 years, the hospital management mechanism has undergone some major changes and made some remarkable achievements. The policy of social mobilization (Government Resolution No. 05/2005/NQ-CP) and the policy of autonomization of state hospitals (Decree 10/2002/ND-CP and the revised policy in Decree 43/2006/ND-CP), have been applied in recent years and have had a large impact on the mechanism and capacity for hospital management, both in terms of technical medical issues, finance and human resources; and expanding opportunities to mobilize financial resources to invest in upgrading physical infrastructure and equipment of state medical facilities. The rapid development of the private health sector has contributed significantly to strengthening the curative care network, satisfying the growing and diverse needs of the people. In this context, the roles, instruments and methods for state management of medical facilities has been adjusted extensively to ensure the equity, efficiency and quality of medical services.

For management of medical services, the Government and the Ministry of Health have issued and implemented many legal documents. The Law on Examination and Treatment creates the legal basis for management of both the public and non-public sectors according to unified regulations.

Nevertheless, because of many changes in the management mechanism, in the context that many policies are incomplete, accountability and management capacity of medical facilities is limited, the process of transforming to the autonomous management mechanism cannot avoid problems and difficulties. In 2007, the Ministry of Health acknowledged (Directive 06/2007/CT-BYT) that curative care still faced limitations such as excessive overcrowding of central and some provincial level hospitals; some hospitals had not yet complied strictly with regulations on provision of pharmaceuticals; the situation of overprovision of laboratory testing and other paraclinical services was common; results of lab tests were not yet accepted between health facilities of the same level leading to waste for patients; professional accountability of some health workers was weak reducing the people's trust in health services.

In order to overcome these problems, Ministry of Health Circular No. 06 proposed solutions including: i) Restricting overcrowding of hospitals; ii) Improving the capacity of the grassroots health care system (supplementing health workers, strengthening professional guidance, improving cooperation between hospitals of different levels, implementing a satellite hospital model, home care, family doctor, etc.); iii) Promoting social mobilization to mobilize additional capital for hospitals, training health workers, rebuilding infrastructure, upgrading equipment and encouraging the development of the private health sector; iv) Strengthening medical ethnics in medical facilities; and v) Revising and amending legal documents on medical examination and treatment such as hospital regulations, care pathways, technical guidelines, regulations on provision of pharmaceuticals, social mobilization of medical equipment, regulations and policies on user fees, health insurance, remuneration policies for health workers, in line with the current situation.

One of the solutions that received special attention from the Minister of Health is strengthening capacity of the grassroots health system through the Project to second professional health workers from higher level hospitals for a rotation at a lower level facility to support improvement in the quality of their examination and treatment services (Ministry

of Health Decision No. 1816/2008/QĐ-BYT). Results of implementing Decision 1816 will be discussed further in Chapter 5.

2.2. Problems to be resolved

2.2.1. Organization and provision of medical examination and treatment services

According to international norms, the medical service network is divided into three different levels to meet different needs. First of all, primary health care (discussed in Chapter 2), consists of integrated curative and preventive medicine; second is secondary care, consisting of basic specialized medicine implemented in general practice facilities; and third is tertiary care in specialized medical centres. Highly specialized services are only accessed by patients after medical personnel or primary health care facilities have referred patients (Figure 14).

In Vietnam, primary care is implemented primarily at the commune level. However, because of the problem of bypassing, many patients used provincial or even central level facilities for examination and treatment of common conditions that should really be addressed by primary health care (Table 8).

Although integration has been recognized as a good strategy for independently implemented health programmes, currently integration remains weak [54]. The various National Health Target Programmes operate quite independently from each other. Information related to patients and their health status and the treatment processes already used lack continuity when the patient is referred from one level to another level facility, from one facility to another, or even from one treatment episode to another.

Table 8: Concepts regarding system of health service delivery and structure of services in Vietnam

International concept	Vietnamese health system organizational structure
Tertiary care	Highly specialized medical services at a few centres with intensive investments in specialized medical equipment and with medical staff with specialist training and extensive experience.
Secondary care	Specialist medical services in general hospitals and specialty clinics.
Primary health care	Curative care services at the commune health station, regional polyclinics, outpatient wards of general hospitals at all levels, combined with preventive medicine activities such as IEC, ensuring clean water, etc.

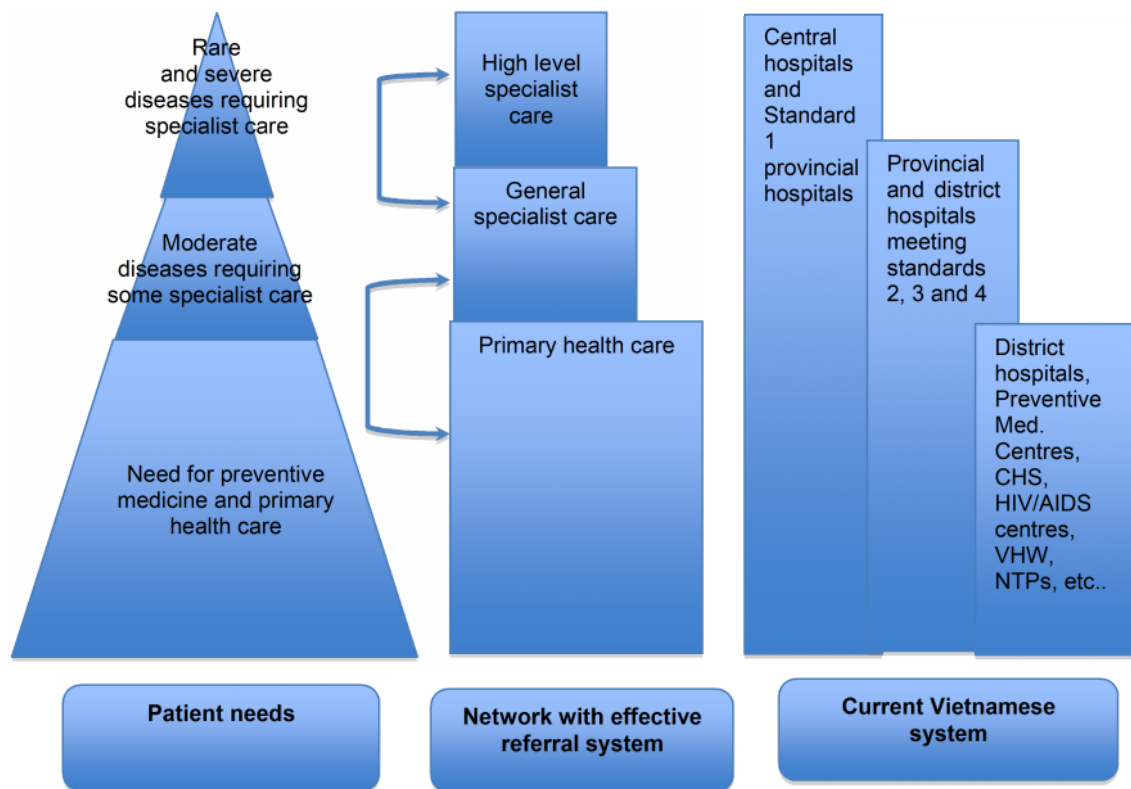


Figure 14: Health care needs, referral system and current organizational structure of medical examination and treatment services in Vietnam

Health facilities have been organized according to geographic administrative units, and almost all communes have a commune health centre, almost every district has a district general hospital. Nevertheless, the Master Plan for Development of the Vietnamese health system includes a goal of developing the curative care network by population clusters, without distinction of administrative borders. Clearly, in regions with convenient transportation systems, organization of a single hospital to serve multiple districts could create advantageous conditions for specialization, investment and maintenance of high tech equipment, reducing costs without reducing geographic access to curative care. To date, models of this type include the regional polyclinics (inter-communal polyclinics), and inter-district hospitals (regional hospitals), yet in areas where these facilities exist, often there are duplicate commune health stations or district hospitals.

Many nations have undergone a period of rationalization of the curative care network, despite the political problems incurred, leading to a network that operates efficiently, economizing on costs and better assuring quality such as in Sweden [55], Singapore [56], Australia and New Zealand [57], and Canada [58].

Private facilities tend to be primarily concentrated in urban areas with dense populations and advantageous economic conditions where there is potential to earn profits. Statistical data indicate that the Red River Delta has 17 private hospitals, accounting for about 12.6% of all private hospital beds. The Southeast has 31 private hospitals accounting for 47% of all private hospital beds. The Northern Mountains and Central Highlands combined have only 5 private hospitals, with approximately 5.4% of all private beds while the population in these highland regions account for 20% of the nation's population.

All localities have state health facilities, but their level of development varies between regions. The proportion of communes meeting national benchmark standards is lowest in the Northwest (18.3%), and the Central Highlands (36.9%). Quality of curative care facilities is influenced by the quality of human resources. Analysis of the structure of health human resources indicates that the Northwest has the lowest proportion of medical workers with university education of all regions (Figure 15). The Central Highlands and the Mekong River Delta also have the lowest proportion of pharmacists with a university degree. To implement health equity, ensuring that the people in disadvantaged areas can gain access to quality medical services, it is also necessary to reduce the gaps in the quality of services between regions, focusing on reducing gaps in technical training of medical workers.

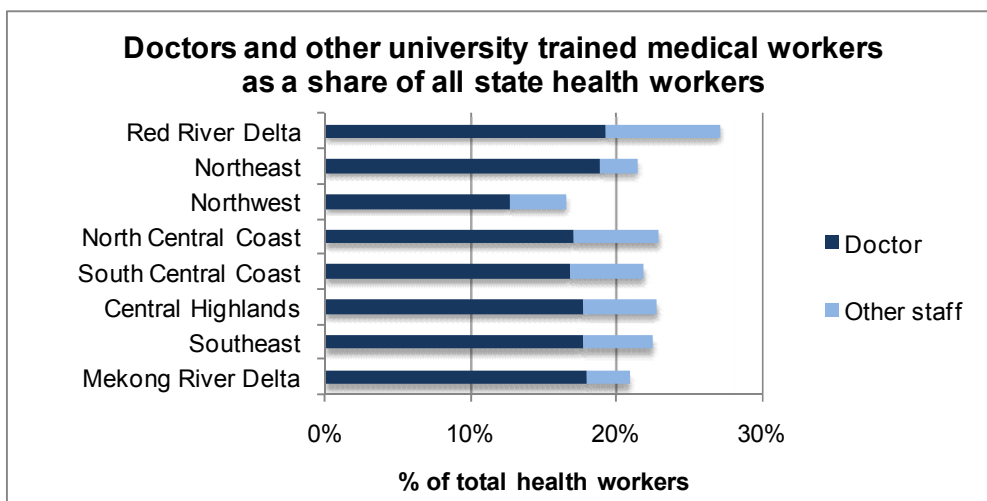


Figure 15: Doctors and other university trained medical workers as a share of all state health workers, by region, 2008

Source: Health Statistics Yearbook 2008

2.2.2. Access and use of medical services

Figures 12 and 13 above indicate only small disparities between the rich and poor in the proportion of people who access health services. Nevertheless, there is a gap in the quality of services utilized by the poor compared to the people with average or higher living standards. Other problems that need attention include the problem of how access to health services affects household financial security, and whether or not health equity is achieved in terms of people's medical needs being met.

Table 9 indicates that the proportion of the poor who access outpatient services in state hospitals in the 4 week reference period of the survey increased rapidly from 11% in 2004 to 18% in 2006, before falling again to 16% by 2008. This general trend is also similar for the near poor and people with average incomes. The poor still cannot access outpatient care at state hospitals at a level similar to the middle income group. Some ethnic minority people have a substantially lower rate of utilization of hospital outpatient services than the Kinh majority. While 31.8% of ethnic Kinh people have used outpatient services in the past 12 months, this proportion among the Thai reached only 18.2%, the Hmong only 20.6%. In considering where care was sought, 31.3% of the Kinh sought outpatient care at state hospitals and 21.1% sought care at commune health stations, while among the Hmong, only 12.3% sought outpatient care at state hospitals, while 77.5% sought outpatient care at the commune level [59]. It is important to consider solutions that combine health insurance with

efforts to strengthen the quality of services used by these groups, namely commune health station services.

Table 9: Number of outpatient visits to public hospitals in the past 4 weeks per 100 people by living standards, 2004-2008

Quintile	2004	2006	2008
Poor	10.56	17.85	16.39
Near poor	14.64	24.74	22.89
Average	24.39	31.68	29.41
Better off	26.64	46.01	46.41
Rich	53.88	72.14	63.30
Overall	26.02	38.48	35.69

Source: VHLSS 2004, 2006, 2008

Regarding inpatient services, in general there has been little change in the proportion using inpatient services at state hospitals from 2004 to 2008, yet the admission rate for public hospitals among the poorest group reached only 5.9 times per 100 people, compared with 7.3 times per 100 people among people with middle incomes and 9 times among the rich (Table 10). The admission rate for ethnic minority people is lower than for the Kinh majority. While the Kinh primarily receive inpatient care at state hospitals (85.9%), the Hmong people only have 53.5% of admissions in state hospitals and 43.1% inpatient care at commune health stations [59].

Table 10: Number of inpatient admissions to public hospitals in the past 12 months per 100 people by living standards, 2004~2008

Quintile	2004	2006	2008
Poor	5.42	5.43	5.87
Near poor	6.36	6.39	5.90
Average	8.25	7.45	7.26
Better off	8.71	8.82	8.31
Rich	10.00	9.02	9.05
Overall	7.75	7.43	7.28

Source: VHLSS 2004, 2006, 2008

In 2002, the Prime Minister issued Decision 139 to support healthcare for the poor through issuing free healthcare cards or health insurance. In 2006, this policy was institutionalized following Decree 63 on Health Insurance Regulations and in 2008, with a relatively high coverage of the population officially identified as the poor. However, data collected from households indicates that in 2004, among the poorest 20% of the population, only about 48% had part or all of their user fees paid for by insurance. In 2006, the proportion had reached nearly three-fourths, but by 2008, the proportion fell again to 62% (Table 11). This is a general trend, not only among the poor, but among all living standard groups, utilization of health insurance among people using inpatient care has fallen.

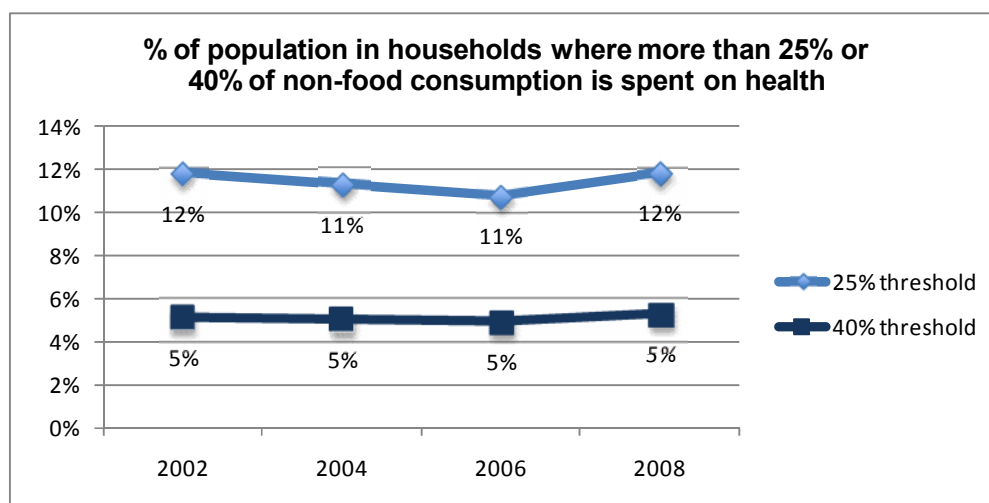
Table 11: Proportion of people admitted to hospital who used their health insurance or user fee exemption card, 2004~2008

Quintile	2004	2006	2008
Poor	47.9	74.6	62.0
Near poor	37.8	58.1	50.0
Average	35.2	54.7	47.6
Better off	38.9	60.0	50.0
Rich	48.5	64.4	52.3
Overall	42.3	63.5	52.3

Source: VHLSS 2004, 2006, 2008

Thus, if the proportion of the population using medical care has increased, but the proportion protected by health insurance has fallen, this means patient out-of-pocket spending has increased to a higher level. If we define catastrophic spending as annual household out-of-pocket health spending exceeding 25% of non-food consumption of the household in a year, then in 2008, the proportion of households facing catastrophic spending increased from 11% to 12%, even though in previous years, the proportion had a slight declining trend. If we take a higher % of household consumption spent on health as the threshold to define catastrophic spending, for example 40% of non-food consumption, then the same trend is seen, but at a lower level, approximately 5% of households (Figure 16).

The above figures indicate that the solutions currently being applied to provide financial assistance to households when they use medical services has achieved some good results, but the effect on reducing household catastrophic spending is still limited. To overcome this situation, it is necessary to consider how to control factors leading to escalation of treatment costs, increase the support to the poor and near poor (in other words to groups with low incomes), support indirect costs related to seeking health care (e.g. food, transport), and provide more support in those cases when health spending is catastrophic.

**Figure 16: Proportion of households with catastrophic spending, 2002~2008**

Source: Health Strategy and Policy Institute, 2010, draft analysis of catastrophic spending in Equitap II project

2.2.3. Quality of medical examination and treatment services

Currently, even though there are many regulations related to different aspects of medical service quality management, there is not yet a comprehensive solution for quality management to implement the goal of ensuring continuous medical service quality improvement.

The first component of quality management is quality control of medical service inputs. In the coming years, it is necessary to establish regulations on issuing licenses for medical practice according to the Law on Examination and Treatment for all public and private sector health workers. Issues related to quality control of other inputs to medical services, including pharmaceuticals and medical equipment, will be covered in other chapters. There is a need to have a health technology assessment process to help identify medical interventions that are effective, efficient, low cost, and that ensure quality of medical services.

The second component of quality management is ensuring compliance with regulations, mechanisms and systems related to the processes of medical service provision. The hospital regulations were issued in 1997, and are no longer entirely appropriate given the changes in the hospital management mechanism. Guidelines for a medical service quality monitoring mechanism need to be developed and according to the Law on Examination and Treatment medical errors need to be reduced. The Ministry of Health has promoted the development of treatment guidelines for certain priority diseases and established a Steering Committee to compile standard treatment guidelines. Nevertheless, the volume of work is enormous and therefore needs to become a regular task of the health sector and be appropriately organized and adequately resourced to implemented successfully. As for nursing and patient care, there is also a need for standardization in certain areas, such as patient nutrition, and food preparation. Comprehensive patient care has begun to be implemented, yet only in a few hospitals, so it is not yet widespread in practice in all medical service providers.

The third component is quality improvement through a process of monitoring and assessment of performance, and seeking solutions for improvement. The Law on Examination and Treatment is the legal basis for establishing independent organizations to develop standards and certify quality of medical facilities (Articles 50 and 51). However, the development of guidelines for implementing this part of the law will be a major challenge. The mechanism to encourage application of quality management standards remains unclear.

The need to strengthen the medical inspectorate has already been recognized in Politburo Resolution No. 46 and remains a current urgent priority. Medical service quality monitoring requires a sufficiently sized inspection workforce, with adequately deep knowledge to regularly implement their work. Currently the medical inspectorate mainly implements administrative inspections, more specialized inspections having yet to be adequately organized. So far there is no unit in the health sector that organizes specialized medical inspection training. The permanent medical inspection workforce in localities is understaffed and needs strengthening. In addition, it is necessary to strengthen the role of the people and patients in quality assessment through mechanisms that assess patients' satisfaction levels in an independent, objective manner, comparing results between hospitals and identifying facilities that need stronger interventions to improve medical ethics and service attitudes and conduct.

2.2.4. Hospital management mechanism and capacity

Changes in health policies in recent years, especially regulations on autonomy and accountability for assigned tasks, organization of management and personnel, and financing of state service-providing units has had a major impact on the operations of state medical care facilities. The policy of social mobilization has had a major impact on both public and private medical facilities, but at the same time has led to some difficulties and challenges for meeting the goals of equity and efficiency in the protection and care of the people's health.

Hospital management capacity

In the context of implementation of the autonomization policy, hospital management capacity has some shortcomings. According to a study by the Hanoi School of Public Health in 2005, the proportion of management staff (heads and deputy heads of hospital departments and head nurses) that had received management training was only 23%, with the remaining 77% having received no training in hospital management [60]. Throughout the country, the hospital system has a severe shortage of staff trained in management. More than 70% of hospital directors have clinical or paraclinical backgrounds, and have not yet had adequate training in hospital management, leading to a lack of professionalism in management and waste of clinical expertise as clinicians spend time on management rather than clinical work.

Hospital financial management

Implementation of hospital autonomy and encouragement of social mobilization have allowed for greater investments in medical equipment and infrastructure, leading to increased revenues of hospitals and increased incomes of medical staff. However, because some relevant policies and management mechanisms have not yet been adjusted appropriately and in a timely manner, the social efficiency of the autonomy policy needs to be assessed more thoroughly.

With investment from the state budget for medical care at its current low level (state budget accounts for about 29% of hospitals' total revenues), combined with the strong promotion of social mobilization, joint ventures, business partnerships in public hospitals and fee-for-service payment mechanisms, it is likely that patients' out-of-pocket payments will continue to increase unless some mechanism is put in place to control prescriptions of drugs and services, especially high-tech services [61]. The results of the 2007 Hospital inventory indicates that the main source of revenues for hospitals is user fees (accounting for 59.4% of the total) and this has increased 26.5% compared with 2006. High charges for medical care will lead to reductions in the ability of the poor and near poor to seek medical care [62].

The above situation has led to the undesired trend towards profit motives with the incorrect point of view that "the more patients, the more the hospital develops"; direct revenues from patient payments in public hospitals have increased rapidly and it has proven difficult to avoid the problem of public hospitals providing private services [63].

Management of hospital human resources

The mechanism of autonomous management has created conditions for hospitals to manage their own human resources to some extent. However, because hospital managers have received little management training, the methods used to create incentives and ensure supervisory monitoring have not been used well, as will be described in Chapter 5.

Income from official government salaries and salary supplements is inadequate for health workers to maintain their lifestyles. Healthcare facilities implementing autonomization have to develop an internal spending regulation, which includes payment of "additional

income” to medical workers. However, at present, this mechanism primarily ensures high incomes in healthcare facilities that have the ability to collect higher user fee revenues for high-tech services, often in urban areas. Meanwhile at the district level or in disadvantaged areas it has proven difficult to implement this policy. This has led to inequalities in staff income between healthcare facilities, and difficulties in attracting medical workers to work in disadvantaged areas, at the district and commune levels. At the same time this policy only encourages provision of many services, it doesn’t encourage efficient performance or best quality care for patients.

Pharmaceutical management

In relation to hospital pharmaceutical management there are two main issues. First is the procurement of pharmaceuticals through the competitive bidding process. As will be discussed in Chapter 7, the mechanism for pharmaceutical procurement needs adjustments to ensure lower drug prices, while strengthening checking and monitoring of the tendering process for drugs in hospitals. The second main issue is the control over drug prescriptions, ensuring rational and safe use of drugs. Because of a shortage of pharmacists working in hospitals, many hospitals lack a mechanism to check for drug interactions for each prescription. The system of adverse drug reaction (ADR) reporting has only recently been set up, and its effectiveness is still limited. In addition, pharmaceutical management in many hospitals is done on a day-to-day basis, rather than according to treatment plans for the entire inpatient episode, leading to frequent changes in drugs used by patients in the middle of their treatment. There is a lack of treatment guidelines and other mechanisms to ensure practitioners prescribe drugs in an effective way with the lowest price for patients.

Management of medical equipment and infrastructure

Through implementation of the social mobilization policy, public hospitals have mobilized the private sector to contribute capital to upgrade medical equipment. These investments generally require recovery of the initial investment plus a profit through collection of higher user fees, compared with equipment coming from state investment. According to regulations in Circular No. 15/2007/TT-BYT, medical workers, and other staff in medical facilities are allowed to contribute to investments to procure medical equipment to provide medical services. When the medical worker himself contributed capital, and at the same time is prescribing use of that equipment for his patients, or requiring his staff members to prescribe use of this equipment, there is a clear conflict of interest. Various forms of joint venture or contracts for leasing medical equipment that involve profit sharing also lead to abuse of medical equipment to bring in revenues to the medical facility, including the part reserved for “additional incomes” for staff of the facility. Various forms of “services on request” in public facilities provided by state health workers are in fact a form of private service, because patients must pay directly from their pockets for those services.

Financial incentives such as the autonomization policy, mobilization of capital from social mobilization, the fee-for-service provider payment mechanism combined with low hospital management capacity and limited checking and inspection lead to high risk of abuses in medical service provision, and profiting from patients. The incentives inherent in the input-based state budget allocation mechanism have encouraged hospitals to try to get approval for increasing the number of planned beds.

Application of information technology in hospital management

Currently hospitals are applying many effective information technology applications for management of finances, clinical work, human resources, quality and safety of patients.

However, they are mainly only being applied in large and urban hospitals. Application of information technology in district hospitals remains limited, partly because of a lack of investment and partly because conditions to apply information technology are not yet secured (staff, management, patient records, etc.) Therefore, the application of information technology in hospitals remains diverse and lacks uniformity, leading to low interoperability and low ability to link between hospitals to create a general medical services system.

Cost-effectiveness management in hospitals

Currently there is no mechanism to manage cost-effectiveness of medical services. The hospital regulations were originally issued in 1997 when the main issue was a lack of conditions to provide medical services. In the new situation, in which hospitals have or are making large investments in infrastructure and medical equipment, there is a need to set up a hospital regulation that takes into account cost-effectiveness in medical service provision.

Some regulations such as routine testing for all patients admitted, are also factors leading to overcrowding of paraclinical services and waste for patients, because their prescription is not based on clinical signs to determine which lab tests and imaging services are needed.

The mechanism of health insurance auditing is based on rules accumulated through experience in each locality. However, some rules being applied lead to overcrowding of hospitals such as requiring that all patients using injectable or IV drugs must be admitted to the hospital, or that patients who have been discharged cannot be readmitted within a certain period of time (so patients are kept longer than needed).

Regarding lab testing and diagnostic imaging, the lack of standardization has led to a situation where medical facilities do not accept each others paraclinical results, leading to waste for patients. There is a lack of a mechanism to determine cost-effectiveness of medical technology prior to authorization by the Ministry of Health for their use in the health system, or before each medical facility invests to procure high tech equipment.

There are still not unified standards that can be applied by insurance auditors or by medical inspectors to determine whether medical workers have abused technology or drugs, violated the code of conduct for medical service providers (Decision No. 29/2008/QĐ-BYT), or committed administrative violations in the medical field (Decree No. 45/2005/NĐ-CP). There is a lack of a mechanism to control and limit abuse of pharmaceuticals, especially overuse of antibiotics and drugs for treatment of chronic disease. This is a difficulty not only in Vietnam, but also in many developed countries. Currently there remains the problem that for the same disease, the treatment process is different across medical facilities, or even across medical practitioners within the same medical facility, because of the lack of standard treatment guidelines [64].

Overcrowding of hospitals and patient safety

The problem of hospital overcrowding remains quite serious, especially in central hospitals, hospitals in large cities, and in some specializations (cardio-vascular disease, cancer, etc.). Even though the number of beds per 10 000 population in Vietnam has increased, bed occupancy ratios remain extremely high (Figure 17). Some causes of this situation are the increasing demand for health care services by the people; improved access to higher level facilities by the people; low differentials in user fees between levels of facility; low confidence by the people in the quality of services at lower level facilities; the policy of hospital financial autonomization that encourages hospitals to attract more patients to increase revenues; and the low effectiveness of the referral system.

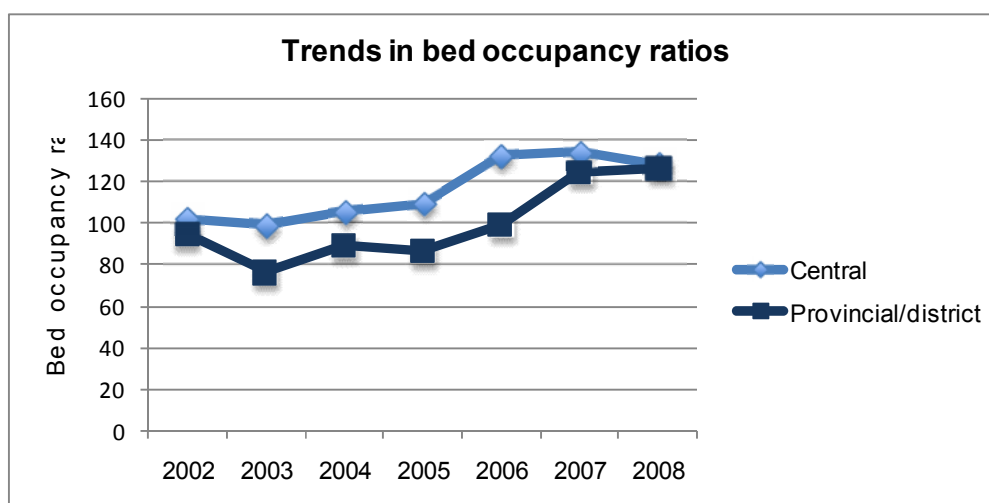


Figure 17: Bed occupancy rate by hospital level, 2002-2008

Source: Health Statistics Yearbook, 2002-2008

Another negative consequence for patient safety related to abuse of services is overuse of antibiotics, leading to an ever increasing antibiotic resistance crisis; or overuse of injectable and IV drugs leading to higher risks of adverse drug reactions; overuse of x-rays and CT scans leading to increased risk of cancer in the future [65]. In addition, overuse of services leads to people having to spend more than necessary to get medical care.

3. Priority issues

3.1. The capacity of the curative care network to provide services that satisfy the people's demands is limited

Vietnam has implemented many policies aimed at equity in health services, especially the policies to develop grassroots healthcare; strongly promote primary health care; prioritize mountainous, isolated, remote and disadvantaged areas; and provide financial assistance for the healthcare of the poor, near poor, children under 6, ethnic minorities, etc. Nevertheless, poor people and ethnic minorities are still facing difficulties to access inpatient and outpatient medical examination and treatment services compared with other groups. The curative care network has been developed broadly throughout the country, from central to local levels, but the quality of services varies substantially between localities and regions. The private health sector is developing, but is primarily focused in economically advantaged regions and urban areas.

In addition, as the morbidity patterns change towards a greater share of chronic, non-communicable disease and the number of elderly people increases rapidly, accompanied by many illnesses, the curative care system has not yet adjusted in an appropriate manner to ensure that the grassroots level can manage chronic illness, elderly patients, or to ensure greater effectiveness and efficiency of the health system, to reduce the social costs from these disease groups.

3.2. The quality and efficiency of the curative care service network is still limited

Vietnam can be proud of its achievements in research and the application of medical technologies in curative care. However, there are still medical examination and treatment

facilities that are not implementing basic functions well, such as infection control, limited monitoring of adverse drug reactions or medical errors. The curative care network at all levels has yet to ensure effective service provision at the lowest possible cost to the patient.

Currently there is a lack of comprehensive policies or strategies on the safety and quality of health services. Existing mechanisms for quality assurance and many of the health sector standards have not been updated. Existing standards are inaccessible for practitioners to use in clinical decision-making, and for managers and inspectors to use in monitoring. There is no objective, effective mechanism to assess patient satisfaction with medical services that could be used for quality improvement.

There is still much waste and inefficiency in the organization of health care provision due to multiple reorganizations of the functions at different levels, and because health care services are not organized in relation to the needs of population clusters. Bypassing of lower level facilities to treat common conditions is still widespread, partly because higher level facilities aim to attract more patients, partly because lower level facilities have limited technical capacity, leading to overcrowding of higher levels and social waste of resources.

There is a lack of continuity of care when patients are referred from one level to another, from one facility to another, or even from one treatment episode to another within the same health facility.

3.3. Hospital financing and management mechanisms are still problematic

In recent years, there has been a major change in hospital management towards greater autonomy and accountability. However, state hospital operations operating according to existing financial mechanisms are leading to some areas for concern. Some legal documents related to management and control of examination and treatment have still not been completed. Hospital leaders are still primarily people with excellent medical professional skills, but without adequate training on hospital management. The consequences of this include overcrowding of hospitals, abuse of diagnostic and other hospital services, poor attitude and behaviour of some staff while serving patients, and the quality of hospital services not being adequately regulated.

4. Recommendations

In order to gradually resolve the priority problems in medical examination and treatment, the report makes recommendations on human resource capacity building (Chapter 5), and hospital payment reforms (Chapter 9), in addition to the following groups of solutions below (details are found in Chapter 11: Conclusion and Recommendations):

4.1. Strengthen the curative care network with an orientation towards responding to the diverse and changing needs of the population.

4.2. Strengthen management of service quality.

4.3 Implement the National Policy on Traditional Medicine

4.4. Improve efficiency in hospital management.

Chapter 4: Population, family planning and reproductive health services

This chapter covers population and family planning, and reproductive health care, focusing on assessing the situation of related services, identifying priorities and proposing solutions to resolve the priority issues over the next 5 years.

1. Concepts

Some concepts and terminology in this chapter are widely used in research on population and family planning and reproductive health, but are seldom used in policy documents. Therefore, we introduce this terminology and concepts to ensure a uniform understanding.

- Total fertility rate (TFR): average number of children born to a woman in her life if she experiences current age specific fertility rates.
- Replacement fertility: average fertility of a cohort of women who have just enough girls to replace themselves in the population. In general, when the total fertility rate reaches 2.1 children, it is considered replacement fertility. However, in reality, replacement fertility also depends on the child mortality rate and sex ratio at birth.
- Crude birth rate (CBR): total births in a year over 1000 people in the population.
- Crude death rate (CDR): total deaths in a year over 1000 people in the population.
- Population growth rate: the rate at which population grows (or declines) in a given year related to natural increase and net migration, measured in terms of percentage change compared to the population at the beginning of the period.
- Sex ratio at birth (SRB): number of newborn boys born per 100 newborn girls.
- Population momentum: the tendency of a population to continue to grow beyond the period when fertility reaches replacement levels due to a large concentration of population at reproductive ages.
- Population ageing: an increase in the proportion of the population in older ages (aged 60 and older) in a population. According to the UN, any nation that has 10% or more of the population in older ages is considered a nation with an ageing population.
- Contraceptive prevalence rate (CPR): is the proportion of women (or couples) in reproductive age who use any form of birth control.
- Reproductive health: complete physical, mental and social well-being, not simply a lack of disease or disability in the reproductive system of an individual.
- Maternal mortality ratio (MMR): maternal deaths to women per 100 000 live births.
- Infant mortality rate (IMR): the number of child deaths occurring from birth to age 11 months 29 days, calculated per 1000 live births.
- Abortion ratio: the number of abortions per 100 live births.

2. Situation analysis

2.1. Review of population, family planning and reproductive health policies

In 1961, the Government of Vietnam began the population and family planning programme. For many years, fertility reduction has been the major objective of the programme. Until the 1990s, PFP remained one of leading socio-economic issues as rapid population growth was one of the most important factors hindering socio-economic growth and impeding improvements in the lives of the people.

In 1993, the Population and Family Planning Strategy to the year 2000 was approved, with a target of “Each family (couple) should have one or two children, so that by 2015 on average in society, each couple will have two children and eventually the population will become stable by the middle of the 21st century.”

The Vietnam Population Strategy 2001-2010 was identified as an integral part of the country's socio-economic development strategy, and resolved that population issues were closely linked to national development, in terms of the country's development priorities in the first decade of the 21st century. The Population and Family Planning Programme not only focused on couples of reproductive ages but also expanded service provision to unmarried youth, vulnerable groups and paid more attention to improving the quality of services.

The 2003 Population Ordinance is the highest legislative document on population issues and reflects the duties and responsibilities of citizens, the State, and the society in population and family planning tasks.

On the 22 March 2005, the Politburo issued Resolution No. 47-NQ/TW on strengthening the implementation of population and family planning policies with two basic objectives: 1) rapidly achieve replacement-level fertility; 2) improve the quality of the population in terms of physical health, intelligence, mental health and structure, to serve the industrialization and modernization of the nation.

Since 2005, Viet Nam has achieved and maintained replacement level fertility (on average, each woman has 2.1 children). Although the fertility rate and population growth rate are declining, Vietnam's population size will continue to grow for about two more decades before becoming stable (growth rate equal to zero) because of the population momentum from the past periods of high fertility.

In the current context, promoting the implementation of the population and family planning policy is an important socio-economic task in order to contribute to the improved quality and strength of human resources, to serve the industrialization and modernization of the nation and to improve the quality of life of each individual, family and of the entire society.

Regarding reproductive health, the 1994 International Conference on Population and Development in Cairo (ICPD, 1994) reoriented population policies from a narrow focus on family planning to a much broader action programme, including reproductive health and rights, in which a special focus was made on improving women's status, education and employment. Many countries relied on ICPD concepts and recommendations to develop their own reproductive health strategies. The National Strategy on Reproductive Healthcare 2001-2010, developed and implemented in Vietnam from 2000, shifted the orientation of the Ministry of Health from maternal and child health plus family planning to reproductive health care³, including all contents of reproductive health care, with greater attention paid to quality

³ Including: information, education, communication, counselling and family planning services; antenatal care,

of services and client rights, and aligning itself more closely with regional and international activities. The Strategy laid out orientations that helped localities make plans and implement activities locally, improve people's awareness of reproductive health issues and promote improvements in reproductive health activities.

To support the implementation of the reproductive health strategy, a number of legal documents have been promulgated, namely:

- Government Decree No. 12/2003/ND-CP dated 12 February 2003 on scientific interventions to assist fertility. This decree created opportunities for assisting infertile couples. To date, thousands of couples have given birth to children using these fertility-assisting technologies.
- Government Decree No. 21/2006/ND-CP dated 27 February 2006 on the sale and use of nutrition products for children. This decree helped to adjust information, education, and communication on use of these products, as well as the way these products were advertised, sold and used, while helping to maintain breastfeeding for small children.
- Government Decree No. 88/2008/ND-CP dated 05 August 2008 on sex redetermination, has helped people with congenital intersex abnormalities or unclear sex to have their sex redetermined, while prohibiting sex change operations.

The Ministry of Health issued circulars to guide the implementation of the above decrees, especially documents to improve implementation of the reproductive health strategy, including Circular No. 05/2001/CT-BYT dated 22 May 2001 on implementing the reproductive health strategy; Circular No. 04/2003/CT-BYT on strengthening newborn care and reducing infant mortality; Decisions on technical reproductive health tasks at health facilities; the decision issuing the National Standard Guidelines on reproductive health care; Decisions on approval of Master Plans on Safe Motherhood, Action Plan on Preventing mother-to-child HIV transmission, Master Plan on Care, Protection and Improvement of Adolescent and Youth Health, Action Plan on Raising Children, Action Plan on Child Survival, etc. These documents have helped improve availability and accessibility to reproductive health services in communities and improved the quality of reproductive health services, and strengthened the network, human resources and management of reproductive health.

2.2. Progress and results

2.2.1. Fertility decline has been maintained, replacement level fertility has been achieved

Between 1999 and 2009, due to continuous fertility decline, the TFR dropped from 2.33 to 2.03 children per woman. At the same time, the crude death rate (CDR) remained constant at a low level while the crude birth rate (CBR) continued to decline, resulting in a slowing down of the population growth rate from 1.5 percent to 1.1 percent. In 2005, Vietnam achieved replacement level fertility, and this level has been maintained over the past five years. According to the 2009 Population and Housing Census, the population of Vietnam in 2009 was 85.8 million, lower than previous projections.

obstetrics and post-partum care services, care during first year of life and care of women's health in general; prevention and treatment of infertility; prevention and proper treatment of the consequences of miscarriage; treatment of reproductive tract infections, sexually transmitted diseases, and other reproductive diseases; Information, education, communication, counselling on reproductive health, sexual health and parenting responsibilities.

2.2.2. Contraceptives and modern contraceptives have increased in use

The contraceptive prevalence rate in Vietnam has increased considerably. Most of this increase is due to the increase in the use of more effective modern methods. Currently, eight out of ten women aged 15-49 use some kind of contraceptive method, of these seven use modern methods and one uses traditional methods – the lowest use of traditional methods in the last 20 years.

As a result of diversifying the contraceptive methods available, the contraceptive mix has improved greatly and use of modern contraceptives is high (Table 12). In 1988, condoms accounted for only 2% and the pill for only 1% of all contraceptive users, but by 2006, these methods had increased to 10% and 13% of all contraceptive users. Although the proportion using the IUD is falling, this method continues to be widely used with more than half of women still using this method (55 % in 2008 compared with 62 % in 1988).

2.2.3. Knowledge, attitudes and behaviour towards population and family planning have changed for the better

The population and family planning information, communication and education work has improved considerably both in content, format and approach. Population and reproductive health education integrated in school curricula and independent of school programmes has created changes in knowledge and behaviour towards population and reproductive health of the people, including adolescents and youth. The model of a family with few children is ever more widely accepted; knowledge and practice of family planning, reproductive health, maternal and child health in different population groups, including among men, has clearly improved.

Advocacy activities have created a favourable social environment, strengthened commitment and supported the population and family planning programme.

2.2.4. Safe motherhood services made available at all levels

In general, safe motherhood services are available at all levels, according to the official list of services that should be available at different level facilities and according to the Ministry of Health technical guidelines. Maternal health has been greatly improved. This is reflected in the declining maternal mortality ratio from 171 in 2000 to 75/100 000 live births in 2008. Regarding reproductive health, statistical data indicate that the proportion of pregnant women who have received three or more antenatal exams, the proportion who have had a post-partum exam, the proportion of women who have delivered with assistance from a trained medical worker, and the proportion of couples using contraception are all at high levels, and almost all have continued to show an increasing trend from 2006-2009, while the number of abortions and obstetric complications have tended to decline (Table 12). Among these monitoring indicators, the contraceptive prevalence rate has shown a slight decline between 2008 and 2009, and the number of menstrual regulations has increased. It is necessary to continue monitoring these trends and analyzing the causes, and making more of an effort to monitor these services in the private sector.

Table 12: Indicators of reproductive health care services in the public sector, 2006-2009

	2006	2007	2008	2009
Proportion of pregnant women who have received 3 or more antenatal exams (%)	86.5	86.6	86.7	88.3
Proportion of women having post-partum exams (%)	87.7	87.5	88.5	89.2
Proportion of deliveries assisted by a trained medical worker (%)	97.0	94.3	94.7	94.9
Proportion of pregnant women receiving 2 or more tetanus vaccinations (%)	92.6	94.6	93.5	95.1
Reported obstetric complications	3888	3535	3064	3132
Proportion of couples using contraception (%)	78.0	78.0	79.5	76.7
Number of abortions	143 594	115 510	98 948	79 843
Number of menstrual regulations	345 482	256 992	233 206	299 369

Source: Health Statistics Yearbook, 2008; Statistical report 2009 from Department of Maternal and Child Health

2.2.5. Care of children in the first year of life has improved

In the past few decades, the health sector has paid special attention to child health care, through many national programmes including the expanded programme on immunization, acute respiratory disease programme, control of diarrhoeal disease programme, integrated management of child illness (IMCI), malaria control, dengue fever control, control of child malnutrition, etc. These are all important factors contributing to improvements in the physical and mental health of Vietnamese children, while at the same time reducing infant mortality from 36.7‰ in 1999 to 16‰ in 2009. The prevention of malnutrition has been strengthened, through an orientation to early nutrition care starting with the mother during pregnancy, through the pregnancy, care and proper nourishment of children from the day they are born. As a result, Vietnam is no longer listed among the 20 countries with the highest child malnutrition rates.

2.2.6. The number of abortions has declined, safe abortions are more widely available

Efforts have been made to provide diversified abortion services which are convenient and accessible, combined with widespread availability of emergency contraception, while expanding integrated service provision and pre and post-abortion counselling. The number of abortions declined sharply (Table 12), from the number of abortions being equal to the number of births in the 1990s, to only 28 abortions per 100 live births in 2009. The quality and safety of abortion services has greatly improved and become more widely accessible. Health facilities that provide abortion services comply strictly with procedures for safe abortion, including appropriately arranged abortion rooms, adequate equipment and improved counselling skills. In 2009, there were no reported maternal deaths due to abortion complications.

2.2.7 Reproductive tract infections, sexually transmitted diseases, and reproductive tract cancers have been prevented, and infertility prevention and treatment strengthened

Prevention of reproductive tract infections and sexually transmitted diseases is mainly carried out through campaigns integrated with family planning services. This integration has facilitated access by the community, and greater initiatives for detection and treatment. In

2008, 11.6 million women (50% of the total women in reproductive ages) received gynaecological examinations, of these 4.6 million received treatment (40% of women having examinations).

Prevention of reproductive tract cancer has begun to receive attention with piloting of secondary prevention of cervical cancer through gynaecological exams combined with visual inspection aided with acetic acid (VIA). Vietnam is also piloting a combination of HPV vaccination with programmes to screen for cervical cancer.

Reproduction assistance services for infertile couples are being developed. At present there are 12 health facilities applying high technology for treatment of infertility and science assisted reproduction such as intra-uterine insemination, in-vitro fertilization, and intracytoplasmic sperm injection. In addition, 40 out of 63 reproductive health centres have begun implementing screening and treatment of infertility.

2.2.8 The reproductive health service network has been strengthened from the central to the local level

By 2009, 100% of provincial reproductive health centres had been strengthened according to Ministry of Health Decision No. 23/2006/QĐ-BYT. At the district level, despite diverse organizational structures, 100% of districts have a reproductive health department in the district hospital or district health centre. At the commune level, 98.6% of communes have a commune health centre, 65.9% have a doctor, 93% have a midwife or obstetric-paediatric assistant doctor, 84.4% of villages have village health workers. The medical system directly related to reproductive health consists of 12 specialized obstetrics hospitals, 12 specialized paediatrics hospitals, 2 private obstetrics hospitals. 100% of paediatrics hospitals have a neonatal ward, 86% of provincial hospitals and 30.2% of district hospitals have established a neonatal unit, according to Ministry of Health Directive 04/CT-BYT dated 10 October, 2003. By 2009, 60 medical facilities have set up and maintained adolescent and youth-friendly services and 50 out of 63 provincial reproductive health centres provide reproductive health services for the elderly.

The network provides reproductive health services appropriate for each level of the system according to the referral guide, and in line with the national standard technical guidelines. The quality of services has gradually been improved to meet people's reproductive health needs and rights.

2.3. Problems to be resolved

2.3.1. The potential for resurgence of increased fertility in some provinces has not yet been eliminated

Fertility decline has been one of the most prominent demographic changes in Vietnam in the last five decades. When the population and family planning programme started in 1961, the total fertility rate was over 6 children per woman. Since 2005, Vietnam has achieved and maintained the replacement-level fertility (each woman aged 15-49 has only 2.1 children). The current total fertility rate is close to replacement-level fertility (2.03 children per woman in 2009). However, fertility in 28 out of 63 provinces/cities (in the Northern midlands and mountains, the North and South Central Coast and the Central Highlands, accounting for 34% of total population) have not yet reduced fertility to replacement levels due to psychological and cultural factors related to birthing practices and preferences for sons. Therefore, in the next 5 years, the maintenance of replacement fertility at current levels or lower will be a major challenge.

Although replacement-level fertility has been achieved and maintained over the last five years, population momentum makes it inevitable that population size will continue to increase over the period 2011-2020, even if total fertility rates are maintained at replacement level or below. According to the medium variant of the UN population projections, Vietnam's population will grow by about 10 million over the next 10 years. If replacement-level fertility can be maintained, Vietnam's population may eventually stabilize in two more decades with approximately 115 million people.

This additional population must be addressed in future socio-economic plans, especially health, education and employment plans. If fertility stabilizes at a little below replacement, the population of Vietnam will grow by one million a year (about 1.4 – 1.6 million births and 0.5 million deaths).

2.3.2. Risk of continued increase in sex ratio imbalance

The sex ratio at birth saw a slightly increasing trend from 1979 to 1999, but was still considered balanced according to international standards (104-107 boys per 100 girls). However, starting in 2005, the sex ratio at birth has remained at a high level. Thus in the past 5 years, Vietnam has experienced an imbalanced sex ratio at birth. At present, Vietnam has not yet experienced the large deficit of females seen in other countries, but if this imbalance in sex ratio at birth is not controlled, and effective solutions to balance the sex ratio at birth are not found, this will lead to severe consequences for society in the future.

In order to prevent the imbalanced sex ratio at birth, besides IEC campaigns, there is a need for concrete social policies that are effective and adequately strong enough to address gender inequality, control medical technologies used for detecting and choosing fetal sex, especially in major cities and in more developed regions, where information and diagnostic technologies are available to detect the sex of the foetus [66].

2.3.3. Population ageing and health care for the elderly

Health improvements and mortality decline have resulted in longer life expectancy at birth. The number of people aged 60 and older has increased both as a share of the population, and in absolute numbers from 7.0% (3.7 million people) in 1979 to 9.1% (7.7 million people) in 2009. It is predicted that the share of the population in older age groups will continue to increase and that Vietnam will become an aged society while still a lower middle income country in terms of per capita income.

An increasing share of the population in older age groups is one of the most important demographic issues, related to many fields such as health care, labour, social welfare, etc. and requiring appropriate social assistance policies, and greater state budget investments. Provision of health care services in the future will need to accommodate these changes

2.3.4. Regional disparities in maternal and child health

Health status disparities between delta and mountainous areas have narrowed very slowly, as reflected in regional variations in MMR and the fact that 20% of mothers in the mountainous Northwest region are still delivering babies without trained medical assistance. The main reason for this situation is that there remain many barriers hindering access to medical facilities and, perhaps more importantly, there remain many traditional beliefs and practices leading to mothers delivering at home and not allowing anyone to provide professional assistance [67].

It is a major concern that mortality rates of children under 5 in the Northern mountains and the Central Highlands regions are always higher than in other regions. The proportion of babies with low birth weight in the Northwest was 4.4%, in the Central Highlands 5.9%, while in the Red River Delta only 2.5% and in the Southeast only 2.7%. Child malnutrition rates (stunting) have declined very little, and remain very high. In 2009, overall 31.9% of children under 5 were stunted, with the highest rates in the Central Highlands at 39.2% and in the Northwest at 35.7%.

Perinatal mortality remains a serious problem. Vietnam has not yet overcome the “two-thirds rule” problem, i.e. two-thirds of under 5 mortality is under 1 year, and two-thirds of infant mortality is perinatal mortality occurring in the first month of life. Thus, with infant mortality at 16‰, perinatal mortality is estimated at about 10‰.

2.3.5. High prevalence of reproductive tract infections and sexually transmitted diseases

Reproductive tract infections and sexually transmitted diseases continue to exhibit a slight growing trend, the number of women obtaining gynaecological exams in 2000 was 10.4 million, in 2005, it had increased to 10.6 million and by 2008 to 11.6 million women. The number of women receiving treatment varies between 4.5 and 4.6 million.

2.3.6. Weak reproductive health care for adolescents and older persons

Adolescent knowledge and attitudes towards reproductive and sexual health remain limited. This leads to unsafe sex, increasing incidences of unwanted pregnancy and abortion and sexually transmitted diseases among adolescents and youth. Abortion ratios in Vietnam, despite considerable declines, are still so high that they place Vietnam among the countries in the world with the highest abortion ratios, especially with the number of abortions among youth and adolescents continuing to increase.

Reproductive health care among youth and adolescents and the elderly, has only recently been initiated, and remains quite limited. Greater efforts and more effective solutions are needed.

2.3.7. Inadequacies in the population, family planning, reproductive health care network and low service quality

The organizational system for population, family planning and reproductive health services, particularly at the district level in many provinces, is still in disarray, having a negative effect on implementation of the functions and responsibilities assigned to it. The system for providing reproductive health services has been set up and strengthened, but the working facilities of provincial reproductive health centres in some localities have not yet received investment for construction. Many centres were built a long time ago and have fallen into disrepair, the working space is too restricted, so they are not able to meet the demands of the responsibilities and functions assigned to them. The workforce is in short supply in terms of number of staff and professional qualifications, especially at the district and commune levels. The network of population, family planning and reproductive health service providers in remote, isolated and disadvantaged areas and ethnic minority areas are still hard to reach and have only modest physical facilities, equipment and human resources.

The information reporting system still faces many limitations. Data collected are inadequate, imprecise, and don't yet reflect the reality in the situation of population, family planning and reproductive health at the grassroots level. Monitoring and supervision of facilities providing population, family planning and reproductive health services in the private sector remains weak, especially in relation to abortion in private facilities.

Coordination of contraceptive procurement remains inflexible, and without initiative from suppliers. Premarital, prenatal and new-born screening services are not yet widely available. Abortion, especially among adolescents, remains at high levels.

IEC among specific target groups (ethnic minorities, adolescents and youth, older persons, men, disabled persons, etc.) has not received adequate attention. Integration of IEC and provision of reproductive health services is weak, particularly counselling before, during and after services have been received by clients.

3. Priority issues

Based on the difficulties and limitations in population, family planning and reproductive health discussed above, the following issues have been identified as high priority in the forthcoming period:

3.1. Possibility of increasing fertility in many localities

Eliminating the risk of a resurgence in high fertility in many localities and maintaining low fertility, are of key importance in stabilizing the size of the population in the future. Vietnam has only recently gone through the population transition from high fertility to replacement fertility and is moving towards a new demographic model: low fertility and low mortality. Nevertheless, it should be noted that there is a risk of fertility falling too far in some localities with high levels of urbanization. To maintain appropriate low levels of fertility and to avoid any disadvantageous changes to the stability of population size and structure requires a flexible policy that is adapted to population momentum and fertility levels in different regions and localities.

3.2. Increasing imbalance in sex ratio at birth

Experience in solving imbalanced sex ratios at birth in countries like South Korea, China and India indicate that without strong and carefully thought-out measures, imbalance in sex ratio at birth will lead to serious and unpredictable negative consequences for society. It took South Korea 20 years (1982-2002) to rebalance the sex ratio at birth while China and India still haven't solved the problem. In Vietnam, imbalanced sex ratio at birth has been on the rise over the last decade. In the next five years, implementing measures to balance the sex ratio at birth will have to be one of Vietnam's demographic priorities.

3.3. Limited quality of family planning and reproductive health services

Quality factors play a deciding role in the sustainable development of any programme. The family planning programme in Vietnam has been successful at reducing fertility and controlling population growth through expanding family planning services. Therefore, in the coming years, the family planning programme must pay more attention to improving the quality of services, including information, communication and counselling, etc. Premarital, prenatal and infant screening services have not yet been scaled up to the entire country. The service provision network has only limited coverage of remote, isolated and disadvantaged areas for provision of essential population and reproductive health services.

3.4. Disparities in the health status of mothers between delta/urban areas and mountainous/ethnic minority areas

This has been a problem for many years, and the health sector has invested much effort and resources in projects so that almost all commune health station in communes of the

Northern Mountains and Central Highlands have been rebuilt, equipped, staff trained, and staff transferred from other localities, but still with limited effectiveness.

3.5. Shortcomings remain in child health care, saving newborn lives, and geographic and economic disparities remain in child health status

To date, mortality of children under 5 in mountainous, remote areas and in poor households is 3 to 4 times higher than in lowland areas or among families with higher incomes. At the same time, while infant mortality rates have fallen considerably, there has been little change in perinatal mortality, and 70% of deaths to children under 1 and 50% of deaths to children under 5 are in the perinatal period. Malnutrition in children under 5 in terms of stunting (low height for age) remains very high, especially in the Central Highlands and Northern Mountains. Thus these remain priority areas in need of solutions over the next 5 years.

3.6. Prevalence of abortions and unsafe abortions

More attention needs to be paid to improving service quality and ensuring technical standards, including in private abortion facilities. Strengthening post-abortion counselling to change birth control behaviour is needed, especially among adolescents and youth.

3.7. Prevalence of reproductive tract infections and sexually transmitted diseases

Reproductive tract infections and sexually transmitted diseases, if not treated or inadequately treated, can leave serious consequences, negatively affecting health and family life, including infertility, ectopic pregnancy, miscarriage, stillbirth and increasing the risk of cervical cancer.

3.8. Inadequate reproductive health care for youth, adolescents and the elderly

Limitations in reproductive healthcare for youth and adolescents is one of the underlying causes of unsafe sex, unwanted pregnancies and increased abortions and sexually transmitted diseases. Reproductive health services for youth, adolescents and the elderly have only recently been initiated and require far greater efforts to refine and expand them.

4. Recommendations

In order to gradually resolve the priority issues in the provision of population and reproductive health services, the report recommends the following groups of solutions below (see details in Chapter 11: Conclusions and Recommendations):

4.1. Implement the National Strategy on Population, Family Planning and Reproductive health care more effectively.

4.2. Reduce perinatal mortality, improve children's health.

4.3. Strengthen reproductive health services.

Chapter 5: Human resources for health

This chapter focuses on assessing the situation and priority issues related to health human resources in Vietnam, and on this basis makes recommendations for solutions to the identified priorities.

1. Concepts

In order to have a uniform understanding of basic concepts/perspectives related to health human resources, below is a summary of concepts regarding human resources for health, perspectives on the role of human resources for health and on the management to improve performance of human resources for health.

According to WHO (2006), “Health workers are all people primarily engaged in actions with the primary intent of enhancing health”. Accordingly, the 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) [68].

Human resources for health are regarded as an essential building block of the health system and the prime factor ensuring the effectiveness and quality of healthcare services.

Human resources for health have a determining role in providing healthcare services to the people. The health workforce is regarded as one of the most basic and important components of the healthcare system. Human resources must be closely linked to other components of the system such as health financing, health information systems, service delivery, drugs and equipment, and governance [69]. In Vietnam, Politburo Resolution No. 46/NQ-TW, dated 23 February 2005 stated the guiding principle for human resources for health, namely that “medical occupations are special occupations, requiring special care in recruitment, training, use and remuneration.”

Health is a labour-intensive sector, therefore education and training of health workers requires major investments and greater attention by the Government in planning and deployment of human resources for health than in other sectors. The unending development of medical science and technology dictates that health care practitioners must continuously upgrade and update their knowledge and skills throughout their career. Health human resources have particular characteristics related to occupational ethics, and, no matter how small the action, may affect the life, dignity and happiness of the people. Because of this, practicing medicine requires a high level of regulation to protect patients, the community and other healthcare practitioners.

Management to improve the performance of human resources in general requires national strategy to ensure adequate human resources (in terms of number, quality and occupational mix of health workers) according to the need for healthcare in each region and for the nation as a whole; developing high professional competencies, supplementing knowledge for development of human resources to ensure the right people in the right position, through strategies for appropriate training, including special attention to continuous medical training; motivation of health workers through heightening ethical values, ensuring appropriate working conditions and environment, and implementing a remuneration system, including various social benefits linked to work performance in an effective and fair manner [70]. The three above goals (coverage, competency and motivation) form the basis for the

equity, efficiency and quality of the health system, and through these goals, to implement the ultimate goal of the health system, to improve the health of the people.

2. Situation analysis

2.1. Progress and results

2.1.1. The number of doctors and pharmacists per 10 000 population has reached the desired goal according to plans

Currently, the number of health workers per 10 000 people in Vietnam places Vietnam in the group of countries at the high end (more than 5 doctors per 10 000 population) [71]. The number of government health workers per 10 000 increased from 29.2 in 2001 to 34.4 in 2008 [28]. The number of health workers has increased substantially in the past few years, especially the number of doctors, university-trained pharmacists, nurses and medical technologists.

In addition, Vietnam has 5.7 assistant doctors per 10 000 people, primarily serving commune level health services; 100% of communes and 90% of villages have health workers working in them, 69% of communes have a commune health station that has met national benchmark standards in 2009 [28].

2.1.2. The medical training system has been expanded and the quality of health human resources has improved

The network of medical training institutions has been expanded, including both public and private facilities. The whole country has 25 university-level medical/pharmaceutical training institutions. Of these, two are still in the process of being established. Almost all provinces have a secondary medical school or junior college providing medical training. The training curriculum and physical facilities in many schools has been improved. Some medical universities have hospitals for practical training, creating good conditions for students to gain experience with patients.

In recent years, the Ministry of Health has improved the training curriculum and expanded the scope of specialties that it provides training for, in both the university (e.g. preventive medicine doctor, medical technology bachelor's degree, hospital management) and at the junior college and secondary vocational levels (e.g. preventive medicine, population health, medical technology). Policies facilitating continuing professional development for people with lower level qualifications and training of health staff through contracts between medical schools and localities in need of more medical staff have contributed positively to supplying health workers to local areas, especially disadvantaged areas.

In general, in recent years, the share of health workers with elementary and secondary training has declined, while the proportion with university and post-university training has increased (now accounting for about 29%). Many new types of health occupations have been set up such as university trained nurse, public health bachelor's degree, and medical technology bachelor's degree. Many health workers have been trained to improve their skills in post-graduate training such as doctors undertaking a two year residency, level I specialist and level II specialist, Master's and Doctoral degrees. The workforce of technicians and scientific researchers has also been strengthened, allowing the application of many modern technologies.

Continuous medical education for health human resources has been implemented in several forms including: a) training to update and increase knowledge and techniques in the current profession; b) retraining; c) training as part of the mentoring from higher to lower level facilities; d) training for technology transfer; and e) other professional training courses in the health sector that do not belong to the national degree/diploma-granting system.

2.1.3. Some policies on health worker remuneration have been reformed

The Government has issued and implemented regulations on special occupational and regional salary supplements for health workers working in disadvantaged regions and fields, such as the supplement for dangerous work, supplement for frequent travel, supplement for greater responsibility, supplement for epidemic control, supplement for performing surgery and procedures, supplement for night shift and overtime, and a priority supplement for health workers working directly with patients [72]. In 2009, the Government increased the salary supplement to attract people to work in remote regions to 70% of the basic salary⁴ (Decree No. 64/2009/ND-CP), created a special salary allowance for health workers working in some priority hospitals (Decision No. 64/2009/QD-TTg) and created an allowance for village health workers equivalent to 30 or 50% of minimum wage depending on the level of disadvantage of the region (Decision No. 75/2009/QD-TTg).

2.1.4. Many policies aimed at strengthening capacity at the lower levels, especially commune and district levels, have been implemented

The implementation of Project 1816 has resulted in staff secondments to rotate experts from higher-level hospitals to support lower-tier hospitals, to improve the quality of lower level health workers through training on location, retraining in specific skills and technology transfer.

The Ministry of Health has developed a policy and active support methods to develop training in disadvantaged regions, including the project for direct recruitment of medical students without entrance exams for certain disadvantaged regions according to Decision No. 1544/2007/QD-TTG and Decree 134/2006/ND-CP and training according to contracts between specific localities and training facilities to train local health workers for provinces in need.

The Ministry of Health has a policy to strengthen post-graduate training for health workers through increasing the quotas for post-graduate training at medical schools, eliminating the requirement for a foreign language (English) during student recruitment for Level II specialists for health workers in disadvantaged regions, and strengthening post-graduate student recruitment through health support projects in the Central Highlands, Mekong Delta, etc.

2.1.5. Conditions for strengthening continuous medical education have improved

The Ministry of Health issued Circular No. 07/2008/TT-BYT, guiding implementation of continuous medical education throughout the country. In 2009, The Science and Training Department of the Ministry of Health gave more concrete instructions to implement the above Circular, for the organization and management of continuous medical education in the localities, and the development and compiling of curricula, and training

⁴ Basic salary consists of the salary according to the government pay scales plus the salary supplements for people in leadership positions in their unit, and the supplement for people with seniority whose experience pushes them beyond the highest step in the pay scale.

materials [73; 74]. The implementation of continuous medical education and improvement of qualifications of government health workers has been reorganized and concentrated in two institutions, the Hanoi School of Public Health, and the Ho Chi Minh Institute of Hygiene and Public Health, with many different training curricula. Many curricula and training materials have been approved by the Training Material Review Board of the Science and Training Department of the Ministry of Health [75].

2.2. Priority issues

2.2.1. Imbalance in human resources leading to shortages of health workers in some fields and regions

Shortage by field

There is a shortage of human resources in several fields, including preventive medicine, public health, paediatrics, infectious diseases, mental illness, forensics, pathology, TB and leprosy, food safety and hygiene inspection, medical technology, engineers specialized in medical equipment, health statistics and hospital management [69]. A classic example is the serious shortage of human resources in the preventive medicine system, especially at the district level. According to the draft Ministry of Health Human Resources Development Master Plan, there is a need to increase the workforce in preventive medicine by 15 979 people, primarily doctors and medical technologists.

Regional imbalance

Human resources are deployed unevenly across regions. Health workers with higher level qualifications like doctors and university-trained pharmacists, are primarily concentrated in urban areas and large centres at central and provincial level facilities (Table 13).

Table 13: Structure of health workers by qualifications and distribution by level of facility, 2008

	Total	Post-graduate	University	Junior college and secondary	Elementary
Overall structure by qualification	100%	2.2%	23.0%	54.6%	17.3%
Distribution by level (%):					
Central	14.5	54.2	22.1	8.4	13.3
Provincial	36.8	41.1	35.7	30.9	32.5
District	27.6	5.0	22.9	28.2	18.6
Commune	21.1	0.0	22.1	26.1	12.9
Total	100.0	100.0	100.0	100.0	100.0

Source: Health Statistics Yearbook 2008 [28]

Table 13 (Column 2 Total) indicates that the Central level deploys about 14.5% of the total state health workforce. These are concentrated primarily in Hanoi and HCMC. Provincial health workers account for 36.8% of the total and are concentrated in the larger

urban areas of the provinces (36.8%). About 27.6% of the state health workforce works at the district level and the remaining 21.1% at the commune level.

A majority of health workers with high level qualifications (university and post-graduate) are concentrated in the central and provincial levels (95.3% of post-graduate health workers are in these two higher level facilities and 57.8% of all university-trained health workers). The number of doctors per 10 000 population is highest in the large cities including Da Nang (6.9), Hai Phong (6.6), Ho Chi Minh City (6.4). While in other regions the ratio of doctors to population is low, such as the North Central Coast (4.2), Mekong River Delta (4.1) and South Central Coast (4.5) [28].

The shift of health workers from lower to higher level facilities and towards major cities, and the shift of health workers from public to private facilities is occurring at alarming levels, affecting the ability to ensure the necessary number of health workers in all health facilities (Table 14) [76]. These shifts are leading to increasingly uneven distributions of health workers across levels.

Table 14: Number of doctors leaving public facilities, 2008

Province	Doctors leaving public facilities		
	Specialized facility	General facility	Total
Hanoi	9	15	23
Ho Chi Minh City	34	86	120
Hai Phong	9	0	9
Quang Ninh	2	1	3
Nghe An	3	0	3
An Giang	13	1	14

Source: USAID. Assessment of health system performance in six provinces of Vietnam. Hanoi, 2010 [76].

Labour markets

Many factors affect the health labour market, such as economic development, differentials in the level of economic development between urban/rural areas, policies encouraging development of the private sector, and even improving living standards that change preferences and demand of users of health services. Resolving the balance between demand and supply through plans to train adequate human resources for public health facilities is no longer an appropriate solution. At present, management of the health worker labour market requires use of new instruments to forecast demand and supply, reform the training system so health workers are flexible to respond when needs change, and ensure appropriate remuneration policies (including salary, salary supplements, working conditions, opportunities for studying, for promotions, etc.) for health workers that are sufficient to balance the labour market between urban and rural areas and between more attractive and less attractive occupations and positions [77]. It may even be possible, as in developed countries, that there will be work positions that cannot attract personnel, and consideration must be given to changing the model of health service provision to respond to the needs of the people under the existing conditions.

The above description explains part of the reason why the mountainous, isolated and remote areas cannot attract health workers. And equally, why health workers are strongly attracted to urban areas [78]; and why some fields like preventive medicine, infectious

disease, paediatrics, etc. are facing shortages of personnel, low intake of students in medical school and why general practitioners don't want to work in those fields.

Measures to reduce imbalances

To overcome the shortage or imbalance of health human resources in certain regions and fields, we cannot simply increase the recruitment and training of students, but we must also have comprehensive and consistent solutions at a macro level [78]. According to Politburo Conclusion 42-KL/TW, the Ministry of Health must develop legal regulations on the rights and responsibilities of health workers towards society, and eventually legal mandates for compulsory duty by health workers in disadvantaged regions of the country [79].

As a temporary measure, to partially overcome the shortage of doctors in mountainous areas and ensure equity and efficiency in the provision of health care services for the people in all regions of the country, the Ministry of Health has implemented Project 1816, first of all by matching up the need for skilled personnel in lower levels with the available skilled personnel in higher levels. After one year of implementation (through September 2009), 59 hospitals had seconded 1846 health workers for rotations in 189 hospitals and health facilities across 57 provinces. Technology transfer took place in 26 specializations, 129 training courses were organized with 11 978 trainees, 70 434 patient exams/treatments were directly performed by seconded staff; 1882 surgeries, in particular for severe illnesses, were performed by seconded doctors to save and improve lives, and the number of patients in need of referral to higher levels fell by 30%. Currently there are 30 provinces that have actively set up and implemented plans for secondment of provincial doctors to district and commune levels [79].

Nevertheless, there remain some challenges to the effective implementation of Project 1816, such as low coordination between facilities and the fact that in some cases the higher level facility staff are not appropriate for the needs of the lower level. In some localities, there is still a situation where health workers from higher levels simply fill in for lower level staff in performing their duties. The secondment of staff from higher level facilities also leads to shortages of staff in those higher level facilities [79; 80].

Project 1816 has been assessed as a project with a high level of humanitarianism, contributing positively to resolving the shortage of health personnel and improving capacity of service delivery at the lower levels. This is a temporary solution, but in the view of the Ministry of Health, it may need to be implemented over the longer term [79].

For students from mountainous areas and from ethnic minority groups, extra help they need to ensure they can follow the curriculum is inadequate: there are no extra classes to strengthen basic learning skills, or language skills for students directly recruited students (i.e. people from disadvantaged areas who do not have to pass entrance exams), so it is hard for them to attain basic qualifications on par with students who were admitted based on entrance exams; the source of funds to provide scholarships for directly recruited students remains low. Besides the above solutions, we also need to consider greater flexibility in the health service delivery model, and train new types of health workers, not at a level that is too high, like doctors and pharmacists, but with adequate skills to perform the main tasks of health service delivery. Experience in other countries, e.g. even in Canada, indicates that responsibility for medical treatment can be assigned to physician's assistants/nurse practitioners in remote regions, to reduce the burden of the unsatisfied need for doctors in those areas. [81]. In 1997, China also faced a situation similar to Vietnam in terms of a demand that they ensure quality of health services in rural areas in the midst of health human

resources shifting towards urban areas. The solution of training assistant doctors to undertake the work of doctors in rural areas was proposed, along with professional quality standards for all different types of health workers. These solutions met the need of localities and were acceptable and feasible [82]. In some other countries, like Thailand, success was also achieved through setting out training programmes for students in rural areas and developing schools for training medical personnel in rural areas [83].

Salaries, supplements and bonuses retain many shortcomings

Salary levels are not yet a living wage, the salary supplements by region and field are too low and inadequate to overcome the income differentials between fields of specialty and region, causing difficulties in attracting human resources to work at lower levels in fields of preventive medicine, paediatrics, TB, etc. The source of funding to pay health workers additional incomes comes primarily from the formal revenues of health facilities, which, in disadvantaged areas, are difficult to ensure adequate levels because of the limited ability of health insurance funds and the people to pay.

2.2.2. Limited quality assurance of health human resource training

Training quality has not improved in many health worker training facilities (lack of physical facilities, inadequate instructors in quantity and quality, training programmes updated too slowly, accreditation of quality not yet implemented) [69].

Health human resource training facilities are still extremely modest in terms of infrastructure, especially practice facilities like hospitals, basic medical laboratories and libraries. The Ministry of Health has many policies to facilitate and support training facilities to make students undertake practical training and internships, including the Circular guiding hospital-school collaborations (09/2008/TT-BYT dated 01 August, 2008). Nevertheless, because of difficulties in finding funding and in terms of infrastructure, some schools still don't have a practice hospital such as Thai Binh Medical University, Nam Dinh Nursing University, Tay Nguyen University and Can Tho Medical University. Therefore the lack of practical training facilities for students is a common problem in many health worker training facilities.

The lack of equipment for medical practice rooms is widespread in training facilities. The Ministry of Health has plans to mobilize loan capital from the ADB to help some training facilities upgrade their medical practice rooms, with hopes that this will commence in 2011. Medical training schools need plans to absorb and utilize these practice facilities, starting with arranging physical facilities and instructors able to operate them when the equipment has been procured [84].

Although the qualifications of instructors in medical schools has improved [85], it will nevertheless be difficult to reach the Government's goal for 2020, namely to have at least 90% of university instructors and 70% of junior college instructors possessing a master's degree or higher; and to have at least 75% of university instructors and 25% of junior college instructors possessing a doctorate degree [86].

Application of participatory, active learning methods is still not widespread, not uniform, and depends primarily on the capacity of each school and instructor to mobilize financial and technical assistance from overseas [87; 88]. Updating of the curriculum framework has been implemented rather slowly compared with demand.

The Law on Examination and Treatment was passed by the National Assembly in November, 2009 and will come into effect in January 2011. The Law calls for health workers

to meet standards in terms of medical examination and treatment theory and practice, but at present there are still no unified national guidelines on standards of professional competency, nor a national standard mechanism to check professional competency for medical practitioners. Currently competency standards for graduates in health sciences fields have not yet been issued, and the only draft available is for university level nursing competencies developed by the National Nursing Association. This is a new challenge for the health worker training schools, especially for the training of clinicians (doctors and nurses), in preparation for and implementation of training programmes aimed at satisfying the demands for practitioner licensing.

Training facilities are obliged to implement accreditation of training quality, update their training curricula, and arrange for appropriate instructors and physical facilities so that when students graduate, they are able to meet professional competency standards according to the Ministry of Education and Training's regulations on reforms in management of university education [89]. However, currently funds allocated for training are low (VND4 million/university student), tuition charges according to State regulations are also very low (VND340 000/month), just enough to pay instructors' salaries. Therefore, it is necessary to have a mechanism to provide financial support for health worker training establishments to develop and implement programmes for accreditation of training quality in an effective manner, so instructors earn a living wage, and can focus on their teaching, and to ensure that there are adequate practice facilities for medical students and to ensure the quality of graduates as per existing commitments of training facilities.

Implementation of continuous medical education is facing difficulties in ensuring quality of the training and in enforcing compliance by practitioners.

The Law on Examination and Treatment has emphasized the need to update knowledge through continuous training programmes and the Ministry of Health has also issued Circular No. 07/2008/TT-BYT on continuous medical education, yet implementation of these regulations is still facing difficulties related to the implementation mechanisms and financing. Currently there are no sanctions that can be imposed when a health worker does not comply and attend training to improve his/her skills.

One of the major limitations to short-term training is a shortage of funding, partly because of low budgeting norms. Currently funds allocated by the Ministry of Health for retraining are low, only adequate to organize 50 courses with approximately 2000 trainees in facilities directly managed by the Ministry of Health. Therefore, many health workers still have the need for retraining, but are unable to participate [69]. In addition, some programmes and projects have also implemented short-term training of staff in the programmes, for example the programme for training the district level for 2005-2008, each year provides funds in the amount of VND 5 billion according to Prime Ministerial Decision No. 225/2005/TTg, with the stipulation that funds are spent according to the Law on State Budget. Similarly, the project to strengthen and develop district preventive medicine facilities (according to Prime Ministerial Decision No. 1402/2007/QĐ-TTg) also requires implementation using provincial funds. However, the quality of instruction in these training courses is uneven, and there is as yet no training quality assurance mechanism [87; 88].

In disadvantaged areas, health workers seldom have the opportunity to participate in continuous medical education because they are unable to mobilize adequate funds from the provincial budget. The recent Assessment of Health System Performance (implemented with assistance from USAID) indicated that funds in each province for training are almost non-existent. In provincial hospitals that have implemented the autonomy policy, according to Decree No. 43/2006/ND-CP, only VND 50 million has been allocated for retraining per year

and at the district hospitals, funds are only VND 12 to 15 million per year. Preventive medicine departments don't have funds allocated for retraining, and depend entirely on programmes and projects [76].

Another problem is that many health facilities are unable to send people for training to upgrade their competencies because they face staff shortages to undertake professional responsibilities. Therefore, there is a need for appropriate support and convenient location and timing of training. [69].

2.2.3. Ineffective health human resources management

State management of human resources

Currently health human resource development planning lacks detail, leading to difficulties in planning for training and deployment (e.g. develop what kind of workers, how many graduates are adequate). According to current statistics, it is not clear whether the current number of people trained is adequate or excessive. According to forecasts of the Science and Training Department, by 2015, each year there is a need for an additional 5299 doctors and 1337 university-trained pharmacists to replace those retiring, shifting occupations and to satisfy the growing demand. This is adequate to supply the health system in terms of doctors or pharmacists per 10 000 people (Table 15).

Table 15. Estimation of annual training needs, 2015 and 2020

Type of health worker	2015		2020	
	Norm per 10 000 people	Training need each year	Norm per 10 000 people	Training need each year
Doctor	8.0	5299	10	7030
Pharmacist	1.6	1337	2	1724

Source: JAHR 2009

Also, according to the Report from the Department of Science and Training, the number of doctors and pharmacists expected to graduate in 2012 is 4890 and 1755 respectively [69], not including people graduating from professional development programmes for staff with lower level qualifications who are obtaining higher degrees. Thus, the total number of graduates in 2012 is certainly higher than necessary. The number of university trained pharmacists to graduate in 2012 (1755) is certainly higher than the planned figure for 2015 (1724) [69]. From this we can see that the number of doctors and pharmacists trained is adequate for the need to the year 2015.

If we consider other fields of training where there are shortages of staff, such as preventive medicine, paediatrics, tuberculosis, then there is a need for adjustments in training norms as well as the need for appropriate policies to attract students to undertake training in these fields where there is a shortage of workers. Because there is not yet a comprehensive human resources development policy, there is a lack of consistency in the policies.

Currently the private health sector is developing and utilizing health workers trained in public training facilities, or moving over from public health facilities. Without a strategy for comprehensive health human resource development, then it will be difficult to have a clear plan for health human resource training for public health worker training facilities.

In the past few years, few new types of health personnel have been trained, such as public health bachelor's degree, medical technology bachelor's degree, bachelor's degree in

nursing. Performance assessments of teamwork and assessments of skill mix (coordination of existing health staff such as doctors, pharmacists and nurses) in the provision of health care services to the people have not yet been implemented. Therefore, it is necessary to have comprehensive research on this issue in order to prepare training plans and recruit appropriately.

Facility management of health personnel

In the past few years, the Government has reformed salaries and supplements for health workers, especially for specific occupations specializing in treatment of TB, mental illness, paediatrics, HIV/AIDS, preventive medicine, aimed at partially overcoming difficulties in attracting workers to less attractive locations or fields [69]. Remuneration is a management instrument aimed at creating incentives to increase the productivity and performance of health workers. However, currently there is no clear mechanism for allocating tasks, assessing performance, or receiving payment according to productivity or quality of work, so the system does not motivate workers to perform well, and leads health workers to try to move to higher level facilities or to move to the private sector.

An assessment of the health system in six provinces undertaken recently indicated that almost all health facilities do not have detailed job descriptions for each position. Currently only in Ho Chi Minh City and An Giang, where ISO 9001-2000 standards are being implemented, have hospitals begun to develop job descriptions for each position. However, development of job descriptions is facing difficulties in preventive medicine and commune level establishments because health workers have responsibility for so many different tasks at the same time. [76].

A concrete health human resources development strategy will contribute to strengthening the effectiveness of the health sector, even in difficult conditions. Strategies must strive towards the goal of ensuring that all the people can access health workers with adequate qualifications, enthusiasm and accountability in providing health care services to the people [71].

Although there are several programmes to support the upgrading of physical facilities at the district and regional hospitals through various investment projects and programmes using treasury bonds, health workers are currently still working in difficult conditions, physical facilities are still quite limited and medical equipment is often inadequate. Nevertheless, slow disbursements and lack of uniformity mean that health workers are still facing difficulties [69]. Working conditions of health workers are still modest and worker safety cannot be ensured, and these affect work performance.

In addition, the system for monitoring the quality of clinical services has not yet been implemented effectively [69]. Various tasks like reviewing patient deaths, reviewing patient case records, applying technical standards for each case, consulting on difficult cases, complying with drug and treatment committee regulations, etc. are not yet regularly and effectively implemented in health facilities. Therefore, health service quality assurance in health facilities are not yet considered adequate and need greater attention.

The number of health sector managers have received professional management training is quite low, especially in the area of hospital management [69]. In this period of transition in the management mechanism of hospitals, managers need to be trained to upgrade their knowledge and skills in many areas such as planning, financial management, personnel management, equipment and physical plant management, records management, etc. Therefore management staff need to have their capacity strengthened through continuous training in management in general, and in the area of hospital management in particular.

3. Priority issues

3.1. Shortage and imbalance in health human resources

- Shortage of health workers in certain specialties with low incomes such as preventive medicine/public health, paediatrics, infectious diseases, forensics, pathology, food hygiene and safety inspection, medical technologists, engineers specialized in medical equipment, health statistics and hospital management.
- Uneven distribution of health personnel across regions. Health personnel with high qualifications, such as doctors and university-trained pharmacists, are primarily concentrated in cities and urban centres in both the public and private sectors.

3.2. Limited quality assurance of human resources

- Accreditation of training quality has not yet been implemented in most medical training facilities.
- Qualifications, skills, time, methods, and conditions for training are weak and inadequate; methods for assessing training results are not yet systematic; support for students from mountainous and ethnic minority areas to follow training programmes do not yet meet need.
- There are still no uniform competency standards for graduates of medical schools to serve as the basis for developing training programmes or goals.
- Mechanism for quality assurance of continuous medical education and regulations to ensure compliance with continuous medical education have not yet been developed.

3.3. Inadequately effective health human resource management

- In terms of state management of human resources, every year an adequate number of health workers is trained, yet there is still inadequate information on the health worker labour market and policies have not yet been developed in line with the functioning of labour markets to allocate and deploy medical workers according to the needs of the health system.
- There has not yet been an evaluation of the effectiveness of teamwork between different types of health workers providing health care services
- Clinical supervision of health workers has not yet been regularly implemented, and there is no mechanism to assess job performance, nor to create incentives to increase productivity and work performance.
- Training of human resources specialized in management remains limited.

4. Recommendations

In order to gradually resolve the priority problems in health human resources, this report recommends the following groups of solutions (for details see Chapter 11: Conclusions and Recommendations):

- 4.1. Limit the situation of health worker shortages and imbalance.**
- 4.2. Strengthen quality assurance for human resources in health.**
- 4.3. Strengthen the effectiveness of health human resource management.**

Chapter 6: Health information systems

The health information system is one of the six essential building blocks of the health system. The complete, timely and accurate production of information can help in decision-making and taking correct and effective actions. Quality information not only serves policy-making, management, administration, scientific research, as well as improving the effectiveness of health service provision, but it is also useful for communicating to the people about the prevention of dangerous diseases, how to take care of their health and that of their family and community.

This chapter focuses on assessing the situation of the health information system, determining priority issues in need of solutions and making recommendations for solutions that will strengthen the health information system, satisfy the demands for reform and strengthen the Vietnamese health system in the coming years.

1. Concepts

The health information system, with the main function of collecting, compiling, analyzing, exchanging, disseminating and using information, includes six main components: resources, statistical indicators, data sources, data management, information products, dissemination and utilization of data [90].

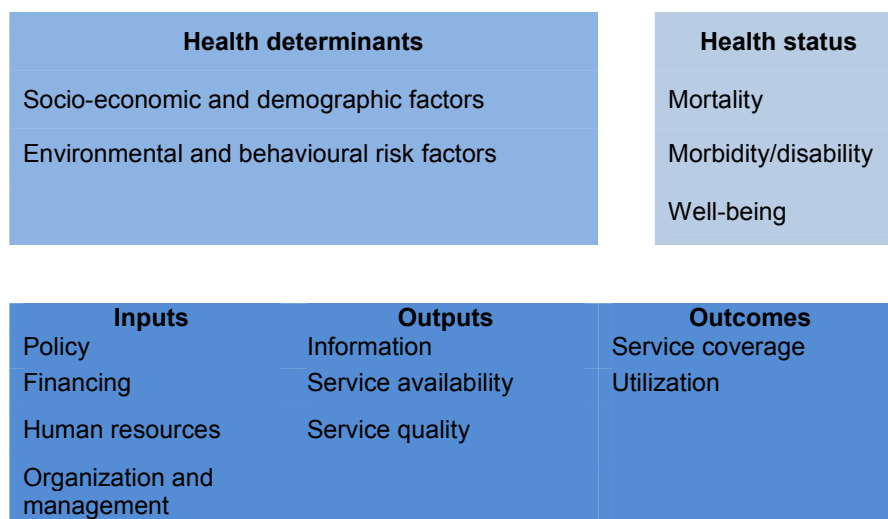


Figure 18: Components and standards of a health information system

Health information system resources include: information policies; financial resources;⁵ human resources; physical infrastructure; coordination and leadership.

Statistical indicators are divided into three main groups: indicators of health determinants; indicators of health system activities; indicators on the population's health status (Figure 19). The set of indicators should be decentralized in line with each level of the health system. Indicators chosen should be reliable, sensitive, measurable, and indicators should be reasonable and useful for making decisions for the level where data are collected or higher levels.

⁵ According to the report of the Health Metrics Network (HMN) in 2006, the annual costs of a comprehensive health information system are estimated at between USD 0.53 and 2.99 per capita. In terms of purchasing power parity and population in Vietnam in 2008, this would amount to between VND 280 and 1580 billion.

**Figure 19: Domains of measurement of health information systems**

Data sources in a health information system are diverse and include sample surveys, vital statistics, individual records, administrative systems and resource management systems. Table 16 indicates different types of information that need to be collected and diverse data sources of the health information system. It is important to note that many data sources are from outside the health sector, for example the statistics sector (e.g. census, sample surveys), justice sector (e.g. civil registration), and other sectors (e.g. administrative information on traffic accidents).

Table 16: Sources of health information

Data source	Health determinants	Health system		Health status
		Inputs, outputs	Coverage, utilization	
Population and housing census	•	•		•
Civil registration	•			•
Household sample surveys	•	•	•	•
Individual records (disease registry, patient records, etc.)	•	•	•	•
Health service provision and administrative systems		•	•	•
Resource information systems (finance, human resources, health facilities, etc.)		•		

Data management includes the whole set of processes serving storage, coding, transmission, including quality, compilation, analysis and dissemination of data. Effective data management helps to ensure accurate and complete data. Data need to be analyzed and presented in an appropriate manner, including calculation of indicators and preparation of tables, figures and diagrams. Finally, data must be made readily available for all those who need to use it.

Information products are the result of collection, processing and analysis of information. Information products in the form of data are only a crude product. Data itself only have high value once they are cleaned, checked and analyzed and become information. Information increases in value when it is integrated with other information to make assessments in the form of the problems that the health system faces. Compilation of evidence must then be communicated and disseminated to people responsible for making decisions.

Dissemination and use of data: An important function of the health information system is to link production of data with its use. Dissemination of information is extremely important to ensure that users can access information easily and conveniently. Users of data include service providers, managers, planners, policy-makers, investors and the community.

2. Situation analysis

2.1 Health information policies

Given the importance of information for policy-making and management, the National Assembly, Government and Ministry of Health have paid a lot of attention to developing and strengthening information in general and the health information system in particular. Many policies related to information work have been issued such as:

Statistical Law No. 04/2003/QH11 was issued in order to strengthen statistical work, ensure statistical information is honest, objective, accurate, complete, and timely to serve state management agencies to make assessments, forecast situations, develop strategies and policies, develop plans for socio-economic development, meet the statistical information needs of organizations and individuals, and strengthen the effectiveness of state management of statistical work. The Statistical Law is the basis for developing and issuing policies related to statistical information. In 2004, Decree No. 40/2004/ND-CP was issued to guide implementation of the Law.

Health statistics regulations were issued under Ministry of Health Decision No. 379/2002/QD-BYT and serve as the legal basis for the collection and processing of health statistics information, and at the same time regulate the functions, responsibilities and accountability of health facilities throughout the country in terms of implementation of the reporting and registration system; and strengthen the responsibility of management and other staff participating in the health statistical information system.

Besides general regulations according to the Statistical Law and Decree No. 40/2004/ND-CP, there are other more specific regulations on statistical resources and state management of health statistics. In 2009, the Prime Minister issued Decision No. 45/2009/QD-TTg on the salary supplement for people working in statistics to apply to statisticians with secondary vocational and higher training, with the supplement ranging from 10% to 25% of basic salary. Decree No. 14/2005/ND-CP dated 04 February, 2005 on **administrative violations and penalties** in the field of statistics aimed at strengthening the responsibility of different levels, sectors and statistical information workers in data collection, processing and supply.

Regarding statistical indicators, on 24 November, 2005, the Prime Minister issued Decision No. 305/2005/QD-TTg, on approving the National Statistical Indicator System, which regulates and allocates responsibility for data collection and statistical indicator calculation of each sector. In the field of medicine, Ministry of Health Decision No. 40/2006/QD-BYT dated 25 December, 2006 issued the system of health statistics indicators,

unified concepts and data collection methods, improved the quality of data, and strengthened use of data for analysis, evaluation and policy-making.

Recently, the Prime Minister issued Decision No. 43/2010/QĐ-TTg, dated 2 June 2010, on issuing the National Statistical Indicator System. As of 20 July, 2010, the 2010 National Statistical Indicator System officially came into effect, replacing the 2005 National Statistical Indicator System.

Information sources of the health sector: Minister of Health Decisions on issuing statistical forms, tables and registers were initially developed in the 1960s, and have been adjusted, and amended to be in line with each period of reform in 1977, 1992, 2001-02, and most recently in 2009, after the national statistical indicator set and the health statistics indicator set were issued. For communicable diseases, the Ministry of Health issued a regulation on information reporting about communicable diseases to serve control and checking of epidemics and outbreaks along with other related documents in Ministry of Health Decision No. 4880/2002/QĐ-BYT. Besides these routine information collection sources from health facilities, there are several national surveys on living standards and health and various smaller surveys and studies undertaken by national health target programmes, units, and localities that provide much important information to the health sector.

Many policy documents have been issued on the development of **information technology** for data management and processing and for the administration of socio-economic activities, such as: Politburo Directive No. 58/CT-TW in 2000 on promoting the application and development of information technology; Law on Information Technology, Law on Electronic Transactions; Decree No. 64/2007/NĐ-CP on application of information technology in activities of state agencies; Prime Ministerial Decision No. 246/2005/QĐ-TTg approving the Strategy for Development of Information and Communication Technology in Vietnam to the year 2010 with an orientation to the year 2020. In the health sector, Ministry of Health decisions have also promoted the application of information technology in the health information system such as: Ministry of Health Decision No. 1833/2002/QĐ-BYT issuing the health facility management software; Decision issuing hospital statistical software (Medisoft); Ministry of Health Decision No. 5573/2006/QĐ-BYT on specifications for hospital management software.

2.2. Progress and results

In recent years, along with the development of the health system, the health information system has also undergone important development steps.

2.2.1 Organization and human resources to implement health statistics work

The general statistics and information system of the Ministry of Health's Planning and Finance Department serves as the focal point for leadership and implementation. Before 2008, the Planning and Finance Department had a Statistical Information Group. Implementing Ministry of Health Decision No. 44/2008/QĐ-BYT, dated 30 December, 2008, regulating the functions, responsibilities, scope and organizational structure of the Planning and Finance Department, the Statistical Information Group was transformed into the Health Statistics Office. This new office is responsible for helping the Planning and Finance Department to implement functions related to health statistics work such as: state management of health statistics for the entire sector; development and management of databases of the health sector to serve development of plans and policies; professional guidance on statistical work for units directly under the Ministry of Health's management,

and for provincial health systems and health activities of other Ministries and sectors; development of long-term and short-term plans on health statistical work; and supervision of the health statistical work of units directly under the Ministry of Health, in localities and in other sectors.

In 2009, The Central Health Information and Technology Institute (CHITI) was established by merging the Central Institute for Medical Sciences Information (CIMSI) and the information technology centre, with its functions related to the application and development of information technology and medical information to serve the health sector. CHITI is expanding its activities in two leading directions: information technology and library information in the health sector. In the next few years, CHITI will have a new 9-storey facility on Hanoi's Hoang Quoc Viet Road with an area of 5000 square metres. CHITI has decided to invest in fibre optic cables (direct line) through a contract with the VDC Company, with much faster speeds than before. This investment will enable the development of online e-health services. At the same time, CHITI has provided technical support for web pages of provincial health bureaux.

In addition to these two leading entities of the Ministry of Health, each department and administration within the Ministry of Health has responsibility for developing content and directing information, education, communication (IEC) work in their field, implementing research activities, collecting information and organizing supervision and monitoring and evaluation, preliminary and final assessments of activities in their field of specialization. In the area of preventive medicine, there is a system of epidemic surveillance for communicable diseases, surveillance of HIV/AIDS, and food poisoning incidents. In the area of medical examination and treatment, there is administrative information on the public and private medical care facilities, and an annual hospital survey; databases are being developed to supervise and monitor the issuing of practice licenses and manage implementation of continuous medical education and medical error in the process of implementing the Law on Examination and Treatment, with technical and financial support from the ADB health human resources sector development programme.

Research institutes in the health sector, and many outside the health sector, also undertake information collection, research on health and health determinants, ability to access health services, etc. The General Statistics Office collects information from the routine reporting systems and surveys related to health, population, health determinants and health services. The Ministry of Finance supervises state budget allocations to the health sector, and this information is used by the Ministry of Health in collaboration with the World Health Organization to regularly calculate the National Health Accounts.

The Central Health Information and Education Centre and its network in all 63 provinces has an important role in providing information to increase understanding and knowledge of the people, local authorities, and employers, about healthcare, prevention of disease, and health promotion. The role of this Centre is becoming increasingly important, especially in terms of information to prevent non-communicable disease.

2.2.2. Health statistics indicators

The health sector currently has a list of 127 health statistics indicators; there are manuals with definitions and explanations of concepts and data collection methods for each statistical indicator developed since 2005. These are in the process of being updated to be in line with the 2010 revision of the national statistical indicator system. According to Prime Ministerial Decision No. 43/2010/QĐ-TTg, the National Statistical Indicator System (which

came into effect on 20 July, 2010) includes 350 indicators, of which 19 have been assigned to the Ministry of Health to collect and compile results. These indicators are part of the basis for the Ministry of Health to issue the health statistics indicator system in the near future. In addition, there are many indicators of population, public finance, health insurance, public health, etc. that are assigned to the General Statistical Office, Social Insurance Agency, Ministry of Finance, etc. to be responsible for data collection and compilation.

2.2.3. Data sources

In Vietnam, the data sources listed in Table 16 have been developed and operate on a routine basis. Every 10 years there is a population census, every year there is the Survey of Population Change and Family Planning, every 2 years there is a Living Standards Measurements Survey (VHLSS), and every few years there is a Demographic and Health survey (DHS), Multi-Indicator Cluster Survey (MICS), and Survey Assessment of Vietnamese Youth (SAVY). In addition, the justice sector keeps statistics on the issuance of birth and death statistics as part of the civil registration system. The regulations on patient records are implemented in all hospitals.

The health statistics information system covers the entire country, is linked to the network of health service providers and involves utilization of health care registers in outpatient clinics, including commune health stations. The system of indicators, registers, and forms was developed and issued to help in routine statistical collection and reporting and has gradually become institutionalized. Current regulations on health statistical information work have led to the system operating in a relatively uniform manner, and have improved its ability to meet the needs by providing information for management at all levels.

Information sub-systems in each field and national health programmes have developed systems of registers and routine reporting providing information to meet the needs for the management and administration of activities in each field and national health programme.

2.2.4. Data management

Mechanisms for information transmission and equipment for estimation have been a concern of the Government. Currently, 100% of commune health stations in delta and midland areas and 80% to 85% of commune health stations in mountainous areas have a telephone. This is the most convenient means for reporting outbreaks of disease and other issues affecting health in the community. Computer statistical units of the Ministry of Health, of Provincial health bureaux, of central hospitals and institutes, and provincial hospitals have all been equipped with computers, internet access, etc. The network of IEC has also been developed and covers the entire country.

Currently, data management and storage/archiving in the health information system is implemented at the commune, district, province and central levels. At the commune level (CHS), data are archived primarily in paper forms and primary registers. However, the health sector has begun to implement telecommunication and information technology solutions aimed at strengthening the quality and efficiency of managing data. Advances in information technology are increasingly being applied in the health sector, including software for processing health statistics data reports, software for hospital statistics (Medisoft), reducing the burden on human resources in updating, processing and compiling reports for health facilities at all levels. Some software are being developed and refined to use widely, such as the software for hospital management, software for managing leprosy, TB, EPI, accidents and injuries, HIV/AIDS, and software for community based management.

2.2.5. Information products

Information products

The health information system provides important information products. In terms of health statistics, the most notable is the Health Statistics Yearbook that is published regularly and whose information comes from all 63 provinces, from various MoH departments, institutes, and national health programmes. The contents of the Health Statistics Yearbook include indicators related to the people's health status, indicators reflecting investments in the health sector, performance in providing health services, and indicators on health determinants of the population. The Health Statistics Yearbook data is disaggregated by province, ecological region and by year, making it convenient for research, analysis and evaluation.

Some provinces have also developed their own provincial health statistics yearbooks, reflecting provincial health activities. The information sub-systems at each department, administration, institute and national target programme also produce information products consisting of annual assessment reports. The surveillance system also develops a statistical yearbook on morbidity and mortality from infectious disease by province and across time.

Besides these products, there are the annual health survey reports from the Medical Services Administration, data on disease surveillance from the Preventive Medicine Administration, the Vietnam Administration for HIV/AIDS Control, detailed data on each national target program, data on accidents, injuries, etc. The General Statistics Office regularly implements surveys and processes and analyzes survey data from the Survey of Population Change and Family Planning each year; from the Household Living Standards Survey every 2 years; the MICS 2000, 2006 & 2010; the annual nutrition survey; the DHS in 1998 & 2003; the SAVY 2002 & 2010; National Health Survey 2001-2002; plus the surveys to monitor HIV/AIDS, maternal mortality, etc. all of which include many useful indicators for policymaking and monitoring in the health sector.

In addition to statistical data, there are many other useful information products to increase the people's understanding and knowledge about health care and prevention of disease, and to update and increase health workers' knowledge such as the *Health and Life* newspaper, the *Family and Society* newspaper and the website of CHITI and the Ministry of Health. For health workers, there are also the *Practical medicine* journal, the *Pharmaceutical* journal, *Medical-Pharmaceutical* newsletter, *Vietnamese medicine* newsletter, to name but a few.

Research studies and information reviews are implemented annually. Research institutes and universities have national, ministry level and facility level research studies, scientific studies, theses and dissertations with important information value. International organizations also provide funding for many research studies aimed at providing a scientific basis for policies and solutions in the health sector. The JAHR report itself is also considered an important publication in the health information system, serving multiple purposes as it compiles information from many sources and is very carefully reviewed, with the participation of many stakeholders.

2.2.6. Information dissemination and use

Dissemination of health information

As Information technology increasingly develops, content on e-health, health statistics, and survey data are increasingly disseminated in electronic form. In that way, it is

possible to reduce the time between when the information is compiled and when it is provided to users, reduce costs, and increase the ability to use information. The Ministry of Health and other ministries, localities and units of the Ministry of Health have websites for disseminating information and legal documents, health statistics, research study results, etc.

However, in addition, many information sources are still disseminated in published form like the Health Statistics Yearbook, and survey results. Data from surveys is usually disseminated in dissemination workshops, allowing interested parties to discuss results with the people involved in collecting the information. More and more researchers want to access raw data to continue to exploit it for analysis of policies, monitoring, evaluation of interventions, programmes and projects.

Use of health information

Health information is used for many different purposes. First, information is used by policy-makers and macro-level managers as evidence for making policies, strategies and plans for the health sector, and at the same time for monitoring, surveillance and assessment of performance in policy and plan implementation. Second, information is used for monitoring, supervising, improving quality, and efficiency in target programmes and performance in the preventive and curative care networks, through updating of treatment guidelines, major drug lists, technical guidelines, etc. Third, information is used to monitor and evaluate the impact, effectiveness, and coverage of various policy interventions and medical interventions. Fourth, information is shared to create a uniform understanding of the situation among stakeholders, and ensure cooperation for resolving the most pressing problems. Fifth, information is used to undertake research and training.

2.3. Problems to be resolved

Even though there has been improvement, in general the health information system in Vietnam has many shortcomings that need to be resolved.

2.3.1. Health information resources

Policies

Although many policies related to general information systems and the health information system have been issued, they still do not cover all components of the system, are often inconsistent and lack some particularly important policies.

Currently, there is no strategy or master plan for the health information system, to orient and determine the roadmap for development of the health information system in general, nor for the health information sub-systems for each period. In 2006, a health information system assessment study was performed and in 2007, the Ministry of Health developed a draft strategic plan for development of the health information system to the year 2015, with a vision towards 2020, but due to a lack of funds and human resources, the plan has not yet been amended or revised to submit to the Minister of Health for approval.

The private medical and pharmaceutical sectors are expanding rapidly, contributing importantly to the health care of the people. However, currently there is a lack of legal regulations to determine the responsibilities and duties for updating and reporting data on private sector health service provision.

Even though departments, administrations and national health programmes, and various related ministries and sectors have policies regulating collection, processing and reporting specific to their system of management, there is no policy regulating cooperation,

allocation of responsibility, duty for collection, processing, provision and sharing of information between the different systems within the health sector, or between the health sector and the information systems of other ministries and sectors such as the General Statistics Office, the Ministry of Finance, the Social Security Administration, Customs, etc. The mechanism for requesting information in Vietnam falls under a system of requesting and responding to requests that is heavily influenced by rent-seeking, i.e. requests for under-the-table payments by those with the information. This has had an important impact on data quality, timeliness and duplication in data collection and processing because the inability or difficulty of gaining access to data from an existing source often leads various entities to do their own data collection to ensure they have information to use.

Financing

The investment budget for the health information system is very low and irregular. According to Prime Ministerial Directive No. 28/1998/CT-TTg, the Ministry of Finance must arrange for funding for surveys, statistical data collection and processing in the annual budgets of each ministry and sector. However, currently in the annual budget allocation plan of various levels of the health system, including the central level, there is no budget line reserved for health statistical information work, leading to difficulties in implementing periodic surveys, as well as in organizing training courses, procuring equipment, utilizing advances in technology in health information systems, even for printing forms, especially for poor provinces and disadvantaged regions.

There is a lack of stable funding for regular surveys. Because investment in the system is too low, it is not possible to undertake regular surveys and the Ministry of Health depends on funding from international donors and organizations, or surveys implemented by the General Statistics Office. There is no health survey in the National Statistical Survey Programme to ensure collection of statistical indicators needed in the health sector. To date, the Ministry of Health has only organized one National Health Survey, in 2002, with financial support from Sweden (Sida), but there is no funding to organize a regular health survey. Much statistical data used in the health sector depends on surveys organized by international organizations, for example the Demographic and Health Survey (DHS), the Survey Assessment of Vietnamese Youth (SAVY), the Multi-indicator cluster survey (MICS), the World Health Survey (WHS), yet these have not been incorporated into the national statistical survey programme. Many of statistical indicators collected in those surveys are needed for the health management information system.

Human resources

According to Prime Ministerial Directive No. 28/1998/ CT-TTg, ministries and sectoral agencies should strengthen their organization to ensure adequate staff and other necessary conditions based on the data system that the Ministry or sectoral agency is responsible for compiling and disseminating, in order to gradually improve the quality and modernize statistical work. Nevertheless, currently there are a lack of regulations on the organization and staffing for health statistics at all levels and health care units throughout the country. Even though health facilities arrange for staff to work on statistical information, according to an expert assessment, this workforce often lacks both quality (capacity) and quantity (too few in number), and is inadequate to undertake the work assigned to it, including at the central level. In the Ministry of Health's Planning and Finance Department, the Statistical Information Group has only recently been upgraded to the Health Statistics Office, the highest agency responsible for health statistics, yet there are only still only 5 staff in permanent employment and one contracted worker. Provincial health bureaux must

compile data on health activities and health status of the people in their province, and at the same time are responsible for developing a statistics network in their province, but they only have one staff member in charge of health statistics. Only large hospitals with 500 beds or more have a staffing norm for one dedicated staff member in charge of statistics. Although departments, administrations, institutes and national health programmes at the central, provincial, and district levels, assign staff to statistical work, most of them only do this part-time.

Human resources in the system are still weak in statistical skills. In addition, people working on health information have to face many pressures from managers, policy makers, state management agencies and investors.

In recent years, the Ministry of Health and various programmes have tried to organize training courses, but funding is limited so the courses mainly focus on instructions for filling in forms and registries, making reports and calculations for simple indicators. Knowledge of use of statistics for analysis, evaluation, forecasting for managers, planners and statisticians at all levels is limited. Many people have not yet received any training on data analysis skills, nor the use of data analysis software such as STATA, SPSS, or GIS.

In 2009, the Prime Minister issued Decision No. 45/2009/QĐ-TTg on the special occupational salary supplement for workers in statistics, yet this Decision has so far only been applied in the state statistical system (i.e. the General Statistical office), and has not yet been applied in various ministries and sector agencies. Staff working on computerized statistical work in health facilities tend to lack long-term commitment to the sector, partly because remuneration is generally lower than for people with the same level of training working in other sectors. The perception that statistics is only for reporting to higher levels is still widespread, and this has not given encouragement to people working in health statistics and information nor for investments in this area.

Infrastructure

Infrastructure for information and statistics is still inadequate. Provision of equipment for calculation for each health facility in general and for statistical information in particular has many limitations. Computer statistics workers in many health facilities at the district level and some at the provincial level have not yet been assigned a dedicated computer, but must share the computer with other sections of the facility. Many provincial and central hospitals have been provided with computers, but with very low technical specifications, inadequate to meet the needs for data management and processing. Almost all commune health stations are without computers. The Ministry of Health's new Health Statistics Office is still without a computer server to update and archive data.

Organization and management

Although the Health Statistics Office is a unit directly under the Planning and Finance Department of the Ministry of Health, it still faces difficulties in implementing its coordination function between the various sub-systems of the health information system and between the health information system and statistical systems of other related ministries and sectors. The health information system is not yet organized to regularly use information from the sub-systems, to check and ensure their quality and reliability, nor to disseminate information so that information users can easily access the information. The consequence is that each programme and field, when they need information, must issue a set of forms requesting facilities to report. It is for this reason that there is a lot of duplication in collection and processing of information leading to overburden of registers and forms at health facilities, especially at the grassroots level. Repeated copying of information in many forms

not only takes a lot of time that could be used for providing medical services but also makes statistical errors more inevitable.

2.3.2. Statistical Indicators

One of the responsibilities of the Planning and Finance Department (in particular the Health Statistics Office) is to help the Ministry of Health to develop and manage, in a consistent way, the system of health statistics indicators. In 2010, health statistics indicators are in the process of being reviewed for updating in line with the new National Statistical Indicator System, to rationalize the system originally issued in 2005.

Currently the list of 127 indicators is considered too large, and among these there are unnecessary indicators at the national and provincial levels. Requests for information from programmes, projects and donors are overwhelming and too detailed, leading to overburdening of health facilities.

Some important information is not yet collected on a regular basis such as: maternal mortality, perinatal mortality, under 5 mortality, cause of death, indicators reflecting risk factors to health, indicators reflecting equity in health care.

The most basic information in the health information system is mortality. Currently data on mortality does not yet guarantee the level of reliability needed. Even though there are three agencies collecting information on mortality (General Statistics Office, Ministry of Justice and Ministry of Health), almost all these sources of data do not collect complete nor accurate data on cause of death. The Ministry of Justice only collects about 60% of all deaths actually occurring and the data are slow to be compiled and are not widely disseminated. The General Statistics Office data on mortality comes from the Survey of Population Change and Family Planning and the decennial census. The sample size for the Survey of Population Change, although quite large, is still inadequate to collect data and make estimates of total deaths in each province, and lacks information on cause of death. The Ministry of Health, although it does collect and make estimates of mortality by cause of death, these statistics only represent deaths occurring among inpatients who die at public medical facilities, so these figures are much lower than actual deaths.

2.3.3. Data sources

Health information cannot be collected using only the statistical reporting system, but must combine this system with other methods such as surveys and surveillance to collect information that cannot be collected in the reporting system, or as a check or for making adjustments on the regular reporting system. For each source of information, there are particular difficulties in quality, reliability, access to data, timeliness of the data, etc.

The civil registration system is the primary source of information for births, deaths, cause of death in Vietnam, but remains weak. The Justice sector collects information in the process of issuing birth and death certificates, but is dependent on the people to actively carry out these procedures. The Justice sector does not use information on births or deaths in management of its sector, so it does not prioritize this work. Data from the civil registration system indicates that in one year, from 01 October, 2008 to 30 September, 2009, a total of 1.23 million births and 293 000 deaths were reported, but information is missing for 11 provinces that have not yet reported on birth registrations and 2 provinces that have no or only 1 death reported, and there is no information to know whether the births and deaths reported in this year occurred this year or in previous years [91]. In order for the civil

registration system to be useful, it is necessary to collaborate with the health sector to cross-check and gradually reduce the problems with the system.

In the routine reporting system, there is a lack of information from private health facilities. Health statistics information currently is collected and compiled primarily from state health facilities, so data do not reflect accurately the true health situation or health care provision in the health system.

Although surveillance systems for communicable diseases and epidemics have been developed and have operated many years collaboration and information sharing between communicable disease departments of hospitals and the surveillance system at all levels remains limited, adversely affecting the quality of the data.

The disease registry system for some non-communicable diseases (such as cancer registry) has not yet been strengthened or consolidated. The morbidity patterns in Vietnam in recent years have changed substantially, with an increase in non-communicable diseases such as cancer, cardio-vascular disease, diabetes, accidents and injuries, poisonings. However, current data of the health sector on these diseases is collected for each admission to public facilities, and is not based on the patient (it is common that these patients would be admitted more than one time for a chronic disease) and there is not yet a mechanism to regularly collect information on the incidence/prevalence/mortality of disease from the community. This lack of information, or incompleteness of information, on non-communicable diseases causes difficulties for analysis and assessment of the situation of implementing policies as well as finding solutions to prevent and treat these cases appropriately.

Financial data is very slow to be released, incomplete and inaccurate. The cause of these problems is that financial management is not yet managed through the sector.⁶ Because there are so many different managers, the development of coordination mechanisms and clear division of responsibility for data collection, reporting and information sharing on finances between different agencies and levels, as well as by different donors, has not yet been implemented. Information on health financing currently is only focused on collecting information from state budget allocations, but it is very slow and incomplete. According to results of undertaking national health accounts in 2008, data indicate that only 35% of total spending is from the state budget, while non-budget spending is almost 2 times higher (65%). In the past few years, the Ministry of Health has tried to establish the national health accounts, but so far has only succeeded at the national level. This is causing difficulties for analyzing and assessing the effectiveness of providing health services in the provinces and in various sub-sectors, and national health programmes such as TB, leprosy, malaria, mental illness, etc.

There are many other types of information needed to manage the sector that lack a source, such as risk factors related to health, structure of human resources by specialization, proportion of hospitals using information technology for management, proportion of district and provincial health facilities that have shortages of personnel compared to norms, costs of providing health services, etc.

⁶ The Ministry of Health is responsible for allocating and managing financial resources for the Ministry, and for central level health facilities. In localities, the Provincial Finance Bureau allocates resources for activities of each provincial health facility and district hospitals, preventive medicine centres, district health offices and commune health stations. In some provinces, the district health office manages commune health stations so funds for commune health stations and village health workers and the district health office are allocated and administered by the district people's committee. Funds for activities of health facilities in other sectors are managed by the specific sector. For ODA projects or foreign loan projects, responsibility for financial management has been decentralized to the provinces.

Many information sources are not yet sustainable. Currently the health sector relies quite heavily on surveys such as MICS, SAVY, DHS, National Health Survey 2002, which were all externally funded, and have not yet been incorporated into the national statistical survey programme. Some sub-systems of the health information system, although they have received technical support and equipment for collection and processing of information from domestically and internationally funded projects, tend to be concentrated in some regions/provinces of the project and only for the duration of the project, and thus they do not cover the entire system, nor do they have any sustainability guaranteed after the project is completed.

2.3.4. Data management

Data management includes various processes for archiving, coding, transmitting, ensuring quality, compiling, analyzing and disseminating data.

Use of modern technology in processing, archiving and transmitting information has improved, but remains slow, having a considerable impact on data, timeliness and demands of users.

Because the health sector depends largely on other sectors, and within the sector there are multiple data sources collected by different units, the biggest problem is to collect this information into one unit, so data users can easily access it. The data archives of different levels of the system are weak, and do not yet include data from other sources than the reporting system. Data are not managed in a scientific way and are not updated, archived and transmitted using modern mechanisms, leading to difficulties for their exploitation, use and analysis.

2.3.5. Information products

There are many information products used in the health system. However, there are problems related to their appropriateness to meet the needs of the sector.

Almost all statistical indicators in statistical products available now are only disaggregated by province, and are not yet disaggregated by other important categories such as: demographic characteristics (age/gender); living standards groups (rich/poor); educational attainment; or urban/rural residence, etc. leading to difficulties for analysis, assessment and scientific research.

Electronic information products have not yet been widely produced, leading to difficulties for people who need to do more in-depth analysis on data not in printed form. This influences the ability to expand information products towards those with more in-depth analysis.

2.3.6. Dissemination and use of information

Health information dissemination is slow and not yet conducted in a spirit of openness, so that many stakeholders can use and support further development of the health sector. Use, analysis of data and forecasting face many limitations at all levels.

Currently, all General Statistics Office surveys are implemented with a clear schedule for dissemination, and the Government demands that the schedules be met. Results when completed are disseminated through press conferences, issuing of printed documents and data are uploaded to the internet. This ensures that information related to the health sector from the national statistical system can be accessed relatively easily, in a timely manner. However,

for almost all data sources within the health sector itself, there is a shortage of personnel and resources for rapid compilation, a lack of penalties to ensure that all units in the sector comply with the routine reporting schedule, a lack of a mechanism to monitor quality, and a lack of clear regulations on dissemination of data to ensure data can easily be accessed by stakeholders who have a need to use it.

In general, analysis and use of data in the health system remains weak, including at the central level. Data in the provincial and central levels is only analyzed in a superficial manner through calculation of indicators and presentation in tables and graphs. This analysis only transforms the data into primary information. Primary information can only affect management, monitoring of programmes and quantification of progress compared to goals of the sector, programmes or sub-sectors. However, deeper analysis to assess trends, make forecasts, or detect problems or risk factors that the health sector is facing, i.e. transforming data into evidence, has not yet been carried out on a regular basis.

Data of the health statistics information system is used primarily for assessment of the situation and to report to higher levels, and it is not used much yet in calculating planning indicators nor for allocation of resources at the provincial and lower levels, so the importance and potential of data has not yet been fully appreciated or realised.

3. Priority issues

As outlined above, the health information and statistics system has many issues which need to be resolved, but in the coming few years, it is necessary to focus on resolving the following three priority issues

3.1. Policies on health information system are inadequate

There is a lack of major orienting policies for the health information system, such as a strategy or master plan for development of the health information system. There is a lack of regulations related to ensuring resources to implement health statistics work, especially budget for human resources. The legal basis for collecting information in non-public facilities and information on social mobilization in public facilities remains unclear. Regulations on coordination, division of responsibility for collecting, processing, providing and sharing information internally within the health sector and between the health sector and other related agencies are inadequate. Supervision and sanction mechanisms aimed at ensuring that relevant units implement their statistical responsibilities seriously are not yet in place. The health sector statistical indicators have not yet been updated to be in line with the need for monitoring and assessing the 5-year plan.

3.2. Ability to meet needs for use of data is limited

Quality of health information in terms of completeness, collection, estimation methods, reliability, disaggregation, timeliness, extent to which it satisfies the needs of the health system still have many problems in need of resolution. The mechanism to ensure quality of data is still ineffective. The system of collecting and processing information in the regular reporting system has substantial overlap between the health and other sectors, leading to overburdening of statistical registers and forms for health facilities, and do not help to avoid errors because of copying. The application of information technology is not yet effective at increasing quality and comprehensiveness of the health administrative, management and statistical systems.

3.3. Analysis and use of statistical data remains weak

Statistical data is currently only superficially analyzed for creating primary information reports. In-depth analysis for assessment of trends, to serve forecasting or identification of problems or risk factors facing the health sector, that is transforming information into evidence, has not yet been implemented on a regular basis.

One of the causes of this problem is that knowledge on use of data in analysis, assessment, forecasting by managers, planners and statisticians at different levels is limited; the database archive at different levels remains poor, and does not include data from multiple sources; data are not yet managed in a scientific manner and are not updated, archived or transmitted using modern methods.

4. Recommendations

In order to gradually resolve the priority problems in the area of health information systems, the report recommends the following groups of solutions (see details in the Conclusions and Recommendations):

4.1. Develop the health information system.

4.2. Strengthen use and analysis of data.

4.3. Improve quality of information.

Chapter 7: Drugs, vaccines, blood and other biologics

This chapter covers issues related to pharmaceuticals, vaccines, biological products and blood. These are essential products serving the health system, irreplaceable inputs for health care activities. Pharmaceuticals, vaccines, biological products and blood are special goods that require special regulations to avoid poor quality, inappropriate use, and to ensure appropriate prices so that when people need them, they are able to access them and do not have to pay out-of-pocket or through health insurance at a catastrophic level.

The purpose of this chapter is to assess the situation of pharmaceuticals, vaccines, biological products and blood, to determine priority issues and make recommendations for solutions for the next 5-year plan.

The main data used for analysis and assessment are from the Drug Administration of Vietnam through their routine data collection based on many indicators monitoring the pharmaceutical sector [92]. Related to vaccines and blood products, we relied on available reference materials from the Haematology and Blood Transfusion Institute and the National Institute for Hygiene and Epidemiology - the agency responsible for the expanded programme on immunization, as well as consulting many experts in these areas for their views.

1. Situation analysis

The situation analysis was implemented based on the analytical framework recommended by the World Health Organization [92], and includes the following: i) National Drug Policy and legal framework; ii) Distribution system; iii) Pharmaceutical financing and drug prices; iv) Production and imports; v) Quality; vi) Rational and safe use of drugs.

1.1. Pharmaceutical situation

1.1.1 National drug policy and legal framework

Progress and results

The national drug policy in Vietnam was issued in 1996, and covers specific policies including: essential drugs, safe and rational use of drugs, drug quality control; production, supply, exports of drugs; traditional medicine; training of pharmaceutical workers; drug information; strengthening pharmaceutical management; scientific research; domestic and international pharmaceutical cooperation. The two objectives of ensuring equity and efficiency in supply and use of drugs are determined through: i) Ensuring adequate supply of quality drugs at affordable prices for the people; ii) Ensuring rational, safe and effective use of drugs [93; 94].

In 2005, the National Assembly passed the Pharmaceutical Law, a big step in the development of a comprehensive legal framework to cover pharmaceuticals. The Pharmaceutical Law regulates the pharmaceutical business, registration and circulation of drugs; use of drugs; drug supply; information, advertising of drugs; clinical testing of drugs; management of addictive and psychotropic drugs, drug ingredients and radioactive drugs; standards of quality and quality assurance testing of drugs.

According to the 2005 Pharmaceutical Law, the Ministry of Health is given the role of state management agency for drugs, with assistance from other related ministries and sectors. This management function is implemented through several agencies as follows:

1. Drug Administration of Vietnam is responsible for managing pharmaceuticals in general, in particular this includes registration (licensing) of pharmaceuticals, blood products, vaccines and beauty products, regulation of pharmaceutical production, sales, imports and exports, pharmaceutical practice, information and advertisement of drugs, management of drug prices and quality.
2. The National Institute of Drug Quality Control supports the Drug Administration of Vietnam in checking the quality of drugs.
3. The Ministry of Health Inspectorate assists the Drug Administration of Vietnam in implementing various regulations on drugs.
4. The Medical Services Administration is responsible for ensuring safe and rational use of drugs in therapy.
5. The Drug Information and Adverse Drug Reaction Centre is responsible for monitoring adverse drug reactions.

In order to implement the National Drug Policy and the Pharmaceutical Law, the Government and the Ministry of Health have developed and continue to develop and issue many sub-legal documents. The development of these documents has carefully taken into account consistency with relevant international regulations.

On **management of drug supply, distribution and dispensing**, Vietnam has developed an essential drug list, updated most recently in 2005. In addition there are legal documents on good practice for manufacturing (GMP), storage (GSP), distribution (GDP), and pharmacies (GPP). The Ministry of Health has also developed regulations related to hospital pharmaceutical management including competitive bidding for drugs (Circular guiding competitive bidding in hospitals from 2004, and revised according to Joint Circular No. 10/2007/TTLT-BYT-BTC guiding competitive bidding for pharmaceuticals in state health facilities). Currently the Ministry of Health is guiding discussions on piloting more consolidated bidding by region, to replace the facility based bidding, to overcome problems in implementation of the drug bidding policy for hospitals and to manage hospital use of drugs.

On **drug price management** there are legal documents like Joint Circular No. 11/2007/TTLT-BYT-BTC-BCT guiding implementation of state management of prices of drugs used on humans. This policy was amended and revised many times in 2008 and 2009. Policies encouraging use of generic drugs, hospital drug bidding, and drug reserves are all aimed at managing drug prices.

On state management of **drug production** the Government has issued the Pharmaceutical Development Strategy (108/2002/QD-TTg) and the National Policy on Traditional Medicine (222/2003/QD-TTg). Good practice standards for manufacturing (GMP) have been issued and applied, with the aim of reaching GMP-WHO standards for all domestic producers. The Pharmaceutical Law, Article 2, Clause 49 gives priority for domestically produced drugs that meet similar quality standards and whose price is not higher than imports. Decision No. 05/2008/QD-BYT issued the latest major drug list for drugs used at treatment facilities and gives priority to domestically produced drugs.

General regulations on **pharmaceutical imports** were adjusted in Circular No. 06/2006/TT-BYT and 01/2007/TT-BYT. Imports of certain rare drugs, drugs for control of epidemic outbreaks, and drugs from facilities meeting GMP standards are regulated according to Prime Ministerial Decision No. 151/2007/QD-TTg. In order to support imports

and exports of pharmaceutical products in ASEAN, from 2006 Vietnam has revised regulations on drug registration to be in line with the ASEAN common technical dossier and ASEAN common technical requirements, and at the same time issued Circular No. 22/2009/TT-BYT guiding registration of drugs so domestic and international pharmaceutical companies could apply these standards as of 24 May, 2010.

On **state management of information and advertising of pharmaceuticals**, in 2004, the Ministry of Health revised regulations on information and advertising of pharmaceuticals (Circular No. 13/2009/TT-BYT). In addition, the Drug Administration of Vietnam also issued a list of pharmaceuticals that are allowed to be advertised in the mass media. The Drug Administration of Vietnam has issued “a guidebook for reviewing dossiers for registering drug information and advertisements”. Regulations on pharmaceutical representatives and other advertising activities are covered in Circular No. 13, and regulations on administrative violations and penalties have been updated and include other regulations and policy revisions.

On **ensuring drug quality**, the Ministry of Health has guided management of drug quality (Circular No. 09/2010/TT-BYT); developed standards for drugs requesting registration, and guidelines for taking samples for drug quality control testing (04/2010/TT-BYT), and withdrawing registration for drugs that don't reach quality standards. The Drug Administration of Vietnam has developed legal documents related to bio-availability (BA) and bioequivalence (BE) for new registrations and for re-registration of drugs (08/2010/TT-BYT).

On **safe and rational use of drugs**, the Ministry of Health has issued several documents guiding pharmaco-vigilance, control of addictive and psychotropic drugs (10/2010/TT-BYT and 11/2010/TT-BYT); and drug prescribing (04/2008/QD-BYT and 1847/2003/QD-BYT). The Drug Information and Adverse Drug Reaction Centre has also been set up (Decision No. 991/2009/QD-BYT). In 1997, the Ministry of Health requested all hospitals to set up a Drug and Therapy Committee in order to contribute to supervising rational and safe use of drugs in the hospital system.

Difficulties and limitations

Since the National Drug Policy was issued and implemented over 15 years ago (1996), the pharmaceutical market has undergone rather complicated changes, and many new challenges related to drug prices, drug quality, as well as on safe and effective use of drugs require review and adjustment to make regulations and policies more relevant for the current situation.

This is not only a problem for Vietnam, but for other developing countries too. Thus, the Review of 15 years of implementing Resolution 37/NQ-CP of the Government on the National Drug Policy 1996-2010 and development of a national drug policy for the period 2010-2020 are both considered important tasks [95].

Even though there a large number of regulations in line with international standards on pharmaceutical management, in reality there remain some challenges related to putting them into effect, and monitoring and evaluating their implementation. In fact, even though information on drug prices is increasingly transparent, there is still the lack of a mechanism to actively control mark-ups, or to take advantage of international reference prices in management of drug prices in order to ensure that the people face the most reasonable price levels. On drug quality, high standards on the quality of pharmaceuticals were issued in regulations on good practice, the Drug Administration of Vietnam is making every effort to guide implementation of these regulations. However in the short-term, changes in standards

will cause hardships for enterprises. It is necessary to have a monitoring and evaluation mechanism covering the extent of compliance, difficulties and shortcomings in order to supplement regulations to support achievement of the standards proposed. Regarding safe and rational use of drugs, even though the prescription drug regulations have been issued, the monitoring of compliance remains weak, and penalties are not strong enough to ensure the measures are implemented. For doctors prescribing drugs, currently they are lacking adequately detailed treatment guidelines to provide more concrete orientations on safe and rational use of drugs in medical treatment.

1.1.2 Distribution system

Progress and results

To date, Vietnam has issued essential drug lists five times. The latest one (issued in July, 2005) listed 355 types of modern pharmaceuticals and 84 types of traditional pharmaceuticals. The essential drug list is the legal basis for issuing policies on investment, price management, capital, and taxes related to drugs, and for issuing registration for drugs to be allowed in the market and imported or exported.

The number of pharmaceutical products currently in the market is very abundant. The number of drugs with valid licenses for use in the Vietnamese market continues to increase: in 2003 there were 10 800; in 2007 there were 16 618; in 2008 there were 20 066 and by the end of 2009 there were 22 615 (10 692 licenses for domestically produced drugs and 11 923 for imported drugs). In addition, there is a mechanism for specialized hospitals to import rarely used drugs that have not yet been registered for use in Vietnam.

With the market economy, distribution of drugs in Vietnam is currently undertaken by enterprises, pharmacies, and medical facilities in the public and private sectors. The drug supply system is quite replete, including 1350 domestic enterprises; 91 direct importers/exporters; 438 foreign drug suppliers and 38 916 retail drug outlets [28].

In hospitals, drug procurement is implemented according to the drug competitive bidding regulations based on the major drug lists of each hospital. This regulation has potential to help reduce prices through competition between various parties participating in competitive bidding if implemented effectively. Hospitals sell drugs to inpatients at the price drugs were purchased by the hospital. Almost all commune health stations have a rotating drug fund and many commune health stations are provided with drugs for implementing examination and treatment through the health insurance mechanism. Table 17 indicates the proportion of commune health stations that have selected essential drugs.

Table 17: Proportion of commune health stations that have essential drugs (available by drug name,) 2006

Drug name	Proportion of CHS that have drug available on the day of the survey (%)
a) Amoxicillin 250 mg, made in Vietnam	92.2
b) Amoxicillin 250 mg, imported	27.2
c) Amoxicillin 500 mg, made in Vietnam	94.8
d) Amoxicillin 500 mg, imported	29.7
e) Paracetamol 500 mg, made in Vietnam	96.5
f) Paracetamol 500 mg, imported	27.2
g) Rimifon 50 mg, made in Vietnam (TB treatment)	39.4
h) Rimifon 50 mg, imported (TB treatment)	16.8
i) Diclofenac 50 mg, made in Vietnam	84.2
j) Diclofenac 50 mg, imported	21.6
k) Mebendazol 500 mg, made in Vietnam	86.5
l) Mebendazol 500 mg, imported	20.6
m) ORESOL (rehydration salts)	92.5
n) Iron tablets 0,05 g, 250 tablet jar (anaemia treatment)	69.6
o) Vitamin A 50 000 UI	65.7
p) High quality condoms (Trust, OK, etc.)	81.7

Source: Household Living Standards Survey 2006 [96]

Difficulties and limitations

Even though the drug distribution system has developed strongly, and the number of drugs registered is ever increasing, some problems still need to be addressed.

According to current regulations in Vietnam, procurement is undertaken by each hospital, leading to diverse prices and drug availability for treatment, which are difficult to regulate. Also as a result of this fragmented procurement by each hospital and each pharmacy, ensuring quality of essential drugs in the supply chain faces many difficulties because the quality of supply varies by level and supply is very complex, with many intermediaries between distributors, making it difficult to determine the source of the product.

1.1.3 Pharmaceutical financing and drug pricing

Progress and results

In Vietnam, out of total health spending, drugs account for a very high share. According to the latest data available from the National Health Accounts, in 2007 total spending on drugs for prevention and treatment was VND 28.4 billion, in constant prices this is equivalent to a doubling of drug spending between 2000 and 2007, leading to drugs accounting for 40% of total health spending [97; 98; 99; 100]. According to the Health Statistics Yearbook, per capita drug spending has increased rapidly reaching a level of USD 17 per capita per person in 2008 (Figure 20).

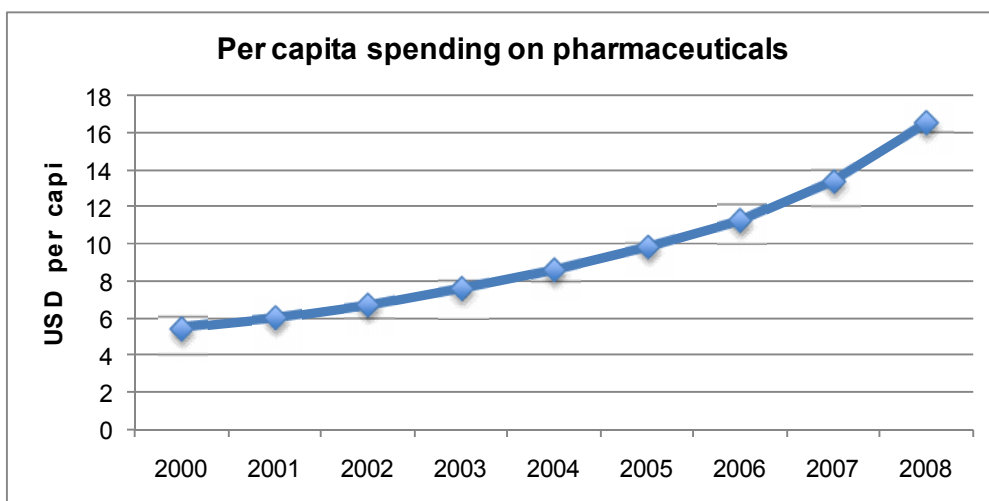


Figure 20: Per capita drug spending (current prices), 2000-2008

Source: Health Statistics Yearbook, various years

Sources of funding for drugs

The primary source of financing for drugs is the household: 58% for self-medication, 14% for drugs accompanying medical examination and treatment. Thus drug costs covered by households account for 72% of total drug spending (Figure 21).

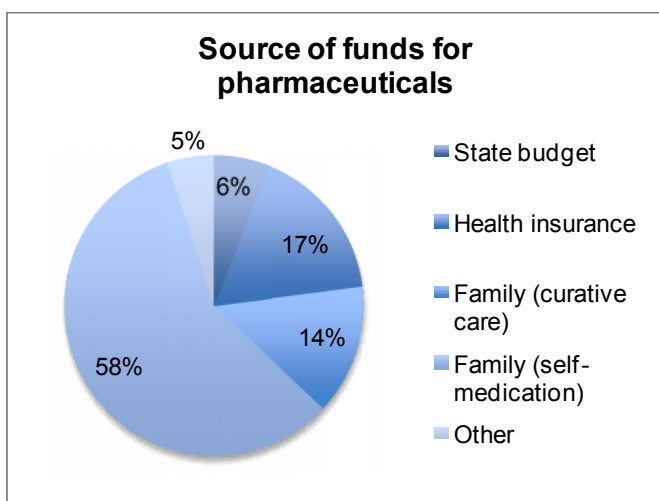


Figure 21: Source of funds for purchase of drugs, 2007

Source: Ministry of Health, National Health Accounts 1998-2008

Health insurance also plays an important role in financing drug purchases. According to regulations in the Health Insurance Law, the Ministry of Health collaborates with other relevant ministries and sectors to develop a major drug list and a list of medical consumables that will be reimbursed by health insurance. In cases where the patient uses drugs for treatment of cancer, or to prevent rejection of transplanted organs that are not on the major drug list, the health insurance fund will reimburse 50% of the costs for people with insurance who have been insured for 36 months or more. Health insurance reimburses costs of drugs prescribed by doctors if they are on the major drug list. In 2009, about 50% of health insurance reimbursements were for payment of drugs [101].

The source of funds from the state budget for purchase of drugs is primarily to serve national health target programmes. Currently for some diseases, the state provides drugs to patients for free, for example TB, HIV/AIDS, schizophrenia and epilepsy. For the HIV/AIDS programme a high share of antiretroviral drugs are funded by donors such as PEPFAR, the Global Fund and the Clinton Foundation.

Drug price control

Because drugs are an essential good, the State plays an important role in stabilizing prices in order to ensure that patients can access drugs when needed and do not have catastrophic spending as a result of paying too much to use drugs.

The Drug Administration of Vietnam collaborates with the Ministry of Finance and Ministry of Industry in its responsibility for implementing and setting up regulatory mechanisms to control drug prices. According to the Pharmaceutical Law, Decree 79/2006/ND-CP and Joint Circular No. 11/2007/TTLT-BYT-BTC-BCT. The principal for managing drug prices is that each entity producing, exporting or importing, wholesaling or retailing drugs sets their own price and competes on the basis of prices, and at the same time there are checks and controls by the State on drug prices. The State uses drug price stabilization methods in the market to respond to the need for drugs to serve care, protection and promotion of the people's health. Facilities supplying drugs must implement all guidelines on price declaration and price re-declaration, posting prices and sale prices of drugs. State agencies in charge of managing drug prices (Drug Administration of Vietnam and Provincial Health Bureaux) are responsible for considering the reasonableness of drug prices, not for approving drug prices declared or re-declared by suppliers. Management of drug prices is decentralized with price management at the central level and in each locality.

After implementation, if there are conflicts, the drug price stabilization policy will be adjusted. At the same time, other policies in the field of pharmaceuticals are also used to stabilize drug prices. These policies include competitive bidding for drugs used in public hospitals, reserve supplies of drugs, encouragement of the development of domestic drug production, prohibitions on any form of financial or material incentives to influence doctors and pharmaceutical consumers to increase prescriptions or use of their drugs.

According to consumer price index (CPI) data of the General Statistics Office, the CPI for drugs and medical services in 2003-2004 was very high. But for subsequent years, the level of price increase for pharmaceuticals was controlled at a level below general consumer price inflation (Figure 22).

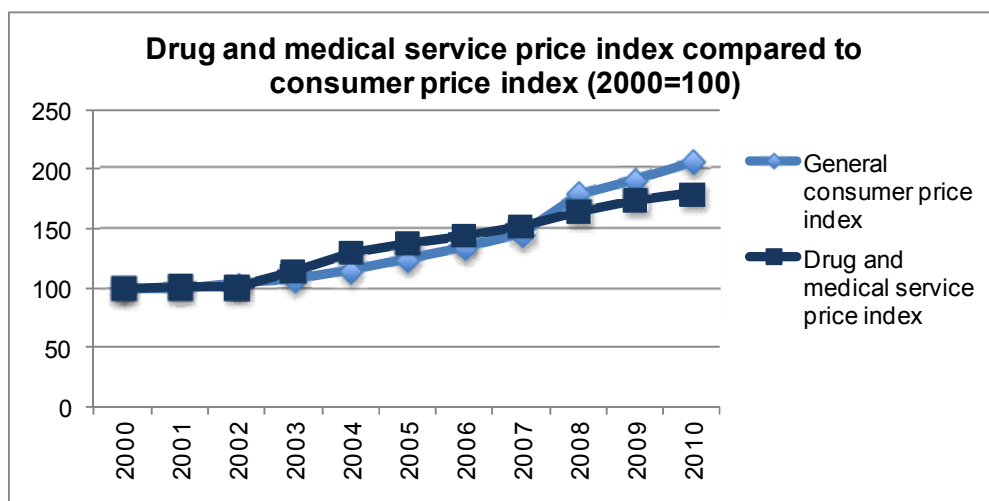


Figure 22: Drug & medical services and general consumer price index, 2000-2009

Source: General Statistics Office, Statistical Yearbook. Consumer price index

Difficulties and limitations

The structure of funding sources for drugs currently indicates a very heavy burden on households. Solutions to reduce this burden through health insurance have not yet overcome this problem because the proportion of total drug expenditures covered by health insurance is still quite small (accounting for only 17% of total drug value) [97; 98; 99; 100]. In many cases, patients must pay out-of-pocket for drugs prescribed by doctors because they don't have health insurance, or because the drug prescribed is not in the major drug list for health insurance reimbursement, or simply because of the co-payment combined with high drug costs. However, an even bigger problem is that self-treatment is all too common. Costs of drugs include two factors, first is the amount of drugs and second is the price of drugs. Solutions need to affect both. The problem of quantity and type of drugs used will be discussed in the section on safe and rational use of drugs. This section will explore in more depth the issue of drug prices.

Currently about 5% of pharmaceutical products, including innovative brands, drugs still under patent protection, monopoly drugs (20 years), drugs imported through hand luggage, and rare drugs, often face wide fluctuations in drug prices, but among these, about 30 drugs face especially strong and frequent fluctuations. The fluctuations in the prices of these drugs sometimes lead to an outcry in social commentary and cause difficulties for drug price management because among these drugs are those for which there is still a monopoly by multinational companies [102]. In the process of monitoring and evaluating the results of implementing the policy on stabilizing drug prices, some researchers have recently found that although the pace of price increases has been controlled, price levels in Vietnam are still very high compared with other countries in the region and internationally [103]. A rapid report on the process of access to insulin in Vietnam also found that the price of some drugs related to diabetes treatment in Vietnam are higher than international prices for the same drug (from 1.02 to 6.60 times higher) [104]. Data from the system of drug price information exchange in the WHO Western Pacific Region (WPRO) also indicated that drug prices in state health facilities in Vietnam are higher than international reference prices, especially for drugs used in treatment of TB, diabetes and some types of antibiotics [105]. According to experiences of many countries in the world, including OECD countries [106], drug price management is a very complex field, related to the benefits of many stakeholders including the patient, health

insurance, doctors, hospitals, manufacturers, importers and exporters and distributors and pharmacies. Policies aimed at reducing drug prices need to be studied and continuously adjusted on the basis of assessments of the effects on related parties.

According to the policy related to **drug price declaration** for drugs sold in the Vietnamese market, an agency has authority to review drug price dossiers and if the price is inappropriate, they can request that the enterprise makes an adjustment. The crucial factor for the success of this policy is detailed, up-to-date information on drug reference prices at all stages in the drug distribution process, as the basis for assessing whether the prices declared are appropriate or not. The problem at present is to determine which reference price to use, determine which drugs, out of the thousands available, should have their prices compared with reference prices, and to compile the evidence to establish an effective drug price management system.

The policy to develop the **generic drug market** and domestic drugs, to compete based on price, is also an important factor to ensure success of the drug price stabilization policy in the market economy context. Domestic manufacturers of pharmaceuticals are, in fact, a potentially large source of generic drugs. Even though drugs produced domestically currently account for about 50% of the total value of drugs used in general, in hospitals domestic drugs account for a smaller share, especially in private hospitals, central and provincial level hospitals [107]. One impediment to the development of generic drugs is that many doctors and patients believe that imported drugs are better. Drug prescriptions do not yet comply with the requirement to prescribe by active ingredient and other factors that affect prescribing practices of doctors such as the influence of drug company representatives giving stronger incentives for use of imported than domestically produced drugs. Regulations on patent linkages or data exclusivity also affect development of generic drugs by delaying the registration of generic drugs after patent protection ends.

Even though there is a policy **on information and advertising of drugs**, in which it is forbidden to use material or financial incentives to influence practitioners to write prescriptions for or for patients to use specific drugs (13/2009/TT-BYT), the monitoring mechanism to detect violations and impose penalties remains weak because of the shortage of pharmaceutical inspectors. The commission paid to procurement units or to prescribing practitioners is calculated into the drug price, thus contributing to drug price increases. If the policy prohibiting commissions is to be effective, it must be combined with other policies such as: payment of an official salary that is adequate to support people's household expenditures and appropriate for their educational level, responsibility and intensity of work, development of management information systems in hospitals aimed at detecting abuse of drugs based on statistical methods, reimbursement of medical services according to methods that encourage savings (such as capitation or DRG), development of standard treatment guidelines that recommend clearly which drugs are needed for treatment, and so on.

A drug price control role for health insurance. Health insurance is an entity that has a large purchasing power, however the auditing functions have not yet been mobilized. Currently a study is being carried out into the option of health insurance undertaking competitive bidding for drug procurement, using their large purchasing power to negotiate reductions in drug prices. The current mechanism of health insurance auditing is mainly based on the list of major drugs and the competitive bidding price for drugs. Because of a lack of up-to-date and adequately detailed treatment guidelines to use as a standard, the social health insurance scheme is finding it difficult to audit rational use of drugs

Drug competitive bidding. Drug supply at hospitals must follow competitive bidding regulations. Hospitals implement competitive bidding using current regulations. In the

process of implementing competitive bidding, some information suggests that the competitive bidding mechanism is not yet effective at ensuring low prices nor for ensuring that hospitals have sufficient supply to serve all inpatients. For example, according to a Ministry of Health Inspectorate research study, in some state health facilities the winning bid price was 106% compared to the plan (with variations from 61.5% to 142.3% depending on the facility) [108]. Because drug competitive bidding is implemented separately at each facility, in almost all medical facilities the purchasing power is not large enough to drive down prices, nor to ensure that sufficient drugs are always available when needed. There is a clear need to have a monitoring and evaluation mechanism to examine the impact of drug competitive bidding on drug prices and availability of drugs for inpatients in hospitals, in order to adjust policies appropriately.

1.1.4 Production and imports

Progress and results

Domestic production capacity supplies about 50% of the value of drugs consumed in the market. For the remaining 50%, drugs are imported primarily from France, India, Korea, Sweden, Germany and the United States. For 2009, the value of modern pharmaceutical products imported was USD 1.098 billion [109].

The pharmaceutical industry in Vietnam in recent years has developed more rapidly than in previous years. The number of enterprises and products has increased rapidly [110]. The Government now classifies pharmaceuticals in the list of key industries in the economy. The orientation of the Master Plan for Developing the Pharmaceutical Industry to the year 2015 and vision to 2025 emphasizes production and processing of pharmaceutical ingredients, producing drugs for which domestic demand and demand for exports is high, and investment in high technology and clean technology.

Exports: Vietnam entered WTO in 2006 and has implemented regulations of the Ministry of Commerce on trade related aspects of intellectual property rights (TRIPS), and implemented 20-year patent protection for pharmaceutical products.

Vietnam has committed itself to harmonization of pharmaceutical regulations in ASEAN. This integration means that ASEAN countries will use uniform drug registration dossiers and implement the same quality control mechanisms - aiming to achieve the goal of drug registration and drug quality standards that are recognized by many other countries. To implement this commitment, in November, 2009, the Drug Administration of Vietnam issued a new Circular (22/2009/TT-BYT) on drug registration that complies with the ASEAN common technical dossier for pharmaceuticals used on humans [111]. For integration into ASEAN the Drug Administration of Vietnam has also issued guidelines on bio-availability (BA) and bio-equivalence (BE).

Difficulties and limitations

In relation to production, Vietnam is facing challenges because of its high dependence on imports to satisfy the need for pharmaceutical ingredients. In 2008, 90% of active pharmaceutical ingredients had to be imported, mainly from China, India and Singapore [109]. Currently we are researching to find an option for strengthening pharmaceutical chemicals and ingredients to remove the barriers to domestic drug production.

Modern production technology in many factories does not yet ensure quality products. Currently, products produced domestically are primarily common drugs. However, the State

is supporting investments and production chains for modern production and advanced technology.

In WTO negotiations with some countries, Vietnam has also accepted adjustments in the TRIPS regulations such as data exclusivity and patent linkages. Even though these additional conditions help to open up export markets for many Vietnamese products, it is important to balance these benefits with the disadvantages for developing domestic generic drugs and more importantly the disadvantages for consumers, i.e. patients who have to pay high drug prices over many years.

1.1.5 Quality

Progress and results

Regulations on drug quality are being reviewed and revised in order to gradually reach regional and international standards.

Recently, the Ministry of Health issued Circular No. 09/2010/TT-BYT guiding drug quality management to replace drug quality management regulations that had been in place since 1998. This Circular regulated drug quality management activities in the manufacturing process, exports, imports, distribution and use of drugs in Vietnam; plus the rights and responsibilities of drug enterprises, consumers and organizations and individuals relevant to drug quality.

Vietnam has developed and implemented many good practice standards (GPs). Currently there are good practice standards in manufacturing (GMP), storage (GSP), laboratory testing (GLP), distribution (GDP), pharmacies (GPP) and agriculture and collection of drug ingredients (GACP).

The number of enterprises meeting standards of good manufacturing practice has been increasing each year. By the end of 2009, a majority (98 factories) met or exceeded Vietnam GMP standards (Table 18) and 55% of factories met GMP-WHO standards. Also by 2009, a total of 98 enterprises had met good laboratory practice standards (GLP). By the end of 2008, 126 enterprises had received certificates for good storage practice (GSP) [28]. According to statistics from the Drug Administration of Vietnam, by the end of 2009, 10.6% of pharmacies had met GPP standards [112].

Table 18: Number of enterprises meeting good practice standards, 2000-2009

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
GMP	18	25	31	41	45	57	66	74	89	98
GLP	0	6	16	26	32	43	60	74	88	98

Source: Drug Administration of Vietnam

Quality control is the responsibility of the National Institute for Drug Quality Control (NIDQC). This agency has been awarded the good laboratory practice (GLP) standard certificate from WHO. Currently 63 provincial quality control centres have varying capacity for quality control, depending on the work assigned to them by the NIDQC. The Government has also built three regional quality control institutes in Da Nang, Can Tho and Hue.

The Drug Administration of Vietnam has recently issued Circular No. 04/2010/TT-BYT on taking samples of drugs to overcome problems in the past with the samples selected for testing being too small compared to the volume of drugs circulating in the market. This Circular also covers the request by the Government for clinical testing for new drugs and

vaccines, including products that are not yet allowed to be used for five or more years in any nation.

The revised regulations on registration of drugs was issued in 2009 (22/2009/TT-BYT). These regulations amended the quality standards so pharmaceuticals can circulate in the domestic market.

Difficulties and limitations

The scourge of counterfeit drug manufacture and trade is a global problem, and does not distinguish between developed or less developed countries. According to the World Health Organization assessment (2006), the proportion of drugs that are counterfeit fluctuates around 1% through the developed world, where effective legal and management systems exist, to more than 10% in developing countries, where legal and management systems remain weak. Thanks to application of stringent and effective methods in general the proportion of drugs that are counterfeit in recent years has been maintained at a low level, fluctuating around the level of 0.1% (upper row in Table 19).

Counterfeit drugs in the market in Vietnam tend to be antibiotics: ampicillin, amoxicillin, chloramphenicol, erythromycin and tetracycline [113]. As for imported drugs, antibiotics is the drug group that has the most violations (20 out of 45 drugs found to be counterfeit) [95]. The proportion counterfeit (out of the number tested) from 2001 to 2009 is presented in Table 19.

Drugs not meeting quality standards are another problem in need of attention by the health system in all countries. According to data from the Drug Administration of Vietnam, out of all drugs sampled and tested, about 3% did not meet quality standards. This proportion fluctuates over time without any clear upward or downward trend (Table 19).

Table 19: Proportion of drugs that are counterfeit or do not meet quality standards in sample that was checked, 2000-2009

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009
Proportion counterfeit	0.3	0.03	0.06	0.06	0.09	0.13	0.17	0.095	0.12
Proportion not meeting quality standards	3.3	3.2	3.1	3.1	3.0	3.2	3.3	2.9	3.7

Source: Drug Administration of Vietnam [95; 112]

Storage of drugs is very important to ensure drugs have the desired effect. The number of facilities issued with certificates of good storage practice has increased from 79 in 2007 to 108 in 2008 (a 37% increase), contributing to ensuring drug quality. The impact of drug storage conditions on the strength and quality of drugs has not yet been researched or monitored much in Vietnam. However, one study assessed the strength of the active ingredients in epilepsy drugs in 2008 in several cities in the southern region of Vietnam using the HPLC method with a small sample [114]. Results suggest the need to monitor the situation of drug storage because only 35% of the drugs studied ensured the correct strength, and since maintenance of strength of active ingredients is strongly correlated with drug storage conditions. Because drugs are sensitive to environmental factors (temperature, light and humidity), implementation of GSP cannot be lacking in quality assurance.

Application of good practice standards in order to improve quality is a major challenge for domestic production facilities and for drug testing laboratories that play a crucial role in quality assurance for drugs circulating in the Vietnamese market. New regulations on sampling for pharmaceutical testing require that staff in this field must be trained appropriately and the number of staff must be increased in order to ensure comprehensive implementation of drug quality verification regulations can be ever more strictly implemented.

1.1.6 Rational and safe use of drugs

Progress and results

In order to ensure that patients use drugs safely and rationally, the Ministry of Health has developed many different mechanisms. In 1997, the Ministry of Health issued a document requiring all hospitals to set up Drug and Therapy Committees. Members of this Committee include clinical doctors, pharmacists and microbiologists. Some of the main duties of the Drug and Therapy Committees are to implement Ministry of Health guidelines on use of drugs and to provide professional advice aimed at improving rational, safe and effective use of drugs. In addition, this Committee is also charged with providing advice to assist in developing the major drug list to be used at their facility. Some types of antibiotics, for example meropenem, before it can be used must go through a process of asking for advice from this Committee. Another task of the Committee is to mentor local health workers on rational use of drugs and organization of activities to monitor and report on the situation of antibiotic resistance. To date, almost 100% of all hospitals have a Drug and Therapy Committee.

In order to provide information on drug prescribing, the State has developed the Vietnamese National Drug Formulary, a reference material with abundant scientific content that has been issued to all medical facilities to use in drug prescribing, or dispensing drugs to patients.

Regulations on drug prescribing and dispensing of prescription drugs (1847/2003/QĐ-BYT, dated 28 May, 2003, and 04/2008/QĐ-BYT, dated 1 January, 2008) have been issued. In order to support implementation of these regulations, the Ministry of Health has also issued a list of drugs not requiring prescription.

In June, 2009, the Ministry of Health set up a Drug Information and Adverse Drug Reaction Centre (DI-ADR) at the Hanoi Pharmaceutical University. Pharmaco-vigilance responsibility has also been transferred from the Drug Administration of Vietnam to this Centre, starting in January, 2010 [115]. The national pharmaco-vigilance system was established with technical assistance from WHO, Management Sciences for Health (MSH) and Nuffic Institute (Holland). The number of reports of adverse drug reactions has increased over time (1062; 1284; 1778; 2005 cases corresponding to the years 2006; 2007; 2008; and 2009 respectively) [95; 112], due to including adverse drug reaction reporting to the set of indicators in the annual Hospital survey of the Medical Services Administration. Data indicate that in 2009, about 23% of hospitals had reported adverse drug reactions.

Difficulties and limitations

Unsafe and irrational use of drugs can lead to many negative consequences. Firstly, irrational use of antibiotics and antiviral drugs leads to growing drug resistance. A surveillance survey in the community found that 95% of *S. pneumoniae* (main cause of pneumonia), was resistant to at least one type of antibiotic and 60% was resistant to more than one type of antibiotic [116]. The different bacteria that cause pneumonia currently are

resistant to drugs commonly used in the community. This results in the need to substitute more expensive drugs and may lead to increasing treatment failure [117]. Antibiotic resistance in hospitals has increased rapidly. A study performed at Hanoi's Bach Mai Hospital found that the proportion of bacteria resistance to cephalosporin (ESBL positive) had increased from 21.5% in 2006 to 41.2% by 2008 [118].

Secondly, unsafe use of drugs can lead to increased adverse drug reactions. The situation of adverse drug reactions in Vietnam cannot yet be assessed accurately because the Adverse Drug Reaction Centre has only recently been set up. According to current report data, on average nationally, less than six cases of adverse drug reaction are reported daily. However, the types and forms of drugs used lead to a higher risk of adverse events in Vietnam than in other countries because of the uncontrolled use of antibiotics, and because doctors prefer to prescribe injectable and IV drugs. The drug resistance situation is one of the main causes leading to an increase in use of more expensive antibiotics such as imipenem and meropenem [117].

Thirdly, expensive drugs may lead to irrational use because patients have insufficient money to buy the entire dose. When this happens, non-communicable disease management and successful treatment of acute diseases is ineffective.

Finally, another factor that is no less important are the commissions from pharmaceutical companies to doctors and pharmacists. High commission rates can encourage prescription of unnecessary drugs and/or expensive brand name drugs, leading to a higher risk of inappropriate drug use or to high financial risk to the households or health insurance.

Even though many regulations and mechanisms to ensure safe and rational use of drugs have been implemented, the results are not yet as desired.

According to the prescription drug regulations, pharmacies should only sell prescription drugs when they see the doctor's prescription, but in fact, there are almost no pharmacies that implement this regulation strictly. Pharmacies still sell prescription drugs without a prescription from the doctor. Prescription of drugs by active ingredient name has not been enforced. The cause of this problem is that the number of drug retailers is so large and the inspection, checking and monitoring workforce is too small, plus penalties are not substantial enough to force pharmacies to implement the regulations. Self-medication without a doctor's prescription is still widespread, including self-medication with steroids and antibiotics.

Standard treatment guidelines have not yet been developed or updated on a regular basis, and this leads to irrationalities in treatment practices at many hospitals. A research study implemented by the Medical Services Administration in 14 hospitals indicated that too many drugs were used on patients. In one hospital, there was even a case of one patient who was prescribed 82 drugs [119]. In an evaluation of procurement by hospitals, costs of drugs exceeded the approved budget [108]. In order to strengthen rational use of drugs, doctors and clinical pharmacists must rely on up-to-date standard treatment guidelines. However, currently there is a lack of up-to-date standards. This also shows the need to further strengthen the role of Drug and Therapy Committees.

District level hospitals face a severe shortage of highly trained pharmacists and microbiologists. The Ministry of Health has issued Directive No. 05/2004/CT-BYT on adjusting supply and use of drugs in hospitals. In particular, the Directive requires hospitals to implement local guidelines for rational and safe drug use, monitor antibiotic prescribing, organize local training programmes to improve knowledge of drug use and strengthen

hospital pharmacies. However, there is currently no information about the success or impact of this Directive.

Use of **essential drug lists** is one of the main instruments to strengthen rational use of drugs. Vietnam currently has several different lists, one for essential drugs and one for drugs reimbursed by health insurance. Hospitals are also given the authority to develop their own lists. In general, essential drug lists are the basis for procurement, yet in Vietnam this is not yet the case.

Economic factors also influence the unsafe and irrational use of drugs. In cases where the drugs are too expensive, especially for chronic disease, many patients will simply not purchase a full dose because of a lack of funds. As the costs of examination and treatment are high, because doctors prescribe many lab tests and because in many cases drug prices in hospitals are more expensive than outside, many patients self-medicate without a prescription or supervision by a doctor. The consequence is unnecessary use of drugs, wrong dosages, and an inability to avoid adverse drug reactions because of interactions with other drugs or because of counter indications.

Currently Vietnam does not yet have a national surveillance programme on antibiotic resistance. Recently the Ministry of Health has developed a programme for surveillance of drug resistance, collection of reports on the use of antibiotics as well as the antibiotic resistance situation from 20 hospitals with clinical microbiology laboratories. Nevertheless the data from these laboratories has not yet been checked for quality and results have not been widely disseminated to health workers or the people. Tests for antibiotic resistance need to be implemented stringently following standard guidelines and quality assurance.

Currently the risk of antibiotics used in agriculture and their contribution to the development of bacteria resistant to antibiotics in people has not yet been clearly determined. Nevertheless, a large share of pharmaceuticals used in agriculture are antibiotics. In fact antibiotics is the group of drugs that are most widely used in animal husbandry (accounting for 70% of all drugs) [120].

1.2. Vaccine situation

For many years, Vietnam has been among the countries with some of the highest immunization coverage rates, reaching over 90% almost every year and as a result the incidence and mortality of communicable disease in children has declined substantially. Thanks to the expanded programme on immunization, polio was eradicated in 2000. Neonatal tetanus was eradicated in all districts by 2005; and Vietnam is proceeding towards eradicating measles by the year 2012. With some diseases like measles, diphtheria and pertussis, over many years the incidence has declined substantially, and there have been no recent cases of death from these diseases [28].

In the coming period, the need for immunizations in Vietnam will continue to increase. The strategy for domestic vaccine production is appropriate in terms of finance and technology, however there are still some vaccines that will need to be imported. Overall, in this field, we are still facing challenges related to ensuring good quality of vaccines, production efficiency and good storage of vaccines during the process of distribution, and safety in use and sustainability in financing vaccines.

1.2.1 Legal framework

Vaccines are products that contain antibodies that help the body's immune system to respond to disease, and are used for prevention of disease and according to the legal system

in Vietnam are managed by the Pharmaceutical Law. The mechanisms for vaccine quality management, production and distribution management, and information and advertisements for vaccines are regulated according to various legal documents described in the section on pharmaceuticals.

There are two primary entities with responsibility for state management of vaccines, whose functions and responsibilities are described in Ministry of Health Decision No. 23/2008/QĐ-BYT (issuing regulations on the use of vaccines and biomedical products in prevention and treatment), these are:

- The Drug Administration of Vietnam with responsibility to organize quality verification, approve and issue licenses for use in Vietnam, ensure quality management of vaccines and biomedical products, permit exports and imports of vaccines and biomedical products used for immunizations, and withdraw the license for or forbid use of vaccines and biomedical products in immunization for disease prevention.
- The Preventive Medicine Administration is responsible for leading and collaborating with other related departments and administrations to direct, guide, and check vaccinations, and biomedical products nationally, conduct information, education and communication activities on safe immunizations, amend the list of communicable diseases for which vaccines and biomedical products are mandatory, determine the age group of children covered in the expanded programme on immunization for each specific period and receive commitment agreements for following immunization regulations from facilities directly under the Ministry of Health that provide immunization services.

This chapter has already discussed the primary functions of the Drug Administration of Vietnam. Many of the issues related to use of vaccines have already been discussed in the chapter on Preventive medicine (Chapter 2).

1.2.2 Need for vaccines

Vietnam continues to expand the types of vaccines used. Before 1997, the expanded programme on immunization only used six types of vaccine: BCG (TB), polio, diphtheria, pertussis, tetanus and measles. From 1998 to the present, four vaccines have been added including hepatitis B, Japanese Encephalitis, cholera and typhoid. In the next few years, Hib should be added (in the form of a combined vaccine together with diphtheria, pertussis, tetanus and hepatitis B). For adults, currently the main immunization provided is tetanus vaccine for pregnant women to reduce the risk of neonatal tetanus, and rabies vaccines after animal bites. Globally, there are many different vaccines to prevent communicable disease, but because of limited funds, Vietnam has not yet been able to include them into the expanded programme on immunization, and has only been able to choose some vaccines to prevent diseases that are considered priorities for public health and for which prices are reasonable. In the coming period, it will be necessary to review cost-effectiveness to assess whether additional vaccines such as mumps, chicken pox, rubella, rotavirus, pneumococcal should be added to the expanded programme on immunization, because these vaccines prevent diseases that are occurring in Vietnam and could become a heavy disease burden. For women, research should also be undertaken to assess cost-effectiveness of immunizing against HPV in order to reduce the risk of cervical cancer.

1.2.3 Production and supply of vaccines

Domestic vaccine manufacture has many advantages: greater proactiveness in use of vaccines, and when epidemics occur, domestically produced vaccines can immediately meet demand. Vietnam has produced many different types of vaccine: BCG (TB), diphtheria, pertussis, tetanus, polio, Japanese encephalitis, hepatitis B, measles, cholera and typhoid. However, each production company produces one specific type of vaccine. The general global trend is for people to gradually produce combined vaccines, such as the diphtheria-pertussis-tetanus-Hepatitis B-Hib vaccine. Combined vaccines have the advantage that children will not suffer as much because only one shot is needed instead of multiple shots, there is no need to bring the child to the facility multiple times, they help to increase immunization rates and appropriate age for immunization, and they reduce the costs associated with vaccines storage and giving the immunizations [121].

GAVI has provided Vietnam financing to procure the 5-in-1 vaccine (diphtheria, pertussis, tetanus, hepatitis B, Hib vaccine) for the 5 years from 2010 to 2015. After these 5 years of financing, it is hoped that domestic vaccine manufacturers will be able to produce combination vaccines to continue to maintain the immunization programme for children, and to avoid gaps in vaccine use. In order to achieve this goal, the State must invest in domestic vaccine production, and at the same time, producers must begin to collaborate more closely with each other.

In 2010, the Government put vaccines into the list of products eligible for special support in the national programme to improve productivity and quality (Prime Ministerial Decision No. 712/2010/QĐ-TTg). This programme has the objective of developing and applying standards systems, model management systems, and tools for improving productivity and quality. At the same time, it will support the human resource development needed to improve productivity and quality, including for vaccines.

1.2.4 Vaccine financing

With the rapid development of the economy, national income per capita in Vietnam in 2008 reached USD 1062 USD [28], Vietnam no longer sits in the list of countries that receive special support for health in general and vaccines in particular. Donors are gradually reducing support for vaccines in Vietnam. In 2009, total State spending in Vietnam on expanded programme on immunization was VND 142 billion, and from donors only about VND 3 billion [122].

In this context, consideration of using new vaccines in the expanded programme on immunization, it will be important to estimate cost-benefit ratios to have an appropriate basis for convincing leaders to supplement state budget allocations for increasing the number of vaccines in the expanded programme on immunization.

Since 2002, the Ministry of Health has issued Guidelines for good practice in vaccine and biologics production in Vietnam (Decision No. 5405/2002/QĐ-BYT) and in 2005, it issued guidelines for submitting a dossier, the paperwork and authority for issuing certificates of good manufacturing practice for vaccines and biologics. According to this decision, 2010 is the deadline for all vaccine manufacturers to meet GMP-WHO standards.

Vaccines are a type of biologic with a high level of antibiotics, stringent storage requirements, and short shelf-life compared to other drugs, and for these reasons, it is not possible to produce or import large quantities at a time. Thus, it is also possible that there will be seasonal shortages of vaccines, including vaccines in the expanded programme on immunization.

According to the opinion of experts in the vaccine field, vaccine quality in Vietnam varies, depending on the producer. In general, domestic vaccine production has more stable quality than imports. There are lots of imported vaccines that do not meet quality standards. Vaccine storage at lower levels is still not good; equipment and cold chain for vaccine storage are insufficient or have reached the age when they need to be replaced. This will affect vaccine effectiveness.

1.3. Blood and blood products situation

Blood and blood products play an important role in medical treatment for some dangerous diseases, in particular in the case of high levels of blood loss, when blood is necessary to save the life of the patient. In the past two decades, haematology and blood transfusion have made some significant improvements.

1.3.1 Legal framework

In 2001, the Prime Minister issued Decision No. 198/2001/QD-TTg approving the Blood Safety Programme. At present, bio-medical products are managed by the Pharmaceutical Law (2005). In 2007, the Ministry of Health issued regulations on blood transfusion (Decision No. 06/2007/QD-BYT) regulating professional activities in blood transfusion including: recruiting blood donors, collecting blood and blood components, testing, processing, storage, transportation, reserves, supply/distribution, use of blood and blood products, own-blood transfusions, and resolving adverse events related to blood transfusion.

The responsibility for implementing these regulations has been assigned to several units. In 2007, the Ministry of Health transferred implementation of the functions and tasks of state management for vaccines and bio-medical products from the Preventive Medicine Administration to the Drug Administration of Vietnam (Decision No. 24/2007/QD-BYT). In 2008 the Medical Service Administration was established to replace the Therapy Department. As a result, responsibility is currently divided as follows:

- Medical Service Administration is responsible for leading and coordinating between relevant Ministry of Health departments/administrations to steer, guide, and check blood transfusion activities throughout the nation.
- The Drug Administration of Vietnam is responsible for leading and coordinating with the Medical Services Administration and related Ministry of Health departments and Administrations to organize quality control checking and submit these to the Minister of Health to approve issuing licenses for facilities with sufficient conditions to process blood products and to register each blood product for use in the curative care sector.
- The Planning and Finance Department is responsible for leading and coordinating with the Medical Service Administration and related agencies to guide the financial mechanism to ensure blood transfusion activities.
- The Ministry of Health Inspectorate is responsible for leading and coordinating with the Medical Services Administration and related Ministry of Health departments and administrations to organize inspections of blood transfusion activities throughout the country.
- The provincial health bureaux are responsible for leading, guiding, checking, and inspecting blood transfusion activities in the localities.

- The Central Haematology and Blood Transfusion Institute is the specialized institute under the Ministry of Health responsible for leadership in technical professional areas to ensure the quality and safety of blood transfusions throughout the country.
- Regional Blood Centres are responsible for leading in technical professional areas to ensure the quality and safety of blood transfusion in the facilities to which they are assigned responsibility by the Ministry of Health.
- Hospitals are responsible for ensuring the quality and safety of blood transfusion in the hospital. Each hospital must organize a Blood Transfusion Committee to advise the hospital director how to ensure the quality and safety of blood use.

Nevertheless, since being issued in 2008, the regulations on the functions, responsibilities, authority and organization of the Drug Administration of Vietnam and the Medical Services Administration, in relation to blood transfusion, still lack specificity. Currently the Ministry of Health is in the process of revising the blood transfusion regulations with support from the World Health Organization.

Currently there is a lack of legal documents mentioning:

- Responsibility for implementing the quality system for blood transfusions.
- The need to implement and recognize the quality management systems in blood transfusion facilities: Application of national and international standards (ISO 9001, 17025, 15189, 14001, SA 8000, OHSAS 18001).
- Issuing licenses for activities based on demand, minimum standards for transfusion facilities and periodic inspections and checking up on operations.

1.3.2 Blood transfusion financing

The organization of blood donations, blood screening, production of blood products, and the storage and distribution of blood products requires a rather large amount of funds. Therefore the Ministry of Health and the Ministry of Finance have issued a Circular guiding and updating the cost norms for collecting and screening whole blood and formulating blood products that meet standards (Circular No. 21/2009/TT-BYT) and guidelines on contents and spending norms for IEC and mobilization of people for voluntary blood donations (Circular No. 182/2009/TT-BTC). Thus when patients use blood, fees are needed to cover these costs. Currently there are no up-to-date user fees for blood products.

1.3.3 Blood donation organization

In all provinces there is a steering committee for recruiting voluntary blood donors with People's Committee Chairman acting as chair and the provincial Red Cross Committee chairman as the deputy chairman. Health workers in the provinces support the steering committee on technical matters. The campaign for humanitarian blood donations has and continues to develop, rapidly increasing the proportion of blood that comes from voluntary donations, in 2009 reaching 74% of total blood units collected. Vietnam has chosen the 7th of April each year as "the day when the whole population makes humanitarian blood donations". Nevertheless, only relying on voluntary donations for collecting blood is not enough. To date, it is felt that some 20% of blood collected comes from paid blood donors [123].

Recently, according to the Law on Red Cross operations, the Red Cross has been permitted to establish clinical blood donation centres. To date, only HCMC has this centre

and it operates quite professionally, ensuring quality. However this model has not yet been scaled up to other provinces in the country.

1.3.4 Production of blood products and blood safety

With support from the World Bank, the Ministry of Health has built four regional blood centres in Hanoi, Hue, HCMC and Can Tho. With these centres, the project focused on the following [124]:

- Voluntary blood donations
- Blood banks
- Effective clinical use of blood
- Quality management
- Human resource development
- Management of physical facilities
- Support for poor patients.

In addition to this project there has also been support to develop the National Haematology and Blood Transfusion Institute to become the country's leading agency for haematology and blood transfusion.

Regarding staff training, with support from the World Bank, the World Health Organization and some other international organizations, many central and local staff have received training on blood quality management.

Even though there have been some major technological developments and a high level of concern from all levels of authorities and the community, to date, the entire country has only five regional centres for collecting, screening and processing blood products, and then distributing these products to hospitals as needed. Neither the blood collection points nor the five blood processing centres have good distribution networks to allocate blood products to facilities in need. This means that blood products used in many facilities have often not been screened and are of poor quality.

1.3.5 Blood transfusion

Formulation of blood products can only be performed in blood transfusion centres. Transfusion of whole blood is still common in many places, while blood components are mainly only used in health facilities near blood transfusion centres. The province level has not yet implemented blood component transfusions making the blood shortages even more severe. In remote and isolated localities, access to blood and blood products face many difficulties due to a lack of blood, lack of physical facilities, and a lack of equipment to collect and screen and store blood. This situation shows that blood transfusion has not yet ensured effectiveness and equity.

2. Priority issues

2.1. Drug prices remain high despite greater control over drug price rises

Retail drug prices in Vietnam are higher than international reference prices. The generic proportion of the drug market, with the advantage of lower prices than brand-names, remains low for multiple reasons. Regulations on competitive bidding and the way

competitive bidding has been implemented have led to prices of drugs in hospitals being higher than drugs sold outside hospitals. High drug prices is one of the reasons that pharmaceuticals account for 40% of total health spending, and are associated with health care cost escalation.

High drug prices are a barrier for the people to use drugs when they are needed, especially for patients with chronic diseases, and leading to difficulties in protecting the people against financial risk.

2.2. Quality of drugs and drug ingredients are not yet adequately controlled

In the market economy, “drugs” are similar to other goods in the aspect that the market is affected by demand and supply, and producers and sellers of drugs operate with a profit motive. However, “drugs” are also a special product because they are directly related to health, or even the ability of consumers to live. Another cause for this difference is that the consumers usually have difficulty to assess the quality of the product they purchase. To protect the rights of the consumer, that is to ensure the safety and effectiveness of drugs, there is a need for strict methods to regulate the quality of this special type of product, from production of drug ingredients through production, imports, storage and dispensing.

Although the health sector has developed regulations for quality control of drugs, in the Vietnamese drug market there are still counterfeit drugs and low quality drugs, especially herbal medicines and pharmaceutical ingredients. The quality control for drugs and pharmaceutical inspections need to be consolidated further for timely detection, and limitation of the adverse effects of drugs that can be prevented. Effective implementation of quality control will contribute greatly to increasing trust in domestic drugs, and supporting domestic production and exports.

Currently good practice standards are beginning to be applied in pharmaceuticals, but are still not applied comprehensively at all relevant facilities. GMP standards are being applied in all pharmaceutical production facilities, but not according to one uniform standard, i.e. GMP-WHO standard. There are still drugs circulating in the market in Vietnam that don't meet GMP standards. Good pharmacy practice (GPP), good storage practices (GSP), good laboratory practice (GLP), are not yet mandatory in all medical-pharmaceutical facilities.

2.3. Use of drugs is not yet entirely safe and rational

One of the causes leading to the high share of spending on drugs is irrational use of drugs, especially antibiotics. The negative consequence is even bigger than its impact on health care costs, because the negative effects of irrational use are increasing in terms of adverse drug reactions, when there are drug interactions, anaphylactic shock, or in terms of drug resistance (antibiotics, antivirals).

There are many reasons for unsafe and irrational use of drugs. First are factors related to knowledge on the part of the patient who self-treats, and on the part of doctors who prescribe drugs without adequate information on interactions, side-effects or because of the lack of treatment guidelines with adequate, up-to-date detail on how to prescribe drugs rationally. Second are economic incentives to prescribe more expensive drugs, including injectables and infusions. Third are regulations on drug prescribing and drug dispensing by prescription that have not been strictly implemented. Fourth is implementation of microbiology testing, especially antibiotic sensitivity testing, that is not widely implemented in all hospitals because of a lack of staff and equipment, or because the costs of these tests are not fully recovered from health insurance or user fees. Fifth, the adverse drug reaction

reporting system has only just begun to function, and does not yet react rapidly enough when poor quality drugs cause adverse events, and complications in therapy.

2.4. Expansion of use of new vaccines and ensuring sustainability of vaccine supply is facing many challenges

Even though Vietnam has been quite successful in implementing the expanded programme on immunization and in the production of vaccines meeting quality standards, there remain some issues that need to be overcome in the forthcoming period.

- There are many types of new vaccines that can prevent diseases that are endemic to Vietnam, but that Vietnam cannot yet produce. The option of importing vaccines is expensive and makes it hard to ensure stability of supply because of the nature of vaccines and the short period of time that they can be stored for use. There are some vaccines for which the antibody formulas change on an annual basis so large amounts cannot be imported.
- Currently each company in Vietnam generally specializes in producing one type of vaccine. The international trend is towards combination vaccines such as diphtheria-pertussis-tetanus-hepatitis B-HiB because of numerous advantages. However, with the fragmentation of production of vaccines in Vietnam, the combining of vaccines to increase effectiveness and efficiency of the expanded programme on immunization is facing difficulties.
- The vaccine service supply system has wide coverage, besides the vertical system of the national expanded programme on immunization, hospitals also provide vaccination services for vaccines that are not in the expanded immunization programme, and for the newborn baby hepatitis B vaccine.

2.5. Amount of safe blood is inadequate

The legal system related to drug transfusions remains incomplete, and responsibility for different tasks is still unclear. The system of voluntary blood donations does not yet assure adequate blood to meet the demands of society, leading to the use of emergency blood (that is blood donated that does not go through the full range of screening tests).

3. Recommendations

In order to gradually resolve the priority issues in the area of pharmaceuticals, vaccines, biological products and blood products, this report recommends the following groups of solutions (for details see Chapter 11: Conclusions and Recommendations):

3.1. Implement solutions for managing quality and prices of drugs

3.2. Improve effectiveness in rational use of drugs

3.3. Ensure quality of vaccines, blood and biologics

Chapter 8: Medical Equipment and technology

Medical equipment is a specialized field in the health sector including equipment, instruments, medical consumables, medical transport vehicles serving examination and treatment, preventive medicine, and health promotion. Pharmaceuticals and medical equipment are one of the six building blocks of the health system, and there is a mutual influential relationship, linkages and support with the other building blocks of the health system to ensure health care achieves high performance.

Medical equipment is a special type of product, applying the latest advances of science and technology and has stringent requirements for safety, stability and precision. Medical equipment is also often used as a measure of the level of modernity of a health facility, while at the same time it contributes to the quality of health services provided by that facility. To cope with the ever-increasing need for health care of the people, the medical equipment system has benefitted from large-scale investment, reform and modernization compared with the past.

This chapter will analyze the situation and propose solutions for priority issues among the many problems that need to be resolved, in order to contribute to more effective and efficient use of the medical equipment and technology used to care for the people's health.

1. Situation analysis

1.1. Progress and results

In recent years, medical equipment has witnessed many improvements and results, contributing positively to the general achievements of Vietnam's health care system, as evidenced by the different aspects described below.

1.1.1. National strategy and policy on medical equipment

In recent years, to meet the needs for protection and care of the people's health, the medical system throughout the country has received substantial investments for upgrading, and in those investments, medical equipment has accounted for a substantial share both in terms of amounts and value, through capital invested from many different sources.

Prime Ministerial Decision No. 130/2002/QĐ-TTg approved the National Policy on Medical Equipment (for the period 2002-2010). The State has continued to issue and direct implementation of policies to improve the role of medical equipment in the protection and care of the people's health. Objectives have been laid out to orient activities in the area of medical equipment, including the following general and specific objectives:

The **general objective** of the national policy is: Ensure adequate medical equipment for each level of the system according to regulations of the Ministry of Health; Gradually modernize medical equipment for each medical facility; strive, by the year 2010, to achieve a level of technology in medical equipment that is on a par with modern countries in the region; Develop a workforce of professional technicians and engineers to use, maintain, repair and calibrate medical equipment; Develop medical equipment technology to improve the share of medical equipment that is researched and produced domestically.

Specific goals include: (i) Strive, by the year 2005, to meet needs for common medical equipment for grassroots health facilities; (ii) Continue to equip and use effectively the three specialized medical centres in Hanoi, Ho Chi Minh City and Hue, with plans for

expanding to other socio-economic regions; (iii) Expand domestic production of common medical equipment, and ensure that by 2005 at least 40% of the sector's needs are met domestically and by 2010 this should rise to 60%. Promote production of high-tech medical equipment, invest in advanced technology production lines for production of medical equipment, pharmaceuticals and vaccines.

The State has issued legal documents related to medical equipment aimed at implementing these goals of the National Policy on Medical Equipment 2002-2010.

The Ministry of Health has gradually completed and reformed the State management mechanism for medical equipment from the central level to the local level, strengthened capacity of medical facilities to manage medical equipment throughout the sector; medical facilities have staff charged with monitoring the medical equipment; hospitals, central institutes, general provincial hospitals have medical equipment and materials offices; district medical centres have specialized staff to monitor medical equipment and materials.⁷

In order to orient medical facilities towards investment in and procurement of medical equipment using treasury bonds in an efficient manner in line with the needs for health care, as well as in line with professional capacity, the Ministry of Health has issued Decision No. 3333/2008/QĐ-BYT issuing the lists of essential medical equipment and Decision No. 431/2009/QĐ-BYT issuing the lists of medical equipment for regional polyclinics at the district level. As for other medical facilities, the former regulations are still in place including Decision No. 437/2002/QĐ-BYT and Decision No. 1020/2004/QĐ-BYT.

In order to standardize and support medical facilities in the procurement of medical equipment, the Ministry of Health has directed the development and issued materials on a medical equipment database for hospitals and facilities at the commune, district and provincial levels.

1.1.2. Strengthened investment in medical equipment

Investment in procurement of medical equipment is mainly done through competitive bidding as per regulations. However, because medical equipment has special characteristics compared to equipment in other sectors, there are some special regulations. Below is an overview of the legal regulations, and the situation of competitive bidding to procure medical equipment, and identification of some areas that need to be improved.

In order to improve effectiveness of investments in medical equipment and strengthen the role of competitive bidding in procurement of medical equipment, the health sector has applied the Law on Competitive Bidding (2005) and Decree No. 58/2008/ND-CP dated 05 May, 2008 and more recently Decree No. 85/2009/ND-CP dated 15 October, 2009 guiding implementation of the Law on Competitive Bidding. During the process of implementing the Law, the State has developed additional guidelines as follows:

The Prime Minister has issued Decision No. 49/2007/QĐ-TTg dated 11 April, 2007 on special cases where sole source contracting can be used; Decision No. 39/2008/QĐ-TTg dated 14 March, 2008 issues competitive bidding regulations, and ordering for public services; Directive No. 27/2008/CT-TTg dated 5 September, 2008 offers guidance on adjusting competitive bidding when using state capital. In addition, the Ministry of Planning

⁷ At the Ministry of Health level according to 188/2007/ND-CP and 2964/2004/QĐ-BYT, at the provincial level according to 13/2008/ND-CP, at the district level according to 14/2008/ND-CP. At the hospital level according to the hospital regulations.

and Investment, the Ministry of Finance, and the Ministry of Commerce have issued additional related legal documents.

In particular, in the area of medical equipment, the Ministry of Health has issued appropriate decisions such as: Decision No. 2738/QĐ-BYT dated 24 July, 2007 transferring authority for approving bid invitation documents and announcing results of selecting contractors for units directly under the Ministry of Health; Decision No. 2876/QĐ-BYT dated 1 August, 2007 guiding implementation of competitive bidding in the health sector; Decision No. 4318/QĐ-BYT dated 6 November, 2007 transferring authority to heads of service provision facilities directly under the Ministry of Health to approve bid invitation documents and announce results of selecting contractors; Decision No. 1232/QĐ-BYT dated 8 April, 2008 decentralizing authority for deciding on procurement and major repairs of assets using recurrent expenditures and funds of administrative and service units directly under the Ministry of Health.

As the legal framework on competitive bidding is relatively complete, this has created convenient conditions for the procurement of medical equipment. This in turn has led to improved quality of tendering and quality of advising services, and suppliers have also improved with more appropriate price levels. Over time, implementing regulations on competitive bidding, the personnel working on competitive bidding has become more specialized in the organization of tendering, preparing bid invitation documents, assessing bid dossiers, signing and monitoring the process of implementing the contract. The Law on Competitive Bidding strictly regulates conditions for limited bidding, thus expanding the use of competitive bidding while reducing other forms of bidding.

Over the past 10 years, implementing procurement of equipment through “social mobilization” has contributed to overcoming the shortage of capital from the state budget to invest in medical equipment. The orientation towards social mobilization has created greater autonomy in mobilizing capital for investments, strengthening physical facilities, and renovating medical equipment through many forms including:

- Loans from credit lending institutions
- Mobilized capital from staff and workers
- Mobilized capital from investors (through joint ventures and business partnerships)
- Encouraged national and international individuals and organizations working in charity to supply and support medical equipment and support curative care, help medical facilities to improve their conditions to serve the health care needs of the people.

According to data from 2008, public hospitals had mobilized about VND 3 trillion to invest in medical equipment. Of that figure, central hospitals under the Ministry of Health mobilized over VND 500 billion, units in Ho Chi Minh City mobilized and borrowed from demand stimulation funds almost VND 1 trillion; units in Hanoi mobilized over VND 100 billion; Quang Ninh almost VND 50 billion, etc. [125]. The autonomization mechanism has created conditions for units to be more active at implementing internal cost controls, applying democratic principles, innovating, improving management skills and implementing professional responsibilities of the units.

According to preliminary statistics, through business partnerships some expensive, modern medical equipment have received investment and been supplied to provide diagnostic and treatment services such as: more than 100 CT scanners (of different types), 20 MRIs, 3 angiographies, 4 Gamma knives, 3 linear accelerators and 11 lithotripters. In addition

investments have also been made in; laser Excimer, Phaco surgery, digital x-rays, endoscopes of many types, colour ultrasounds, biochemistry, haematology testing equipment, etc.

As one might expect, in large cities, social mobilization in the area of medical equipment has been implemented well (Ho Chi Minh City: VND 432 billion, Hanoi: VND 120 billion, Thanh Hoa: VND 65 billion, Hai Phong: VND 46 billion), but in mountainous and disadvantaged areas, almost no mobilization of resources has occurred through social mobilization.

In addition, Technical Advice Committees have been established at all levels to provide advice and support for medical facilities, and management after tendering (e.g. monitoring, verifying equipment according to contracts, installing, test running, transferring, guiding use, warranties, maintenance, etc.) has also been emphasized to ensure effectiveness of procurement, to provide the right equipment for the demand and timing as required. Inspections in the area of medical equipment procurement have been promoted by the Ministry of Health with the goal of monitoring effectiveness of investments in medical equipment.

1.1.3. Strengthening effectiveness in exploiting and using medical equipment

In order to strengthen management in effective use and exploitation of medical equipment, the Ministry of Health has allocated responsibility to the unit in charge of medical equipment at each level to develop standards for medical equipment, develop procedures for calibration, develop technical capacity on medical equipment by region and regulations on budgets that need to be reserved for maintenance of equipment.

The Ministry of Health has strengthened the role of the Medical equipment and materials office in hospitals, provincial health bureaux or other specialized units to monitor medical equipment in the work of advising on investments, procurement procedures, and management for efficient use of medical equipment and materials.

The Ministry of Health has directed activities aimed at strengthening medical equipment technology services. Substantial progress has been evidenced in implementation of periodic calibration of medical equipment being used in medical facilities, as well as products produced domestically or imported. The Medical Equipment and Medical Construction Institute has been developed and is gradually being strengthened, and has been allocated responsibility by the Ministry of Health to serve as the leading agency in the work of verifying, testing, and calibrating medical equipment and this work has also been begun at many medical facilities. Collaboration between the National Directorate for Standards, Metrology and Quality and the health sector has trained accreditors, and issued medical equipment calibration procedures. A medical equipment accreditor in Ho Chi Minh City has been set up.

Technical servicing centres for medical equipment have been set up and consolidated. First of all they are focused on developing medical equipment technical servicing centres in Da Nang to ensure technical servicing for the Central Coast region and the Central Highlands. Various forms of medical equipment technical servicing are being developed. Inspections, quality control, and monitoring of the efficiency in using medical equipment at various facilities as regulated by the Government are all being promoted.

Scientific research, technology transfer and international cooperation on medical equipment have been strengthened. A research facility has been established with the participation of Ministry of Health units, science and technology facilities and scientists, to

research the ability to apply various medical equipment and new diagnostic and treatment methods that are being developed internationally for selective application in Vietnam; and to implement policies to encourage scientists, scientific and technology facilities in the health sector and from other sectors to participate in research and utilization of medical equipment and technical servicing.

In addition, the Ministry of Health has collaborated closely with the Ministry of Science and Technology's Quality Standards Centre to develop and issue sectoral and national standards in the area of medical equipment. To date, there are 135 Vietnamese standards and 35 sectoral standards on medical equipment.

The testing and standardization of medical equipment has also been implemented in many medical facilities, implemented with the authority of the relevant Ministry of Science and Technology agency, and much medical equipment has been verified, such as: all types of x-rays, CT scanners, ECGs, respirators, anaesthesia equipment, ultrasound, oxygenators, and many other pieces.

Regarding financing, according to Ministry of Health Directive No. 01/2003/CT-BYT dated 13 June, 2003 on strengthening management of medical equipment, facilities are allowed to reserve 5 - 7% of their recurrent budgets for purchase of fixed assets to implement calibration, preventive maintenance, maintenance and repairs of medical equipment in their unit.

1.1.4. Training to develop human resources specialized in medical equipment

When the medical equipment system develops, it is necessary to have a well-trained technical workforce able to maintain, service and repair and calibrate medical equipment; the technical workforce must be expanded to eventually ensure activities related to production of spare parts, and simple medical equipment and instruments to serve the health sector at reasonable prices.

In order to develop the medical equipment technical workforce in Vietnam, the Ministry of Health has developed a training plan for medical equipment technicians throughout the country; actively collaborated with the Ministry of Education and Training to increase the size and quality of training of this technical workforce in terms of management, technical engineering skills and skills for using medical equipment in medical practice; organized technical workshops to develop human resources for medical equipment; surveyed need, and the current situation of medical equipment technical specialists and assessed need on the basis of opinions of training institutions. There is a need to expand the training network, to meet demand of the sector throughout the country, to consolidate, establish or allocate responsibility for training facilities to develop practical contents, training curriculum, to satisfy the demand for their use in reality. In addition there is a need to study the mechanisms and appropriate policies, to expand staffing norms and positions, and to arrange jobs at health facilities to attract manpower to serve the sector.

1.1.5. Consolidating the sales and imports/exports of medical equipment

Medical equipment is generally very expensive, not only for the initial procurement, but also for the chemicals, consumables, repairs, maintenance needed for their continued use. The global market for medical equipment is large and involves the participation of many organizations and enterprises. Nevertheless, not all medical equipment suppliers operate responsibly to supply medical equipment of good quality, that operates effectively. Therefore the State needs to play an important role in regulating sales and imports of medical equipment, mainly in terms of collecting and disseminating information on suppliers who

provide quality service, and who have a good reputation and offer reasonable prices. At the same time, the State must have a system of sanctions for enterprises and importers who are irresponsible.

In the past few years, the Ministry of Health has undertaken consolidation of the system of enterprises and importers of medical equipment: unified State management of business and imports of medical equipment from the central to the local level; established systems of inspections, testing and monitoring of quality of medical equipment being used in the market; developed policies to provide financial and technical support for state owned enterprises in order to promote their leading role in the medical equipment business; and facilitated all economic sectors to participate in the medical equipment business according to the regulations of the State and guidance from the Ministry of Health.

The Ministry of Health has issued Circular No. 08/2006/TT-BYT dated 13 June, 2006 guiding import activities for products used in households, healthcare and medical equipment and Circular No. 09/2006/TT-BYT dated 11 July, 2006 guiding revisions and amendments to Section IV and Appendix 09 of Circular 08/2006/TT-BYT.

At the same time, the Ministry of Health has also established an Advisory Council to issue permits for importing medical equipment, developed and issued the procedures for issuing permits for imports and concrete guidelines for enterprises.

Currently, the Ministry of Health is guiding the development and implementation of research projects for applying information technology in the process of accrediting and permitting imports of medical equipment, in order to develop an electronic database system to manage more rapidly and efficiently issuing permits for imports and exports of medical equipment and to manage the situation of use of medical equipment at medical facilities.

1.1.6. Strengthening investments for development of medical equipment manufacturing and equipment servicing

According to the goals of the National Policy on Medical Equipment for the period 2002-2010, the domestic medical equipment manufacturing industry should supply 40% of need of the sector by 2005 and 60% by 2010. Medical equipment includes equipment with relatively sophisticated equipment in terms of technology. Investments in research on medical equipment are very expensive, and currently poor countries have difficulties to compete with multinational companies in the production of high technology medical equipment. However, there are still many types of medical instruments or furnishings, such as hospital and examination beds, cupboards, carts and even some simple equipment like autoclaves, dry heat sterilizers, suction pumps, etc. for which engineers and factories in Vietnam are perfectly capable of designing and manufacturing, in order to supply the country's medical system with low priced, good quality products to reduce the financial burden from imports.

In order to strengthen the role of the medical equipment manufacturing industry, Prime Ministerial Decision No. 18/2005/QĐ-TTg dated 21 January, 2005 approved the project "Research to manufacture and produce medical equipment to the year 2010".

The Ministry of Health has collaborated with other ministries and sectors with regards to establishing seven component sub-projects to research manufacture and production of different product groups; and expand cooperation with leading international conglomerate producers of medical equipment to form joint ventures for production and transfer of technology.

Equipment for which permits have been issued, that meet standards for production, that are supplied to and used in the health sector, and medical equipment manufacturers all have basic standards for different types of products, including hospital equipment products.

To date, the whole country has 48 units undertaking research on manufacturing of medical equipment and 621 products that are manufactured domestically and have been issued with certificates by the Ministry of Health allowing them to be used.

In addition, in implementing Decree No. 69/2008/ND-CP dated 30 May, 2008, the Ministry of Health has a policy to encourage mobilization of socially mobilized resources for investment in two types of services, these are “Research to manufacture medical equipment in the country” and “Servicing facilities for maintenance, repairs and calibration of medical equipment”.

1.1.7. Strengthening international cooperation and integration in the field of medical equipment

In order to develop the scale and quality of domestic medical equipment manufacturing, the health sector is actively participating in international medical equipment market integration. If successful, this will not only contribute to improving efficiency of medical services in Vietnam, but will contribute to increasing GDP.

The Ministry of Health has collaborated with other ministries and sectors to review and amend legal documents and state management in the area of medical equipment according to regulations in the roadmap for integration in the World Trade Organization (WTO). In addition, under the leadership of the Ministry of Health, the medical equipment sector has organized workshops and seminars to disseminate the contents and apply these general regulations on integration.

In order to take advantage of opportunities for integration with the global economy, the Ministry of Health has created an orientation for the medical equipment sector to participate in the integration and strengthening of international cooperation.

Currently Vietnam is a member of the ASEAN Medical Device product Working Group (part of the ASEAN Consultative Committee on Standards and Quality) and an observer in the ASEAN Harmonization Working Party.

In addition, the Ministry of Health has also directed the organization of specialized workshops to disseminate standards and regulations on management of workers in the area of medical equipment, and update and disseminate the contents of integration and international and regional agreements in the area of medical equipment to managers and specialists in the field.

1.2. Problems to be resolved

1.2.1. The legal framework on management of medical equipment remains incomplete

The system of legal documents for state management in the area of medical equipment still has some gaps and many documents have not been regularly updated.

There is a lack of policies to encourage and support the medical equipment manufacturing industry in the context of integration into the world economy. There is a lack of circulars guiding imports, establishment of advisory councils for issuing import permits, developing and issuing procedures for issuing import permits, research studies on application of information technology in the process of accrediting and issuing import permits for medical equipment.

There is not yet a standard design for hospitals and medical facilities for each level appropriate with each region, especially medical facilities related to primary health care. There is not yet a mechanism for health technology assessment (HTA) aimed at selecting technologies that are appropriate and cost-effective.

In addition, there are gaps, and lack of regular updating, of other legal documents on standardization, management of investments from social mobilized funds, imports and exports and sales of medical equipment, management and inspections, monitoring of use, calibration, maintenance of medical equipment in medical facilities all aimed at ensuring safety and effectiveness for patients.

1.2.2. Effectiveness of investments in medical equipment remain limited

The Vietnamese health system is developing strongly towards modernization. Currently the number and types of medical equipment are low compared with global norms and compared to nationwide need. According to current assessments, only about 30% of hospitals have adequate medical equipment to meet their needs for providing examination and treatment services. Of the remaining 70% of hospitals, 30% have yet to be provided with a system of medical equipment that guarantees the processes of diagnosis and treatment, while 40% of hospitals only partly or temporarily meet needs for medical care or have enough medical equipment, which is often old, obsolete technology (based on data from a survey of 31 hospitals at the provincial and central levels) [126]. Medical equipment also lacks uniformity so effective use in general is limited. Some medical facilities have a large number of patients leading to overcrowded use of medical equipment which in turn results in a lack of time for equipment maintenance. Even though many medical facilities lack essential medical equipment, there are still some medical facilities that have procured more than is actually needed.

Management and supervisory mechanisms of the State to ensure effectiveness in medical equipment investments remain weak. Inspections in the area of medical equipment procurement, and monitoring effective use of medical equipment investments are inadequate. A system for reporting and monitoring and supervising the effectiveness in use of funds has yet to be established. Joint ventures and business partnerships to mobilize private capital under the form of “capital contributions and profit sharing” to install medical equipment in public medical facilities may lead to abuses in the use of medical equipment and waste of efforts and money of society.

1.2.3. Human resources in medical equipment do not yet meet demand

Based on current evaluations, human resources working in the medical equipment sector (including manufacture, maintenance, repairs, and technicians specialized in medical equipment and doctors and diagnosticians) are inadequate to meet actual need in terms of quantity and quality.

Training management and development of health human resources specialized in medical equipment do not yet meet the demands of the sector throughout the country. According to Ministry of Health statistics, the proportion of technical staff working on medical equipment in provincial and district general hospitals remains low (of those, 6% are engineers, 35% are technicians and technical workers, while 59% are doctors and pharmacists assigned responsibility for equipment) [126]. Medical equipment contents and curriculum of training facilities is often poor, impractical, and not regularly updated to respond to new technology and medical equipment and the actual demand for their use. Training facilities

themselves lack many pieces of testing equipment and practice equipment for students. The professional qualifications of some doctors and other medical workers have not been upgraded appropriately to respond to the new medical technologies, therefore in many cases it has been difficult to effectively benefit from the medical equipment that has been invested in.

Besides training and human resources development, there are other problems related to medical equipment human resources planning and management. Currently there is a lack of appropriate mechanisms and policies to expand the staffing norms and positions, to attract human resources specialized in medical equipment to serve in the sector.

1.2.4. Production of medical equipment in Vietnam remains weak

The State has encouraged the domestic production of medical equipment and instruments to meet domestic demand. In particular there is a need to supply medical equipment that meets standards, is of good quality and reasonable price with an appropriate level of technology to suit the financial and human resources available in the country. In addition, domestic equipment should ensure convenience for purchase of spare parts and replacement parts, repairs, maintenance, and preventive maintenance. However, currently a majority of modern medical equipment has to be imported. Domestically only common medical equipment with low technology content are produced, such as: hospital furnishings, medical consumables, etc. Medical equipment requiring higher technology like EEG, colour ultrasound, x-ray equipment, Doppler fetal heart monitors, etc. are all in the process of being researched and developed.

Medical equipment that is produced domestically has not gained the trust of medical facilities. This problem is partly attributed to the poor quality of and lack of confidence in domestically produced medical equipment which is often unstable, imprecise, unsteady and often breaks down so it does not yet meet the high demands expected of medical equipment. Equally, the psychology of people who are used to using imported goods, especially imported products from developed industrial countries, makes users of medical equipment even more sceptical and reluctant to use domestically produced medical equipment.

The mechanism to create an attractive environment for enterprises to participate in medical equipment manufacture and encourage use of medical equipment produced domestically is still inappropriate. Even though the “Research on manufacturing and producing medical equipment to the year 2010” project was approved by the Prime Minister on 21 January, 2005, to date there is still a lack of conditions appropriate for the development of domestic production of medical equipment such as: a) legal documents to support clinical testing; b) concessionary tax policy (especially for imports of spare parts, electronic parts, mechanical parts to serve the production process); c) mechanism for priority lending, priority land rentals and policies to encourage medical facilities to use domestically produced medical equipment.

1.2.5. Quality assurance of medical equipment remains inadequate

Insufficient attention has been paid to calibration, servicing, preventive maintenance, and repairs of medical equipment in many medical facilities (especially medical facilities at the provincial and district levels and regional polyclinics), so medical equipment quickly falls into disrepair and its working life is reduced. The cause of this situation is related to many issues of technical conditions, policies and incentives.

Quality testing, standards measurement, and calibration of imported medical equipment as well as domestically produced equipment has not been implemented

stringently. The system of standards for assessing quality of equipment is incomplete and inconsistent, causing difficulties for manufacturers and accreditors to assess quality of the medical equipment. There is a lack of equipment for calibration and testing, both in numbers and types, limiting the expansion of medical equipment produced as well as the frequency of accrediting.

Many units have not yet paid attention to being leaders in ensuring medical equipment is used for the appropriate purpose; Insufficient funds have been set aside for maintenance and repairs or for signing servicing contracts with service centres with adequate capacity and professional functions. The technical workforce to maintain, service and repair medical equipment of medical facilities remains weak and in short supply, therefore, repairs and maintenance of equipment tends to be incomplete. Testing and calibration of medical equipment, especially medical equipment that has undergone major repairs, is not yet performed regularly. The above situation has led to low effectiveness in the use of equipment.

Monopoly power of some equipment suppliers is a factor affecting maintenance, servicing and minor repairs, supply of spare parts and consumables after the period of warranty.

2. Priority issues

2.1. Investment efficiency in medical equipment remains limited

How we can invest in developing medical equipment to ensure cost effectiveness in the health system is a big problem and a priority that needs a solution. As analyzed above, procurement of medical equipment is not consistent, nor appropriate with the need for utilization, many medical facilities lack essential medical equipment, while some medical facilities have procured equipment beyond the amount needed, leading to over prescribing use of medical equipment in an inappropriate manner. Insufficient attention has been paid to training medical workers to use medical equipment. The management and supervision of the State to ensure effective investments in medical equipment remains weak. Inspections in the area of procurement of medical equipment and monitoring of efficiency in use of medical equipment investments has been inadequate. There is not yet a reporting system to monitor efficiency in the use of funds provided for medical equipment.

2.2. Domestic production of medical equipment remains weak

Currently in Vietnam only common medical equipment with low technology content is produced domestically. However, high tech medical instruments and equipment are currently being researched and developed. In the meantime, the majority of modern medical equipment must be imported. Of greatest concern is that there is no appropriate mechanism to create an attractive environment and conditions for enterprises to participate in the production of medical equipment, encouraging use of medical equipment produced domestically. If this situation is prolonged, Vietnam will be ever more dependent on imported medical equipment and medical consumables, not only affecting medical costs, but also harming the economy because of the inability to more fully participate in the medical equipment market with its great potential.

2.3. Quality assurance for medical equipment remains limited

Investments in procuring medical equipment are very costly, yet a current concern is the rapid deterioration in the quality and the reduced life of medical equipment. Therefore,

priority consideration should be given to quality assurance and efficiency in the use of medical equipment in general, especially high technology medical equipment. This problem is related to many factors, such as: inadequate quality testing and calibration of imported and domestically produced medical equipment; the standards system for assessing the quality of medical equipment is incomplete; insufficient attention has been paid to maintenance, warranty and repairs of medical equipment; and the monopoly power of some suppliers remains a problem.

3. Recommendations

In order to gradually resolve the priority issues in medical equipment this report recommends the following groups of solutions (for details see Chapter 11: Conclusions and Recommendations):

3.1. Strengthen quality assurance for medical infrastructure and equipment

3.2. Strengthen domestic production of medical equipment

3.3. Undertake health technology assessment (HTA) work.

Chapter 9: Health financing

Health financing is one of the six key components of the health system, with important effects on the orientation towards its equity, efficiency and development. Criteria for assessing whether a health financing system is good include ensuring adequate financial resources to provide health care services so the people get health care when they need it and are protected from financial catastrophe and impoverishment resulting from spending on health care. The main contents of this chapter focus on assessing the situation and determining priority issues related to health financing, and from there to propose appropriate solutions that can be included in the health sector's 5-year plan for 2011-2015.

1. Concepts

State budget spending on health is health spending from the state budget as decided on by authorized government agencies, disbursed in a given year to ensure implementation of the state's functions and responsibilities for health.⁸ The state budget for health is simply the amount spent on health including recurrent expenditures, investment expenditures and national health programmes using state budget revenues in general (not including state budget spending through health insurance).

Household out-of-pocket health spending is the direct amount spent by households on health service providers during illness that includes examination and treatment and use of medical services or products (drugs, medical consumables, etc.).

Public health spending includes state budget spending on health, ODA and NGO assistance for health that is administered by the State, and spending from social insurance for health.

Private health spending includes household out-of-pocket spending on health and other private spending (enterprises, social organizations, charities).

Total health spending is the total spending of all of society for health, including public and private health spending.

Social health insurance is a health insurance programme organized and implemented by the Government, in which health insurance contributions are generally calculated as a proportion of income of workers, while health care entitlements benefit people not according to their contributions, but according to their need in terms of disease and illness. The social health insurance fund consists of funds from contributions of workers, employers and the Government.

Universal health insurance is a social health insurance programme that covers the entire population. In some cases the goal of universal coverage may be achieved when the coverage rate is below 100%, but with the condition that the people without health insurance should have some protection against risks of disease through some other safe health financing scheme.

⁸ See Article 1, Law of the National Assembly of the Socialist Republic of Vietnam No. 01/2002/QH11 dated 16/12/2002 on the state budget.

2. Situation analysis

2.1. Policies and major orientation for health financing

2.1.1. Increasing public financing for health

Based on the accepted point of view that health is the most precious capital of each individual and of all society, the protection, care and promotion of health is an activity that aims at ensuring that society's human resources and investments in health are investments for development. The Party and State in Vietnam always view health care as a priority that requires strengthened investment from the state budget. Politburo Resolution No. 46-NQ/TW dated 23 February, 2005 stated clearly that we need to: "Reform and refine health financing policies with an orientation to quickly increase the public financing share (including state budget and health insurance), reduce gradually the direct user fee payments from patients." National Assembly Resolution No. 18/2008/QH12, dated 3 June, 2008, on promoting implementation of the policies and laws on social mobilization to improve quality of health care for the people, includes the decision: *"Increase the share of state budget spent on health each year, ensure the rate of increase of health spending is higher than the average rate of increase of the general state budget ..."*. Recently, in Politburo Conclusion No. 43-KL/TW, dated 1 April, 2009, on 3 years of implementing Resolution No. 46-NQ/TW and 5 years of implementing Directive No. 06-CT/TW, it clearly points out the necessity to: *"restructure health financing sources to gradually achieve public health spending (state budget and health insurance) that accounts for a high share (at least over 50%) of total health spending from all sources"*.

2.1.2. Prioritizing state budget allocation for disadvantaged regions, grassroots healthcare and preventive medicine

Documents from the Party and the Government also point out priorities in allocating the state budget for health to disadvantaged, isolated and remote regions, to preventive medicine, and to primary health care at the grassroots level. Resolution No. 46-NQ/TW affirms: "The State needs to invest strongly and create a major step forward to upgrade health facilities, and in that task to prioritize consolidating and refining the grassroots health network, preventive medicine, hospitals at the provincial and district levels, and regional health centres, especially in the Central Highlands, Northern mountains, Central region and the Mekong Delta". Resolution No. 18/QH12 also points out clearly: "Reserve at least 30% of the health budget for preventive medicine. Continue to allow issuing of Government treasury bonds for investments, upgrading of district general hospitals, general regional inter-district hospitals, commune health stations, hospitals specializing in treatment of tuberculosis, mental illness, cancer, paediatrics and in some provincial general hospitals in mountainous and disadvantaged regions; complete investments to upgrade district general hospitals and inter-district hospitals by 2010". Most recently, in Politburo Conclusion No. 43, this issue was reaffirmed: "prioritize use of state budget spending on health for preventive medicine and investments to upgrade and renovate health facilities, especially in disadvantaged regions".

These resolutions have been put into effect by the Government through many concrete actions: upgrading district general hospitals and regional hospitals through issuing government treasury bonds in Prime Ministerial Decision No. 225/2005/QĐ-TTg for the period 2005-2008 and Decision No. 47/2008/QĐ-TTg for the period 2008-2010; Prime Ministerial Decision No. 950/2007/QĐ-TTg on investments in building commune health stations in disadvantaged regions for the period 2008-2010; Prime Ministerial Decision No.

930/2009/QĐ-TTg on investments in building, upgrading and renovating specialized hospitals for treatment of tuberculosis, mental illness, cancer, paediatrics and provincial hospitals in mountainous and disadvantaged regions using Government treasury bonds. In 2008, the Prime Minister also issued Decisions No. 24, 25, 26, 27/QĐ-TTg on some mechanisms and policies to support socio-economic development in provinces of the North and South Central Coast, the Central Highlands, the Mekong Delta, and the Northern Midlands and Mountains to the year 2010.

2.1.3. State provision of financial subsidies for health care of the poor and other social welfare policy beneficiaries

The policy orientations of the Party and the Government have always paid great attention to the goal of ensuring equity in health care. The key documents in health care all affirm the need to ensure state budget support for health care for specific target groups including: people who contributed to the revolution, the poor, ethnic minorities, children under 6 and social welfare policy beneficiaries. National Assembly Resolution No. 18/2008/QH12 points out the priority for state subsidies on social policy beneficiaries: "...Pay attention to reserving state budget for health care of people who contributed to nation-building, the poor, farmers, ethnic minorities, people in socio-economically disadvantaged regions and in especially disadvantaged regions...". Politburo Conclusion No. 43 also points out: "The State ensures funds for health care of people who contributed to the revolution, the poor, ethnic minorities, children under 6,... and support health insurance for the near poor".

Health care for the poor and children has continued to be promoted. In 2002, the Prime Minister issued Decision No. 139/2002/QĐ-TTg ensuring funding from the central state budget to set up health care funds for the poor in provinces. This was followed by Decree No. 63/2005/NĐ-CP on issuing health insurance cards for the poor. The subsidy contributed to the health insurance fund for health insurance cards for the poor was also continuously adjusted upwards. According to the Health Insurance Law, by 01 January, 2010 the contribution for health insurance cards for the poor increased to 4.5% of minimum salary. As for the near poor, starting in 2008, the Prime Minister issued Decision No. 117/2008/QĐ-TTg regulating that the state budget should support a minimum of 50% of the health insurance contribution. According to the Joint Ministry of Health and Ministry of Finance Circular No. 09/2009/TTLT-BYT-BTC dated 14 August, 2009, based on the fiscal capacity in localities and mobilization from other sources, the Provincial People's Committee can decide on the amount to support contributions for health insurance for the near poor higher than the minimum of 50%. Also according to the Health Insurance Law, starting on 1 January, 2010, implementation of free health care for children under 6 (according to Decree 36/2005/NĐ-CP) will be transformed from issuing free health care cards and direct reimbursement to facilities based on care provided, to issuing of health insurance cards at no cost to the family and reimbursement of health care costs following health insurance regulations.

2.1.4. Implementing universal health insurance coverage

The orientation towards implementing universal health insurance coverage is an important point that appears consistently in important legal documents of the Party and the Government. This orientation helps to determine clearly the model of the health system in our country, that is a health system based on health insurance to achieve equity, efficiency and development. In documents issued before the Health Insurance Law, 2010 was uniformly given as the deadline for achieving universal health insurance coverage. "Develop and

implement well the roadmap towards universal health insurance by the year 2010...” (NQ-46/TW) “...increase the speed of implementing universal health insurance coverage...” (NQ-18/QH12). Conclusion No. 43 even pointed out the mechanism for achieving universal health insurance coverage through compulsory health insurance for all people: “...increase the pace of implementing universal compulsory health insurance coverage...”. However, faced with the reality of health insurance coverage and difficulties in implementing universal health insurance coverage, the Health Insurance Law adjusted the deadline for achieving universal health insurance coverage to 2014, with a concrete roadmap for expanding coverage to various groups:

- 2009: Implement health insurance for children under 6 years of age
- 2010: Implement health insurance for the near poor, pupils and students
- 2012: Implement health insurance for people in agricultural, forestry, fishery and salt making households
- 2014: Implement health insurance for dependents of workers, cooperative members, family enterprises and other groups.

The Health Insurance Law was passed and came into effect on 1 July, 2009 and is an important legal basis for health insurance to develop in the forthcoming period. Recently the Party Central Committee Secretariat issued Directive No. 38-CT/TW, dated 7 September, 2009 on “promoting health insurance in the new situation”, in which the role of health insurance in ensuring social protection and equity in health care was emphasized, and demands were placed on all levels of the party, authorities, Fatherland Front and other mass organizations to fully understand and implement uniformly and effectively the policies on health insurance.

2.1.5. Implementing social mobilization, mobilizing resources in society for health care

The orientation towards social mobilization to resolve social problems, including health, was officially brought up in 1996, in the documents of the 8th Party Congress: “Social policy problems must all be resolved with the spirit of social mobilization. The State holds the leading role and at the same time, encourages the people, enterprises, social organizations, individuals and foreign organizations to work together to resolve social problems” [127]. In more recent times, the term “social mobilization” has become a major orientation, a solution of particular importance for reforming the health, education and cultural sectors in Vietnam.

In order to lead implementation of the social mobilization policy, the Government issued many important legal documents like Resolution 90/CP, dated 21 August, 1997, Decree No. 73/1999/ND-CP; Resolution No. 05/2005/NQ-CP, dated 18 April, 2005 “on promoting social mobilization for education, health, cultural and sports activities” and most recently, the Government has issued Decree 69/2008/ND-CP, regulating the mechanisms to encourage social mobilization for education, vocational training, health, cultural, sports, and environmental activities, especially regulations related to land and taxes. The decree identifies the groups to which the policy applies including public service facilities implementing capital contribution, mobilizing capital, joint ventures and business partnerships.

In the health sector, the social mobilization policy has been implemented in two main perspectives, those are: development of the non-public health sector and mobilization of social resources in many forms to develop public health facilities, such as joint ventures, business partnerships between public hospitals and private businesses in investment in

medical equipment and physical infrastructure. In the first perspective, a system of legal documents regulating non-public health activities was established under the Ordinance on private health sector, first issued in 1993, and more recently revised in 2003. In the second perspective, the Ministry of Health has issued Circular No. 15/TT-BYT guiding public hospitals to implement joint ventures and business partnerships in medical equipment investments. Social mobilization of the health sector is an important solution brought up in almost all major health policy documents. Politburo Conclusion No. 42 calls for: “Revise the policy and legal system to promote social mobilization of health care for the people. Organize implementation of concessionary access to land, credit, taxes according to legal regulations in order to encourage and mobilize resources for investment in the development and expansion of the private health sector”.

2.1.6. Reforming the operational and financial mechanisms

Along with the socio-economic reform process in Vietnam, in the past few years the health sector has made major efforts to implement health reform policies such as the partial user fee policy, health insurance, private health sector development and more recently granting greater autonomy for state service units according to Government Decree 43/2006/ND-CP. Even though many positive results have been achieved in protection, care and promotion of the people’s health, the health sector remains disorganized in the development of an operational and financing mechanism appropriate for the development of the health system in a market economy that continues to implement the goals of social protection and health care equity. The Party and Government have laid out demands for health sector reform of the operational and financing mechanisms for health service units and have directed: “Reform the financing mechanism of state health service units linked with implementation of the roadmap towards universal health insurance coverage, and at the same time oriented towards full cost accounting of health service fees. Public financing should be the main source, accounting for an ever increasing share of total health spending of society, and play a guiding role in ensuring activities in public health facilities. The State should implement a policy to subsidize health care for people who have contributed to the revolution, the poor, ethnic minorities and children under age 6...” [128]. The basic contents of the new financial mechanism include granting autonomy for units for various categories, and developing new policies for user fees on the basis of full cost accounting of the direct costs of providing care to patients, including human resources and depreciation of fixed assets.

2.1.7. Implementing the remuneration package for health workers

Along with health financing sources, human resources are another leading factor determining the activities of the entire health system. Politburo Resolution No. 46 stated: “medical occupations are special occupations, requiring special care in recruitment, training, use and remuneration. It is necessary to develop and implement an appropriate remuneration package for health workers”. The need to create appropriate financial incentives for health workers, especially people working in disadvantaged regions, at the grassroots level and for preventive medicine was also mentioned in National Assembly Resolution No. 18: “Amend and refine the special occupational salary supplement for health workers, especially for health workers working in mountainous, border, island, ethnic minority and disadvantaged areas, and health workers in preventive medicine.” Politburo Conclusion No. 42 related to structure of wages and salaries of health workers and health service costs also pointed out: “It is necessary to have a concrete solution to encourage specialists, excellent doctors, and especially good health workers to work in disadvantaged areas, mountainous areas and the

grassroots level. Allow implementation of a reasonable salary supplement mechanism for health workers by specific occupation (start by equalizing health worker salaries with those of teachers), by region, by speciality that is especially dangerous or risky to the health of the health worker”.

2.2. Progress and results

2.2.1. Total spending on health has increased significantly

Total health spending of society in Vietnam has increased rapidly in recent years. In the period 1998-2008, in constant prices, the annual growth rate of health spending reached 9.8%, higher than the annual average growth rate of GDP at 7.2% [100]. Total health spending compared to GDP has increased almost every year between 1998-2008 and from 2000 has always reached at least 5% of GDP, reaching 6.2% of GDP in 2007 (Figure 23).

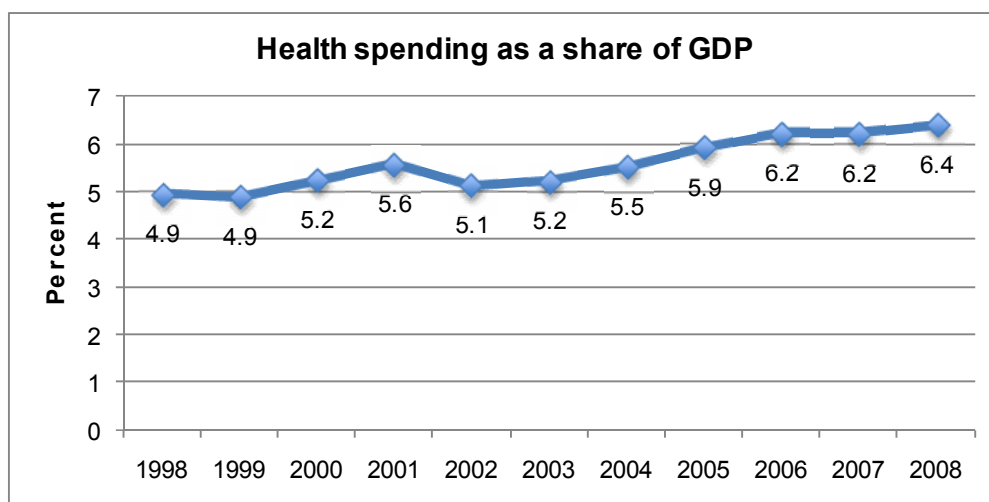


Figure 23: Total health spending as a share of GDP, 1998-2008

Source: Ministry of Health, National Health Accounts 2000-2008 [100]

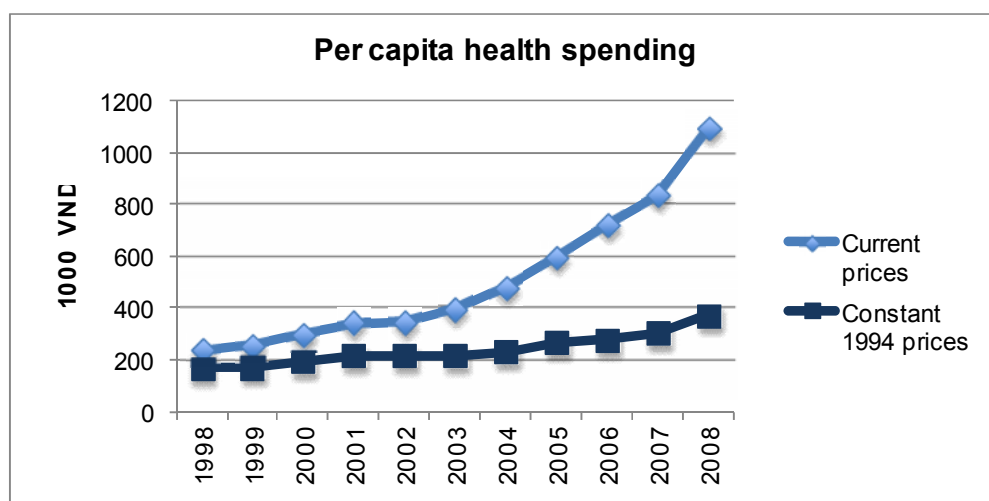
According to the World Health Organization, total health spending needs to reach at least 4-5% of GDP in order to achieve goals of health care for all [129]. Compared to many other countries, Vietnam has a relatively high share of GDP spent on health, even though GDP per capita in Vietnam is lower than other neighbouring countries like Malaysia, Thailand, China, etc. (Table 20).

Table 20: International comparison: Total health spending and public health spending, 2007

Nation	Health spending as a percentage of GDP	Public health spending out of total health spending
Indonesia	2.2	55
Thailand	3.7	73
Philippines	3.9	35
China	4.3	45
Malaysia	4.4	44
Korea	6.3	55
Vietnam	6.2	38

Source: WHO financing fact sheet, WHO Vietnam Country Office, 2010 [130]

Per capita health spending in Vietnam in 2008 was VND 1.1 million, which when calculated in purchasing power parity terms is equivalent to US\$PPP 178. Per capita health spending has increased rapidly, when calculated in current prices, there was an increase of 4.6 times between 1998 and 2008. However, to assess the real value of health spending, it is necessary to adjust for inflation. Using the GDP deflator with the base year for Vietnam set in 1994, the increase in real health spending per capita was 2.3 times from 1998 to 2008 (Figure 24).

**Figure 24: Per capita health spending in Vietnam (1000 VND), 1998-2008**

Source: Ministry of Health, National Health Accounts 2000-2008 [100]

It is also important to recognize that high increases in social health spending is not necessarily “progress”. If total spending results primarily from spending on unnecessary services, or spending large amounts of curative care because preventive health care is weak, then this is a waste of social resources.

2.2.2. Health financing policy with an orientation towards equity goals

Vietnam is seen as a nation that has equitable health financing policies oriented towards the poor and other vulnerable groups like children, the elderly and ethnic minorities,

etc.[131]. Since Prime Ministerial Decision No. 139/2002/QĐ-TTg established health care funds for the poor in the provinces, health care for the poor, including ethnic minorities living in six northern mountains provinces and all provinces of the Central Highlands, and all residents of communes in especially difficult circumstances (Programme 135 communes), have seen new steps forward in terms of the number of people benefitting and in terms of the increased entitlements for the poor.

In the initial period of implementing Decision 139, the health care fund for the poor in the provinces was used in two forms: to purchase health insurance for the poor or to directly reimburse health facilities the costs of providing health care for the poor. In 2004, the proportion of the poor who benefitted (i.e. were issued with health insurance or a free health care card) from the health care fund for the poor was 84%. Out of that number, 35.5% of the poor were given health insurance cards and the remaining 64.5% received benefits through the direct reimbursement mechanism [132]. Since 2006, implementation of Decree No. 63/2006/ND-CP issuing new health insurance regulations, all eligible beneficiaries of the health care fund for the poor were to be issued with health insurance cards.

From 2006, the number of poor people issued with health insurance cards increased very rapidly, tripling compared to 2005, and with the total exceeding 15 million cards, they accounted for more than 40% of all people with health insurance. By 2008, the total number of poor people who had been issued with health insurance cards was 15.8 million people. State budget contributions to health insurance for the poor increased rapidly over time because the premiums were increased from the initial 50 000VND (2002) to 60 000VND (2006), 80 000VND (2007), 130 000 (2008), and finally 394 200 (2010, when the 4.5% of minimum salary rule was applied under the Health Insurance Law), while the number of beneficiaries entitled to health insurance cards has not fallen (Figure 25).

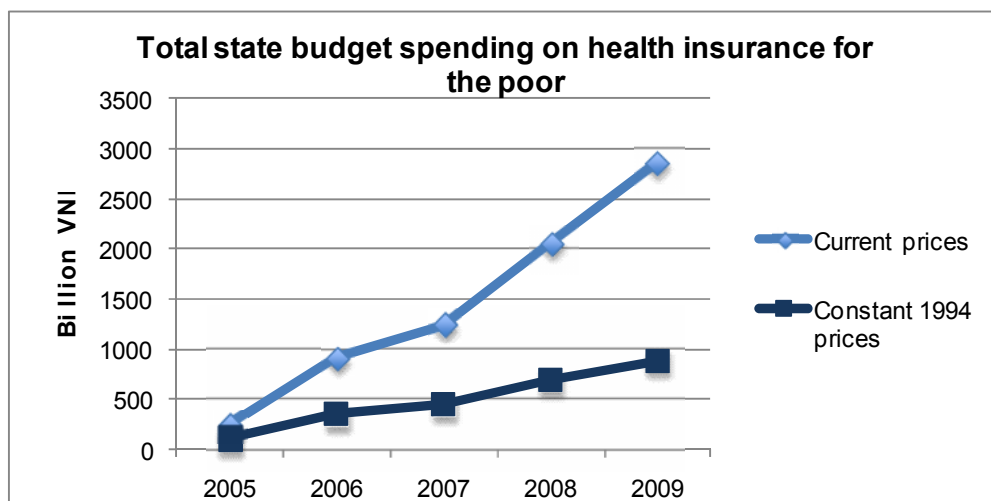


Figure 25: Financing of health insurance for the poor from 2005-2008 (billion VND) in current and constant prices

Source: Ministry of Health, Health statistics yearbook (2006-2008) [49]

According to Decision No. 289/2008/QĐ-TTg dated 18 March, 2008, the state budget subsidizes 50% of the health insurance premium for members of near poor households who participate in voluntary health insurance. According to the roadmap to achieve universal health insurance, according to the Health Insurance Law, coverage of the near poor should be implemented starting in 2010.

Children under 6 are a target group that has received special attention in health care provision. In budget allocations for preventive medicine, the State has prioritized programmes for which the primary beneficiary is children like the expanded programme on immunization, iodine deficiency disease, Vitamin A, control of diarrhoeal disease, acute respiratory infection control in children. In treatment, children under 6 are exempted from user fees. Implementing Decree No. 36/2005/ND-CP on issuing free health care cards for children under 6, every year the state budget allocates funds for reimbursing health care costs of children under 6 using a direct reimbursement mechanism. Funds allocated for healthcare of children under 6 increased substantially from VND 890.1 billion in 2005 to VND 1.053 trillion in 2008 [49]. Nevertheless, according to results of reports assessing free health care for children undertaken by the Ministry of Health and UNICEF, the disbursement rate compared to funds allocated reached only about 60%. Also, according to results in this report, the proportion of children under 6 who actually received the free health care card was only 66% [133]. The Health Insurance Law incorporated all children into the social health insurance scheme as of 01 July, 2010 in which they are issued with free health insurance cards.

2.2.3. Public financing for health care has increased

In recent years, public health financing for health, including state budget allocations, external assistance and spending from social health insurance has clearly increased, accounting for 43% of all social health spending in 2008 (Figure 26).

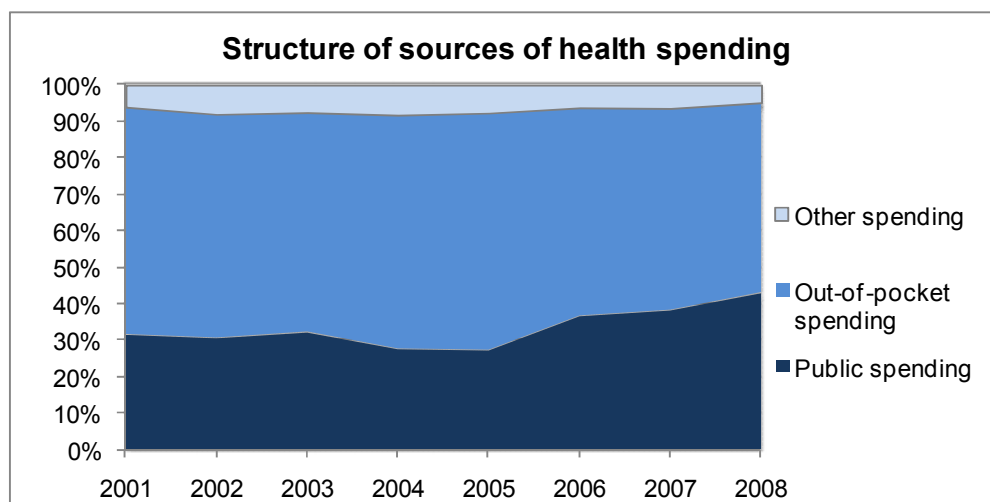


Figure 26: Structure of sources of health spending, 2001-2008

Source: Ministry of Health, National Health Accounts 1998-2008 [100] (data for 2008 are preliminary results)

In implementing National Assembly Resolution No. 18/2008/QH12, the Government has raised the state budget allocation for health care in the past few years to a high level. According to preliminary results, the rate of growth of state spending on health in 2009 is higher than the average growth in the state budget. Besides state budget allocations for recurrent expenditures, the state budget has also been spent to support the programme to subsidize contributions to health insurance for priority target groups like the poor, children under 6, as well as for investments in programmes to upgrade district hospitals, commune health stations, and some provincial hospitals. The share of total state budget spent on health has increased from 4.8% in 2002 to 7.4% in 2007 and preliminary estimates for 2008 put this share at 10.2% [100].

In the funds allocated to the health sector from the state budget, the health sector has received funds mobilized from state treasury bonds to invest in infrastructure for district general hospitals and specialized provincial hospitals. Only counting the project to upgrade district general hospitals and inter-district regional hospitals, the amount allocated to the health sector from treasury bonds was VND 3.750 trillion in 2008 and VND 3 trillion in 2009. The disbursement rate has reached 60-70% of the budget allocated. In addition, also in 2009, VND 500 billion from state treasury bonds was allocated for building and upgrading specialized hospitals treating paediatrics, tuberculosis, mental illness and cancer at the provincial level and some general provincial hospitals in disadvantaged provinces.

With the increase in the public finance share out of total social health spending the result is that household out-of-pocket spending falls. In Vietnam, household out-of-pocket spending share of total social health spending has fallen from 65% in 2005 to 52% in 2008 [100].

2.2.4. Share of spending on preventive medicine and public health has increased

According to National Health Accounts, health spending is classified into different health activities, including preventive medicine and public health. This group includes activities aimed at improving the health status of the community using programmes to control disease and outbreaks: (1) Control of communicable disease; (2) Control of non-communicable disease; (3) Health care of mothers and children, and family planning; (4) Primary health care, school health; (5) Control of food safety and hygiene, clean water; (6) Environmental hygiene; (7) Information, education, communication on health; (8) Other preventive medicine and public health services.

Careful attention has been paid to the implementation of the policy of prioritizing the state health budget for preventive medicine over the past few years, especially after National Assembly Resolution No. 18/2008/QH12 that directed specifically the need to “reserve at least 30% of state budget health spending for preventive medicine”. According to data from the National Health Accounts 2004-2007, the share of spending on preventive medicine out of total state budget spending on health in 2006 increased rapidly, reaching 30.7% compared to the 2005 share of 23.9%. But this level has fluctuated over time as shown in Figure 27.

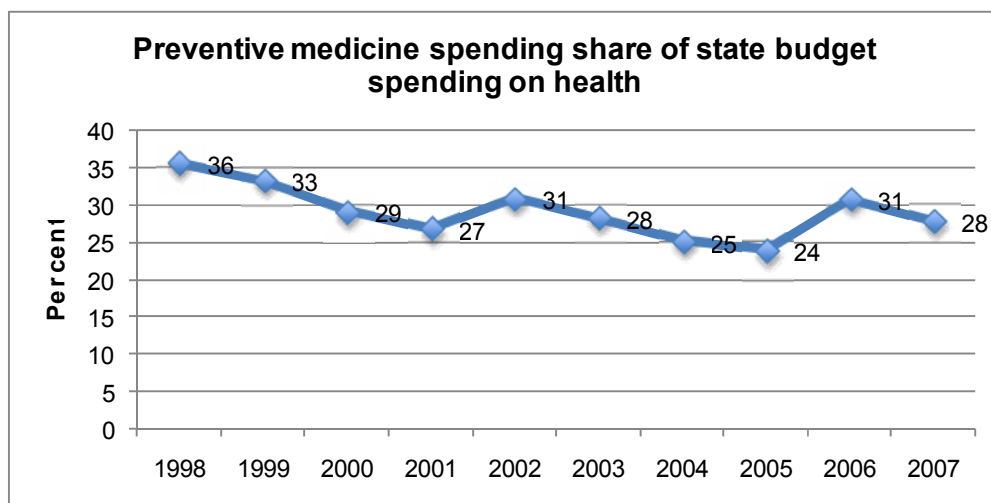


Figure 27: Preventive health spending as a share of state budget spending on health, 1998-2007

Source: National Health Accounts 1998-2008 [100]

2.2.5. Expansion of groups covered by health insurance, moving towards universal health insurance coverage

Commitments to implement the goal of universal health insurance coverage have been consolidated and promoted through the passing of the Health Insurance Law in 2008, that reaffirmed the goal of universal health insurance coverage and laid out the roadmap to reach this goal by 2014. Health insurance coverage rates of the population have increased with the Government commitment to state budget subsidies of contributions for health insurance for 11 out of 24 categories of insurance beneficiaries. In 2010, the proportion of people covered by health insurance had risen to 60% (Figure 28).

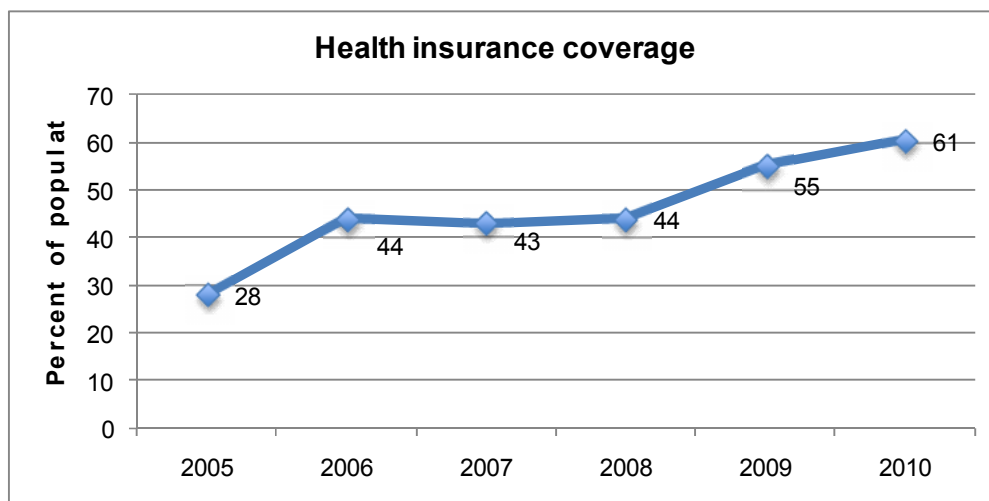


Figure 28: Health insurance coverage rate, 2005-2010

Source: Vietnam Social Security [134]

Along with expansion of health insurance coverage, the structure of insured groups has also changed, with an increase in the share of health insurance for the poor, and a reduction in the share with voluntary health insurance (Figure 29).

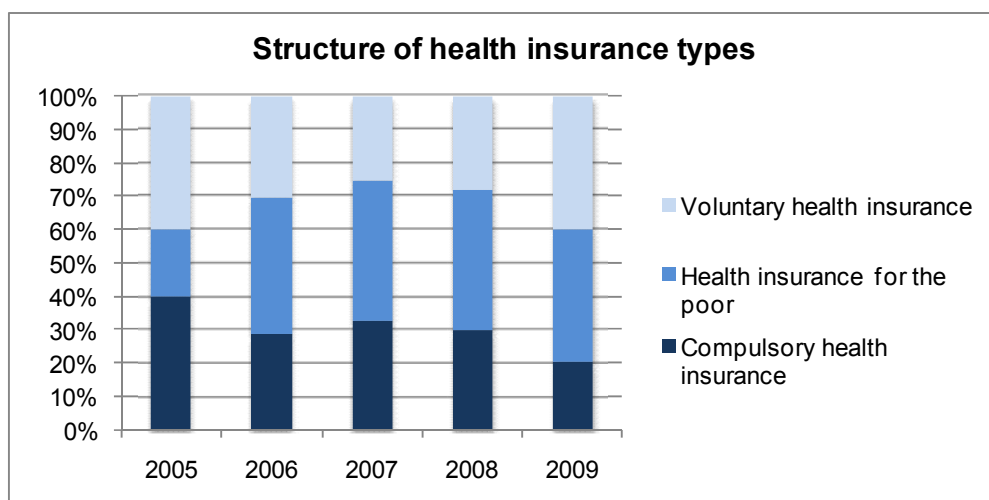


Figure 29: Structure of groups participating in health insurance, 2005-2009

Source: Vietnam Social Security [134]

The proportion that health insurance contributes to total health spending has increased over time, from 7.9% in 2005 to 17.6% in 2008 [100].

2.3. Problems to be resolved

2.3.1. Public spending share remains low

Even though the public share of health spending in the past few years has increased substantially, it still does not yet account for 50% of total health spending (Figure 26 above). According to the World Health Organization, it is difficult to achieve the goal of universal health care when out-of-pocket spending accounts for more than 30% of total health spending. In Vietnam, the out-of-pocket share of total health spending has fallen, yet remains above 50%. The state budget investments in health have increased, but the extent of the increase is inadequate and does not yet meet demand for sectoral spending to cover items that are the responsibility of the state to spend, including investments in infrastructure, investments in training and salaries of health workers in the public sector, subsidies for vulnerable groups, and spending on preventive medicine and grassroots health care.

Even though health insurance coverage rates continue to increase, the depth of health insurance coverage remains weak, with the proportion of total health spending from the health insurance fund at only 17.6% in 2008. The total value of external assistance and foreign loans each year never exceed 10% of total state budget spending on health and have shown a declining trend in recent years.

Balancing the limited state budget for health with the different priority areas in order to achieve the goals of improving the people's health status and ensuring equity in health care needs to be implemented through use of the medium term expenditure framework – an instrument for effective budget planning, that makes a clear link between strategic goals and allocation of resources. However, the medium term expenditure framework has not yet been used effectively in Vietnam's health system, especially in local areas, in order to help the health sector become more knowledgeable about how medium term financial resources can best be used.

Furthermore, currently there exist rather large differentials in health investments between local areas and levels of facility, leading to disparities in the quality of health services across localities. If we only count spending on preventive medicine per capita in 2007 across five provinces for which data were compiled in the National Health Accounts, we find a large disparity in financial resources invested in preventive medicine between these localities (Figure 30).

According to the State Budget Law, the Ministry of Health only manages and administers budget for central level facilities and allocates central budget to provide assistance to local areas. In each locality, budget allocation and financial management are determined by the Provincial People's Council and People's Committee. With the management mechanism and budget allocation according to the State Budget Law, the health sector faces difficulties in running activities in an effective manner, because the responsibilities assigned to each unit are not linked to the budget and funds provided, especially disease and epidemic control. Data from some provinces indicates that the share of state budget allocated for health varies substantially across localities, in some places from 5.5% to 6%, and in others 8%, depending on the interest of local authorities, as well as the fiscal capacity of the locality. When state budget is allocated, localities must focus on their priorities in infrastructure development, economic development, education, environment, etc. so some localities find it difficult to reserve priority for increasing the health budget.

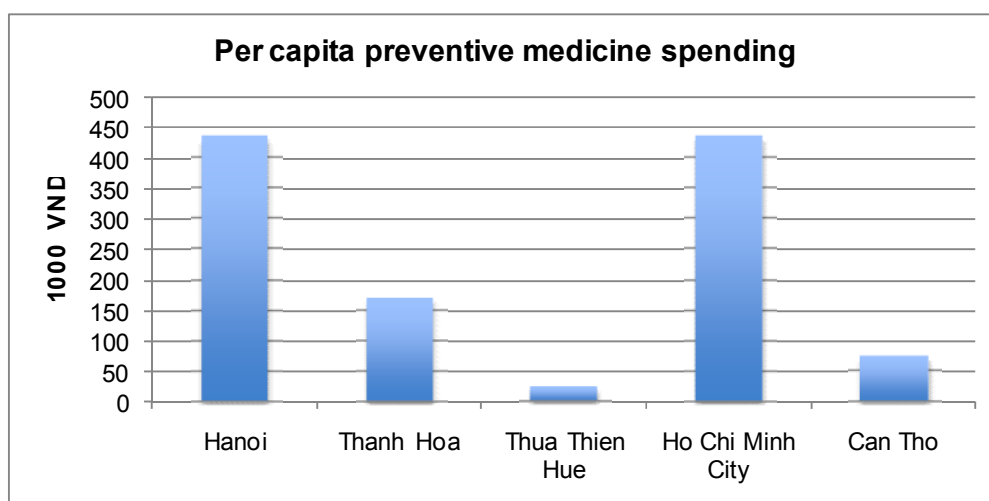


Figure 30: Per capita preventive health spending in selected provinces, 2007

Source: National Health Accounts 1998-2008 [100]

2.3.2. Allocation and use of funds has not yet created appropriate incentives to increase efficiency

Currently, budget planning and allocation for health are implemented according to the State Budget Law, showing very clearly the decentralized nature of the system. State budget for health is estimated based on the population size with a regional adjustment according to Prime Ministerial Decision No. 151/2006/QĐ-TTg. When funds actually arrive at the locality, concrete budget allocation norms, such as allocations for preventive medicine, curative care, allocations for each type of hospital, preventive health facilities, etc. are determined by the Provincial People's Committee based on the Government budget allocation norms, fiscal capacity and conditions in the locality to submit the local budget to the People's Council for approval. In reality, the majority of provinces still rely on old budget allocation methods such as funds per hospital bed for curative care and according to population for preventive medicine facilities. Therefore, budget allocation for health facilities is primarily based on planning and administrative indicators, and does not yet take into account the quality of services provided or performance.

Another related issue affecting efficiency in allocating financial resources is the structure of spending by health care activity, that remains unbalanced between preventive and curative care. Even though the proportion of state budget spending on health allocated for preventive medicine has increased, its share of the total remains low (Figure 31). The situation of a majority of health spending being concentrated on curative care is a general problem facing many developing countries, since total funds mobilized do not meet demand for the people's health care. Some studies have shown that efficiency in investments in preventive medicine are generally higher than investments in curative care. Therefore, the structure of the allocation to preventive and curative care needs to achieve a better balance to ensure implementation of public health goals.

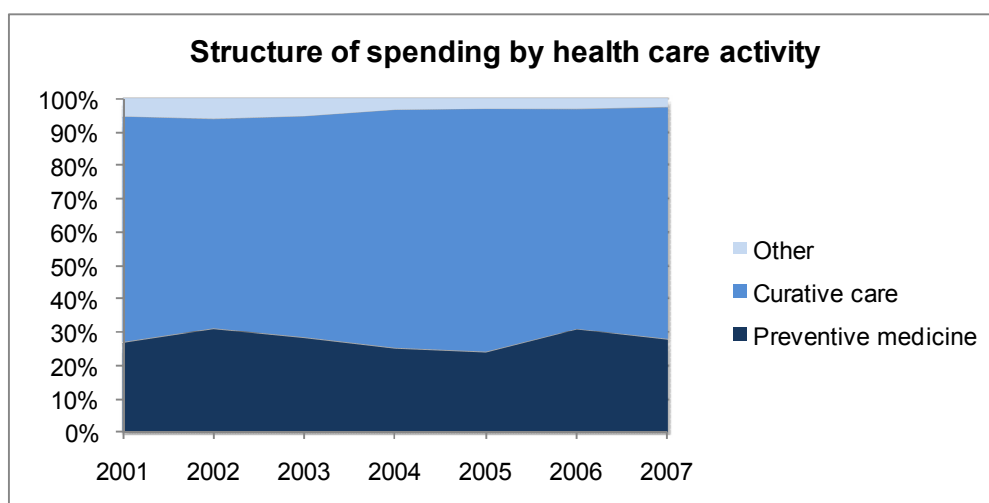


Figure 31: Structure of spending by health care activity, 2001-2007

Source: National Health Accounts 1998-2008 [100]

Even though spending on curative care accounts for the larger share of total health spending, analysis of the structure of hospital financing indicates some irrationalities affecting efficiency. A survey on financial activities of hospitals indicated, in general, the revenues of hospitals have increased considerably in the past few years, especially hospitals that have a high degree of autonomy. The increase is primarily from user fee revenues and health insurance reimbursements and other funding sources. Out of total revenues, service revenues account for the biggest share in almost all hospitals (96.8% in completely autonomous hospitals; 72% in central hospitals; 81.7% in provincial hospitals; and 59.4% in district hospitals) [135]. The share of total hospital expenditures spent on medical inputs (including drugs, chemicals, blood, medical consumables, and spending on other professional activities, administrative costs and maintenance) varied between 46 and 66% (2008). The share spent on human resources varied between 22 and 45%. This share of spending on human resources for health is quite low compared to developed countries where it is closer to 70-80%. The share spent on drugs was very high, while controls on supply and use of drugs faced many difficulties.

According to the National Health Accounts [100], in 2007, out of total state budget spending on health, the proportion for recurrent spending accounted for 93%, while investment spending for development, including equipment procurement and construction, accounted for only 6.85%. The low proportion spent on development investment has caused difficulties for improving physical infrastructure and application of scientific advances and improving the quality of health care. Recently, thanks to investments from Government treasury bonds, the investment share for development in the health sector has increased substantially.

To date, payment for health services, regardless of whether the source is health insurance or households, is undertaken through the fee-for-service payment mechanism. This payment mechanism has clearly exhibited its shortcomings, namely that it facilitates abuse and overprovision of lab tests and drugs by health providers. Recognizing this problem, the Ministry of Health and Vietnam Social Security, with support from several donors, have made efforts to test and develop new provider payment mechanisms such as capitation, and case mix payment and eventually diagnostic related groups (DRG).

Decree No. 62/2009/ND-CP stated “*Capitation payment should be applied to primary health care facilities*” [136]. The capitation mechanisms have been implemented on a pilot basis since 2001, and to date there are 43 units implementing this pilot mechanism, mainly district general hospitals. However, the results of preliminary assessment indicate that applying the capitation mechanism has also led to many problems, such as the capitation fund being significantly overspent in almost all hospitals, plus average costs of providing care under health insurance have not fallen, but have actually increased for both inpatient and outpatient services [137]. One of the main issues affecting development of this provider payment mechanism is inappropriate determination of the capitation amount, because it is not based on an accounting of the medical service costs and the amount of services used per capita among different user groups.

The case-mix provider payment mechanism is being implemented on a pilot basis at Ba Vi district hospital and Thanh Nhan municipal hospital. However, further implementation of this provider payment mechanism will need investments in hospital cost estimation, applying procedure codes in all health facilities, adjusting relative weights for diagnostic groups being used internationally to make them appropriate for the Vietnamese context, and at the same time to develop standard treatment guidelines and putting in place a mechanism for health service quality assurance. Currently the Ministry of Health is developing a concrete roadmap for applying case mix payments.

2.3.3. Protection from financial risk of using health services remains low

One of the basic goals of the health financing system is to protect people from financial risk when they face illness [129]. The criteria for assessing whether a health financing system is good is that it should ensure adequate financial resources for health care so that the people can access health services when they need them and are protected from financial catastrophe or impoverishment because they have to pay for health services. Besides increasing state budget spending on health, development of social health insurance is a useful solution to achieve this objective through use of a pre-payment mechanism that shares risk. With the health insurance coverage rate in 2010 at 60%, Vietnam still has a long way to go and many challenges to achieve the goal of universal health insurance coverage by the year 2014.

Experience in many countries indicates the ability to expand health insurance coverage becomes more difficult the higher the coverage rate achieved. Among all sources of contributions to the health insurance fund at present, the State budget is the largest contributor, accounting for 56% of total revenues to health insurance [134]. Implementing the roadmap towards universal health insurance according to the Health Insurance Law depends primarily on commitments of the Government and the fiscal capacity to subsidize disadvantaged groups to participate in health insurance. The extent of compliance with regulations on compulsory social health insurance among wage workers remains limited, and a major challenge for expanding health insurance coverage. In 2008, the proportion of people working in enterprises that had insurance coverage was only 64%.⁹

The goal of pooling and risk sharing in the health insurance scheme has been affected by the health insurance fund management mechanism in the past few years. People with health insurance in some poor or mountainous provinces tend to use health services less (due to many factors, including limitations of the health provider system, geographic factors/transport, culture, and especially financial ability of the poor to pay fees not covered

⁹ Calculated based on data of the 2009 report about the total number of insurance cards and total revenues and expenditures of Vietnam Social Security and data from the Enterprise Survey 2009 (General Statistics Office)

by health insurance), so the health insurance fund in these provinces is in surplus, while the health insurance fund in large cities and provinces with more developed socio-economic conditions, usually have a severe deficit in their health insurance fund. Thus, this has led to the health insurance fund in poor areas cross-subsidizing care for large cities and richer provinces.

Increased health insurance coverage requires strengthened capacity of the health insurance management institution. Currently the health insurance system does not yet have software and unique individual ID numbers to manage health insured patients, as well as health care costs reimbursed by health insurance. The health insurance fund is managed and administered together with other types of funds, such as the pension fund, in the Vietnam Social Security scheme, so there is a lack of professional specialization and specific health insurance skills. To make matters worse, the problem of lack of human resources is becoming increasingly serious, especially as the health insurance coverage increases.

The household out-of-pocket share of total health spending in Vietnam is still at a high level (over 50%). The proportion of households who have to bear catastrophic expenditure burden (household health spending exceeds 25% of ability to pay measured in non-food spending) in Vietnam is at a rather high level compared with many other developing countries [138].

Out of total household out-of-pocket spending, self-medication accounts for a very high share (40%), the proportion spent on use of public and private health services are each approximately 30% (Figure 32). Recent research studies on the role of health insurance in financial protection in case of illness have shown that health insurance reduces average spending on outpatient and inpatient services, but had almost no effect on total spending on self-medication and in fact actually increased household spending on medical devices. Thus, the role of health insurance on reducing out-of-pocket spending by households on health care is still limited [131].

Approximately 30% of people with health insurance for the poor still faced catastrophic health spending (measured as health expenditures exceeding 10% of non-food expenditures) [139]. This reflects the reality that people with health insurance use health services more, yet health insurance does not cover all health care costs, such as purchase of medicines that are not on the list covered by health insurance, health care in private facilities, food and transport costs related to health care seeking, etc. Thus, besides expansion of coverage of the population, there is a need to pay attention to the depth of coverage, increasing the package of benefits to reduce out-of-pocket health spending of people with health insurance. The application of 5% co-payments for poor people with health insurance is also causing difficulties in terms of financial access for the poor, especially the poor and ethnic minorities in disadvantaged areas.

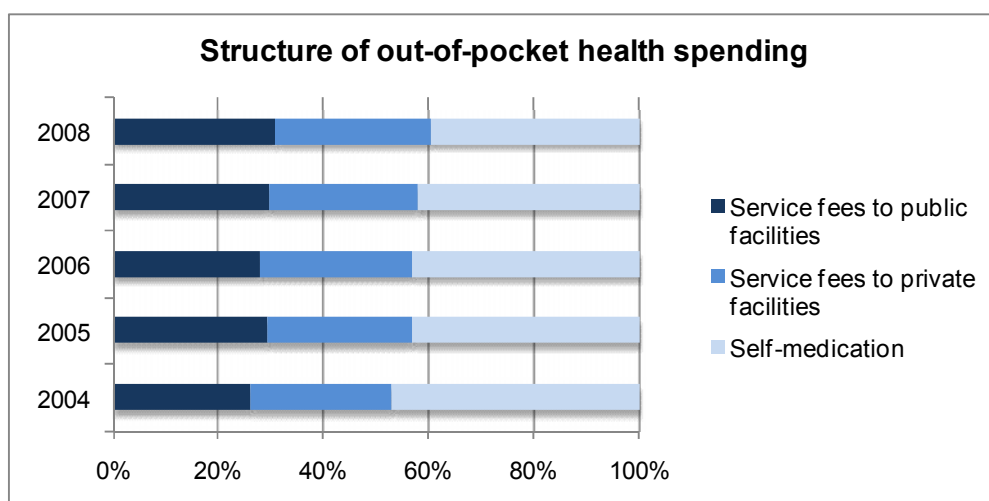


Figure 32: Structure of out-of-pocket health spending

Source: National Health Accounts 1998-2008 [100]

2.3.4. Medical cost controls are still facing difficulties

The Household Living Standards Survey over several years has indicated a clear increasing trend in household out-of-pocket spending on health. In 2002, health spending as a share of total household consumption accounted for 5.6%, and by 2008, this share had increased to 6.4%. In rural areas in 2008, health spending accounted for 7.0% of total household spending compared to urban areas at 5.8% [140].

A survey of average costs of outpatient and inpatient treatment for insured patients in 16 hospitals throughout the country in 2005 and 2008 indicated that the average cost for one outpatient visit had increased in all hospitals 2.3 to 3 times higher in 2008 than in 2005, and the increase was highest in district and provincial hospitals. As for inpatient care, average costs per inpatient admission again increased in all hospitals in 2008 compared with 2005. Among these, central and district hospitals had the highest increase in average admission costs, equivalent to an increase of 2 times between 2005 and 2008.

Many factors lead to increased spending of society on health, such as the increased proportion of the population using health services, medical science and medical services develop, there is much new medical equipment and new drugs used to improve the quality of services, increased prices of inputs such as drugs, consumables, electricity, water, etc.

There have been strong increasing trends in prescription of tests and imaging services by practitioners in the current context influenced by public health facilities strongly implementing social mobilization, private contribution of capital for investments in medical equipment. Health insurance data indicate that the share of spending on lab tests and imaging in health care costs reimbursed by health insurance are increasing very rapidly, especially in central and provincial hospitals [62].

Many recent policies have had a synergetic effect on increasing health costs, such as social mobilization on investment of medical equipment, the fee-for-service payment mechanism to pay for health services, financial autonomy, limited hospital management capacity, the context of incomplete and limited methods for cost control (such as treatment guidelines, treatment protocols, care pathways, inspections, verification, etc.). These factors have led to abuse of health services, which has led to health care cost escalation for patients and for the whole society.

3. Priority issues

3.1. Public share of health spending remains too low

- The state budget does not yet adequately meet the need for spending for basic investments, training of medical workers, appropriate remuneration levels for health workers, support for purchase of health insurance for specific target groups, etc.
- Health spending from the health insurance fund remains low (accounting for only 17.6% of total health spending in 2008), while direct spending by patients remains too high.

3.2. Efficiency in allocation and use of health financing remains limited

- State budget subsidies to medical facilities are still primarily based on input indicators that are largely driven by plans and administrative norms, rather than taking into account performance and quality of services provided.
- Various methods for paying hospital costs currently do not yet encourage efficiency or savings in health service provision.
- The structure of financial distribution for medical activities (prevention and treatment, recurrent expenditures and development investment spending) are not yet stable and do not yet ensure equity and efficiency.

3.3. Health insurance coverage is not yet high enough

- Health insurance coverage of the population remains low. The proportion of households facing catastrophic spending in a year remains high compared with other countries in the region.
- The expansion of health insurance depends primarily on the ability to subsidize coverage through the state budget.
- Compliance is low for regulations making health insurance compulsory in the formal employment sectors.
- The mechanisms and capacity for management of the health insurance fund remain inadequate.

3.4. Medical cost controls are facing many difficulties

- Currently there is no effective method to control unnecessary prescriptions, including for drugs and high tech services leading to increased costs for users.
- Reimbursement by the fee-for-service mechanism creates incentives to increase use of services beyond what is needed.
- Private participation, through contributing capital and operating services under a profit motive in joint venture and business partnership arrangements for investments in medical equipment in public health facilities, leads to a risk of increasing unnecessary prescriptions.
- There is not yet a mechanism to control expansion of high-cost services/medical equipment with low benefits to health care.

4. Recommendations

In order to gradually resolve priority issues in health financing, this report has recommended the following groups of solutions (for details see Chapter 11: Conclusions and Recommendations):

4.1. Increase share of public health financing for health

4.2. Raise the efficiency in allocation and use of health financing resources

4.3. Strengthen medical cost controls

Chapter 10: Health system governance

This chapter analyzes health system governance in Vietnam, identifies priority issues and makes recommendations for solutions to be implemented in the health sector plan for the period 2011- 2015.

1. Concepts

*Governance*¹⁰ is not a new concept, but its contents have changed in the past few decades. *Good governance* is considered an important part of public administrative reform. However, governance is not limited to the government, it also includes contributions of civil society. According to UNESCAP, good governance has the following basic characteristics [141]:

- Participation of stakeholders in the policy process (policymaking, implementation, monitoring, evaluation, adjustment).
- Compliance and fairness in enforcement (everyone is equal before the law).
- Transparency.
- Responsiveness.
- Community consensus on issues of priority.
- Equity and non-exclusion of any beneficiary groups.
- Efficiency.
- Accountability.

Governance in the health system. Many different concepts exist about good governance in the health system. The World Health Organization (WHO) provides a broad definition about good governance in the health system as *careful and responsible management of the well-being of the population*. [142]. WHO's experts highlight three basic roles of governance in the health sector: 1) gathering and using information and evidence; 2) determining the vision and orienting policies; 3) implementing policies through regulations and advocacy. As a continuation of the above idea, Travis et al 2002 [143] introduced six components of governance in the health sector, including: 1) compiling knowledge and evidence, 2) policy and strategy making, 3) ensuring resources for policy implementation, incentive and sanctions mechanisms, 4) building alliances and partnership, 5) developing a structure that fits the policy targets and social, cultural context, and 6) ensuring accountability.

More recently, USAID defines good governance in the health system as “competently directing health system resources, performance and stakeholder participation toward the goal of saving lives and doing so in ways that are open, transparent, accountable, equitable and responsiveness to the needs of the people” [144]. USAID stresses the need to effectively develop health policies that provide transparent regulations, extensive information sharing and leverage the active involvement of stakeholders. The relation between the core

¹⁰ The English term “governance” has been translated into Vietnamese by the Ho Chi Minh National Administration Academy as “management”, and is used in training materials of the Academy (for example the book “Training materials for state management”, first volume. State administration and administrative technology, Science and Technology Publishing House, Hanoi, 2009.

dimensions of overall governance and governance in the health system is briefly described by USAID experts in Table 21 below.

Table 21: Links between governance and the health sector

Dimension of overall governance (based on World Bank 2006)	Dimensions of governance in the health sector (defined by WHO and other recent literature)
Voice and accountability	Accountability Social participation and system responsiveness
Political stability	
Government effectiveness	Information assessment capacity Policy formulation and planning
Regulatory quality	Regulations
Rule of law	
Control of corruption	Social participation and system responsiveness

Source: Islam, M., ed. 2007. *Health Systems Assessment Approach: A How-To Manual*. [144]

While governance in health care may have different definitions, the ideas share similar key perspectives:

- Good governance must rely on a *management information system* capable of providing accurate, timely and comprehensive information based on the ability to compile, process and provide data and information on health care need, the situation of the health system and health policies and strategy choices.
- Good governance requires that policy-making, discussion, promulgation, implementation and monitoring and evaluation of policies *involve all stakeholders*, including the community and civil society.
- A *regulatory framework and standards* are needed to guide implementation of health policies and programmes, with appropriate incentive, reward and sanctions mechanisms.
- The process of developing action plans and estimating budgets for health must have the participation and *incorporation of ideas from many stakeholders* and organizations in both the public and private sectors.
- The structure of the health system must be appropriately designed to *meet health objectives and strategies*.
- *Accountability and transparency* are among the most important requirements for good governance. They can be implemented through submission and defence of reports, plans, and performance on assignments under the responsibility of individuals and organizations. State administrative agency or community consideration of individual or corporate health providers for rewards and sanctions, monitoring, auditing, surveillance through measuring and evaluating the quality and efficiency of health services in comparison with professional and ethical standards are other ways to ensure these goals.

2. Situation analysis

The situation analysis below discusses selected issues of the most concern related to health system governance in Vietnam, based on the contents of the concept of governance in

the health system discussed above. However, management and application of the health management information system (MIS), which has been discussed in Chapter 6, will not be brought up again in this chapter. The situation analysis on governance in the health system therefore will focus on the following four areas:

- Development of health policies and strategies;
- Development of mechanisms and instruments for policy implementation;
- Structure of the health system; and
- Monitoring and evaluation to ensure accountability.

2.1. Progress and results

2.1.1. Strategy and policy-making work has shown progress

In recent years, *policy and strategy making in the health sector* have made new development steps. Some major policy orientations in health have been issued such as Politburo Resolution No. 46/NQ-TW on protection, care and promotion of the people's health in the new situation, Politburo Conclusion No. 42-KL/TW on operational and financial reform in public services, Politburo Conclusion No. 43-KL/TW on the performance of 3 years of implementation of Resolution No. 46-NQ/TW and 5 years of implementation of Directive 06, and Politburo Conclusion No. 44-KL/TW on 3 years of implementing of Resolution No. 47-NQ/TW on continuing implementation of the population and family planning policies.

Also in the past five years, *some important legal health policy documents* have been developed and issued including the Health Insurance Law (2008), Law on Examination and Treatment (2009) Law on Infectious Diseases Control, National Assembly Resolution No. 18/NQ-QH12, and Prime Ministerial Decision No. 153/2006/QĐ-TTg approving the Master Plan for Health System Development in Vietnam to 2010 and vision to 2020, among others.

Dialogue and information sharing among agencies in the health sector, and outside, and among stakeholders to promote consensus in policy making have been strengthened and become more effective. Particularly in recent years, the health sector has successfully advocated for the support of the Party, Government and National Assembly in guiding the development and issuing of some important policies (for example in the orientation for operational and financial reform in public health service units, policies for investing in development of grassroots health services, etc.)

Under the Law on Promulgation of Legal Documents, health policies, strategies and programmes have been discussed in an extensive consultation process, with widespread participation, gathering ideas contributed by stakeholders, through different information channels. Draft laws and decrees are publicly posted on the websites of the Ministry of Health (MoH) and Government for public consultation before they are approved by the National Assembly and Government.

Dialogue, discussion and cooperation with international organizations, especially international donors, in health policy-making and evaluation have been conducted on a regular basis in recent years. The collaboration between MoH and international organizations in drafting joint annual health reports (JAHRs), developing the 5-year plan and other activities of the Health Partnership Group (HPG) are salient examples of the participation of international partners in health policy making in Vietnam.

2.1.2. Mechanisms for implementing policies have been improved

In recent years, policy implementation guidelines in the management of financial-economics, human resources, organization of personnel and health service provision activities, etc. have been produced and revised. Diagnosis and treatment guidelines for some diseases have been issued. In the area of food hygiene and safety, many new technical norms have been developed, and some Vietnamese standards on food safety have been issued.

Several policies on health worker remuneration and incentives for regions with disadvantaged socio-economic conditions, and for village health workers, have been developed and issued (Decree No. 64/2009/ND-CP, Prime Ministerial Decision No. 75/2009/QĐ-TTg).

The policy on autonomy in the public hospital system under Decree 43/2006/ND-CP, among other effects, has created incentives to state health facilities to increase effectiveness in service delivery, and increase incomes of health workers and staff.

2.1.3. Organization of the health system continues to be refined

The structure of the health system continues to be refined. At the central level, the Health Insurance Department was established in 2005 and the reorganization of some MoH Departments was consolidated under Decree 188/2007/ND-CP. The General Office for Population and Family Planning was formed in 2008 [145] under direct management of the MoH, with a network of population and family planning offices and centres in provinces, cities and districts, with clearly defined functions and responsibilities. Provincial branches of the Food Hygiene and Safety Administration were established under Joint Circular 12/2008/TTLT-BYT-BNV, directly under the management of the provincial Health Bureaux [146]. Recently, the Health Environment Management Administration was established to address environmental hygiene in health facilities, including medical waste (Decree 22/2010/ND-CP).

The structure of the grassroots level health system has been modified to better fit the actual situation. The grassroots level health network has been restructured under Joint Circular 03/2008/TTLT-BYT-BNV, guiding implementation of Decrees 13/2009/ND-CP and 14/2009/ND-CP, which have replaced Decrees 171/2004/ND-CP and 172/2004/ND-CP. After a period of time when the grassroots health system was fragmented into many individual units, management agencies and health service providers at the district level are now being re-integrated, reducing the number of contact points, facilitating coordination and fully utilizing the resources for more efficient health care provision. District health centres have been established uniformly at the district level to implement two functions, prevention and curative care; in areas that have appropriate conditions, the hospital is separated and the health centre implements preventive medicine functions. The Commune health stations are the service units directly under the district health centres [147].

The results of extensive decentralization in the public hospital system through implementation of Decree 43/2005/ND-CP, apart from its limitations (see Chapter 3 on Examination and Treatment and Chapter 9 on Health Financing), have created conditions for hospitals to provide more new medical services, especially high tech medical services, and to increase effectiveness of public health facilities in large cities.

The inclination towards equitization of public hospitals (i.e. partial privatization of public hospitals through sales of shares), which would constitute the highest level of autonomization of public hospitals, has been suspended, due to considerations of the adverse effects the partial privatization of public hospitals may have on the objectives of equality and

efficiency of the health system. Under the direction of the Politburo, the MoH is currently undertaking surveys and assessments to “detect and overcome tendencies to turn public hospitals into private hospitals in any form, and to overcome limitations of implementing complete financial autonomy in the health sector” [128].

2.1.4. Monitoring and evaluation has improved

The functions, responsibilities and authority of agencies, units, and state health care providers have now been clearly defined in legal documents related to their establishment. However, almost all personnel positions in the health system, especially in the public health sector, are still lacking job descriptions.

In terms of organization at the central agencies, the establishment of the Medical Services Administration on the foundations of the former Therapy Department, and the forming of the Medical Service Quality Management Office under the Medical Services Administration, are new steps forward in the management and monitoring of the medical examination and treatment service provider system. Among other functions and responsibilities, the Administration is responsible for providing direction, guidance, monitoring and evaluation of the implementation of clinical regulations and national technical standards in health care and rehabilitation facilities.

In respect of monitoring, surveillance, auditing and inspection, the leadership of the health sector have determined that “strengthening the health inspection system, including food hygiene and safety inspection in terms of workforce size, quality of activities; and increasing inspection and audit to combat misconduct, corruption and waste” are some of the core tasks of the health sector in state governance [148].

Clinical mentoring work by higher level facilities, including monitoring, guiding, and evaluating the implementation of health tasks, at lower level facilities, continues to be maintained. However, it has suffered some minor setbacks in some hospitals because of the process of implementing the policy of hospital autonomy [135]. Project 1816 has been extensively implemented nationwide since 2009, contributing to strengthening professional mentoring activities, with thousands of health professionals from higher level facilities being seconded to lower level facilities.

Patient councils in public hospitals continue to maintain their activities and have a positive role to play in directly undertaking the function of monitoring quality of health services. Patient councils have been formed in all treatment departments of public hospitals at all levels; meetings between the patient councils, treatment department leadership and hospital leaders are organized regularly (weekly for each department, monthly for the entire hospital) in most public hospitals, and serve as an opportunity for patient representatives to exchange views, make proposals, and contribute ideas on the quality of health services, and service attitudes of health workers in the hospital, and also provide an opportunity for the hospital to explain to the patients about treatment activities in the hospital [76].

Along with the organization of feedback letter boxes in hospitals and implementation of regular public reception schedules, the organization of dialogue between the hospital and patient council can be seen as an important form of information exchange between service providers and service users, aimed at improving health service quality and strengthening accountability of the health service provider system.

2.2. Problems to be resolved

2.2.1. Policy making capacity remains inadequate

Lack of long-term capacity and vision in policy making remains one of the key issues of concern in the development of health policies and strategies. The health system in Vietnam is in the middle of a reform process, with many complex questions requiring responses from health policy makers. In the absence of a strategic framework and long-term vision on an appropriate health system model for Vietnam, many health policies have yet to be formulated or reformed in a comprehensive and strategic manner. The Politburo has affirmed: “*the health sector remains slow to renovate and is confused in both awareness and in development of operational mechanisms*” [128]. The health system in Vietnam is at risk of facing some of the common problems experienced by some other developing countries, as described by WHO in the World Health Report 2008, namely the tendency towards “*lax governance that creates opportunities for uncontrolled commercialization of health care*”, with divisions in the curative care system and unbalanced development with a penchant towards high levels of specialization [32].

While policy-making based on complete and reliable information is recognized as necessary, the process of collecting and reviewing information and evidence is incomprehensive and non-exhaustive. The “Health system assessment” of the Health Strategy and Policy Institute (2009) revealed that the process of information collection and processing in the health system cannot yet provide adequate and accurate information for management. The principle of evidence-based policy making continues to be taken lightly, and the capacity of policy-making agencies remains weak. Evidence-based policy making has been taken lightly, as the capacity of policy-making entities remains limited. Research units and policy makers lack knowledge and skills in compiling evidence from systematic reviews. Preparation of evidence-based policy briefs has also not been given adequate focus and exhaustive consideration.

Regulatory impact assessment of draft health policies and strategies has been implemented but lacks robustness. The Law on Promulgation of Legal Documents requires that during the process of developing legal documents, it is necessary to implement regulatory impact assessment and develop assessment reports for draft regulations, and clearly identify any issues that need to be resolved and solutions for each problem; costs and benefits of each solution; and cost-benefit comparisons for these solutions [149]. However, investments in time and human resources for regulatory impact assessment are inadequate to meet need.

The involvement of the community and civil society organizations in health policy and strategy making remains limited. The contribution of feedback directly from beneficiaries (especially the people), the community, the private health sector and civil society organizations during the process of developing health policies remains low. The methods of gathering feedback from different beneficiaries depends on the unit leading policy development. Drafts of some policies have been openly disseminated to obtain feedback from the people on the Ministry of Health or Government websites, but ideas and contributions on these websites are still limited.

Dialogue and advocacy to achieve consensus on health policies and strategies, despite impressive progress made in the past few years, still falls short of expectations, especially the need to increase persuasiveness to achieve a consensus between organizations within the health sector and those outside the health sector. In the policy-making process, development and implementation of plans for information, communication, explanations, and

advocacy to achieve a consensus for policy proposals have not yet achieved a high level of effectiveness. Some important policy proposals have been rejected in the process of review and approval (for example, the proposal to issue the medical practice licenses in the Law on Examination and Treatment, and co-payments in the Law on Health Insurance), affecting the feasibility of certain provisions in the policies that have been issued.¹¹

2.2.2. Development and issuance of professional standards does not yet meet demand

The organization, development and issuance of regulations on important clinical standards have failed to meet the needs of the health system. Standard treatment guidelines are necessary instruments to ensure safety, quality and effectiveness in treatment, yet to date, many have not been issued (besides the few mentioned in Chapter 3). National standards for medical laboratories have also not yet been issued, leading to difficulties in controlling the quality of laboratory tests and also acting as one of the causes of the situation in which many health facilities will not accept results of lab tests of other medical facilities as valid.

Existing clinical regulations and standards are slow to be updated. The major drug list (in fact this is the expanded essential drug list), even though it has been issued, has been updated very slowly. The processes of selecting drugs, adding new drugs, and eliminating drugs from the list are not based on scientific evidence, but primarily based on proposals from health service providers, leading to situations where the drug list includes some drugs that economically developed countries do not allow to be used in their country. The Master Plan for investment in medical equipment based on health technology assessment and the socio-economic context in Vietnam has also not yet been researched and developed, leading to the situation of major investments in high-tech medical equipment being focused on large urban areas, but not based on master plans, and not ensuring the basic principle of cost-effectiveness.

2.2.3. Management remains fragmented

The resources of the Ministry of Health to implement its macro-level governance functions are fragmented. The Ministry of Health currently directly manages 73 service units, which include 34 central hospitals, 25 institutes and centres and 14 universities and junior colleges or health worker retraining centres [150]. In addition four other service units are considered as part of the Ministry itself¹² and are included in the organizational structure of the Ministry of Health according to Decree No. 188/2007/ND-CP, dated 27 December, 2007. These units are spread across many regions of the country. With its functions and responsibilities spread, as at present, the Ministry of Health has found it difficult to focus adequate time and human resources for developing policies and strategies and implementing its tasks of monitoring and evaluation of the health system as it undergoes strong transformations.

2.2.4. Organization of the local health system lacks stability

Organization of the local health system is facing many changes, especially at the grassroots level and the preventive medicine network. District level health units have

¹¹ The Law on Health Insurance requires that even the poor have to co-pay 5% of medical expenses whereas most of the poor cannot afford such expenses, causing the health sector to have to turn to other financial resources to provide additional support for the poor; the regulation that people with health insurance, if they are in a traffic accident, cannot benefit from health insurance benefits until they have certification that they have not violated the law.

¹² Including the Health Strategy and Policy Institute; Health and Life newspaper; Medical Practice Journal; Pharmacy Journal.

experienced many models of organization over the past 10 years, from a concentrated model (preventive health unit and treatment unit were unified in one centre), to a fragmented model with many contact points (including general hospital, preventive medicine and the district health office). Currently, according to Joint Circular No. 03/2008/TTLT-BYT-BNV, district level health, depending on conditions in each locality, can be organized as a health centre + hospital + population and family planning centre, or as a health centre (including a combined hospital and preventive medicine centre) + Population and family planning centre. However, in reality, some localities have not yet implemented the reorganization of the district level according to Circular 03/2008/TTLT-BYT-BNV), leading to the situation of multiple organizational models at the district level in different provinces, or even between districts within the same province [151].

Integration of preventive medicine and curative care in the grassroots health care network remains weak. The separation of the service units providing treatment and preventive medicine at the grassroots level at present has also led to separation of preventive medicine and treatment services. This separation is not in-line with perspectives on primary health care in the 21st century, in which primary health care does not only focus on selected communicable diseases and acute illness, but rather comprehensive care, including the growing role of prevention, detection and early intervention of non-communicable disease [32]. District general hospitals operate independently and seldom participate directly in primary health care activities. The leading and supporting roles in curative care of the district hospitals towards the commune health stations has also declined, because the commune health stations are the unit directly under the management of the District health centres (according to guidance in the Joint Circular No. 03/2008/TTLT-BYT-BNV). The District health centre, its primary responsibility being to implement preventive programmes, usually does not have much capacity to provide professional mentoring and supervision of curative care activities of the commune health station, an important part of primary health care.

The organizational structure of the Provincial health bureaux was developed according to Joint Circular No. 03/2008/TTLT-BYT-BNV, issued before the Law on Health Insurance, so it lacks guidance on organization of the professional/specialized health insurance activities to implement the functions and responsibilities of state management in localities according to the Law on Health Insurance. The Vietnam Social Security Agency, the unit charged with implementing the health insurance policy, is an agency with multiple responsibilities, both implementing health insurance policies, and implementing responsibilities for collecting contributions and spending from the pension fund, unemployment fund, maternity benefits, etc., and it lacks a specialized unit responsible for implementing the health insurance programme, so it faces many difficulties in its management of operations for health insurance.

2.2.5. Monitoring and evaluation remain weak

Monitoring, evaluation and inspections in the health system are activities facing many difficulties and gaps that need to be resolved, especially in the context that there are many rapid changes in the health system. Results of a research study by the Health Strategy and Policy Institute in 2007 indicated that: auditing and supervising have not been paid adequate attention; human resources for auditing, supervising and inspecting are still limited; there is a lack of concrete criteria, processes, and guidelines for monitoring and evaluation; there is a lack of appropriate rewards and penalties; responsibility and authority are still not closely linked; participation of professional and social organizations in monitoring and evaluation remains limited.

3. Priority issues

3.1. Strategy and policy-making capacity remain limited

- Strategy and policy-making capacity is an important issue in governance in all fields, including the health sector. Capacity for developing strategies and policies remains limited; “the health sector is slow to reform and confused in its awareness and development of the operational mechanism” [128]. There is a lack of capacity, and the low level of evidence collection and use will lead to policy-making that is not based on evidence.
- Comprehensive assessment of socio-economic impacts of health policies will ensure feasibility, and moving policies into effect will face fewer constraints. Draft policies related to reforming the financing mechanism, the public hospital autonomy mechanism and social mobilization for the health sector need to continue to be studied, and their impact assessed carefully and thoroughly to make adjustments in policies that are appropriate with the new situation.
- Activities to advocate for policies in order to reach a consensus have seen many improvements, but still do not yet meet demand for achieving a high level of consensus between organizations inside and outside the health sector for some important health policies. Information, dialogue, and communication to achieve consensus in policy making will help correct policies to be accepted and approved.

3.2. Capacity for monitoring and evaluation remains inadequate

A good policy cannot be implemented effectively without effective monitoring and evaluation. In the current context, as the private health sector develops rapidly, the volume of private health services provided is ever increasing, public health facilities are implementing autonomy and there are many other new policies, so solidifying the organization of the administration, and mechanisms and instruments for auditing, monitoring, and supervision to ensure quality of all health services is becoming an urgent issue. To implement this, there are some specific issues that need to be prioritized for resolution as follows:

Resources (human and financial) to implement the functions of guiding, monitoring and evaluation remain limited at all levels. If this problem is not resolved, it will not be possible to effectively implement monitoring and evaluation.

- The participation of social and professional organizations, civil society organizations and beneficiaries in monitoring and evaluation of implementation of professional health regulations remains limited. The role of social and professional organizations in monitoring and evaluation of health service provision has not yet been recognized in legal documents. Strengthening social and professional organizations in the health fields and bringing into play their role in monitoring and evaluation of implementation of regulations and professional standards will reduce the overload on state management agencies, and at the same time can ensure effective implementation of monitoring and evaluation activities thanks to the professional qualifications and independence of these professional organizations.
- There are a lack of instruments and indicators for monitoring and supervision of fields like curative care, pharmaceuticals, medical consumables, medical equipment, food safety, etc. Instruments for monitoring and supervision of the process of implementing and assessing the impact of implementation of policies on health care service

provision remain weak. These cause difficulties for monitoring and supervision, in some cases making it almost impossible to implement supervision activities.

3.3. Organizational structure of the health system has some inappropriate points

Refinement of the administration of the health system aimed at improving state management effectiveness should be regarded as one of the top priorities to be implemented. Stabilizing the organization of the grassroots health network is also a prerequisite to successfully implementing primary health care, the foundation of all health care.

- The fact that currently the Ministry of Health is directly managing several service facilities creates a major challenge for the Ministry in its responsibility for strategy and policy making in the sector, especially in the context of the health sector undergoing rapid changes and facing many difficulties and challenges. The health system organization in localities has also faced many changes, and integration of preventive medicine and curative care, especially in the grassroots health care network, remains limited. New challenges in primary health care of the 21st century require integration of the organization to implement responsibilities for preventive and curative care at the grassroots level.
- The organizational model of the agency implementing the health insurance policy also faces many limitations, making it hard to achieve the goal of universal health insurance coverage; there is no professional unit charged with state management of health insurance at the provincial level.

4. Recommendations

In order to step by step resolve priority issues in health system governance, the report recommends the following groups of solutions (see details in Chapter 11: Conclusions and Recommendations).

4.1. Supplement and refine policies and plans

4.2. Strengthen capacity for policy and strategy making

4.3. Strengthen capacity and effectiveness of monitoring and evaluation of implementation of health policies

4.4. Refine and stabilize the organization of the health care network at all levels

4.5. Strengthen the inter-sectoral coordination mechanism

Chapter 11: Conclusions and recommendations

1. Conclusions

1.1. Health status and determinants

In the past few years, the health status of Vietnamese people has shown clear improvements. Average life expectancy has increased to 72.8 years (males at 70.2 years and females at 75.6 years) [2]. Infant mortality rate has fallen to 16‰; under five mortality rate has fallen to 25,0‰; maternal mortality rate has fallen from 165/100 000 live births (2001–2002) to 69/100 000 (2009). Malnutrition rate for children under 5 in the form of underweight has continuously fallen from 25.2% in 2006 to 21.2% in 2007 to 18.9% in 2009. All indicators assigned by the National Assembly to the health sector in 2010 have been achieved. In general, Vietnam is on target to achieve the health-related MDGs by 2015; some of these goals have even been met ahead of schedule.

Even though substantial achievements have been made, there are still rather large disparities in health status across regions, between demographic groups and living standards groups. Average health indicators of the entire country are rather good, but infant mortality [2], child malnutrition [28], and maternal mortality remain high in mountainous, remote, isolated and disadvantaged areas and among the population with low incomes.

Morbidity and mortality patterns are currently undergoing a transformation. Some dangerous communicable diseases and epidemic diseases still threaten to break out, such as cholera, malaria, and dengue fever. Prevalence of tuberculosis remains high, a large number of tuberculosis patients in the community have not yet had their disease detected. The HIV epidemic has begun to see a deceleration in its spread, but has still not yet been controlled. Prevalence of chronic diseases and non-communicable diseases (such as diabetes, cancer and cardio-vascular disease), accidents, and injuries continues to increase. In addition, some new epidemics and emerging diseases are appearing and are quite complex and hard to forecast.

Risk factors negatively affecting health are on the increase, like environmental pollution, lack of food hygiene and safety, work accidents, climate change, lifestyle issues (smoking, drug addiction, alcohol abuse, unsafe sex), population dynamics, etc.

The annual population growth rate has fallen rapidly each year and is at 1.2% now, yet the population size continues to increase, and population density is very high (259 people/km²), which are risk factors and challenges for health care of the people. With the proportion of the population in old age reaching 9.1% in 2009, Vietnam is moving to the period of an aged population, with the challenges of increasing non-communicable diseases and chronic illness that will lead to ever increasing health care costs.

1.2. Preventive medicine and primary health care

Vietnam has developed a public health and preventive medicine network that is widespread from the central to the village level, with the participation and collaboration of many other sectors. For each period, the Prime Minister has approved national health target programmes to resolve the most urgent health problems of the community. The preventive medicine network has been consolidated, and activities strengthened, no large epidemics have broken out, and the network has responded in a timely manner to health problems related to natural disasters like typhoons, floods, flash floods, drought, etc. Activities aimed at food

hygiene and safety have also been strengthened. Almost all goals related to preventive medicine have been achieved.

Recently, many legal documents relating to preventive medicine have been developed and issued, for example the Law on Infectious Disease Control (2007), the Law on Control of HIV/AIDS (2005), the Law on Food Safety (2010) and the National Strategy for Preventive Medicine to the year 2010 with an orientation to the year 2020. The infrastructure, human resources, measures available, and budget for preventive medicine in recent years have also been strengthened.

However, the effectiveness of preventive medicine faces many remaining challenges. The people's awareness and knowledge of how to protect and improve their own health, prevent disease and epidemics, and adopt healthy lifestyles remains weak, and much knowledge has not yet been transformed into practice. IEC campaigns on health have not yet had a deep impact on the target groups. Access to information, education and communication messages on health for the people remains limited, and the means for health education and communication in some localities is not yet appropriate or flexible.

Risk factors for health related to the environment, clean water, occupation, food hygiene and safety and changing lifestyle remain prevalent in society. Dangerous communicable diseases like cholera, influenza A (H5N1) are always lurking and could explode into an epidemic at any point if they are not monitored, and tightly controlled. Accidents and injuries and non-communicable diseases are on the increase, while controlling them requires comprehensive, intersectoral solutions, not only medical methods.

The intersectoral collaboration mechanism, and participation of the people, mass organizations, and social organizations remains limited and has not yet realized its full potential. Capacity of provincial preventive medicine centres is limited in terms of resources, including human resources, information systems, planning, equipment and technical means, and technical supportive supervision for lower levels. Grassroots level preventive medicine activities (district, commune, village) have not yet been strengthened in line with the tasks assigned. The relationship between the preventive medicine system and various sectors and social organizations in the locality are not close. The remuneration policy for preventive medicine workers is incommensurate with the effort required.

1.3. Medical examination and treatment

In recent years, the network of curative care facilities from the grassroots to the central level, in public and private sectors, has been expanded and now covers all communes and villages of the country. By 2010, there were 20.5 hospital beds per 10 000 population. Through increased investments by the state budget, mobilization of ODA and social mobilization of capital, all types of curative care facilities including general, specialized, traditional medicine, rehabilitation, and commune health stations have had their physical infrastructure strengthened, staff trained, and equipment procured in order to continuously increase and diversify provision of many types of services to meet the needs of the population.

Recently, some important legal documents in the area of examination and treatment have been issued, most notably the Law on Examination and Treatment (2009) and the Health Insurance Law (2008). The Ministry of Health is developing guiding documents to implement these laws. In addition, Decree No. 43/2006/ND-CP on financial autonomy and the policy of social mobilization applied in the health sector have created a new mechanism for managing the sector and encouraging the mobilization of capital to develop the curative care network.

Some policies on improving service quality have been issued and implemented effectively such as Ministry of Health Directive No. 06/2007/CT-BYT and Decision 1816 on seconding health professionals from higher level facilities for rotations to support lower level facilities in order to improve the quality of examination and treatment services.

Some results of this investment and new policy implementation are that the number of patients at public hospitals and commune health stations has increased, reaching more than 2 outpatient visits per person per year [49]. In 2008, for every 100 people in the population there were 12 inpatient admissions [59]. There are only very small disparities in the proportion of poor people accessing inpatient and outpatient services compared to other living standards groups. In 2009, the curative care network performed more than 2 million surgeries, an increase of 8% compared with 2008. Many advanced techniques have been implemented like transplants of the kidney, cornea, stem cells, liver, and laparoscopic surgery. By the end of 2009, after one and a half years of implementing Program 1816, 1846 health professionals had undertaken rotations in lower level facilities, strengthening human resources to implement professional techniques at lower levels leading to a 30% decrease in the proportion of patients referred from the lower level facilities that received seconded staff.

Even though many good results have been achieved in terms of capacity for providing health services and ability of the people to access services, provision of medical examination and treatment services still faces many limitations and challenges. There is waste and inefficiency in the organization of medical examination and treatment services because the referral system is not effective and services are not organized according to population concentrations. Bypassing of lower level facilities remains widespread. Many people use services at the provincial or even the central level for examination and treatment of common conditions that could have been effectively treated at the district or even the commune level. This situation has led to overcrowding of hospitals at higher levels and operation of lower level facilities under capacity, which has led to considerable waste in the health system.

Disparities remain in access to quality health care services across different living standard groups. While people in the Northwest and Central Highlands (the two most disadvantaged regions) rely primarily on the commune health station for curative care, the proportion of communes reaching national benchmark standards in these two regions is the lowest. While people with high living standards primarily obtain inpatient care in hospitals, for poor people, the commune health station remains the only place they can access to receive medical services.

The health insurance policy has helped increase the ability of the poor to access health services, but the proportion of people in the poorest living standards quintile who have received either partial or full payment of health care costs through health insurance has seen a declining trend: in 2006, 75% of the poor had health care costs paid by insurance, but by 2008, this share had declined to only 62%. In 2008, the proportion of households facing catastrophic health spending¹³ increased from 11% to 12%, indicating that financial protection for people using health services remains limited.

Currently, management of medical examination and treatment service quality is still facing difficulties and challenges. Professional guidelines, standard treatment protocols, diagnostic and treatment guidelines are lacking for many diseases. Development and regular updating of treatment guidelines for all diseases, based on evidence about safety and effectiveness of interventions, is a huge amount of work, but it has not yet been organized to

¹³ Catastrophic spending is defined as household health spending exceeding 25% of total non-food expenditures of the household.

become a regular activity of the Ministry of Health, nor has it been allocated adequate resources for implementation. Information related to patients and treatment processes lacks continuity during referrals, transfer from one to another facility, or even between one medical care visit and the next, negatively affecting quality and increasing treatment costs.

Some financial mechanisms have a tendency to increase medical costs, for example: applying the fee-for-service payment mechanisms, mobilizing resources for investments through social mobilization, joint ventures and business partnerships for installation of medical equipment, the financial autonomy mechanisms, together with the context that management capacity remains limited, and monitoring and evaluation remain weak. These factors create incentives to increase hospitals' revenues, leading to the risk of abuses of medical technologies or drugs in some medical facilities.

Health insurance auditing, inspection of medical examination and treatment, determining whether technology and drugs have been abused, whether the code of conduct has been violated, whether administration violations have occurred in medical service facilities also remain major challenges. Application of information technology in hospitals remains slow.

1.4. Population, family planning and reproductive health services

Since 2005 Vietnam has achieved replacement fertility levels and has continued to maintain fertility at this level over the past 5 years. The population in 2009 was 85.8 million people, lower than previous forecasts. Awareness, attitudes, and behaviour related to population, family planning and reproductive health care of all groups in the population, including males, has shown a positive transformation. Small family size is increasingly accepted by the people.

The network to provide reproductive health services has been strengthened and developed, covering 100% of all districts, 93% of all communes and 84% of all villages/hamlets. By 2009, 100% of all reproductive health centres had been strengthened [152]. Currently there are 12 government obstetrics hospitals, 12 paediatrics hospitals, and 2 private obstetrics hospitals. The proportion of hospitals with a neonatal department or unit has been increasing. Safe motherhood services are being implemented widely at all levels. The number of abortions has declined and safe abortion services have been expanded. Control of reproductive tract and sexually transmitted infections, prevention of reproductive tract infections, prevention and treatment of infertility have all been promoted. There are 60 medical facilities that are applying and maintaining adolescent-friendly reproductive health service provision, 50 out of 63 provincial reproductive health centres are providing reproductive health services to the elderly.

Even though progress has been made to maintain fertility at an appropriate level, to reduce maternal and infant mortality, and to strengthen reproductive health care, there is still a need for further efforts to maintain the results already achieved and to improve the quality of services to meet the needs of the people. By 2009, there were still 28 out of 63 provinces (accounting for 34% of total population) which had not yet achieved replacement fertility. Equally, because of population momentum, population size will continue to increase in the period 2011-2020. The imbalance in sex ratio at birth is becoming more severe. There are disparities in maternal and child health across regions. Infant mortality and perinatal mortality remain high. Knowledge and behaviour about reproductive health and sexual health among youths and adolescents still face many limitations, leading to the increase of unsafe sex, unwanted pregnancy, increased use of abortion, and sexually transmitted diseases among youth and adolescents.

The network providing population, family planning and reproductive health services still faces many shortcomings. The quality of services is inadequate, especially in remote, isolated and ethnic minority areas. The organization of the population, family planning and reproductive health care services, especially at the district level in many localities, still remains unstable. Coordination of supply of contraceptive methods remains inflexible, and is not proactive. Pre-marital health checks, prenatal screening, newborn screening has not yet been expanded. IEC for specific target groups has not yet been paid adequate attention. Collaboration between IEC and service provision for reproductive services remains limited.

1.5. Human resources for health

The number of health workers has increased substantially over the past few years, especially the number of doctors, university-trained pharmacists, nurses and medical technicians. Currently the number of health workers per 10 000 population puts Vietnam in the group of countries with a high personnel to population ratio, the ratio has increased from 29.2 in 2001 to 34.4 in 2008. Among the health workers there are 6.5 doctors per 10 000 population; 100% of communes and 90% of villages have health workers, 69% of communes have a doctor in 2009.

The network of health worker training schools has been expanded. The entire country has 21 universities or university faculties in health sciences or pharmaceuticals, 18 in the public sector (17 civilian and 1 military academy), and 3 private medical schools/faculties. Almost all provinces have a medical junior college or secondary technical school.

In general, the quality of human resources has improved. The number of health workers with only elementary and secondary training has fallen as the number of health workers with university and higher level training has increased. Many new types of health worker are being trained, including bachelor's degrees in nursing, public health and medical technology. Many health workers have continued their training to get post-graduate degrees such as medical resident, level I and level II specialists, master's or doctorates. The technical scientific workforce has also been strengthened, and are able to implement modern technologies. Continuous medical education for health care workers has begun to be implemented in various forms. The health sector is collaborating with the education and training sector to improve the training curriculum, and expand into new training fields at the university, junior college and secondary vocational levels; and post-graduate education has been strengthened.

Many methods have been applied to ensure the ability to attract and retain human resources at lower levels and in disadvantaged regions. Training programmes that rely on direct recruitment of local people to get medical education with a contract obliging them to return to serve their locality and programmes facilitating the ability to continue one's education to obtain a higher degree have contributed positively to improving the qualifications of health workers currently working at medical facilities. The issuing and implementation of a special regional salary supplement for health workers in disadvantaged areas; policies and methods to provide active support to develop training in disadvantaged regions; secondment of medical staff from higher to lower level facilities have all begun to contribute to improving qualifications of medical staff at lower levels through training on location, retraining in some skills and transfer of technology.

A current problem of concern is the imbalance in the structure and distribution of health workers, there is a shortage of health workers in certain specializations (such as preventive medicine, pathology, health statistics), and in rural and disadvantaged regions. Health workers with high-level qualifications are mainly concentrated in urban areas and

large medical centres. The shifting of workers from lower to higher levels, to major cities, from the public to the private sector is reaching alarming levels, affecting the ability to ensure the correct number of health workers needed at medical facilities.

The quality of training of human resources for health faces many limitations. Accreditation of the quality of training has not yet been implemented in many health worker training institutions. Qualifications, methods, means and conditions for training are lacking and weak; methods for assessing results of training are not yet systematic. There is no uniform standard of competency expected of graduates to serve as a basis for determining what are appropriate training goals and curricula. The quality assurance mechanisms for continuous medical education and regulations on sanctions for people not complying with continuous medical education requirements have not yet been developed.

Human resource management is not yet effective. Planning for training and deployment of human resources for health faces many difficulties, including the lack of information to know clearly whether the number of health workers that have already been trained is sufficient or superfluous. The salary and salary supplement policy for the health sector faces many shortcomings, salary supplements by region and specific occupation are still low, and there is no mechanism for performance related pay. Working conditions of most health workers are still poor with inadequate physical facilities, medical equipment and worker safety measures.

1.6. Health information systems

Along with the development of the health system, in the past few years the health information system has undergone important development steps. Many policies related to information work have been issued, including the Law on Statistics, the National Survey Programme and the National Statistical Indicator System.

The National Statistical Indicator System has recently been issued to update the statistical indicators, including indicators related to the health sector (Prime Ministerial Decision No. 43/2010/QĐ-TTg). Many channels for gathering information have been put in place to provide abundant data for the health information system, including routine reporting, household surveys, administrative reports, etc.

Regarding data management, the health sector has begun to implement telecommunications and information technology solutions aimed at strengthening the quality and effectiveness of data management. The information portal of the Ministry of Health, along with websites of units under the Ministry of Health, has been upgraded to serve dissemination of information in the health sector. On an annual basis, the Ministry of Health publishes the Health Statistics Yearbook to serve planning and policy-making in the sector. Up till this year, there have been four Joint Annual Health Reviews (JAHR), a health information product that has been used by many stakeholders for management, policy-making, planning and support to the health sector.

Nevertheless, the health information system still faces many problems that need to be resolved. Policies, orientations, and plans for development of the health information system are still not yet developed. Currently information on some fields is lacking, for example, activities of the private sector, cause of death, risk factors for non-communicable disease, social mobilization activities of public sector facilities, detailed information on human resources for health, etc. The information collaboration mechanisms remain weak between different agencies and units within the health sector as well as between the health sector and other sectors.

The quality of health information remains limited (in terms of completeness, accuracy, timeliness). Application of information technology to improve quality and comprehensiveness in the administrative system, management and health statistics is not yet effective.

Statistical data has only been analyzed in a preliminary fashion, transforming data into only basic information. Deeper analysis to assess trends, to serve forecasting or to clearly identify problems and risk factors that the health sector is facing, that is transforming the information into evidence, has not yet been implemented on a regular basis. The cause of this is that many information sources lack a mechanism for dissemination, making it difficult to access; knowledge on use of data for analysis, evaluation, forecasting by managers, planners and statisticians at all levels remains inadequate; database archives at all levels are poor, and do not include data from the different sources; and they are not managed in a scientific manner and are not updated, archived or transmitted through modern means.

1.7. Drugs, vaccines, blood and other biologics

To implement the National Drug Policy (1996) and the Pharmaceutical Law (2005), the Government and the Ministry of Health have issued many legal documents aimed at ensuring the supply of adequate drugs of good quality with affordable prices to the people and ensuring that use of drugs is safe and rational.

Access to drugs in Vietnam is relatively good because of a widespread drug distribution network throughout the country. All medical facilities from hospitals to commune health stations have adequate drugs appropriate for their technical level. The state budget is allocated to purchase some essential drugs to serve national target programmes and provide free drugs to patients with certain diseases (tuberculosis, HIV/AIDS, mental illness and epilepsy). Spending on drugs in 2007 was almost double that of 2000 and accounts for about 40% of total health spending [100]. Average per capita spending on drugs has increased rapidly, reaching almost USD 17 per capita in 2008 [28].

The pharmaceutical industry has developed strongly in terms of number of enterprises and number of products. Regulations on quality of drugs have been reviewed and revised to gradually reach regional and international standards. Vietnam has developed and implemented good practice standards in manufacturing, storage, laboratory testing, distribution, pharmacies, and cultivation and gathering of drug active ingredients. Almost all enterprises have reached GMP standards. Vietnam has committed to alignment with ASEAN pharmaceutical regulations, and will implement registration of drugs in compliance with the ASEAN common technical dossier (ACTD) [111].

In order to ensure safe and rational use of drugs, the Ministry of Health has a policy to set up Drug and Therapy Committees in all hospitals; developed a National Drug Formulary; regulations on prescriptions and selling prescription drugs, and a list of essential drugs. In 2009, the National Center for Drug Information and Adverse Drug Reactions was established.

In the past few years, developments in the pharmaceutical market have been complicated. Several methods to stabilize drug prices have been implemented, like managing competitive bidding for drugs in public hospitals, national drug reserves, encouragement of domestic pharmaceutical manufacturing, prohibitions on use of any form of inducements to influence practitioners and users to prescribe or use specific drugs.

Nevertheless, drug price control in the Vietnamese market remains a major challenge. Drug prices in Vietnam are still high compared to international reference prices, including for both brand-name and generic drugs. Competitive bidding for drugs has not proven effective

at reducing drug prices paid by hospitals. For some active ingredients, there are very few drugs registered, creating monopoly power, which increases drug prices. Vietnam is highly dependent on importation of drugs to meet the need for pharmaceutical ingredients. In 2008, it was necessary to import about 90% of active ingredients used for domestic pharmaceutical manufacturing [153]. Brand-name drugs are more expensive than generics, yet they account for a high share of the market, because regulations are not yet appropriate to strongly encourage use of generics. The use of material and financial inducements to influence practitioners and users of drugs aimed at prescribing or using brand-name drugs needs to be stopped. Appropriate provider payment mechanisms are not widely used, such as case-mix payments, DRG or capitation to encourage greater prudence in drug prescribing.

Counterfeit drugs, sub-standard quality drugs, including both traditional herbal and pharmaceutical ingredients, remain a pressing problem, requiring pharmaceutical quality control workers to be strengthened in number and in professional capacity.

Irrational use of pharmaceuticals (especially antibiotics) is leading to antibiotic resistance in the community, increasing incidence of adverse drug reactions, and increasing costs for drug purchases. Self-medication without a doctor's prescription is widespread because of lax implementation of drug prescription regulations. Standard treatment protocols have not yet been developed or updated so there is a lack of standards for controlling doctors' drug prescriptions. There is a shortage of university-trained pharmacists at the district level to advise on safe and rational use of drugs. Doctors lack information on statistics about antibiotic resistance to serve as a basis for prescribing because microbiology testing is still not implemented adequately.

Vietnam has produced many types of vaccines: BCG (for tuberculosis), diphtheria, pertussis, polio, Japanese encephalitis, hepatitis B, measles, cholera, typhus. With financial support from GAVI, Vietnam is employing the new 5-in-1 vaccine (diphtheria, pertussis, tetanus, hepatitis B, Hemophilus Influenza B) in the five years from 2010-2015. In 2010, the Government has added vaccines into the list of products that will be given special support in the national programme for productivity and quality improvements [154].

Even though the basic expanded programme on immunization has been implemented very successfully, funds are limited so there are other vaccines for prevention of communicable diseases that have not yet been added to the expanded programme on immunization, such as mumps, chicken pox, rotavirus and *S. pneumoniae*.

In the area of blood supply and blood products, in 2001, the Prime Minister approved the Blood Safety Programme. With support from the World Bank, Vietnam has developed four regional blood centers in Hanoi, Hue, Ho Chi Minh City, and Can Tho. In 2007, the Ministry of Health issued the Blood Transfusion Regulations. The campaign to mobilize humanitarian blood donations has been expanded, and the proportion of blood that comes from donated blood that has been fully screened according to the Blood Transfusion Regulations has increased over time, by 2009, reaching 74% of all blood units collected.

The current difficulty is the recruitment of enough voluntary donors to satisfy the needs of patients. Approximately 20% of blood donations come from blood sellers. Many facilities have to mobilize blood donors on the spot, and are not able to implement the full blood screening regulations, and cannot implement blood component transfusions, which also contribute to blood shortages. In remote and isolated areas, access to blood and blood products face even greater difficulties.

1.8. Medical equipment and technology

In the past few years, substantial investments have been made in medical equipment. The Government has issued legal documents aimed at implementing the goals of the National Policy on Medical Equipment 2002-2010. The legal system on procurement through competitive bidding is relatively complete, and quality of tendering, quality of advising services, and provision of goods have all improved. Implementation of the social mobilization policy has meant that many public health facilities have mobilized substantial financial resources outside of the state budget to procure medical equipment and apply high technology.

To ensure quality and efficiency, inspections in the area of medical equipment procurement have also been strongly supported by the Ministry of Health to supervise efficiency in medical equipment investments. The Ministry of Health has collaborated with the National Directorate for Standards, Metrology and Quality (Ministry of Science and Technology) to develop and issue 135 sectoral standards and 35 Vietnamese national standards in the area of medical equipment. Testing and calibrating medical equipment has also been implemented at many health facilities. The scale and quality of management, medical technology (engineering) and skills for using medical equipment have all been strengthened.

The system of medical equipment production, sales and imports/exports has been expanded. Throughout the country currently there are 48 units studying production and manufacturing of medical equipment with 621 products produced domestically that have been issued with Ministry of Health certificates to register them for use in the country. The State encourages research for domestic production and manufacturing of medical equipment and development of maintenance, repair and calibration services for medical equipment.

Nevertheless, in the area of medical equipment, there remain some issues of concern. Efficiency of investments in medical equipment is low. There is a lack of adequate information on the current stock of medical equipment and capacity utilization by level of facility to serve as a basis for state management and support for medical facilities to invest efficiently in this area. Health Technology Assessment (HTA) aimed at selecting technology with low cost and high efficiency, appropriate with need, has not been paid adequate attention. In some localities, the number and types of medical equipment remains low compared to need and lack uniformity, while in other medical facilities, procurement of equipment exceeds need. There is still no standard design for hospitals, nor a standard list of equipment based on an assessment of medical examination and treatment needs by level of facility or by region, especially for health facilities providing primary health care services.

Policies supporting industrial production of medical equipment and medical consumables and devices in the context of global economic integration are lacking, there is not yet a strategy appropriate with domestic capacity and need. Within Vietnam, primarily only common medical equipment and devices are produced, with a low level of technological content. The quality of medical equipment produced domestically remains unstable, inaccurate, unsustainable and has a low level of reliability.

Calibration, servicing, maintenance and repairs of medical equipment have hardly been paid any attention at many health facilities, therefore medical equipment deteriorates quickly, and its useful life declines, and efficiency of its use is low. Quality checking, measuring and calibration of imported medical equipment as well as medical equipment produced domestically has not yet been implemented strictly. Monopoly power held by some medical equipment suppliers in terms of servicing, maintenance, and minor repairs, supply of

replacement parts and consumables after the period of warranty, leads to many facilities being dependent on medical equipment suppliers. Human resources in the field of medical equipment do not yet meet demand.

1.9. Health financing

In recent years, health financing in Vietnam has undergone some positive changes. Total health spending of society has increased rapidly. In the period 1998 to 2008, using constant prices, the rate of increase of health spending reached 9.8% [100]. Total health spending as a share of GDP increased each year and reached 6.2% of GDP in 2007, higher than many other countries in the region. Health spending per capita in Vietnam has increased rapidly, in 2008 it reached VND 1.1 million (approximately USD 60, or PPPUS\$ 178 in purchasing power equivalent dollars).

The public spending share of total health spending has also clearly increased, accounting for 43% of total health spending of society in 2008. The rate of growth of state budget spending on health exceeded the average rate of growth of the state budget. The proportion of state budget spent on health was 4.8% in 2002, increased to 7.4% by 2007, and is estimated to have reached 10.2% by 2008. The State has mobilized capital through selling government treasury bonds and directly from the state budget to invest in upgrading district and inter-district hospitals, provincial hospitals in disadvantaged areas and in some specialist hospitals. The household out-of-pocket spending share of health spending has fallen from 65% in 2005 to 52% in 2008. The share spent on preventive medicine out of total state budget spending on health increased strongly from 23.9% (2005) to 30.75% (2006), but this level has fluctuated over time [100].

Health insurance coverage of the population has increased. In 2010, the proportion of people with health insurance in Vietnam was estimated at approximately 60%. The share of total health spending that was contributed from health insurance has increased, from 7.9% in 2005 to 17.6% in 2008 [100]. The Health insurance Law (2008) set out a roadmap for achieving universal health insurance coverage by the year 2014. The policy to support the poor and other vulnerable groups to obtain access to health care has shown some new progress. Up till 2008, the total number of the poor who were issued health insurance amounted to 15.8 million people. The state budget contributed funds to buy health insurance for the poor also increased rapidly, with the premium per card starting at VND 50 000 (2002) rising to VND 394 200 (2010, equivalent to 4.5% of minimum wage). Since 2008, the state budget has also subsidized 50% of the health insurance premium for members of near poor households who participate in voluntary health insurance, part of the premiums for health insurance of students, and the entire premium for children under 6.

However, there are still some areas of concern in health financing. Although the public share of health spending has increased in recent years, it remains low compared to need (below 50% of total spending). The state budget invested in health does not yet meet demand for investments in development of the health sector. Household out-of-pocket health spending as a share of total health spending remains high, over 50%. Spending from the health insurance fund remains low, accounting for only 17.6% of all health spending in 2008. Total value of external assistance and international borrowing for health accounts for only about 1.8% of total health spending, and is likely to decline in the future as Vietnam becomes a middle income country.

The medium term expenditure framework has not yet been widely and effectively applied, especially in the localities, in order to link strategic goals with resource allocation and to help the health sector become more proactive in planning resources in the medium

term. There are disparities in financial resources available across localities and levels of facilities. According to the State Budget Law, local state budget spending on health depends on local authorities' priorities as well as their ability to collect revenues, so some localities have great difficulty prioritizing state spending on health.

The mechanism to allocate the state budget to health facilities has not yet created incentives for increasing efficiency. The state budget for health is allocated primarily according to number of treatment beds, the population or the number of health workers, and has not yet taken into consideration performance or quality of services provided. Preventive health spending remains low. State budget spending on health is primarily for recurrent spending, while investment spending remains low, making it difficult to improve material conditions, to apply scientific advances, to improve quality of services at public facilities.

In hospitals, the fee-for-service payment mechanism is leading to many shortcomings, and creating conditions lending themselves to overprovision of lab tests and drugs on the part of health service providers. The Ministry of Health and Vietnam Social Security have made many efforts to test and develop new payment mechanisms like capitation or case-mix payments. However, application of new payment mechanisms also requires careful balancing of the advantages and disadvantages and the feasibility of applying them in Vietnam's conditions. In addition, there is also a need for an appropriate level of investment to standardize the curative care system, train medical staff, and to review international experience to create an appropriate provider payment system that is the most effective for Vietnam.

Currently there is no effective solution to control medical care costs. Health care spending per capita from all sources has doubled from 2005 to 2008. This level of increase reflects concern for investment in the healthcare system to improve quality under conditions where prices of electricity, water and minimum salaries are increasing. However, this level of increase is also related to other factors, such as financial autonomy, fee-for-service payment mechanism, social mobilization for installation of medical equipment, increased investment of the private health sector, and low recognition of the validity of lab test and imaging results from other health care facilities.

Financial protection for people using health services needs to be implemented and further strengthened. The proportion of people with health insurance remains low compared to the goal of universal coverage by 2014. A majority of the people not participating in health insurance are disadvantaged groups (farmers, the near poor, low income households, employees of small and medium enterprises). Out of all sources of contributions to the health insurance fund, the state budget accounts for the largest share. Reality indicates that it will be difficult to achieve universal health insurance coverage primarily based on support from the state budget for a country that still has low income, like Vietnam. People with health insurance in some poor provinces still cannot access health services because indirect costs are quite high (food, transport), distances to a health facility are far and the quality of services remains weak. Household out-of-pocket spending out of total health spending remains high. The share of households facing catastrophic health spending remains high, and has not declined much over time. In particular, among people with health insurance for the poor, nearly 30% still faced catastrophic spending for health care [138], (primarily because indirect costs are high for the patient seeking care and family members accompanying them). Requirement for co-payments from the poor and other disadvantaged groups when they seek care is likely to reduce access health care services.

1.10. Health system governance

Policy and strategy making in the health sector have witnessed some new developments. Many laws and sub-legal documents¹⁴, strategies, and health-related policies of good quality have been developed and issued. Dialogue and information exchange between agencies in and outside the health sector and among stakeholders aimed at achieving consensus in the process of developing policies has been strengthened. Many health policies have been revised, and amended in a timely manner.

The organizational structure of the health system has gradually been refined and stabilized at the central and local levels. At the central level, the Ministry of Health organizational structure was determined in Decree No. 188/2007/ND-CP and Decree No. 22/2010/ND-CP. After a period of time in which the grassroots healthcare network was divided into three units, now the organization of the grassroots level has been adjusted and is gradually being stabilized. The district health centre is established in all districts to implement the two functions of preventive medicine and curative care and in order to manage the commune health stations; in places where conditions permit, the hospital may be separated off, and the district health centre only implements preventive medicine and management of the commune health station.

Implementation of Decree No. 43/2005/ND-CP on autonomous management, even though there are still limitations to overcome, has created conditions for development and improvement in efficiency of state health facility performance. The Ministry of Health is undertaking an evaluation to detect and overcome any tendency for public hospitals to become privatized in any form, to overcome limitations of implementing complete financial autonomy in the health sector under the direction of the Politburo [128].

Strengthening of the health inspectorate system, strengthening inspections and auditing, prevention of corruption and waste are considered as one focus of state management in the health sector. Professional mentoring, including monitoring, guiding, checking implementation of health responsibilities by higher levels at lower level facilities continues to be maintained. Patient Councils in public hospitals continue to play a positive role in directly implementing the function of health service quality supervision.

However, in the field of health system governance, there remain many problems that need to be addressed. First of all is the need for capacity for management, policy and strategy development for the health sector to improve its ability to respond to the need for reform of the health system in the direction of equity, efficiency and development. The Politburo has asserted: “the health sector is slow to reform and confused in its awareness and development of operational mechanisms” [128]. Many health policies have been slow to reform or have not been fundamentally reformed, and remain inconsistent. Development of policies based on evidence needs to be further strengthened.

The participation of civil society organizations, professional associations, beneficiaries and the community in health policy and strategy making, dialogue and advocacy to create a consensus on policies also needs to be improved.

Development and issuing of professional standards for quality management of health services remains inadequate. Standards for diagnostic laboratories have not yet been issued, leading to difficulties in controlling quality and waste because many health facilities do not

¹⁴ Pharmaceutical Law, Law on Examination and Treatment, Law on Infectious Disease Control, Law on HIV/AIDS Control, Health Insurance Law, Law on Donations and Transplants of Organs

recognize the lab test results of other medical facilities. Professional standards that ensure cost-effectiveness and are based on evidence are still lacking.

Organization of the local health systems are in a period of transition, and reintegration after a period of fragmentation into many different units. The organizational model of the health system is not yet appropriate and is not stabilized, especially the grassroots health system and preventive medicine [155]. Integration of preventive medicine and curative care in the grassroots health system remains weak. In the area of health insurance, there is still no local state management organization in charge of health insurance at the provincial level and a lack of professionalism of agencies charged with implementing health insurance policies.

Inspections, monitoring and evaluation still face many difficulties, and do not yet meet the need for state management in health because of a lack of human and financial resources, lack of detailed instruments and auditing/supervising procedures, and the lack of a system of appropriate rewards and sanctions.

2. Recommendations

Based on an analysis of the situation and the problems that need to be resolved in the health system, this section of the chapter will present recommendations and solutions for priority issues, aimed at contributing to the 5-year plan (2011-2015) and the Strategy for the Protection, Care and Promotion of the People's Health for the period 2011-2020 and the vision to the year 2030. At the same time, these recommendations serve as a basis for selection of the focus for cooperation and dialogue between the health sector and international partners on reforms and strengthening of the health system in Vietnam in the forthcoming period. The recommendations presented below were developed from the results of the situation analysis, discussions with government staff and experts in the health sector and other ministries and related sectors and members of the HPG through many workshops and written feedback.

2.1 Preventive medicine and primary health care

2.1.1 Actively control outbreaks, avert large epidemics

- Continue to strengthen the preventive medicine network at all levels, especially the grassroots level. Actively and effectively implement preventive medicine activities, and prevent major epidemics from occurring. Implement effectively the goals of the national health target programmes after they have been approved by the Prime Minister.
- Strengthen quality management, food hygiene and safety; actively monitor food contamination to prevent food poisoning and other diseases caused by food. Develop a workforce for inspection and checking on food hygiene and safety at all levels.
- Strengthen and consolidate capacity of the surveillance system, detect and control in a timely manner all disease outbreaks. Provide equipment for surveillance and early detection of disease outbreaks at district and provincial preventive medicine centres. Set up and refine a surveillance and early warning system for epidemics, utilize effectively information technology in management and surveillance of diseases and epidemics. Develop a programme to strengthen the surveillance system and ensure a rapid response to stop communicable disease outbreaks in a timely manner.

2.1.2 Strengthen implementation of programmes to control non-communicable disease

- Effectively manage factors harmful to health like environmental pollution, smoking, alcohol abuse, unsafe sex, inappropriate diet, etc.
- Prevent accidents and injuries, overcome the consequences on health of natural disasters: Develop scenarios for prevention and overcoming quickly the negative consequences on health of natural disasters; strengthen prevention of accidents and injuries, especially traffic accidents, labour accidents and occupational disease; prevent domestic violence. Study and develop options for prevention and mitigation from natural disasters and climate change and overcoming the negative consequences on health of natural disasters.
- Improve the capacity to screen and detect early and manage non-communicable diseases: Develop a vision and comprehensive plan, develop a health care network at all levels appropriate for control of non-communicable disease (cardio-vascular disease, diabetes, cancer, etc.). Expand and improve effectiveness of interventions to control non-communicable disease.
- Environmental health: Treat hazardous medical waste, especially in health facilities with a high risk of causing pollution; improve the living and working environment.

2.1.3 Strengthen information, education and communication (IEC) on health

- Strengthen the IEC network for health from the central to the local level. Expand and diversify IEC activities to improve awareness of local party and government officials and of the people of their responsibilities, duties and rights for health care with the perspective “health care for all”. Improve knowledge and skills so that all people, all families and communities can be active in preventing and controlling disease and promoting health; develop a healthy lifestyle in the community. Strengthen intersectoral collaboration for preventive medicine.

2.2 Medical examination and treatment

2.2.1 Strengthen the curative care network with an orientation towards responding to the diverse and changing needs of the population

- Continue to invest in upgrading and consolidating in a uniform manner the curative care system, appropriate with the needs for medical examination and treatment among the people and with the socio-economic ability of each region. Combine development of widespread basic curative care services with development of high-technology, specialized medicine, and between the public and private health sectors.
- Develop a mechanism for monitoring and evaluation of changes in need and the activities needed to increasingly respond to needs for health care of the people with an orientation towards equity and efficiency. Adjust the health care provider network to be appropriate and convenient to meet the needs of the people in different localities. Continue to prioritize and strengthen investments in development of health care in remote, isolated and disadvantaged regions, and at the grassroots level.
- Study and develop a mechanism for management of patients with chronic disease and for the elderly that is continuous across levels of the system and involves sharing patient information to improve effectiveness of curative care. Strengthen the ability to screen and manage patients at the grassroots level and the private health sector.

- Implement effective solutions to reduce overcrowding of hospitals. Gradually re-establish a referral system in curative care, encourage provision of curative care services appropriate with the professional level of the facility, first of all through the health insurance scheme; reform the hospital financial mechanism, hospital user fee policy; change from fee-for-service to case mix system and other modern hospital financing models; consolidate and improve quality of curative care services at the grassroots level; strengthen preventive medicine and primary health care activities.

2.2.2 Strengthen management of service quality

- Revise, amend and develop regulations, technical procedures, sectoral standards, diagnostic and treatment guidelines, and guidelines for monitoring health care quality, reducing medical error according to the Law on Examination and Treatment. Reform administrative procedures for curative care; scale up use of the comprehensive care model. Strengthen education on medical ethics, implement the penalties to overcome negative consequences of violations of occupational ethics.
- Develop guiding documents for implementing Article 50 and 51 of the Law on Examination and Treatment on accreditation of quality and organizations to implement quality accreditation in curative care facilities.
- Develop and implement procedures for auditing, monitoring and evaluation of implementation of professional regulations and technical procedures for medical services at all levels, at all health care service providers, including the private sector. Place special priority on activities to supply information and advice to patients; acknowledge that advice giving is an important step to be implemented in the provision of health care services.
- Improve and bring into play the role of the drug and therapy committee in hospitals.
- Improve the method for providing medical services towards more friendly, patient-centered care services; create incentives for using research results, technological and scientific advances in provision of health services.
- Gradually modernize medical technology, such as diagnostic imaging, biochemistry testing, genetic testing, biophysics, immunity testing, molecular biology, genetic technologies.

2.2.3 Implement the National Policy on Traditional Medicine

- Consolidate the organizational system for traditional medicine and pharmacy from the central to the local level.
- Develop legal documents and promote development of traditional pharmaceuticals and active ingredients; develop guiding documents for technical protocols of treatments using traditional medicine or treatment guidelines for combining traditional and modern medicine for certain diseases and syndromes. Issue treatment protocols using traditional medicine for diseases for which traditional medicine has the ability to effectively treat. Standardize semi-processed and processed traditional pharmaceuticals.

2.2.4 Improve efficiency in hospital management

- Improve capacity for hospital management; strengthen management and effective use of human resources in hospitals; manage drugs in public hospitals, manage medical equipment and infrastructure; apply information technology for hospital management.

- Provide training to improve management capacity of hospital leadership and department leadership in hospitals at all levels. Include criteria regarding management training into the criteria for annual hospital assessment. Develop and implement continuous training programmes to update knowledge of clinical staff and management staff in all areas, including on hospital management.
- Assess comprehensively the performance of public hospitals, especially social mobilization and joint ventures, business partnerships, implementation of the autonomy mechanisms, on the basis of this assessment, develop a roadmap for comprehensive reforms of the public hospital operating mechanism, not simply implementation of hospital autonomy.
- Assess the impact of incentives: Study the impact of the user fee mechanisms, state budget allocations and rules used during health insurance auditing on health service provision with the aim of adjusting user fees, encouraging cost-effective service provision. In particular, pay attention to control of overprovision of drugs, paraclinical testing, and high-tech services that are not needed for the patient, reduce overcrowding of hospitals, ensure safety and quality for the patients.
- Standardize laboratories and issue regulations requiring mutual recognition of lab test results in the lab testing system. Develop regulations on monitoring and periodic standardization of clinical and paraclinical techniques and of hospital medical equipment.

2.3 Population, family planning and reproductive health services

2.3.1 Implement the National Strategy on Population, Family Planning and Reproductive Health Care more effectively

- Ensure that all goals are met in the area of population, maintaining reductions in fertility of 0.2%. Study to make recommendations to revise, amend and develop policies regarding non-material and material incentives, improve social well-being aimed at maintaining the model of a family with few children. Place special attention on IEC; strengthen monitoring and evaluation of implementation of population, family planning and reproductive health policies and laws.
- Implement solutions aimed at improving quality of population. Improve quality of services for population, family planning and reproductive health; provide services for prenatal and newborn screening of disease.
- Understand the main causes of the tendency for an increase in the sex ratio at birth, and on this basis develop plans and implement comprehensive and effective methods to gradually rebalance the sex ratio at birth. Strengthen education and improve awareness of gender and gender equality. Education to improve awareness aimed at eliminating the attitude of “respect for men, disrespect for women”. Strictly forbid sex selection of the fetus and abuse of technologies to determine fetal sex; control tightly implementation of regulations on abortion.

2.3.2 Reduce perinatal mortality and improve children’s health

- Develop “Guidelines for assessing implementation of the model for neonatal care at hospitals at different levels”. Develop technical protocols on care, urgent care and screening for newborns. Invest in the physical infrastructure and technical

decentralization of a neonatal screening system. Retrain in skills for care and emergency care of newborns according to 2010 National Guidelines.

- Survey the situation and determine priority areas for consolidating the paediatrics network nationwide. Guide the structure of organization, human resources, physical infrastructure and medical equipment for the paediatrics system at all levels (in the framework of the Master Plan for Developing the Obstetrics and Paediatrics Curative Care Network). Complete the paediatrics network in all provinces.
- Communication: Develop and implement a plan for communication and education on care of mothers and children. Review, update and develop IEC materials appropriate with the conditions and culture of specific regions where ethnic minorities live, paying special attention to implementing maternal and child health care in the family.
- Care of children at home: Develop materials and training on care of children at home and in the community and implement care of mothers and children at home. Develop and implement booklets for monitoring maternal and child health at home.
- Nutrition: Review and recommend revisions to Decree 21 on use/sale of breast milk substitutes. Reduce considerably the proportion of children suffering from malnutrition, especially stunting.
- Consolidate the system of routine reporting, monitoring, and assessment related to child health indicators currently in place. Assess the situation of perinatal mortality in 2010-2011. Undertake a survey of perinatal mortality in 2015.

2.3.3 Strengthen reproductive health services

- Strengthen capacity of the reproductive health care network so it has a focus appropriate with the situation in each region, locality and actual needs of the target groups, prioritizing remote, isolated, and disadvantaged regions to ensure essential needs for reproductive health care in each region, especially in mountainous, remote, isolated and disadvantaged regions. Strengthen mobilization of private health facilities, sectoral health facilities, and non-government organizations and individuals to participate in providing health care services.
- Strengthen implementation of interventions aimed at reducing maternal mortality. Formalize training programmes and refine policies and benefits for traditional village birth attendants. Strengthen the network of commune and village midwives. Scale up appropriate models under concrete conditions of each locality aimed at strengthening the ability to access health care of mothers in regions with socio-economic disadvantage. Expand the model of referrals based on the community in disadvantaged regions. Expand and improve quality of obstetric emergency care and essential obstetrics care by region. Strengthen IEC, advising on health care for mothers and newborns.
- Develop a maternal mortality surveillance system for key areas. Assess maternal mortality, and provide nationwide training. Begin by expanding the model of assessing maternal mortality to some new provinces. Implement routine assessment of maternal mortality; survey maternal mortality in 2015. Strengthen the reporting, monitoring, and surveillance system related to indicators of maternal health.
- Refine the organizational network and updated technical protocols on preventive medicine, detection and early treatment of reproductive tract infections and sexually

transmitted diseases and reproductive tract cancers; link HIV prevention services with services to control sexually transmitted disease and reproductive health services.

- Expand the network of service providers to treat infertility in all provinces. Survey the situation of infertility in 2015. Develop a circular guiding implementation of Decree 12 on giving birth using scientific methods.
- Develop, amend, and update technical standards on abortion following 2010 National Guidelines. Improve the quality and safety of abortion services through training, provision of equipment, medical consumables. Strengthen management and monitoring of technical professional activities of facilities providing abortion services (including the private sector). Supply emergency contraception widely. Implement behaviour change communication for priority target groups such as young married couples, youth and adolescents.
- Develop materials guiding monitoring, surveillance and assessment of adolescent and youth friendly services. Expand implementation in all reproductive health care facilities to have an adolescent and youth friendly service corner, combine this with IEC and providing advice.
- Implement widely reproductive health services for men: advise on sexual health, support and treat male infertility, detect reproductive cancers early in men. Satisfy more effectively reproductive health care needs of special groups (the disabled, migrants, victims of natural disasters) through strengthening access to appropriate service types. Advise on sexual health; treat disorders of pre-menopause, menopause and male menopause.

2.4 Human resources for health

2.4.1 Limit the situation of health worker shortages and imbalance

- Strengthen training to ensure adequate medical workers with an appropriate structure and distribution. Promote training of pharmacists, training in the direct recruitment programme, training of local people under contract to return to their localities, training of commune health station doctors through a 4-year programme to upgrade qualifications of assistant doctors, train village health workers to meet needs for health workers in mountainous, remote, isolated and disadvantaged regions.
- Continue to train masters, doctorate, level I and level II specialists for the provincial and district levels, especially health workers currently in charge of a hospital department. Train highly qualified specialists, train gifted health workers overseas in areas or specialties where Vietnam has not yet the conditions to provide training.
- Put in place an appropriate remuneration policy to mobilize health workers to work in rural, mountainous, remote and isolated regions. Continue to implement the policy of secondment of staff from higher level facilities to strengthen health services at the lower level. Implement a policy of civilian mandatory service for newly graduating health workers.
- Amend and revise policies and benefits to implement effectively Project 1816 on “rotating health workers from higher level facilities to lower level facilities to improve quality of medical examination and treatment services”.
- Improve working conditions through implementing projects to improve working facilities at the commune level, create a basis for developing a new pilot model for

health service provision at the commune health station (with doctors working at the commune level, but not necessarily in the permanent employment of the commune health station).

2.4.2 Strengthen quality assurance for human resources in health

- Improve health worker quality through investments in improving health worker training facilities, improving quality of instructors, reforming the curricula, materials and methods of instruction, and strengthening practice facilities. Develop concrete standards for assessing quality of training of health workers.
- Implement a roadmap for implementing training quality accreditation according to current regulations. Develop competency standards for graduates of training for different types of health worker to serve as a basis for reforming training curricula. Develop, implement and control compliance with legal documents related to issuing medical practice licenses.
- Develop regulations on quality assurance for continuous medical education. Develop regulations on retraining and updating knowledge according to the Law on Examination and Treatment.
- Gradually complete the programme to strengthen human resources at the provincial and district preventive medicine centres; improve professional qualifications and skills of workers providing family planning services according to the decentralized model and the classification of services provided at different technical levels of the system.
- Develop and amend mechanisms and solutions for regularly updating and improving skills of technical staff in charge of maintaining and repairing medical equipment at health care facilities.

2.4.3 Strengthen effectiveness of management of health manpower

- Complete the master plan for human resources in health in Vietnam.
- Adjust rules and regulations to allow health facilities and provincial health bureaus to reallocate health workers to regions in need.
- Assess the number and skill mix of health workers. Study how to increase the number of nurses and other support staff to improve effectiveness of health facilities and doctors.
- Assess and make recommendations for reforming to strengthen effectiveness of clinical supervision methods (patient record audits, Drug and Therapy Committees, joint consultations on difficult cases)
- Develop and implement training programs for management of health care in general and for hospital management in particular.

2.5. Health information systems

2.5.1 Develop the health information system

- Develop plans for the development of the health information system to the year 2015 and a vision to the year 2020 covering both the public and private sectors. Refine the health statistics indicator system, registers and reports, guideline materials on health

management information, hospital information, information on preventive medicine and control of epidemics, information related to training and research.

- Develop a database of health information at all levels; improve quality of health information (accuracy, representativeness, timeliness, completeness). Strengthen ability to compile, analyze and process data. Develop a mechanism for information sharing, feedback and health information quality. Develop indicator dictionaries for basic health statistics indicators to determine the component statistics needed to calculate indicators.
- Develop a monitoring system for priority health problems, including: surveillance, reporting, solutions and forecasting of communicable disease; dataset on non-communicable disease, food safety; database on the private health sector.
- Gradually modernize the health information system in line with financial and technical capacity and data user needs at each level, including upgrading of hardware, developing software, developing mechanisms for sharing information, transmitting information, and sending reports and data through the internet.

2.5.2 Strengthen use and analysis of data

- Improve capacity for analysis and use of data: Develop materials for training on use of data in analysis, evaluation and forecasting appropriate with each level and field. Organize training courses on use of data in analysis appropriate with each level and field.
- Strengthen dissemination of information in diverse forms and appropriate with needs of data users; strengthen use of information for direct management of units and levels of facilities; provide and use information for policymaking and health sector management.

2.5.3 Improve quality of information

- Develop data quality standards and mechanisms for data quality control. Develop and supply materials guiding data gathering, processing and reporting including guidelines for using ICD-X disease codes, and data dictionaries for major databases.
- Develop and standardize the basic health statistics indicators in order to meet needs for information domestically and for international integration in the region and the world. Supplement and refine professional standards, criteria, indicators, and evaluation indicators, to serve as a basis for monitoring and evaluation activities.
- Consolidate and strengthen patient registers for non-communicable and chronic disease. Assess the situation of the register system for non-communicable diseases. Complete the instruments and mechanisms for gathering, reporting and sharing information between fields of treatment and prevention to adequately update and avoid duplication in data gathering.
- Strengthen the system of monitoring cause of death based on the community through the primary recording forms at the commune health stations (Register for monitoring cause of death A6/YTCS). Design instruments for gathering and mechanisms for transmitting and sharing information on cause of death.
- Develop a survey protocol for implementing a second national health survey.

2.6. Drugs, vaccines, blood and other biologics

2.6.1 Implement solutions for managing quality and prices of drugs

- Continue to implement the Pharmaceutical Law. Strengthen development of the domestic pharmaceutical industry, to meet a minimum of 60% of curative drug needs of the people, especially essential drugs and generic drugs needed for diseases that account for a high share of disease burden such as for tuberculosis, non-communicable disease, chronic disease and drugs for mothers and infants. Continue to increase the share of vaccines produced domestically to increase the responsiveness in supply of vaccines as well as the timeliness of response when problems occur.
- Ensure 100% of pharmaceutical manufacturing enterprises meet WHO standards of good manufacturing practice (GMP); Ensure 100% of pharmaceutical testing facilities meet WHO standards on good laboratory practice (GLP); Ensure large-scale importers and distributors of drugs meet standards for good storage practice (GSP).
- Eliminate impediments to the development of generic drugs produced domestically; control quality and disseminate information on their quality to doctors and consumers so they can trust the quality.
- Develop regulations for price controls based on reference prices: Use both international and domestic reference prices. Develop standards for selecting drugs to be the focus of drug price control.
- Implement strictly regulations prohibiting the use of material or financial inducements to influence doctors to prescribe certain drugs or for users to use certain drugs. Require that competitive bidding and prescriptions of drugs be based on generic drug names (active ingredients). Monitor and openly post examples of drug mark-ups.
- Recommend revisions to Decree No. 45/2005/ND-CP on administrative violations and penalties in the health sector in order to increase effectiveness of monitoring compliance and sanctions for non-compliance with regulations on drug price management, competitive bidding for drugs, drug prescribing, supply and use of drugs.
- Consolidate and strengthen the workforce of monitors, inspectors and auditors of counterfeit drugs. Develop and organize implementation of plans for pre-testing, post-testing and inspections in quality management, drug registration, information and advertising, imports and exports of drugs.
- Develop and submit to the Prime Minister for approval a project for improving capacity of the system for drug quality testing, focused on the following issues: a) Master plan for the lab testing system; b) Operating mechanisms: strengthen autonomy; c) Finding investment capital; and d) Attracting and improving capacity of lab testing staff.
- Strengthen capacity and the role of the quality control system for pharmaceuticals; continue to upgrade infrastructure and staff training in pharmaceutical testing, especially to respond to the need for testing bio-availability and bio-equivalence.

2.6.2. Improve effectiveness in rational use of drugs

- Update and adjust the list of essential drugs and vaccines, medical consumables, and medical equipment for health facilities to be appropriate for the new situation.

- Strengthen capacity and bring into play the role of the Drug and Therapy Committees in hospitals in order to contribute to rational and effective use of drugs in curative care facilities. Develop mechanisms for checking, penalizing appropriately in order to implement effectively regulations on drug prescriptions.
- Improve community awareness of drug use. Develop indicators and a surveillance system on use of antibiotics and antibiotic resistance throughout the country.
- Develop a database system for health workers to check for drug interactions and side effects, to help with appropriate dosing in prescriptions, or for pharmacies to check when dispensing drugs to patients.
- Develop a consumer protection association in the area of pharmaceuticals to protect the rights and safety of patients.

2.6.3 Ensure quality of vaccines, blood and biologics

- Strengthen the quality management and safety of vaccines being used in Vietnam. Ensure good practice in clinical testing for new vaccines in the Vietnamese market and of vaccines newly produced in Vietnam.
- Issue and implement the blood transfusion regulations, clarify technical professional standards and responsibility/state management organization on blood and blood products.
- Strengthen organization of voluntary blood donations in the direction of professionalization. Strengthen the participation of the Vietnam Red Cross Society and other civil society and mass organizations, all levels of the Communist Party, and government authorities to stimulate greater professionalism among those mobilizing people to donate blood.
- Implement testing of solutions to improve quality of the National Drug Programme to screen for communicable disease, blood type, and to test kits used for detection of antibodies before they are sold in the market, develop quality management systems. Issue standards for implementing good manufacturing practice for whole blood and blood components.

2.7 Medical equipment and technology

2.7.1 Strengthen quality assurance for medical infrastructure and equipment

- Assess the current situation of medical equipment at health facilities in both curative and preventive care including the type of equipment, number, quality, time already used, capacity utilization. In 2011, there is a need to implement an assessment of the situation of servicing, maintenance and repairs of medical equipment at curative and preventive care facilities.
- Implement a review and update of the essential equipment lists; develop databases of medical equipment (including functions, scope of utilization, basic technical specifications, environmental conditions and basic infrastructure and reference prices, etc.) for health facilities.
- Add to and upgrade infrastructure, medical equipment, and medical instruments for health facilities to ensure requirements are met for provision of services according to the list of services to be provided at different levels, with priority given to grassroots level and disadvantaged areas.

- Amend, revise or issue new standards on design and construction of health facilities, especially commune health stations; Design hospitals, preventive medicine centres at all levels appropriate for different regions.
- Strengthen maintenance and repairs of medical equipment: Establish a team of staff to work on maintenance and repairs of medical equipment in all provinces, especially in mountainous, remote, isolated and disadvantaged regions. Ensure health facilities have a training plan and recruitment plan for engineering staff with high qualifications and experience in repairing and maintaining medical equipment. Allocate adequate funds of each unit for maintenance and repairs of physical facilities and medical equipment.
- Consolidate the network of medical equipment calibration and testing facilities. Strengthen human resources and specialized equipment for calibration and testing, develop centres for calibration for three regions. Standardize quality of testing across facilities.

2.7.2 Strengthen domestic production of medical equipment

- Strengthen domestic production of medical equipment, starting with commonly used medical equipment and devices, and at the same time, invest in advanced technology production lines to produce medical equipment; ensure supply of medical equipment that meets the needs of medical care facilities.

2.7.3 Undertake health technology assessment (HTA) work

- Implement health technology assessment (HTA) to determine which medical interventions are effective, efficient, and reasonably priced, yet ensure quality of health services. In 2011, issue a decision on this activity linked to human resources and implementation plans for the short-term and long-term.
- Select new vaccines: Analyze cost-effectiveness of some new vaccines to have a convincing basis when proposing new vaccines to be added to the expanded programme on immunization or other preventive medicine programmes.
- Structure of health human resources: Evaluate effectiveness of the skill mix of different types of health workers to provide effective services at each level, and to serve as a basis to ensure that plans for training and human resource development are more efficient.

2.8. Health financing

2.8.1 Increase share of public financing for health

- Continue to increase rapidly investment of the state budget for health (including government treasury bonds); ensure the state budget for investments in projects already approved by the Prime Minister, prioritizing allocations of state budget to the mountainous, remote and isolated areas, to the grassroots level, preventive medicine and to implement social policies related to health care and national health target programmes.
- Ensure state budget for implementation of salary policy for health workers working in remote areas, grassroots level, preventive medicine and certain specialties that face staff shortages. Ensure recurrent spending for commune health stations is appropriate for meeting primary health care needs.

- Establish a mechanism to ensure a minimum level of spending on health and for the share of health spending allocated to preventive medicine out of the state budget in local areas to be in line with the need to meet sectoral targets.
- Develop universal health insurance in breadth and depth; reform and simplify procedures to purchase, reimburse facilities, facilitate people to have health insurance for curative care. Recommend to the Government to put the roadmap towards universal health insurance coverage into the national priority goals in the Five-year Socio-economic Development Plan. Ensure compliance with health insurance contributions among workers in the formal sector.
- Expand health insurance to the informal sector through providing financial support from the state budget, developing implementation mechanisms and strengthening the role of the community. Evaluate effectiveness of policy implementation to subsidize health insurance for the near poor.
- Study solutions and the roadmap to increase the share of public spending in total health spending, reduce gradually the private share, especially out-of-pocket spending of households.
- Continue to implement effectively the policy to subsidize health care for the poor, the near poor, children under 6, the elderly, ethnic minorities and social welfare policy beneficiaries, to contribute to ensuring equity in health care for the people.
- Expand international cooperation, strengthen mobilization and effectiveness of the use of external aid funds for health.

2.8.2 Raise the efficiency in allocation and use of health financing resources

- Gradually reform the mechanism for allocating the state budget to health facilities through performance and efficiency indicators in preventive medicine and curative care.
- Reform hospital financing policies; adjust hospital service prices in the direction of full cost accounting, appropriate with investments and professional qualifications of each technical level of the network, and appropriate with the ability of the people to afford to pay for services; gradually apply modern and more appropriate hospital payment mechanisms, such as case mix payments, DRG or capitation.
- Implement the Government Decree on reforming the operational and financial mechanisms in the health sector (after approval); review implementation of hospital autonomy policy.
- Strengthen the reporting system and analyze state budget disbursements for health to have accurate information for health financial planning. Establish a system of sectoral reports on state budget spending for health. Set up a mechanism to monitor and evaluate efficiency and equity in allocation of use of state budget for health.

2.8.3 Strengthen medical cost controls

- Develop solutions to strengthen medical cost controls, especially costs of hospital services; reduce to a minimum overprovision of medical services, high tech services, and services receiving investments from socially mobilized capital.
- Develop and implement regulations on transparency and standardization of costing and price setting for medical services. Calculate costs of curative care and preventive

medicine services to have a basis for efficient cost accounting, and to estimate total resources needed to serve as the basis for allocating state budget funds.

- Strengthen monitoring and evaluation and implement annual reviews and assessments of implementation of investment projects in public hospitals that have received capital contributions from the private sector to make recommendations on adjusting policies to be more appropriate.

2.9. Health system governance

2.9.1 Supplement and refine policies and plans

- Continue to complete the system of policies and laws in the health sector, and the systems of standards in different fields of the health sector, to serve as the basis for adjusting the quality of health services.
- Develop and implement the Strategy on the protection, care and promotion of the people's health for the period 2011-2020, and the vision to the year 2030, the Five year plan for the health sector (2011-2015) and the Master Plan for the health care network at all levels that are in line with changes in morbidity patterns expected in the coming period.
- Continue to complete the legal framework in the health sector; Develop and issue a Tobacco Control Law; Develop and refine documents to guide implementation of the Law on Infectious Disease Control; Health Insurance Law; Law on Examination and Treatment; Law on the Elderly; Law on People with Disabilities; Law on Prevention of Domestic Violence; Law on Food Safety.
- Refine the draft Decree on salary supplement by occupation to increase remuneration for medical specialities with low incomes, where it is difficult to attract and retain health workers. Review and develop policies for rewards and honours for people with excellent achievements or who have helped patients in a timely manner.

2.9.2 Strengthen capacity for policy and strategy making

- Strengthen capacity for making policies and plans at the central and local areas. Continue to review the process of policy-making, to overcome weaknesses.
- Develop plans for training to build capacity to develop evidence-based policies for policy-makers and their advisers. Make a plan for strengthening research capacity and developing regulatory impact assessment reports for draft laws; strengthen capacity to develop policy proposals.
- Pay more attention to analysis and evaluation of emerging factors in the health sector. Fully utilize the role of research institutions and advisers in research, surveys, and provision of evidence during the process of policy and strategy making and revisions.
- Organize more effectively consultative activities with all stakeholders during the process of developing strategies and policies, and pay greater attention to feedback from the grassroots. Strengthen dialogue and policy advocacy on policy issues with the National Assembly and other related ministries and sectors, increase consensus in developing and implementing new policies.
- Undertake research and develop a comprehensive proposal for reforming governance of the health sector in line with the specific nature of the health sector and with requirements for state management and public administrative reforms.

2.9.3 Strengthen capacity and effectiveness of monitoring and evaluation of implementation of health policies

- Set up an indicator system and regularly monitor, supervise and evaluate the performance on making and implementing policies and plans.
- Develop and strengthen the health inspection system to have adequate capacity to implement its responsibilities according to regulations.
- Strengthen the participation of social organizations and professional associations (including the Vietnam Medical Association) in monitoring and supervising, in order to strengthen independence and objectivity in monitoring and evaluating the health sector.
- Select priority areas for monitoring and surveillance (curative care, issuing of medical practice licenses, pharmaceuticals, food safety, health insurance and private health practice, etc.). Develop mechanisms, management policies, and tight supervision to reduce overprovision of medical technology, health services and pharmaceuticals to patients.

2.9.4 Refine and stabilize the organization of the health care network at all levels

- Consolidate, develop and strengthen the capacity of the grassroots health network, especially the commune health stations, district hospitals, district health centres; consolidate and refine the preventive medicine network at all levels, especially at the district level; refine the food safety, population-family planning and HIV/AIDS control networks. Continue to refine the curative care network at all levels. Gradually rationalize district hospitals according to population clusters; develop regional inter-district hospitals in localities that are close to the population centres of the province. Maintain and strengthen regional intercommunal polyclinics in mountainous, remote and isolated areas. Develop specialized medical centres, regional (inter-provincial) hospitals.
- Set up a health insurance office in the Provincial Health Bureaux to undertake the responsibilities of state management of health insurance in the localities. Professionalize and strengthen the quality of health insurance service provision through training to improve the capacity of health insurance staff.

2.9.5 Strengthen the intersectoral coordination mechanism

- Review national health target programmes, collaboration and integration mechanisms to increase efficiency and effectiveness of activities. Strengthen the primary health care committee at the grassroots level; encourage intersectoral collaboration, the participation of social organizations and professional associations and of the entire population in activities for the protection, care and promotion of the people's health.

Appendix 1: Summary of JAHR 2007-2009 recommendations and implementation results

Recommendations from JAHR 2007-2009			
Main issues	Expected results	Results achieved by mid 2010	Continued implementation
1. Health service delivery			
1.1 Preventive medicine does not yet meet needs	<ul style="list-style-type: none"> Develop national strategy for control of non-communicable disease 	<ul style="list-style-type: none"> Prime Ministerial Decision No. 77/2002/QD-TTg dated 17/06/2002 approving the Programme for control of some non-communicable disease 2002-2010. Prime Ministerial Decision No. 08/2007/QD-TTg and 172/2008/QD-TTg approving national target programmes for the period 2006-2010, including control of hypertension, diabetes, cancer, mental illness and epilepsy. 	<ul style="list-style-type: none"> Develop comprehensive strategy for control of non-communicable diseases. Approve National Target Programmes for the period (2011-2015).
	<ul style="list-style-type: none"> Promote IEC and BCC activities to improve knowledge and change behaviour of the community 	<ul style="list-style-type: none"> Ministry of Health Decision No. 16/2007/QD-BYT approving the National Action Programme on IEC and BCC for HIV/AIDS to the year 2010. Ministry of Health Decision No. 3526/2004/QD-BYT approving the Action plan for health IEC to the year 2010. 	<ul style="list-style-type: none"> Update the Action plan on IEC for the post-2010 period.
	<ul style="list-style-type: none"> Develop strategy and plan to regularly update and issue guidelines in preventive medicine to serve as a basis for developing performance assessment standards 	<ul style="list-style-type: none"> Guidelines only updated for a limited number of diseases like cholera, HIV, etc. 	<ul style="list-style-type: none"> Need to update and develop new guidelines.
	<ul style="list-style-type: none"> Invest in equipment for preventive medicine at the district and commune levels 	<ul style="list-style-type: none"> Prime Ministerial Decision No. 1402//2007/QD-TTg approving the project to support development of District preventive medicine centres for the period 2007-2010, including investments in infrastructure, training, with priority in disadvantaged areas. 	<ul style="list-style-type: none"> Evaluate impact of investments.

Recommendations from JAHR 2007-2009			
Main issues	Expected results	Results achieved by mid 2010	Continued implementation
1.2 Grassroots and primary health care still weak	<ul style="list-style-type: none"> Decide on a unified approach for responsibility and limitations on examination and treatment at the commune level. Create legal basis for health workers to examine and treat patients. 	<ul style="list-style-type: none"> Decree No. 14/2008/ND-CP and Circular No. 03/2008/TTLT-BYT-BNV were issued on function, responsibility, limitations and organizational structure of the Provincial health bureaux and district health offices under the Provincial and District People's Committees. 	<ul style="list-style-type: none"> Clarify role of commune health services by issuing a new Official list of services provided at different levels (Phan tuyen ky thuat).
	<ul style="list-style-type: none"> Increase investments in medical equipment at the CHS, priority on remote areas and CHS that have not met national benchmarks. 	<ul style="list-style-type: none"> Prime Ministerial Decision No. 950/2007/QĐ-TTg on investments in building CHS in disadvantaged areas (2008-2010). 	<ul style="list-style-type: none"> Assess impact of investments in commune facilities.
1.3 Manage examination and treatment, quality of services and health seeking behaviour	<ul style="list-style-type: none"> Improve management capacity for hospital management Develop programme and offer courses on state management of the health sector at all levels and hospital management. 	<ul style="list-style-type: none"> MOH organized several training courses for leaders of central and provincial level hospitals to strengthen management capacity in 2008. Several universities are beginning to organize training (university and post-graduate levels) on hospital management. Vietnam Health Economics Association is implementing a study to assess the need for training in management among hospital leaders. 	<ul style="list-style-type: none"> Continue to provide training to strengthen management capacity. Revise the hospital regulations and other health sector management regulations.

Recommendations from JAHR 2007-2009			
Main issues	Expected results	Results achieved by mid 2010	Continued implementation
	<ul style="list-style-type: none"> Continue to implement hospital autonomy under Decree 43. Revise the policy on nominating and appointing managers and leaders in health facilities. Study feasibility and appropriateness of a hospital management model with a management board with many members 	<ul style="list-style-type: none"> Draft Government Decree on reforming the organizational and financial management mechanisms in public healthcare facilities. 	<ul style="list-style-type: none"> Revise and approve the draft decree that clarifies autonomization in public healthcare facilities.
1.3.1 Improve quality of examination and treatment services	<ul style="list-style-type: none"> Improve quality, reduce inpatient treatment duration. 	<ul style="list-style-type: none"> Minister of Health has issued Directive 06/2007/CT-BYT on improving quality of examination and treatment services, gradually overcoming overcrowding. 	<ul style="list-style-type: none"> Assess impact of implementing Directive 06 with recommendations for further improvement.
	<ul style="list-style-type: none"> Strengthen investment and implement effectively Project 225 to upgrade district hospitals. 	<ul style="list-style-type: none"> Health sector implements Prime Ministerial Decision No. 47/2008/QD-TTg approving the project for building, renovating, improving district hospitals and regional inter-district hospitals using treasury bonds (2008-2010). 	<ul style="list-style-type: none"> Review results of implementing the project under Decision 47/2008/QD-TTg.
	<ul style="list-style-type: none"> Build and strengthen medical waste treatment systems. 	<ul style="list-style-type: none"> Ministry of Health Decision No. 43/2007/QD-BYT on issuing regulations for medical waste treatment (replacing regulations issued in 1999). 	<ul style="list-style-type: none"> Monitor implementation of projects to treat medical waste. Assess impact of investments in medical waste treatment from the World Bank loan.
	<ul style="list-style-type: none"> Develop strategy/plan for regular updating of treatment guidelines and technical standards for examination and treatment. 	<ul style="list-style-type: none"> Ministry of Health Decision No. 453/2010/QD-BYT on establishing an editorial steering committee to develop treatment guidelines. 	<ul style="list-style-type: none"> Develop plan to update treatment guidelines. Issue new technical guidelines.

Recommendations from JAHR 2007-2009			
Main issues	Expected results	Results achieved by mid 2010	Continued implementation
	<ul style="list-style-type: none"> Gradually develop care pathways for common conditions to put treatment guidelines into practice, standardize services at health facilities. 	<ul style="list-style-type: none"> Pilot project funded by AusAID was implemented, began development of care pathways. ADB project on "Health human resources development programme" was approved, and is preparing for implementation including a component to continue developing care pathways and expanding this model to more hospitals. Ministry of Health Circular No. 06/2009/TT-BYT regulating essential drug and material norms for services and procedures in reproductive health care has been issued to standardize inputs and assist in costing health services. 	<ul style="list-style-type: none"> Implement ADB project.
1.3.2 Increase effectiveness of referral system; improve continuity of care	<ul style="list-style-type: none"> Adjust list of services provided at different levels of the system. 	<ul style="list-style-type: none"> Medical Service Administration is revising the list of services provided at different levels of the system 	<ul style="list-style-type: none"> Issue revised list of services by level of facility. Incorporate the list of services into health insurance regulations, inspections, annual assessment of hospitals.
	<ul style="list-style-type: none"> Develop a mechanism to coordinate between district hospitals, preventive medical centres and district health offices. 	<ul style="list-style-type: none"> Decision 1816 states clearly the responsibility of higher level facilities to rotate staff to work in lower level facilities to support service provision. 	<ul style="list-style-type: none"> Need to put in place clear coordination mechanisms.
	<ul style="list-style-type: none"> Encourage the people to use appropriate service levels. 	<ul style="list-style-type: none"> The proportion of patients seeking care at the appropriate level increased (impact of Decision 1816). Draft Government decree on reforming operational and financial mechanisms of public healthcare facilities proposes a policy that charges higher user fees for higher level facilities to encourage health-care seeking at lower levels of the system. 	<ul style="list-style-type: none"> Improve quality of care to attract people to lower levels of the system.

Recommendations from JAHR 2007-2009

Main issues	Expected results	Results achieved by mid 2010	Continued implementation
1.3.3 Ability of welfare policy beneficiaries to access and use quality health services is still limited	<ul style="list-style-type: none"> Strengthen ability of the poor, ethnic minorities and other vulnerable groups to access quality health services. Reduce informal payments. 	<ul style="list-style-type: none"> Northern Uplands Project (NUP) and Healthcare for the northern mountains and Central Highlands (HEMA) are being implemented. The North Central Coast and South Central Coast projects have been approved or are about to be approved. 	<ul style="list-style-type: none"> Put in place effective policies to reduce informal payments and 'envelopes'.
2. Human resources for health			
2.1 State management of human resources remains weak	<ul style="list-style-type: none"> Develop and submit to the Government the Health Human resources development plan to 2010. Decentralize human resource training planning to localities. 	<ul style="list-style-type: none"> Science and Training Department of the MOH has submitted the draft plan for training network and human resource development to the leadership. Project "Programme for health human resource development" has been approved and preparations made for implementation. 	<ul style="list-style-type: none"> Issue the Health human resources development plan.

Recommendations from JAHR 2007-2009

Main issues	Expected results	Results achieved by mid 2010	Continued implementation
2.1.1 <i>Begin implementation of the Law on Examination and treatment</i>	<ul style="list-style-type: none"> ▪ Develop a plan for implementing the Law on Examination and Treatment. ▪ Develop a plan for implementing the Law on civil servants in the health sector. ▪ Develop standards for issuing practice licenses for different types of health workers and standards for assessing performance. ▪ Issue draft decrees and circulars to implement regulations on continuous medical education as a basic criteria for retention of a medical practice license. ▪ Study how to improve the mechanism for conflict resolution and complaints in the health sector. 	<ul style="list-style-type: none"> ▪ Draft decree and circular for implementing the Law on Examination and Treatment has been prepared and submitted for feedback. 	<ul style="list-style-type: none"> ▪ Continue to issue decrees and circulars for implementing the Law on Examination and Treatment. ▪ Develop a mechanism to check skills as part of the licensing process. ▪ Develop decrees and circulars to implement continuous medical education as part of the Law on Examination and Treatment. ▪ Develop decrees and circulars guiding implementation of measures to deal with complaints and conflicts in the health sector. ▪ Need to issue guiding decree and circular for implementing the Law on civil servants in the health sector.

Recommendations from JAHR 2007-2009

Main issues	Expected results	Results achieved by mid 2010	Continued implementation
<p>2.1.2 <i>Remuneration system for health workers is irrational, especially at the grassroots level, few incentives to attract health workers to work at the grassroots level or in remote areas.</i></p>	<ul style="list-style-type: none"> ▪ Supplement and refine the remuneration system in a manner that incentivizes health workers to work in the grassroots level facilities, in mountainous and disadvantaged areas. ▪ Guide health facilities to develop standard operating procedures, job descriptions, linked with performance monitoring and evaluation of health workers and implement results based payment. 	<ul style="list-style-type: none"> ▪ Government decree No. 64/2009/ND-CP regulating policy on government health workers working in regions with especially difficult socio-economic conditions. 	<ul style="list-style-type: none"> ▪ Develop results-based remuneration system for health workers.
<p>2.2 Shortage of health workers to work in rural areas, especially disadvantaged areas. Lack health workers in certain specializations.</p>	<ul style="list-style-type: none"> ▪ Attraction policy. ▪ Reform of remuneration policy for health workers in disadvantaged regions; for health workers in specializations that have difficulty recruiting staff. ▪ Develop an incentive mechanism for pupils to study in the following specializations: TB, leprosy, mental health, paediatrics, preventive medicine, infectious disease. 	<ul style="list-style-type: none"> ▪ The Prime Minister has approved the "Plan for training health workers in disadvantaged regions, mountainous areas of the North and Centre, the Mekong Delta and Central Highlands, following the direct recruitment policy where local high school graduates are given priority for selection to attend training, and required to return to their locality upon graduation. ▪ MOH circular No. 06/2008/TT-BYT guiding recruitment of students to obtain upgrade training from lower degrees to university or junior college training in medicine or pharmacy. ▪ Government decree No. 64/2009/ND-CP on the remuneration package for medical workers in especially disadvantaged areas has been issued. ▪ Draft Decree on salary supplements to attract health workers into less attractive specializations (to replace Decision No. 276/2005/QĐ-TTg). 	<ul style="list-style-type: none"> ▪ Issue Decree and circulars on new salary supplement for priority health workers. ▪ Issue mechanism to encourage pupils to specialize in certain medical fields. ▪ Assess impact of overall remuneration policy on labour demand and supply.

Recommendations from JAHR 2007-2009			
Main issues	Expected results	Results achieved by mid 2010	Continued implementation
2.2.1 Increase supply of health workers	<ul style="list-style-type: none"> ▪ Increase supply. ▪ Organize training and retraining of preventive health workers. ▪ Assess effectiveness of the training policies to give priority in recruitment and train local people with requirements that they return to their origins upon graduation. ▪ Study and develop plans to open additional human resource training facilities and courses for disadvantaged regions, in areas where there are shortages of health workers. Increase student recruitment quotas in disadvantaged regions. 		<ul style="list-style-type: none"> ▪ Organize training of preventive health workers. ▪ Assess effectiveness of priority training policies. ▪ Develop plans for training additional health workers from disadvantaged areas.
2.2.2 Mandatory public health duty	<ul style="list-style-type: none"> ▪ Develop a policy on social responsibility and public health duty for health workers to work in socio-economically disadvantaged areas. 		<ul style="list-style-type: none"> ▪ Develop regulations on mandatory health duty for health workers.

Recommendations from JAHR 2007-2009

Main issues	Expected results	Results achieved by mid 2010	Continued implementation
2.3 Shortcomings in quality of health workers	<ul style="list-style-type: none"> Training quality. Implement the roadmap of the Ministry of Education and Training for accreditation of training programmes and provide adequate budget. Strengthen physical infrastructure for the medical schools. Update and improve training programme. Develop a training strategy, supplement and upgrade the qualifications of medical school instructors and researchers. Expand training of resident doctors and other regular opportunities for students to get practical training in direct contact with patients during their medical studies. 		<ul style="list-style-type: none"> Assess medical schools to implement accreditation policy. Ensure MOH make a decision to require updating of training curriculum at least once every 5 years. Increase funds available for this purpose from the Ministry of Education and Training. Mobilize international support to update training curriculum.
2.3.1 Retraining	<ul style="list-style-type: none"> Plan and process for implementing retraining to be approved and implemented. 	<ul style="list-style-type: none"> MOH issued Circular No. 07/2008/TT-BYT Guiding implementation of continuous training for health workers. 	<ul style="list-style-type: none"> Develop new regulations linking retraining/continuous training to retention of license.

Recommendations from JAHR 2007-2009			
Main issues	Expected results	Results achieved by mid 2010	Continued implementation
2.3.2 <i>Mentoring, technology transfer</i>	<ul style="list-style-type: none"> Review implementation of MOH Decision 1816 and higher level facility mentoring of lower level facilities to develop a new project on "Rotating health workers from higher level facilities to lower levels" to submit to the Prime Minister as a regular, long-term, nation-wide activity. 	<ul style="list-style-type: none"> Report reviewing implementation of Decision 1816. 	
2.3.3 <i>High level specialist training</i>	<ul style="list-style-type: none"> Determine needs, training facilities and resources to develop a plan for high level specialist training. Support the health sector to improve capacity of health workers to utilize high tech medicine. 	<ul style="list-style-type: none"> Ministry of Health issued Decision No. 1816/2008/QD-BYT to rotate high level health workers from higher level facilities to work in lower level facilities in order to improve quality of medical and examination services. 	

Recommendations from JAHR 2007-2009

Main issues	Expected results	Results achieved by mid 2010	Continued implementation
3. Health information systems			
3.1 Health management information systems	<ul style="list-style-type: none"> Develop and implement a plan for development of the health information system 2008-2010. Improve and integrate application of information technology in hospital management and patient management under general direction of the MOH. 	<ul style="list-style-type: none"> Draft Plan for development of health information system developed with assistance from HMN. Developing hospital information management systems and software including patient record management-second phase. Medical Service Administration is developing a project for telemedicine, and will eventually develop a project to apply information technology in hospital management. Prime Ministerial decision No. 43/2008/QD-TTg approved a plan for application of information technology in activities of state agencies in 2008, including support for developing management information systems for preventive medicine. Joint Circular of the Ministry of Finance, Ministry of Information and Communication No. 43/2008/TTLT-BTC-BTTTT guides management and use of funds for application of information technology for activities in state agencies. 	<ul style="list-style-type: none"> Need to update and issue the plan for development of the health management information system. Need to promote use of information technology in the health information system so all hospitals and localities use information technology in clinical statistics and finance.
3.2 Information systems regarding health workforce remain weak	<ul style="list-style-type: none"> Implement a survey assessing comprehensively the current situation of health human resources in the entire health sector. Develop methods for medical training facilities to monitor outputs, assess ability to satisfy demand and adjust training curriculum appropriately. 		<ul style="list-style-type: none"> Need to implement survey of health human resources. Need to develop system to monitor graduates of medical schools.

Recommendations from JAHR 2007-2009			
Main issues	Expected results	Results achieved by mid 2010	Continued implementation
3.3 Weak health statistics capacity	<ul style="list-style-type: none"> Develop organizational structure and prepare human resources to strengthen health information systems based on information technology. 		<ul style="list-style-type: none"> Continue to work on preparing information technology-based health information system.
3.4 Health statistics data is not comprehensive	<ul style="list-style-type: none"> Develop regulations making it mandatory for private health facilities to report statistical data on a regular basis. 	<ul style="list-style-type: none"> In 2008, the Hospital inventory collected data on hospitals including 66 private hospitals. 	<ul style="list-style-type: none"> Need to develop regulations on mandatory private sector reporting requirements.
	<ul style="list-style-type: none"> Consolidate reporting system on state budget spending on health to have up-to-date and precise information for health financial planning. 		<ul style="list-style-type: none"> Need to issue regulations on reporting state budget spending on health at health facilities.
4. Drugs, vaccines, blood, other biologics, medical equipment and technology			
4.1 Strengthen management of drug prices	<ul style="list-style-type: none"> Make adjustments in supply, management and use of drugs in hospitals. Manage drug prices effectively. 	<ul style="list-style-type: none"> Ministry of Health Decision No. 24/2008/QD-BYT issuing regulations on organizing hospital pharmacies. Methods for stabilizing drug prices were implemented and adjusted appropriately. Draft Government Decree on administrative violations in pharmaceuticals, beauty products and medical equipment. 	<ul style="list-style-type: none"> Drug prices remain high compared to international reference prices.
4.2 Drugs are used inappropriately	<ul style="list-style-type: none"> Strengthen safe and rational use of drugs. Restrict self-medication, purchase of prescription drugs without a prescription. 	<ul style="list-style-type: none"> MOH issued a list of non-prescription drugs in Circular No. 08/2009/TT-BYT to support enforcement of prescription drug regulations. 	<ul style="list-style-type: none"> Need to develop, implement and enforce more effective policies including enforcement of prescription drug policy, monitoring of appropriate drug use in hospitals.

Recommendations from JAHR 2007-2009

Main issues	Expected results	Results achieved by mid 2010	Continued implementation
4.3 State management of medical equipment remains weak	<ul style="list-style-type: none"> Strengthen quality and standards for medical equipment. Develop standards for when to use various laboratory and imaging tests, standardized lab equipment, ensure universal acceptance of lab and imaging results. 	<ul style="list-style-type: none"> MOH Circular No. 06/2009/TT-BYT issued to regulate essential drugs and consumables for various reproductive health services and procedures to standardize inputs, help in estimating costs of reproductive health services. Announcement No. 130/TB-VPCP presented the request of the Deputy Prime Minister Nguyen Thien Nhan to the MOH, Ministry of Science and Technology to review, revise, amend and refine the system of state management documents and standards on medical equipment, periodic checking of equipment in health facilities to ensure correct, safe and effective use of medical equipment. 10 care pathways developed at Thanh Nhan hospital, beginning to set standards for use of diagnostic and treatment services. 	<ul style="list-style-type: none"> Continue to develop and issue medical equipment standards. Develop standards on use of medical equipment for lab tests and imaging, surgery and other procedures, especially expensive high-tech services.
5. Health financing			
5.1 Mobilized funding for health care remains inadequate to meet needs	<ul style="list-style-type: none"> MOH continues to mobilize and effectively use investment capital from ODA, NGOs, loans from Development Banks, state treasury bonds and other legal sources. 	<ul style="list-style-type: none"> MOH directs the health system to strengthen borrowing for domestic investment projects in the form of borrowing capital from Vietnam Development Bank with a total of about VND1.6 trillion for public hospitals. 	<ul style="list-style-type: none"> Gather and assess information on the structure of investment capital in investment projects at the district, commune, preventive medicine and some specialized hospitals.

Recommendations from JAHR 2007-2009			
Main issues	Expected results	Results achieved by mid 2010	Continued implementation
5.1.1 <i>State budget funding for health does not yet meet needs for health care of the people</i>	<ul style="list-style-type: none"> ▪ Increase state budget spending on health more rapidly than the general increase in state budget. ▪ Develop a roadmap and monitoring mechanism to increase investments in preventive medicine so that by 2010, at least 30% of total state budget spending on health goes to preventive medicine, especially in localities. 	<ul style="list-style-type: none"> ▪ National Assembly Resolution No. 18/2008/NQ-QH12 was issued requesting assurance that the increase in spending on health increase more rapidly than the increase in general budget spending. ▪ In 2008, the growth rate of state budget spending on health was higher than general state budget spending. ▪ Proportion of investment capital from treasury bonds increased (Following Decision No. 47/2008/QĐ-TTg, VND 14 trillion was mobilized through treasury bonds to invest in upgrading district hospitals). 	<ul style="list-style-type: none"> ▪ Still need to develop a mechanism to monitor state budget allocation for health.
5.1.2 <i>Continue to reform mechanisms for allocating state budget with priority for the poor, poor and disadvantaged regions, grassroots and preventive health care</i>	<ul style="list-style-type: none"> ▪ Ensure adequate recurrent expenditures for: ▪ District health centre and commune health station operating costs. ▪ Strengthen spending on preventive medicine. ▪ Ensure funds to implement basic health policies, especially policies to ensure the poor, near poor, children under age 6, and other social welfare beneficiaries are supported. ▪ Train health workers to serve in remote areas; develop curricula and implement continuous medical education. 	<ul style="list-style-type: none"> ▪ Share of state budget allocated to poorer regions (Northwest, Northeast, Central Highlands and Mekong Delta) has increased by about 10 percentage points, while the share allocated to the 2 richest regions (Red River Delta and Southeast) has declined by 11 percentage points between 2005 and 2007. ▪ The share of state budget allocated to the district level and the commune level was stable around 20%, but in 2007 declined to 16% (not including health insurance). ▪ The share of state budget allocated to preventive medicine has fluctuated around 28% of the state health budget from 2002 to 2007. 	<ul style="list-style-type: none"> ▪ Revise regulations to ensure adequate operating budgets for commune and district levels. ▪ Strengthen preventive medicine spending. ▪ Ensure funds to implement basic health policies, especially for vulnerable groups.

Recommendations from JAHR 2007-2009			
Main issues	Expected results	Results achieved by mid 2010	Continued implementation
	<ul style="list-style-type: none"> Ensure funds for: <ol style="list-style-type: none"> Implementing the Law on Examination and Treatment Developing and operating the health information system. Salary reforms. 		
5.2 Funds not yet used efficiently 5.2.1 <i>Effectiveness in use of state budget funds is limited</i>	<ul style="list-style-type: none"> Establish a mechanism to monitor and supervise state budget spending on health. Strive for a mechanism to allocate and manage state budget spending based on clear allocation of responsibilities, volume and quality of work, assessment of completeness in achieving goals. Study the option of using the Medium Term Expenditure Framework. Undertake study on efficient use of state budget funds. 	<ul style="list-style-type: none"> Draft decree on operational and financial mechanism has been developed to support performance-based budget allocation. MTEF is being piloted and studied. 	<ul style="list-style-type: none"> Need to issue regulations on performance-based budget allocation. Need to develop research programme to assess effectiveness in use of state budget spending in selected focal areas.
5.2.2 <i>Lacking conditions to implement new modes of external assistance, and lack evidence on effectiveness of these models.</i>	<ul style="list-style-type: none"> Study further the advantages and disadvantages, and necessary conditions for implementing new modes of external assistance (SWAp, programme support, budget support); make reservations on how to move forward. 	<ul style="list-style-type: none"> Some donors are working with the MOH and other Ministries to create conditions for implementing programme support or budget support in the health sector in Vietnam. Draft guidelines on provision of budget support in the health sector prepared by Planning and Finance Department (milestone 3 of statement of intent). 	<ul style="list-style-type: none"> Need to complete these studies to propose concrete steps to prepare for use of new modes of external assistance. Need to share draft guidelines with HPG for feedback and finalization.

Recommendations from JAHR 2007-2009			
Main issues	Expected results	Results achieved by mid 2010	Continued implementation
5.2.3 <i>Provider payment methods do not yet encourage efficient provision of services</i>	<ul style="list-style-type: none"> Study and implement new provider payment methods. 	<ul style="list-style-type: none"> Minister of Health has agreed to pilot case-based payments and has established a steering committee to support and promote the pilot. Piloting of the new model began in November, 2009. 	<ul style="list-style-type: none"> Continue researching and setting up pre-conditions to more strongly promote case-mix payments and capitation.
5.2.4 <i>User fee calculation is irrational, does not yet include all costs of providing services</i>	<ul style="list-style-type: none"> Direct and guide cost accounting of hospitals in a systematic manner. Revise user fees on the basis of full cost accounting of services. 	<ul style="list-style-type: none"> Costing of medical services performed by high level hospitals. Draft Government Decree on operational and financial mechanism for the health sector includes proposal for revised user fees. In 2009, the MOH established a Steering committee for reforming provider payments. 	<ul style="list-style-type: none"> Develop a cost and fee database.
5.3 Use of socially mobilized capital is inadequately regulated	<ul style="list-style-type: none"> Undertake a study to assess the effect of using non-state investment funds in the health sector. 	<ul style="list-style-type: none"> Health Strategy and Policy Institute has implemented a "Survey assessment of performance in implementing Decree No. 43/2006/ND-CP ...in public hospitals" 	<ul style="list-style-type: none"> Continue to study and disseminate results of studies on the impact of social mobilization and mechanisms to reduce negative outcomes. Study, evaluate and predict the effects of privatizing parts of public hospitals
5.3.1 <i>Regulating socially mobilized capital used in state health facilities</i>	<ul style="list-style-type: none"> Develop a transparent financing mechanism, detailed regulations on public assets used in joint ventures and mobilization of non-state capital resources. 		<ul style="list-style-type: none"> Revise Circular No. 15/2007/TT-BYT on joint ventures and business partnerships.

Recommendations from JAHR 2007-2009

Main issues	Expected results	Results achieved by mid 2010	Continued implementation
5.3.2 <i>Private health sector is developing slowly and in a fragmented manner</i>	<ul style="list-style-type: none"> In the forthcoming period, promote development of the private sector (especially private and foreign-invested hospitals) instead of mobilizing private funds for on-request services in private wards of public hospitals. 	<ul style="list-style-type: none"> Number of private hospitals increased from 77 to more than 100 in 2010. 	<ul style="list-style-type: none"> Revise regulations on issuing licenses and on operations of private health facilities according to the Law on Examination and Treatment.
5.4 Lost ability to balance the health insurance fund	<ul style="list-style-type: none"> Need to make actuarial calculations of the current health insurance package and the contribution levels. Increase the contribution rates; especially increase the contributions on behalf of the poor and near poor in line with the increasing costs of services. Limit adverse selection by appropriate technical means. Vietnam Social Security must increase IEC, and increase awareness of the population about health insurance. 	<ul style="list-style-type: none"> Health insurance contributions on behalf of the poor and near poor increased each year and according to the Health Insurance Law are equivalent to 4.5% of the minimum wage. Government Decree No. 62/2009/ND-CP issued providing detailed guidance on implementation of the Health Insurance Law and roadmap for increasing the health insurance contribution. Health Insurance Law requires social insurance participation and doesn't allow substitution by private insurance. 	<ul style="list-style-type: none"> Actuarial calculations of the package and contributions need to be made. Need to find more effective measures to reduce impact of adverse selection on the health insurance fund.

Recommendations from JAHR 2007-2009			
Main issues	Expected results	Results achieved by mid 2010	Continued implementation
	<ul style="list-style-type: none"> Need to review the package of health insurance services in terms of cost-effectiveness. Health insurance gradually apply case-mix payments, DRG to replace fee-for-service payments. Revise regulations on inter-level payments in Circular 21/2005/TTLT-BYT-BTC. 	<ul style="list-style-type: none"> Ministry of Health Decision No. 06/2008/QĐ-BYT issuing the updated major drug list to be used in examination and treatment. Ministry of Health Decision No. 21/2008/QĐ-BYT issued list of consumables and prostheses covered by health insurance. Pilot study to implement case-mix payments was approved by the Minister of Health and started in November, 2009. 	<ul style="list-style-type: none"> Need to make cost-effective assessments of drugs and consumables. Expand application of case-mix payments.
<p>5.5 Social security mechanism for health is not meeting need. Out-of-pocket health spending remains high.</p> <p><i>5.5.1 Universal health insurance coverage not yet achieved.</i></p>	<ul style="list-style-type: none"> Ensure compliance with health insurance contributions through regulations that allow the health insurance agency to supervise, check and penalize parties who don't participate in health insurance. 	<ul style="list-style-type: none"> Health insurance coverage increased from 42 to 65% of the population. MOH issued legal document requiring that the Provincial Health Bureaux add an additional 2 to 3 staff with primary responsibility on state management of health insurance. Official document of the Health Insurance Department No. 4094/2008/BYT-BH. Programme on "Improving the quality of examination and treatment at health facilities with the objective to satisfy health insured patients" was issued by the Ministry of Health (527/2009/CTr-BYT). Draft decree on administrative violations in health insurance has been developed. 	<ul style="list-style-type: none"> Develop data source to assess compliance with health insurance contributions for wage earners to reach goal of 80% by 2010.

Recommendations from JAHR 2007-2009

Main issues	Expected results	Results achieved by mid 2010	Continued implementation
5.5.2 <i>The poor and near poor need increased assistance</i>	<ul style="list-style-type: none"> ▪ The state continues to allocate adequate funds to support health insurance for the poor, near poor and other social welfare beneficiaries. ▪ External aid providers support development and implementation of policies to support health care for the poor. 	<ul style="list-style-type: none"> ▪ Health Insurance Law was passed by the National Assembly in 2008 and includes compulsory health insurance for the poor with funds provided by the state budget of an adequate amount to purchase health insurance for 100% of the poor, and provide a 50% subsidy on the contribution for the near poor according to Decree 62/2009/ND-CP starting on 01/07/2009. 	<ul style="list-style-type: none"> ▪ No data available to measure whether external assistance is targeted to health care for the poor. ▪ Need to assess impact of 5% co-payments imposed on the poor.
5.5.3 <i>Household spending on healthcare is too high</i>	<ul style="list-style-type: none"> ▪ Localities mobilize funds to support indirect medical costs (food, accommodation, transport, etc.) to reduce difficulties for the poor when seeking care. ▪ Adjust the amount reimbursed by health insurance aiming to pay more per poor person and near-poor person than other insured groups. 		<ul style="list-style-type: none"> ▪ No data to assess the number of provinces supporting the poor with indirect health care costs. ▪ Still no adjustment on reimbursement rates or ceilings for reimbursing health care costs of the poor.

Recommendations from JAHR 2007-2009

Main issues	Expected results	Results achieved by mid 2010	Continued implementation
5.5.4 <i>The policy to provide health financing subsidies for social welfare beneficiaries (the poor, near poor, elderly, children) still has shortcomings</i>	<ul style="list-style-type: none"> ▪ The Government continues to prioritize use of state budget to support vulnerable groups and ensure equity in health care in a market economy. ▪ Support health care for children under age 6 through use of health insurance. ▪ Implement effectively the policy to subsidise 50% of the contribution to health insurance for the near poor. ▪ Strengthen IEC, education on rights and responsibilities of the poor in using health services. ▪ MOH needs to have a unit that regularly monitors and evaluates support for health care of the poor and other social welfare beneficiaries. 	<ul style="list-style-type: none"> ▪ Health insurance agency is monitoring health insurance coverage of the poor, children under age 6, the elderly and other social policy beneficiaries. ▪ Health insurance contribution for the poor increased to 4.5% of minimum wage starting 01/01/2010 according to Decree 62/2009/ND-CP. ▪ Forms of financial support for children under age 6 switched from direct reimbursement to health insurance on 01/01/2010 according to Decree 62/2009/ND-CP. ▪ Mekong Delta Health Support Project of the World Bank is strongly promoting support to the near poor, providing additional subsidies for them to participate in health insurance. 	<ul style="list-style-type: none"> ▪ Need external monitoring of health insurance coverage for vulnerable groups.

Recommendations from JAHR 2007-2009

Main issues	Expected results	Results achieved by mid 2010	Continued implementation
6. Health system governance and stewardship			
6.1 There is a need to supplement and refine basic health policies	<ul style="list-style-type: none"> Develop and submit to the Government and National Assembly the Law on Examination and Treatment, the Law on Health Insurance and other legal documents. 	<ul style="list-style-type: none"> Law on Health insurance passed in 4th session of XII National Assembly in 2008 and came into effect on 1/7/2009. Law on Examination and Treatment passed by 6th session of the XII National Assembly in 2009. Law on the Elderly passed by 6th session of XII National Assembly in 2009. Law on Persons with Disabilities passed in 7th session of the XII National Assembly in 2010. Law on Food safety passed in 7th session of the XII National Assembly in 2010. 	<ul style="list-style-type: none"> Many implementing regulations need to be put in place.
	<ul style="list-style-type: none"> Develop 10-year Strategy for the period 2011-2020 and 5-year plan (2011-2015) for the health sector. 	<ul style="list-style-type: none"> MOH has developed the 5-year plan (2011-2015) following the 6 building blocks framework of the health system. MOH is drafting Health sector strategy for 2011-2010. 	<ul style="list-style-type: none"> Issue, implement, monitor and evaluate the strategy and plans.

Recommendations from JAHR 2007-2009			
Main issues	Expected results	Results achieved by mid 2010	Continued implementation
6.2 Continue to reform and improve effectiveness of state management by the MOH	<ul style="list-style-type: none"> Analyze and assess the functions, responsibilities of state management by the MOH. 	<ul style="list-style-type: none"> Government Decree No. 188/2007/ND-CP on functions, responsibilities, authority, and structure of the MOH. Ministry of Health Decision No. 16/2008/QD-BYT on functions, responsibilities, authority and structure of the Medical Services Administration. Ministry of Health Decision No. 18/2008/QD-BYT on the functions, responsibilities, authority and structure of the General Administration of Population and Family Planning. Ministry of Health Decision No. 50/2008/QD-BYT on the functions, responsibilities, authority and structure of the Department of Maternal and Child health in the MOH. Ministry of Health Decision No. 53/2008/QD-BYT on the functions, responsibilities, authority and structure of the Drug Administration of Vietnam. Decree No. 22/2010/ND-CP revised and amended Decree No. 188/2007/ND-CP to create a new unit on health environment management in the MOH. Ministry of Health Decision No. 1278/2010/QD-BYT on the functions, responsibilities, authority and structure of the Health environment management administration. Draft decree on administrative violations in examination and treatment and in preventive medicine, environmental health and HIV/AIDS control. 	<ul style="list-style-type: none"> Need to find a better collaboration/cooperation mechanism and information sharing mechanism within the MOH.
6.2.1 Consolidate organization of district and commune health systems	<ul style="list-style-type: none"> Strategy to strengthen collaboration between the district health bureaux, district health centre and district hospital to manage and direct the preventive and curative care networks. 	<ul style="list-style-type: none"> Government issued Decree No. 14/2008/ND-CP to replace Decree 172. Joint Circular No. 03/2008/TTLT-BYT-BNV guides functions, responsibilities, authority and structure of the Provincial health bureaux and the district health office directly under the Provincial and District People's Committees. 	

Recommendations from JAHR 2007-2009

Main issues	Expected results	Results achieved by mid 2010	Continued implementation
	<ul style="list-style-type: none"> Draft documents to institutionalize adjustments. 	<ul style="list-style-type: none"> Ministry of Health Decision No. 19/2008/QĐ-BYT issued working regulations of the Ministry of Health. 5 units under the MOH have met VN ISO 9001:2000 standards (Cabinet; Organization and Manpower department; Drug Administration of Vietnam; Food Safety Administration and Vietnam Administration for HIV/AIDS control) and the MOH is currently applying 70 standard work procedures. 	
6.3 Strengthen state management of medical and pharmaceutical practice in public and private sectors	<ul style="list-style-type: none"> Establish a mechanism and conditions for issuing practice licenses linked with quality monitoring. Quality management system established to monitor quality of services in both public and private sectors. Establish Medical councils. Attract private health facilities to participate in professional medical associations in each locality. 	<ul style="list-style-type: none"> The Law on Examination and Treatment calls for advisory councils under the MOH and provincial health bureaux. Conditions for issuing practice licenses are detailed in the law and draft implementing decree. 	

Recommendations from JAHR 2007-2009			
Main issues	Expected results	Results achieved by mid 2010	Continued implementation
6.4 Improve coordination and effectiveness of external assistance and cooperation	<ul style="list-style-type: none"> MOH and development partners collaborate to implement the Hanoi Core Statement on Aid Effectiveness and the Accra agenda for action to strengthen effectiveness of external assistance; jointly develop general agreement to increase aid effectiveness in the health sector. Strengthen HPG activities. MOH and development partners implement the JAHR annually. Donors commit to continuing financial support for the JAHR under the coordination of the Planning and Finance Department of the MOH. 	<ul style="list-style-type: none"> Donors have more closely collaborated with each other and with the MOH. The MOH maintains an aid coordination role in the health sector with support from external assistance. Significant progress achieved in implementing Statement of intent milestones, including draft study on TA harmonization and alignment. JAHR has been implemented annually from 2007 to 2010. Funds have been committed to continue the JAHR at least through the end of 2012. 	<ul style="list-style-type: none"> Need to develop mechanism to assess whether the HPG agenda is linked to priorities outlined in the JAHR. Need to develop and implement dedicated funding mechanism for the HPG. Need to complete milestones in Statement of Intent including "review of transparency, accuracy and timeliness of financial information provided by partners". Need to analyze recommendations for TA harmonization and alignment and develop next steps, in light of 5-year health plan. Need to carry out evaluation of SOI implementation and design "next steps" in light of Vietnam reaching MIC status, approval of 5-year health plan and completion of JANS.
6.4.1 Lack framework for coordination and management of external assistance in line with sectoral plans	<ul style="list-style-type: none"> MOH must develop a 5-year plan (2011-2015). The plan should include investment needs in the sector and budgetary gaps to serve as a basis for mobilizing external assistance. 	<ul style="list-style-type: none"> International Cooperation Department is requesting that international donors update the database on external assistance to the health sector, and this database will serve as an information source to assess whether the plans for use of external assistance are appropriate with the overall sectoral plan 2011-2015. Vietnam has joined IHP+ and embarked on a Joint Assessment of National Strategies (JANS) exercise to assess the 5-year health plan and build greater trust in the plan by development partners 	<ul style="list-style-type: none"> Partners need to complete necessary information in database, which will need to be analyzed. Finalise JANS and implement at provincial levels. Need to discuss framework for DP support to 5-year health plan (linked with discussion on new SOI).

Recommendations from JAHR 2007-2009

Main issues	Expected results	Results achieved by mid 2010	Continued implementation
6.4.2 <i>Inconsistencies and lack of uniformity of procedures, guidelines and regulations between the Government and donors; limited capacity for absorption of external assistance</i>	<ul style="list-style-type: none"> Improve health information systems related to external assistance to ensure that information is comprehensive, accurate, up-to-date and easily accessed. Collaborate with the Ministry of Planning & Investment and Ministry of Finance to implement simplification of administration procedures and project management processes. 	<ul style="list-style-type: none"> Ministries of Planning and Finance are revising Decree 131 to simplify management procedures. Monitoring framework for implementation and performance along with indicators and data gathering instruments were developed in the JAHR 2009 with assistance from EU. UN-EU local norms for development cooperation in Vietnam, 2009 version, issued on 03/06/2009. International Cooperation Department has developed a website including a section on HPG [http://hpg.icdmoh.gov.vn/] 	<ul style="list-style-type: none"> Develop and expand the HPG website further to include more detailed information on external assistance to the health sector.
6.5 Autonomization process lacks consistency due to a lack of concrete regulations and implementing guidelines	<ul style="list-style-type: none"> Amend and refine policies related to financial autonomy. 	<ul style="list-style-type: none"> Draft decree on reform of operational and financial mechanism in state health facilities provides more concrete guidance for implementing Decree 43 in the health sector. Conclusions of the Politburo endorsing the contents of the reforms produced in the draft decree on reforming operational and financial mechanisms in the health sector. 	<ul style="list-style-type: none"> Further revise the draft decree and pass it.

Recommendations from JAHR 2007-2009

Main issues	Expected results	Results achieved by mid 2010	Continued implementation
6.5.1 Mechanism for monitoring and minimizing abuses during implementation of autonomization is not effective or comprehensive enough.	<ul style="list-style-type: none"> Strengthen openness, transparency, accountability of finances in health facilities. Strengthen supervisory and checking role of government agencies over autonomous units. Implement studies and assessments on the impact (positive or negative) of the process of implementing financial autonomy in public hospitals. 	<ul style="list-style-type: none"> On an annual basis, all provincial health bureaux and units directly under the MOH report to the Ministry of Health. 	<ul style="list-style-type: none"> Link existing reporting indicators to administrative systems and health system goals. Need to synthesize reports from supervision and inspection visits of the MOH and other related parties.

Recommendations from JAHR 2007-2009

Main issues	Expected results	Results achieved by mid 2010	Continued implementation
6.6 Management organization and capacity of the health insurance system does not yet meet the need	<ul style="list-style-type: none"> Need strong and unified leadership and guidance of all levels of the Party and local authorities. Need coordinated participation of all related sectors. Unify the health insurance system into a single fund. Strengthen decentralization of provincial health insurance. Develop a central reserve fund. Health insurance system needs to be organized professionally. There is a need to establish a specialized agency in charge of health insurance. Staff of the health insurance system need basic training on health insurance management. Computerize in a unified manner, with integration between programs to manage hospital patients and programs to manage treatment costs by health insurance. 	<ul style="list-style-type: none"> There has been increased collaboration between local authorities and the Party at all levels: The Central Committee has issued Directive No. 38-CT/TW in 2009 on implementing the Health Insurance Law. Over 50 provinces have already issued plans for implementing the Law, implementing Directive 38. However, local implementation remains somewhat weak. Ministry of Health Decision No. 5205/2008/QĐ-BYT issuing cooperation mechanism for activities to implement the Health Insurance Law and policies. Some workers have received short-term health insurance training. There is a central health insurance reserve fund. Some health insurance software has been developed and improved (for printing of health insurance cards and for collating information on reimbursements for care services). 	<ul style="list-style-type: none"> Need a decree guiding organization of health insurance towards greater professionalization, separate from management of other social insurance funds. Need to establish additional professional agencies for implementing new health insurance tasks. Need to collect information on professional and managerial training of staff in the health insurance system. Need a unified, systematic software system that integrates between hospital patient management and health insurance reimbursements for services.

Appendix 2: Summary of problems and solutions

Chapter 1: Health status and determinants	
Priority issues	Long term goals (2015)
1. Rather large disparities in health status across regions, between living standards quintiles, as evidenced by several health indicators such as child mortality rate, child malnutrition rate and maternal mortality ratio.	<ul style="list-style-type: none"> Continue to prioritize and strengthen investments in developing the grassroots healthcare system, health services in mountainous, remote, isolated and disadvantaged areas. Continue to strengthen and implement effectively solutions to support health care for vulnerable target groups (the poor, near poor, children under age 6, the elderly, ethnic minorities and other social welfare beneficiaries).
2. Perinatal mortality remains rather high, accounting for 70% of all child deaths below 1 year of age and 50% of all child deaths below 5 years of age. Underweight malnutrition has declined rapidly, but stunting remains prevalent throughout all regions of the country.	<ul style="list-style-type: none"> Continue to strengthen investments in National Health Target Programmes for the period 2011-2015, especially programmes related to reproductive health, to strengthen implementation of interventions aimed at reducing maternal mortality, perinatal mortality and child malnutrition (especially stunting).
3. Morbidity and mortality patterns are changing, demand for health care is increasing over time. Several communicable diseases are at risk of re-emerging; the prevalence of chronic, non-communicable disease and injuries is increasing day by day; some new epidemics are developing in a complex manner making the evolution of the epidemic difficult to predict.	<ul style="list-style-type: none"> Develop and implement the Strategy on the Protection, Care and Promotion of the People's Health for the period 2011-2020 with a vision to 2030, the 5-year Health Sector Plan for 2011-2015 and the Master Plan for the healthcare network appropriate for the changing trends in morbidity over the next few years. Expand and improve effectiveness of non-communicable disease control interventions. Strengthen inter-sectoral and international collaboration to resolve problems of newly emerging diseases.
4. Risk factors negatively affecting health are on the increase, including environmental pollution, lack of food safety, labour accidents, traffic accidents, spread of disease from increasing international travel and exchange, climate change, lifestyles (smoking, drug addiction, alcohol abuse, unsafe sex), population dynamics.	<ul style="list-style-type: none"> Prioritize investments in health in general, especially related to preventive medicine and health promotion. Strengthen coordination of ministries and sectors involved in developing and implementing long-term environmental health and public health strategies.

Chapter 2: Preventive medicine and primary health care

Priority issues	Solutions		Goals by 2011
	Short-term (2011)	Long-term (2015)	
1. Awareness of the people and of government officials on protection and promotion of health remains weak	<ul style="list-style-type: none"> Strongly promote IEC; increase resources and diversify forms and contents of IEC in health. Regularly assess effectiveness of IEC for health and make appropriate adjustments. Develop a campaign for the whole population to participate in physical activity and exercise. 	<ul style="list-style-type: none"> Develop the network of health IEC centres towards greater professionalism. Provide professional training on health IEC and staffing norms in preventive medicine for more effective recruitment and use of IEC experts. Expand use of new communication channels like e-learning, internet television, etc. 	<ul style="list-style-type: none"> Evaluation reports on health IEC. Plans for collaboration and facilitating development of the campaign for the whole population to participate in physical activity and exercise.
2. Risk factors for health related to environment and lifestyle have not yet been controlled	<ul style="list-style-type: none"> Environment Develop and issue guiding documents for implementing the Law on Infectious Disease Control; Strengthen the system of surveillance and rapid response to halt communicable disease outbreaks in a timely manner; Strengthen coordination and sharing of information on disease surveillance between preventive medicine centres and curative care facilities. Recommend the Government determine clearly the responsibility of specific ministries and sectors in collaboration to implement various solutions: i) rural clean water supply and sanitation; ii) food safety; iii) accident and injury prevention; prevention of domestic violence; iv) labour environment; prevention and control of occupational disease and labour accidents; v) treatment of hazardous waste and waste that can cause harm to public health Resolve the problem of hazardous medical 	<ul style="list-style-type: none"> Evaluate impact of current policies, revise and develop appropriate policies for control of non-communicable disease; strengthen capacity for screening and early detection; allocate appropriate resources for implementation. Develop legal documents for implementing the Tobacco Control Law; allocate resources for implementation. Strengthen the health network in schools; implement programmes for control of diseases and health problems prevalent among school children. Study and develop programmes and plans to mitigate effects on health of climate change, natural disasters, accidents and injuries, environmental pollution. Study options for including 	<ul style="list-style-type: none"> Legal documents for implementing the Law on Infectious Disease Control. Proportion of households with clean water and sanitation increases. Incidence of dengue fever declines. System for reporting food poisoning cases operates effectively (number of cases reported increases). Ministry of Health has plan for surveillance of labour safety. Mortality rate from traffic accidents declines. Proportion of hospitals with hazardous medical waste treatment in place increases. Draft Law on Tobacco Control is submitted to the

Chapter 2: Preventive medicine and primary health care

Priority issues	Solutions		Goals by 2011
	Short-term (2011)	Long-term (2015)	
	waste. <ul style="list-style-type: none"> ▪ Lifestyle ▪ Refine the Draft Law on Tobacco Control to present to the Government and submit to the National Assembly in 2011; Implement effective methods for tobacco control and prevention of alcohol abuse. 	indicators on smoking prevalence and alcohol abuse into household surveys.	Government. <ul style="list-style-type: none"> ▪ Smoking prevalence declines. ▪ Interventions are implemented to reduce harm from alcohol abuse.
3. Preventive medicine organization and inter-sectoral coordination mechanisms are not meeting the potential to prevent disease and promote health	<ul style="list-style-type: none"> ▪ Develop a plan to strengthen capacity of provincial and district preventive medicine centres; Invest in development, strengthening of district health centres. ▪ Guide localities to allocate state budget for preventive medicine according to National Assembly Resolution No. 18/2008/QH12; Increase staffing norms for preventive medicine in the localities. ▪ Recommend to the people's committees of each level to strengthen direction, intersectoral collaboration in preventive medicine, primary health care activities in the locality. ▪ Develop national health target programmes for the period 2011-2020 to strengthen integrated primary health care, to respond to the morbidity patterns. ▪ Develop a vision and comprehensive plan, develop a health network at all levels for control of non-communicable disease. ▪ 	<ul style="list-style-type: none"> ▪ Strengthen public health, preventive medicine at the grassroots level. ▪ Implement new training programmes to retrain preventive medicine and public health staff. ▪ Develop and strengthen collaboration among the network of diagnostic testing laboratories. ▪ Invest in mobile units for epidemic control at all levels and develop a field epidemiology training programme. ▪ Upgrade research institutes, research staff in the preventive medicine system. ▪ Evaluate impact of national health target programmes and collaboration and integration mechanisms. ▪ Strengthen international cooperation in preventive medicine. Pay special attention to information sharing and verifying results of preventive medicine testing. 	<ul style="list-style-type: none"> ▪ Plans to strengthen human resources in preventive medicine centres. ▪ Staffing norms for preventive medicine centres are increased. ▪ The proportion of district health centres receiving investments has increased. ▪ National target programmes are developed and implemented for the period 2011-2015. ▪ Incidence and mortality from HIV decline. ▪ Incidence of tuberculosis declines. ▪

Chapter 3: Medical examination and treatment

Priority issues	Solutions		Goals by 2011
	Short-term (2011)	Long-term (2015)	
1. The capacity of the curative care network to provide services that satisfy the people's demands is limited	<ul style="list-style-type: none"> Study to develop mechanisms for monitoring and overcoming problems in access to quality health services for the poor and ethnic minority people. Develop a mechanism for assessing responsiveness to need (level of satisfaction) of patients at the grassroots level and in hospitals at all levels. The Ministry of Health should develop guiding documents for implementing health care for the elderly according to the Law on the Elderly (2009). Develop decrees and circulars for implementing regulations related to health care, rehabilitation according to the Law on People with Disabilities. Monitor implementation of circulars guiding reception, health care provision, statistics, reporting for patients who are victims of domestic violence in curative care facilities. Develop legal documents to promote development of traditional medicine. 	<ul style="list-style-type: none"> Research the role of rehabilitation hospitals, mental disease hospitals, traditional medicine hospitals in responding to the diverse needs of the people, accident and injury victims, people with disabilities, and the elderly, etc. Research to develop curative care in line with diverse health care needs and socio-economic conditions of the people and the human resource and management capacity in the health sector of each region. Study to develop models for management of chronic disease patients, elderly patients that involves continuity of care and information sharing across levels of care to ensure effectiveness of care. Strengthen the ability to screen, manage patients at the grassroots level, in the private sector in the multi-level curative care network. Strengthen the emergency care network. 	<ul style="list-style-type: none"> Decrees and circulars guiding implementation of health care and rehabilitation according to the Law on the Elderly and the Law on People with Disabilities. Surveillance report on implementation of circulars related to health care for victims of domestic violence.
2. The quality and efficiency of the curative care service network is still limited	<ul style="list-style-type: none"> Continue to mobilize investment capital for basic capital investments and prioritize allocation of the state budget for recurrent spending at the commune level. Develop programmes for hospital infection control; develop regulations; improve infrastructure, equipment for sterilizing and disinfecting according to standards; ensure state budget adequate to cover costs of programme 	<ul style="list-style-type: none"> Develop policies/strategies for comprehensive quality management to serve as a basis to make action plans and develop sectoral standards. Create a mechanism and provide funding, human resources so development and use of sectoral standards becomes a regular activity 	<ul style="list-style-type: none"> Proportion of communes meeting new benchmark standards increases. Programmes for hospital infection control. Revised regulations on types of medical services provided at different technical levels of the

Chapter 3: Medical examination and treatment

Priority issues	Solutions		Goals by 2011
	Short-term (2011)	Long-term (2015)	
	<p>implementation; provide professional training; develop surveillance systems.</p> <ul style="list-style-type: none"> Organize decentralized service provision, by technical level of the facility combined with priority on development of and support for an appropriate referral system starting with the health insurance system. Develop legal documents to implement the Law on Examination and Treatment related to: a) Implementing articles 50 and 51 on quality accreditation of curative care facilities; b) monitoring and dealing with medical error; c) standards for issuing medical practice licenses. Develop guiding documents for technical protocols in traditional medicine and combining traditional and modern medicine. Issue treatment protocols using traditional medicine techniques. 	<p>in the health sector. Add a unit directly under the Medical Services Administration to direct development of standards. Strengthen the quality management role of professional associations.</p> <ul style="list-style-type: none"> Implement effectively existing regulations on nutrition departments in the hospital system, study different forms and skills needed by health workers to implement comprehensive patient care. Improve and strengthen the role of professional committees in hospitals. 	<p>system; referral mechanism is consolidated.</p> <ul style="list-style-type: none"> Decrees and circulars needed for implementing the Law on Examination and Treatment are issued. Average length of stays declines. Proportion of hospitals implementing the reporting of adverse drug events increases.
3. Hospital financing and management mechanisms are still problematic	<ul style="list-style-type: none"> Conduct comprehensive assessment of public hospital performance; develop project and roadmap for a comprehensive reform of the regulatory mechanism in public hospitals. Reform policies on user fees. Study effects of user fee mechanism, provide state budget and rules for health insurance auditing related to curative care service provision; adjust user fees to encourage cost-effective provision of services; ensure that health facilities have adequate funds for effective performance. Promote strongly the application of information technology for hospital management. 	<ul style="list-style-type: none"> Standardize laboratories while issuing regulations on mutual recognition of lab test results within the lab test network. Develop standards (necessary and sufficient conditions) for health facility managers to ensure that managers have the competencies and capacity to manage effectively. Train to build capacity for specialized management. 	<ul style="list-style-type: none"> Decree on public hospital operating mechanism. Scientific basis on reform methods for hospital user fees. Bed occupancy ratio declines below 100%. Regulations on use of information technology in hospitals are studied and developed.

Chapter 4: Population, family planning and reproductive health services

Priority issues	Solutions		Goals by 2011
	Short-term (2011)	Long-term (2015)	
1. Possibility of increasing fertility in many localities	<ul style="list-style-type: none"> Review and make recommendations for revisions, amendments to legal documents aimed at maintaining the small family norm. Pay attention to IEC, legal education; strengthen monitoring of policy implementation in population and family planning. 	<ul style="list-style-type: none"> Develop guiding documents for implementing legal regulations and policies on population and family planning. 	<ul style="list-style-type: none"> Legal documents related to fertility are issued. TFR = 2.0.
2. Increasing imbalance in sex ratio at birth	<ul style="list-style-type: none"> Undertake research to identify clearly the nature and causes of the rising sex ratio at birth. Strengthen education and improve awareness of gender and gender equality, eliminate the mindset of "respect men, disrespect women". Tightly control use of methods, techniques that can be used for foetal sex selection. Strictly prohibit foetal sex selection. 	<ul style="list-style-type: none"> Develop policies to improve welfare appropriate for each region, social protection for the elderly and families with daughters and no sons. Integrate gender indicators into sectoral management. 	<ul style="list-style-type: none"> Mechanism for surveillance of methods used for foetal sex selection.
3. Limited quality of family planning and reproductive health services	<ul style="list-style-type: none"> Strengthen capacity (technical protocols, infrastructure) of the network providing reproductive health and family planning services. Integrate family planning and reproductive health services. Develop models and methods for providing special services for family planning and reproductive health care for people in remote, hard-to-access areas in a friendly, patient-centred manner. Mobilize the participation of the private sector, sectors and non-governmental organizations and other individuals to participate in service provision. 	<ul style="list-style-type: none"> Monitor and evaluate implementation of technical/professional regulations on family planning. Supplement the workforce, improve professional competencies for providing family planning services. Complete the management information system for logistics in obtaining contraceptive methods. 	<ul style="list-style-type: none"> Models for providing family planning services in disadvantaged regions. Technical protocols for family planning are revised and updated. Contraceptive prevalence rate increases to 80.8%. Proportion of couples using modern methods reaches 69.0%.

Chapter 4: Population, family planning and reproductive health services

Priority issues	Solutions		Goals by 2011
	Short-term (2011)	Long-term (2015)	
4. Disparities in the health status of mothers between delta/urban areas and mountainous/ethnic minority areas	<ul style="list-style-type: none"> Develop, amend, review, update legal and policy documents, professional technical standards related to reproductive health. Consolidate the routine reporting system, monitoring, evaluation related to current indicators on maternal health. Strengthen the commune and village delivery assistance network. Update knowledge on maternal health care following the 2010 National Guidelines on reproductive health care services. Strengthen IEC on care of mothers and newborns. 	<ul style="list-style-type: none"> Formalize programmes for training and refining remuneration and other policies for village birth attendants. Expand the community referral model in disadvantaged regions. Refine mechanisms for monitoring maternal mortality and apply a system to identify specific cause of death. Complete the proposal for the obstetrics and paediatrics network development master plan. Expand counselling, immunization, screening for women before and during pregnancy 	<ul style="list-style-type: none"> Proportion of obstetrics staff trained following the 2010 National Guidelines raised. MMR < 70/100 000 live births. 95-97% of commune health stations have midwife or obstetrics-paediatrics assistant doctors.
5. Shortcomings remain in child health care, saving newborn lives, and geographic and economic disparities remain in child health status	<ul style="list-style-type: none"> Survey the situation of the paediatrics health care network; investigate perinatal mortality in 2010-2011 and develop methods for collecting routine statistics on perinatal mortality. Develop National guidelines for health care of children from 1 month to 5 years of age; update the contents and protocols in the Integrated Management of Child Illness (IMCI), on paediatric emergencies and referrals, on home health care; train health workers and families to implement the guidelines. Develop and implement the national action plan on IEC for nutrition and care of mothers and children appropriate with the conditions and culture of each region. 	<ul style="list-style-type: none"> Strengthen the perinatal care network from the central to the commune level. Set up neonatal departments in provincial hospitals and neonatal units in district hospitals. Invest in the system and technical protocols for care, emergency care, screening of newborns and the physical infrastructure appropriate with the technical division of responsibility across levels. Develop human resources for care of children and newborns (doctors, midwives, nurses). Consolidate the routine reporting system, monitoring, evaluation related to existing child health indicators. Survey perinatal mortality in 2015. 	<ul style="list-style-type: none"> Obtain a regular source of information on perinatal mortality. National guidelines on child care from ages 1 month to 5 years. Indicators on nutrition are improved, disparities across regions and living standards are reduced. IMR in 2015 reaches 14‰ or lower.
6. High prevalence of	Strengthen monitoring and inspections of abortion	Strengthen quality of abortion services.	Report on the situation

Chapter 4: Population, family planning and reproductive health services

Priority issues	Solutions		Goals by 2011
	Short-term (2011)	Long-term (2015)	
abortions and unsafe abortions	services (especially in the private sector). Strengthen capacity for safe abortion: a) Update knowledge on safe abortion according to the 2010 National Guidelines; b) provide equipment, drugs, etc. to provide safe abortion services and contraceptive methods after abortion to avoid recurrence.	IEC and BCC on the possible negative consequences of abortion. Develop, amend, update technical protocols on abortion.	of strengthening quality of abortion services. Ratio of abortions to live births falls to 27/100 live births.
7. Prevalence of reproductive tract infection and sexually transmitted infection.	Organize the network and strengthen capacity (training, human resources), develop guidelines, invest in medical equipment, IEC, counselling for patients for early detection and treatment of reproductive tract infections and cancers. Train staff, provide equipment to expand the network of fertility assistance services in all provinces.	Expand routine exams to detect sexually transmitted and reproductive tract infections. Integrate reproductive health services, detection and treatment of sexually transmitted infections and HIV/AIDS. Ensure the district level is able to organize reproductive tract screening (train staff, supply materials, equipment). Survey the situation of reproductive tract and sexually transmitted infections and cancers, infertility in 2015.	Increase by 10% the number of women getting gynaecological exams. Reduce by 5-8% the number of people needing treatment for gynaecological disease. Increase the proportion of people diagnosed early among people diagnosed with reproductive tract cancers.
8. Inadequate reproductive health care for youth, adolescents and the elderly	Conduct IEC on reproductive health, sexual health for youth and the elderly. Implement widely reproductive health services for the elderly, men, and treat disorders related to menopause and male menopause. Satisfy more effectively the reproductive health needs of specific groups (people living with disabilities, migrants, in disaster areas), through appropriate forms of service provision.	Strengthen counselling integrated with service provision in adolescent friendly and elderly friendly reproductive health services. Expand so that all reproductive health care facilities have an adolescent friendly corner for reproductive health services.	Plans for IEC on reproductive health for youth, the elderly, men. 10% of facilities providing reproductive health services provide services to the elderly.

Chapter 5: Human resources for health

Priority issues	Solutions		Goals by 2011
	Short-term (2011)	Long-term (2015)	
1. Shortage and imbalance in health human resources	<ul style="list-style-type: none"> Amend and refine policies for effective implementation of Project 1816. Continue to implement the project on training to develop health workforce among local people through direct recruitment and contracting arrangements, upgrade training of assistant doctors to doctors through concentrated 4 year training, train village health workers, with priority on disadvantaged, remote and isolated areas. Refine the draft Decree to revise the special occupation salary supplement to increase remuneration of health workers in less attractive sub-specialties that have trouble attracting and recruiting staff. Review services, working conditions of commune level. Improve working conditions through upgrading infrastructure, providing adequate budget for activities of the commune health station and preventive medicine centres. 	<ul style="list-style-type: none"> Study to develop policies on mandatory civilian medical service, and policies to improve incentives, living conditions, working conditions, opportunities for promotions for health workers working in mountainous, remote, isolated regions and lower level facilities. Reform training programmes, increase content related to diagnosis and treatment of diseases that are prevalent in rural areas, in mountainous regions; arrange opportunities for practice in rural areas; ensure conditions so rural health workers can improve their capacity, update their knowledge. For special regions (mountains, ethnic minority areas), reconsider the need for using different skill mix of health workers; pilot a model of providing health services that does not require a doctor at the commune level and ensure effective preparation for patient referrals when needed. Continue to provide specialized post-graduate training, and training of especially gifted practitioners. 	<ul style="list-style-type: none"> Supplement, amend policies to continue to implement Project 1816. Report studying commune health station activities. Decree revising the special occupational allowance is issued Increase number of doctors and number of university-trained pharmacists per 10 000 population. Proportion of staff at public health facilities with university or higher level of training increases.

Chapter 5: Human resources for health

Priority issues	Solutions		Goals by 2011
	Short-term (2011)	Long-term (2015)	
2. Limited quality assurance of human resources	<ul style="list-style-type: none"> ▪ Implement the roadmap for implementing existing quality accreditation regulations on training. ▪ Support upgrading physical infrastructure. Strengthen capacity of instructors at medical universities, and doctors in hospitals where medical students practice. ▪ Actively support students from disadvantaged regions and ethnic minority students. ▪ Develop standards on competencies needed to serve as the basis for reforming the training curricula, and verify skill levels when issuing medical practice licenses according to the Law on Examination and Treatment. ▪ Begin to develop and approve continuous medical education programmes to update knowledge (short-term) for clinical and managerial staff. ▪ Develop a mechanism to ensure clinicians comply with the regulations in the Law on Examination and Treatment on continuous medical education. 	<ul style="list-style-type: none"> ▪ Implement quality accreditation of continuous medical education at medical training institutions. ▪ Expand training programmes to create opportunities for practice, especially in rural and mountainous areas. ▪ Assess the retention of competencies through assessments and surveillance after graduation from medical schools. ▪ Reform training curricula for long-term training appropriate with new training methods, with requirements and conditions in medical facilities, especially in rural areas and appropriate with regulations for issuing medical practice licenses. ▪ Improve training of medical technologists and imaging technicians in appropriate use of medical equipment. ▪ Increase funds for retraining in the preventive medicine system, grassroots level, ensuring substitute practitioners are available to cover when staff are away for training. 	<ul style="list-style-type: none"> ▪ Opportunities for practice during training are expanded. ▪ Develop standards for outputs of training institutions appropriate for issuing medical practice licenses according to the Law on Examination and Treatment. ▪ Training programme for continuous medical education is developed ▪ Mechanism is developed to ensure health workers comply with continuous medical education requirements.
3. Inadequately effective health human resource management	<ul style="list-style-type: none"> ▪ Assess the number and skill mix of health workers needed to provide effective health services at each level. ▪ Complete the master plan for health human resources development in Vietnam. ▪ Adjust regulations to allow health 	<ul style="list-style-type: none"> ▪ Improve the information system related to health workers through issuing and managing practice licenses, continuous medical education, monitoring of medical error in both public and private sectors. ▪ Develop concrete plans to resolve 	<ul style="list-style-type: none"> ▪ Number of doctors with practice licenses increases. ▪ Plans for using health workers is based on requirements, activities, and gradually resolves imbalances in human

Chapter 5: Human resources for health

Priority issues	Solutions		Goals by 2011
	Short-term (2011)	Long-term (2015)	
	<p>facilities and provincial health bureaux reallocate human resources to regions where they are needed.</p> <ul style="list-style-type: none"> ▪ Research the issue of increasing the number of nurses and other support staff to improve effectiveness of doctor's work in health facilities. ▪ Compile and disseminate experience on developing job descriptions and performance appraisal used in selected health agencies in Ho Chi Minh City and An Giang province. ▪ Make an assessment in order to recommend reforms to improve effectiveness of methods for clinical supervision (patient record auditing, drug and therapy committee, joint consultation, etc.). ▪ Develop and implement training curricula to strengthen management capacity in the health sector, especially in hospitals. 	<p>problems of imbalance in human resources for facilities in the scope of the human resource development master plan.</p> <ul style="list-style-type: none"> ▪ Develop and implement a roadmap for implementing a system of improving work performance of health workers. ▪ Implement performance appraisals and payment of salary according to productivity and performance. ▪ Organize short-term and long-term training programmes, for management staff to improve their skills and qualifications for management. 	<p>resources for health.</p> <ul style="list-style-type: none"> ▪ Average ratio of nurses, technicians, midwives per doctor in public hospitals increases (norm is 3 to 3.5). ▪ Organize an assessment and dissemination of experience of facilities in Ho Chi Minh City and An Giang on job descriptions and performance appraisal. ▪ Report assessing methods for clinical supervision applied in medical facilities. ▪ Training courses to update knowledge and capacity for health sector management, especially in hospitals. ▪

Chapter 6: Health information systems

Priority issues	Solutions		Goals by 2011
	Short-term (2011)	Long-term (2015)	
1. Policies on health information systems are inadequate	<ul style="list-style-type: none"> ▪ Develop a plan for development of the health information system to 2015 and a vision to the year 2020. ▪ Strengthen collaboration and information sharing within the health sector and with other relevant sectors. ▪ Develop a system of concepts, estimation methods, information gathering methods to serve the national statistical indicator system (43/2010/QD-TTG). ▪ Provide Regulations on information and reporting of private health facilities. 	<ul style="list-style-type: none"> ▪ Strengthen legal basis and techniques for gathering and compiling reports from the private sector facilities. 	<ul style="list-style-type: none"> ▪ Strategy for development of the health information system is developed. ▪ Regulations on collaboration, allocation of responsibility for data collection and information sharing are developed. ▪ Regulations for cooperation, reporting and sharing information between health and other sectors is developed. ▪ Reference materials completed explaining standardized concepts, methods, forms of data collection for the national statistical indicator system. ▪ Proportion of national statistical indicators that have a regular information source increases.
2. Ability to meet needs for use of data is limited	<ul style="list-style-type: none"> ▪ Strengthen capacity for collection, processing and compiling of reports. ▪ Strengthen monitoring and evaluation of data quality. ▪ Promote application of information technology in processing, management and transmission of health information. ▪ Implement a pharmaceutical survey according to recommendations of WHO. 	<ul style="list-style-type: none"> ▪ Consolidate and strengthen the registers for non-communicable diseases. ▪ Strengthen the monitoring system on cause of death in the community. ▪ Issue regulations for regular implementation of surveys to collect information on some areas including: pharmaceuticals; medical equipment; curative care; reproductive health care; control of non-communicable diseases. ▪ Implement the second National Health Survey. 	<ul style="list-style-type: none"> ▪ System of forms and data collection instruments is developed and issued; training is organized. ▪ Instruments for monitoring and evaluation are developed and applied. ▪ Proportion of relevant statistical indicators disaggregated by gender in the health statistics yearbook increases. ▪ Existing software is gradually refined and upgraded; System of facility codes, practitioner codes, procedure codes, is developed.

Chapter 6: Health information systems

Priority issues	Solutions		Goals by 2011
	Short-term (2011)	Long-term (2015)	
			<ul style="list-style-type: none"> ▪ Report assessing the feasibility of implementing the second National Health Survey is written.
3. Analysis and use of statistical data remain weak	<ul style="list-style-type: none"> ▪ Strengthen data dissemination. 	<ul style="list-style-type: none"> ▪ Strengthen capacity for analysis and use of data ▪ Develop databases at the central, provincial and district levels. 	<ul style="list-style-type: none"> ▪ Number of tables and statistical products disseminated through the MOH website or CHITI website increases. ▪ The Health Statistics Yearbook is disseminated before July of the following year to serve planning needs. ▪ Regulations on information dissemination in the health sector are drafted.

Chapter 7: Drugs, vaccines, blood and other biologics

Priority issues	Solutions		Goals by 2011
	Short-term (2011)	Long-term (2015)	
1. Drug prices remain high despite greater control over drug price rises	<ul style="list-style-type: none"> Research and develop a policy for development of generic drugs; Regulate that procurement and competitive bidding for drugs must be done using the generic name (active ingredient); develop domestic production of generic drugs to meet needs according to burden of disease. Apply the method of international and national reference price comparisons; monitor and make public retail price and procurement price, control of drug price mark-ups by government agency.. Ensure procurement systems are transparent, and conflicts of interest made known. Disseminate information on drug prices to the people, make transparent the mark-ups of various intermediaries in retail drug sales. Revise Decree No. 45/2005/ND-CP on administration violations and penalties in the area of pharmaceuticals. 	<ul style="list-style-type: none"> Strongly promote computerization and health insurance auditing aimed at more effectively controlling hospital prescriptions. Implement widely case-mix and capitation payments. 	<ul style="list-style-type: none"> Ministry of Health has a generic drug policy. Strategy for encouraging domestic drug production is produced. Policy on drug prices is revised. Medical service and drug price index grows more slowly than the general CPI.
2. Quality of drugs and drug ingredients are not yet adequately controlled	<ul style="list-style-type: none"> Ensure unified implementation of GMP-WHO in drug manufacturing; refine the master plan for GPP distribution system and submit it to the Prime Minister for approval. Continue to require and check that drugs procured through competitive bidding or sold in retail outlets meet GMP standards. Study to establish an intersectoral committee to control counterfeit and sub-standard drugs. Develop and organize implementation of a plan for pre and post verification and 	<ul style="list-style-type: none"> Improve quality of domestically produced drugs. Strengthen capacity and role of the system of drug quality control (infrastructure, training). Assess and adjust policies on clinical testing of drugs. Ensure an adequate inspection workforce to implement inspections, ensuring compliance with regulations. 	<ul style="list-style-type: none"> Proportion of drug manufacturing facilities reaching GMP-WHO reaches 100%. Master Plan for drug distribution is issued Plan prepared for pre and post-verification and inspections in the pharmaceutical field Project in place to improve capacity of the quality control

Chapter 7: Drugs, vaccines, blood and other biologics

Priority issues	Solutions		Goals by 2011
	Short-term (2011)	Long-term (2015)	
	<ul style="list-style-type: none"> inspections for drug management. Develop and submit to the Prime Minister for approval a proposal for strengthening capacity of the system of quality control (pharmaceutical testing) at all levels. Standardize traditional medicine pharmaceutical products. 		<ul style="list-style-type: none"> system. Counterfeit and substandard drug share (of sample taken according to regulations) falls. Proportion of pharmacies meeting GPP standards increases.
3. Use of drugs is not yet entirely safe and rational	<ul style="list-style-type: none"> Review and revise the essential drug policy and the drug list reimbursed by health insurance based on treatment guidelines and cost-effectiveness criteria. Study and develop a model for antibiotic use controls. Develop a national system of monitoring of antibiotic use and the problem of antibiotic resistance; set up quality micro-biology labs in all hospitals to aid in choice of antibiotics based on statistics about antibiotic resistance. Assess and adjust the IEC programme on safe and rational use of drugs to make it more effective. Implement the prescription policy stringently for retail drug sales. 	<ul style="list-style-type: none"> Support work of the Drug and Therapy Committee in hospitals. Develop databases to serve checking of drug interactions, side effects, contraindications and appropriate dosing. Develop information systems to control unsafe and irrational drug prescriptions in order to detect practitioners who need retraining, or adjustments in their prescribing practices. Develop a drug consumer protection association. 	<ul style="list-style-type: none"> Essential drug list is revised. Monitoring system for essential drug availability is functioning at all levels of facilities. Model for ensuring safe and rational use of antibiotics is developed. Prescribing practices are controlled. IEC on safe and rational use of drugs is adjusted Self-medication spending falls as a share of total drug sales.
4. Expansion of use of new vaccines and ensuring sustainability of vaccine supply is facing many challenges	<ul style="list-style-type: none"> Strengthen information and ability to forecast vaccine needs. Report and archive information at the Drug Administration of Vietnam on quality of each lot of vaccines and share information on quality to support vaccine procurement Develop a roadmap for implementing GMP for vaccines. Disseminate information to the people on vaccines, especially vaccines in the 	<ul style="list-style-type: none"> Increase the share of vaccines domestically produced to increase responsiveness in vaccine supply and to be able to react quickly when problems arise. Ensure good practice in clinical testing of vaccines. Study cost-effectiveness of introducing tetanus vaccines for adults. 	<ul style="list-style-type: none"> Immunization rate for children under 1 year of age increases.

Chapter 7: Drugs, vaccines, blood and other biologics

Priority issues	Solutions		Goals by 2011
	Short-term (2011)	Long-term (2015)	
	<p>expanded programme on immunization.</p> <ul style="list-style-type: none"> Undertake tight surveillance to avoid any adverse events caused by non-compliance with the procedures on distribution, storage and injections. 	<ul style="list-style-type: none"> Develop a system for licensing units to provide immunization services, require better training of medical personnel providing vaccinations. 	
5. Amount of safe blood is inadequate	<ul style="list-style-type: none"> Strengthen recruitment of voluntary blood donors; reorganize the way blood donors are recruited; provide state budget funds to regularly mobilize people to donate blood. Complete and issue the 2010 Blood transfusion regulations, train and provide technical support for implementation. Implement strictly the quality improvement programmes in the National Blood Programme 2011-2010; ensure improved quality is the main content of the National Blood Safety Programme for the next 5 to 10 years. 	<ul style="list-style-type: none"> Strengthen the Red Cross Society and professionalize the recruitment of blood donors. Issue good practice standards for production of blood components and whole blood including training and technical support. Drug Administration of Vietnam review dossiers and present them to the Minister of Health for approval to issue licenses for facilities meeting conditions for processing blood products and issue registration numbers for blood products used in curative care facilities. Set up an inspection system for blood transfusion centres. Ensure that all blood transfusion centres recruit staff to work full time on quality management. Encourage documented internal controls in blood centres. 	<ul style="list-style-type: none"> Proportion of blood and blood products from voluntary unpaid donors increases to 100% Mechanisms for control and management of blood quality are in place.

Chapter 8: Medical equipment and technology

Priority issues	Solutions		Goals by 2011
	Short-term (2011)	Long-term (2015)	
1. Investment efficiency in medical equipment remains limited	<ul style="list-style-type: none"> Assess the situation of medical equipment and devices; develop mechanisms and solutions to control social mobilization in medical equipment. Review, update, develop and issue essential medical equipment and device lists. Issue regulations related to ensuring medical infrastructure and appropriate environment for operating medical equipment effectively and safely, without waste and to extend life of the equipment. 	<ul style="list-style-type: none"> Develop a database of all medical equipment in medical facilities at all levels. Issue a decision to set up and implement health technology assessment (HTA), set up a unit specializing in HTA and with clear plans for implementation. Develop and supplement a mechanism and solutions for improving skills of staff operating and prescribing use of medical equipment. Amend, revise or issue new standards for design and construction of medical facilities, especially the commune health station, hospitals and preventive medicine centres at all levels appropriate for each region. 	<ul style="list-style-type: none"> Issue a list of essential medical equipment for different types and levels of health facility. Issue new or amend regulations related to ensuring infrastructure is appropriate for efficient operation of medical equipment.
2. Domestic production of medical equipment remains weak	<ul style="list-style-type: none"> Assess the situation of domestic medical equipment production; find appropriate solutions for strengthening domestic medical equipment quality and gaining trust of consumers. Collaborate with the National Directorate for Standards, Metrology and Quality to develop standards for medical equipment manufacture. 	<ul style="list-style-type: none"> Create a mechanism and solution for developing joint ventures and large enterprises to produce medical equipment and consumables for which there is high demand, including some high tech equipment. Collaborate with other ministries to develop an environment and policies to attract medical equipment manufacturers. 	<ul style="list-style-type: none"> Medical equipment manufacturing standards developed and issued.
3. Quality assurance for medical equipment remains limited	<ul style="list-style-type: none"> Assess the situation of servicing, maintenance and repairs of medical equipment in all health facilities. Government and Ministry of Health create a mechanisms for funding servicing, maintenance and repairs of medical equipment from user fee revenues; allow accumulation of capital through a depreciation fund for re-investment in medical equipment. 	<ul style="list-style-type: none"> Ministry of Health develops a mechanism and solutions to establish a medical equipment technology centre, centre for servicing and maintenance of medical equipment at the province level to serve all local facilities. Strengthen human resources and professional equipment for calibration and testing, develop regional centres for calibration. Standardize quality of testing across facilities. 	<ul style="list-style-type: none"> Report assessing medical equipment servicing, maintenance and repairs completed. Proportion of hospitals spending 5% or more of recurrent budget on maintenance and repairs of medical equipment increases.

Chapter 9: Health financing

Priority issues	Solutions		Goals by 2011
	Short-term (2011)	Long-term (2015)	
1. Public share of health spending is low	<ul style="list-style-type: none"> Implement the Medium Term Expenditure Framework (MTEF) effectively in the health sector, especially in the provinces. Maintain the share of state budget spent on health care at 10% in 2011 and the following years to ensure implementation of projects already approved by the Prime Minister and investments in the Master Plan for Development of the Health Sector. Ensure adequate state budget funds for implementing policies on salary, special occupational salary supplements for people working in disadvantaged regions, at the grassroots level in preventive medicine and in other specialized sub-fields. 	<ul style="list-style-type: none"> Increase state budget for implementing and expanding the scope of national health target programmes (for control of social diseases, epidemics and HIV/AIDS; food safety; clean water and sanitation; population and family planning). Set up a mechanism to ensure a minimum level of health spending and that the share of state budget spending allocated to preventive medicine is appropriate with need and adequate to achieve sectoral goals. Study solutions and a roadmap for gradually reducing the share of total health spending that comes from household out-of-pocket spending and increase the share that flows through prepayment mechanisms (health insurance). 	<ul style="list-style-type: none"> Medium Term Expenditure Framework for the health sector is used and includes measures to ensure state budget spending for basic capital investments according to master plan, implementation and expanding national health target programmes and salary reforms. Share of state budget spent on health is maintained at 10%. Public spending (state budget, health insurance and external assistance) as a share of total health spending increases over time.
2. Effectiveness in allocation and use of health financing resources remains limited	<ul style="list-style-type: none"> Develop a roadmap for applying new provider payment mechanisms including capitation and case-mix. Research to refine the capitation mechanism applied to curative care. Strengthen the reporting system and analysis of state budget reconciliation reports for the health sector in order to have accurate information for financial planning in the health sector. Set up a sectoral reporting system on state budget spending for health. 	<ul style="list-style-type: none"> The Ministry of Health develops guidelines for performance based state budget allocation in both preventive and curative care. Bring into full play the role of the contracting mechanism for health service provider payments. Estimate costs for curative and preventive care to have a basis to estimate cost-effectiveness, and for estimation of the resources needed to serve as a basis for state budget allocation. 	<ul style="list-style-type: none"> Share of state health budget spent on preventive medicine increases. Share of state budget spent at the district and commune level increases. Projects for piloting capitation and DRG payments to providers in place. Set of indicators and state budget reconciliation report is widely disseminated.

Chapter 9: Health financing

Priority issues	Solutions		Goals by 2011
	Short-term (2011)	Long-term (2015)	
		<ul style="list-style-type: none"> Set up a mechanism for monitoring and evaluating efficiency and equity in allocation and use of state health budget spending. 	
3. Health insurance coverage is insufficient	<ul style="list-style-type: none"> Recommend to the Government to put the goal of universal health insurance coverage into the priority national goals in the Five-year Socio-economic Development plan. Authorize the Vietnam Social Security Agency to monitor, check and fine people who do not comply with compulsory health insurance. Assess impact of the policy to subsidize the health insurance contributions of the near poor. 	<ul style="list-style-type: none"> Professionalize and strengthen quality of health insurance service provision through training to strengthen capacity of health insurance staff. Management of health insurance requires computerization, integration of programs for patient management at hospitals with programs for management of treatment costs to be reimbursed by health insurance. Expand health insurance into the informal employment sector, with support from the state budget and the strong role of the community. 	<ul style="list-style-type: none"> Health insurance coverage continues to increase in terms of number of people covered and total health spending reimbursed through the health insurance mechanism. The proportion of people living in households that face catastrophic health spending falls over time.
4. Control of medical costs is proving difficult	<ul style="list-style-type: none"> The Ministry of Health evaluates implementation of investment projects in public facilities involving funds contributed from the private sector to make recommendations for adjustments in policies to be more appropriate. Set up a mechanism for regular and effective surveillance of drug and medical service prices, reduce to a minimum <i>overprovision</i> of medical services, especially of high tech services, and services receiving capital from social mobilization. Make more transparent the behaviour of doctors and health care facilities in drug prescriptions, prescriptions for lab tests and imaging services. 	<ul style="list-style-type: none"> The Ministry of Health directs the development of standard treatment guidelines for common medical conditions, to create conditions for implementing case-mix payments. Develop and implement regulations on transparency and standardization of cost estimation and price setting in the health sector. Develop a health technology assessment programme that takes into account cost-effectiveness of investments in medical technology. 	<ul style="list-style-type: none"> Report monitoring investment projects in state health care facilities. Drug share of total health spending declines. Household out-of-pocket spending per outpatient visit (in constant prices) remains stable. Out-of-pocket spending per inpatient admission (in constant prices) remains stable.

Chapter 10: Health sector governance

Priority issues	Solutions		Goals by 2011
	Short-term (2011)	Long-term (2015)	
1. Strategy and policy-making capacity remain limited	<ul style="list-style-type: none"> Invest more in evaluation, especially new factors that affect the health system. Implement stringently Regulatory Impact Assessment (RIA) in policymaking. Strengthen participation of stakeholders, research institutes and centres, advisors in developing policies and strategies. Strengthen dialogue, policy advocacy with National Assembly and other ministries related to health policies. Train to build capacity for writing policy briefs, implementing RIA, strengthening evidence-based policy-making. 	<ul style="list-style-type: none"> Undertake research and develop a comprehensive project to reform governance of the health sector in line with demands for state management reform and public administrative reform. Implement training on skills for using evidence from systematic reviews. 	<ul style="list-style-type: none"> The policy-making process is reviewed and revised: a) collect ideas from stakeholders, experts, research institutes during policymaking; b) make plans for dialogue, communication, building consensus for policymaking and implementation. Draft laws in the law making programme and policy-making by the MOH involves RIA. Training courses are organized on: a) building capacity to access, use international and domestic evidence; b) method of implementing RIA; c) knowledge on writing policy briefs.
2. Capacity for monitoring and evaluation remains inadequate	<ul style="list-style-type: none"> Increase the number of staff and financial resources, build capacity for monitoring and evaluation among state health management agencies at the central and local levels Select priority areas for monitoring and evaluation. Amend and refine professional standards and evaluation indicators to serve as a basis for monitoring and evaluation. Develop mechanisms, management policies, tight supervision to prevent overprovision of technical health services and drugs. 	<ul style="list-style-type: none"> Strengthen participation of social organizations, including professional associations, in monitoring and evaluation of health system activities Develop and issue a monitoring and supervision reporting system. 	<ul style="list-style-type: none"> Obtain agreement of the Ministry of Home Affairs and other relevant agencies on increasing permanent government staff to implement monitoring and evaluation. A policy of transferring authority for implementing monitoring and evaluation to some professional associations is discussed among stakeholders. Establish a committee for developing Standard Treatment guidelines with professional sub-committees and a secretariat that has adequate capacity to develop standard, evidence-based treatment guidelines. Standard treatment guidelines for

Chapter 10: Health sector governance

Priority issues	Solutions		Goals by 2011
	Short-term (2011)	Long-term (2015)	
			<p>common diseases are developed</p> <ul style="list-style-type: none"> Agreement on contents of the framework for the monitoring and evaluation reports in certain priority areas.
3. Organizational structure of the health system has some inappropriate points	<ul style="list-style-type: none"> Consider transferring some units under the Ministry of Health to localities for management. Continue to stabilize the organization of the health system following Circular No. 03/2008, with the principle that “professional service units in localities should be managed by the health sector” [156], “organize the public health system, especially grassroots health care following a unified, appropriate and stable model [157]”. Set up a health insurance office in the provincial health bureaux to provide state management of health insurance in the local areas. 	<ul style="list-style-type: none"> Develop a mechanism for integrating preventive and curative care (between hospitals and preventive medicine centres), aimed at using resources more efficiently in primary health care. Consider and research alternative models of organization of the agency implementing health insurance policy, with the objective of having a professional health insurance agency. 	<ul style="list-style-type: none"> Agreement on criteria for determining which units should belong under the MOH. Issue Circular to supplement Circular No. 03/2008, to establish the health insurance office in the Provincial Health Bureaux. Propose a new model of organization of the health insurance fund management agency.

Appendix 3: Monitoring indicators 2002-2009

Monitoring indicators		Unit	2002	2003	2004	2005	2006	2007	2008	2009
HEALTH STATUS										
1	Life expectancy	Years	71.3	..	..	..	..	72.8	73.0	73.0
2	Infant mortality rate (IMR)	Per 1000 live-born children	24.8	21	18.1	17.8	16	16	15	16
3	Under 5 mortality rate (U5MR)	Per 1000 live-born children	35	32.8	28.5	27.5	26.0	25.9	25.5	25
4	Maternal mortality ratio	Per 100 000 live-born children	91	85	85	80	75	75	75	69
5	Total fertility rate	Children per woman	2.28	2.12	2.23	2.11	2.09	2.07	2.08	2.03
6	Change in total fertility rate	Change in children per woman	-0.03	-0.16	+0.11	-0.12	-0.02	-0.02	+0.01	-0.05
7	Population growth rate	%	1.32	1.47	1.40	1.31	1.26	1.19	1.24	-0.22
8a	Under 5 malnutrition rate (weight for age)	%	30.1	28.4	26.6	25.2	23.4	21.2	19.9	18.9
8b	Under 5 malnutrition rate (height for age)	%	33.0	32.0	30.7	29.6	31.9	33.9	32.6	31.9
HEALTH SERVICE PROVISION (PREVENTIVE MEDICINE, EXAMINATION AND TREATMENT, POPULATION AND FAMILY PLANNING AND REPRODUCTIVE HEALTH SERVICES)										
9a	Share of outpatient visits in the private sector	%	..	..	50.6	..	41.2	..	42.6	..
9b	Share of inpatient admissions in the private sector	%	..	..	4.0	..	3.6	..	3.0	..
10	HIV incidence rate	Per 100 000 population	19.8	21.0	23.8	26.1	30.2	22.4	23.5	18.3
11	HIV prevalence rate	Per 100 000 population	74.3	94.1	109.8	134.5	163	183.4	208.5	187.0
12	AIDS mortality rate	Per 100 000 population	..	..	..	..	..	4.6	4.1	2.4

Monitoring indicators		Unit	2002	2003	2004	2005	2006	2007	2008	2009
13	TB (AFB+) detection rate	Per 100 000 population	72.1	69.3	71.2	66.9	67	63.9	62	59.8
14	Dengue incidence rate	Per 100 000 population	36.0	61.5	95.93	68.81	81.43	118.8	111.8	108
15	Number of food poisoning incidents reported to the Food Safety Administration	Incidents		238	145	144	165	248	205	152
16a	Smoking prevalence among males aged 15 and over	%	56.1	..	..	..	47.0	..	..	..
16b	Smoking prevalence among females aged 15 and over	%	1.8	..	..	..	1.5	..	..	..
17	Sex ratio at birth	Boys per 100 girls	107	104	108	106	110	111.0	110.8	111.0
18	Average length of inpatient stay	Days	6.7	6.7	6.7	6.6	7.8	7.1	7.2	6.9
19	Drug share of total health spending	%	48.0	50.0	53.6	53.3	45.0	40.1		
20	Proportion of households using a sanitary toilet	%	45.5	..	52.5	..	52.9	..	58.8	..
21	Proportion of households using clean water	%	47.8	..	57.4	..	62.8	..	67.0	..
22	Full immunization rate among children under 1 year of age	%	89.7	97.1	96.5	96.5	95.7	81.8	93.9	
23a	Outpatient visits per 100 people	Per 100 people	..	..	106.0	..	128.9	..	117.7	..
23b	Inpatient admissions per 100 people	Per 100 people	..	..	9.5	..	9.1	..	9.2	..
24	Proportion of deliveries assisted by trained medical worker	%	95.0	95.8	94.7	96.1	97.0	94.3	94.7	93.4
25	Proportion of communes meeting national commune health benchmarks	%	..	..	..	..	38.5	50.5	55.5	65.4
26	Public hospital bed occupancy rate	%	95.8	92.1	91.8	89.7	103.1	116.1	125.6	
27	Proportion of hospitals reporting adverse drug reactions (According to 991/2009/QĐ-BYT)	%	..	..	18.1	20.0	20.6	18.5	19.9	21.1
28a	Proportion of hospitals meeting waste water treatment standards	%							36.6%	42%

Monitoring indicators		Unit	2002	2003	2004	2005	2006	2007	2008	2009
28b	Proportion of hospitals meeting solid waste treatment standards *	%							79.1%	74%
HUMAN RESOURCES										
29a	Proportion of commune health stations with a doctor	%	61.5	65.4	67.8	69.4	65.1	67.4	65.9	
29b	Proportion of commune health stations with a obstetric-paediatric assistant doctor or midwife	%	91.4	93.1	93.1	94.8	95.4	93.6	93.1	
30a	Ratio of doctors per 10 000 people	Per 10 000 people	5.65	5.88	5.88	6.03	6.23	6.45	6.52	
30b	Ratio of university pharmacists per 10 000 people	Per 10 000 people	0.76	0.77	0.78	1.28	1.27	1.21	1.22	
31	Number of nurses, technicians, midwives per doctor in public hospitals	Nurses, technicians and midwives per doctor				2.5	2.3		2.5	2.9
32	Proportion of state health workers with university or higher training	%	24.8	25.5	25.8	27.2	27.3	27.8	28.1	
33	Proportion of health workers who have been licensed (among those requiring licensing)	%	..	..	..	..	..	..	..	0
34	Proportion of VHWs with 3 or more months of training (rural only)	%	58.8	72.0	72.8	76.0	74.9	77.2	70.9	69.8
HEALTH INFORMATION SYSTEM										
35*	Proportion of national statistical indicators on population and health (according to 43/2010/QĐ-TTĐ) that are available in the health statistics yearbook	%	33.6	31.4	32.9	35.7	40.7	42.9	43.6	
36*	Proportion of health statistics yearbook indicators disaggregated by gender (among those amenable to gender disaggregation)	%	12	8	13	15	18	25	25	
37	Delay in terms of months between publication of health statistics yearbook and end of reference year	Months	8	..	..	..	11	11	13	

Monitoring indicators		Unit	2002	2003	2004	2005	2006	2007	2008	2009
DRUGS, BIOLOGICALS AND MEDICAL EQUIPMENT										
38a	% increase in drug and medical service consumer price index	% increase	0.5	20.3	9.0	5.0	4.4	7.0	9.4	3.3
38b	% increase in general consumer price index	% increase	4.0	2.7	9.7	8.7	6.6	12.8	20.2	6.5
39	Proportion of drugs not meeting quality standards among those sampled and tested (DAV)	%	3.2	3.1	3.1	3.0	3.2	3.3	2.9	3.7
40	Proportion of pharmaceutical manufacturing facilities meeting GMP-WHO standards	%	0	0	0	6.17	19.7	28.1	47.2	55.1
41	Proportion of pharmacies meeting GPP standards	%	..	..	..	..	..	0.07	2.90	10.63
42	Share spent on self-medication among total drug spending of society	%	..	..	58.6	53.4	55.1	58.2		
43	Proportion of blood collected from unpaid voluntary donors	%	..	..	..	..	..	..	..	79.1
44	Proportion of hospitals spending more than 5% of regular spending on maintenance and repairs of infrastructure and equipment (according to 01/2003/CT-BYT)	%	..	..	13.7	10.6	10.7	6.6	8.2	5.3
HEALTH FINANCING										
45	Public health spending (state budget, health insurance and external aid) share of total health spending	%	30.5	32.1	27.5	27.2	36.6	38.2	42.9	
46	Share of state budget health spending on preventive medicine	%	30.9	28.2	25.1	23.9	30.8	27.8		
47	Proportion of state budget health spending at the commune and district level	%	21.6	21.8	19.9	19.7	21.2	16.0		
48	Proportion of population covered by health insurance	%		20.3	21.1	28.1	43.8	42.0	43.8	60.0
49	Health insurance spending share of total health spending	%	6.0	7.0	7.9	8.8	12.5	14.2	17.6	

Monitoring indicators		Unit	2002	2003	2004	2005	2006	2007	2008	2009
50	Proportion of population suffering catastrophic spending (health spending exceeds 25% of non-food consumption of the household)	%	..	..	11.8	..	11.3	..	10.8	..
51	Out-of-pocket spending share of total health spending	%	61.6	60.6	64.5	65.4	57.3	55.6	52.4	
52	Health spending share of GDP	%	5.1	5.2	5.5	5.9	6.2	6.2	6.4	
53a	Average out-of-pocket spending per outpatient curative care visit	1000 VND	..	..	116	..	132	..	223	..
53b	Average out-of-pocket spending per outpatient curative care visit in constant 2008 VND	1000 VND (constant 2008)	..	..	147	..	151	..	223	..
54a	Average out-of-pocket spending per inpatient admission	1000 VND	..	..	1546	..	1993	..	3052	..
54b	Average out-of-pocket spending per inpatient admission in constant 2008 VND	1000 VND (constant 2008)	..	..	1955	..	2283	..	3052	..

Data sources	Indicators
Health statistics yearbook	1-4, 13-14, 18, 22, 24-26, 29a-30b, 32, 35-37, 48
Survey of population change and family planning	5-7, 17,
Household living standards survey	9a-9b; (2006) 16a, 16b; 20-21; 23a-23b; 53a-54b
Annual nutrition survey of the National Institute of Nutrition	8a-8b
Annual hospital inventory of the Medical Services Administration	27, 28a, 28b, 31, 45,
National Health Survey 2001-2002	(2002) 16a, 16b;
Food Safety Administration	15
National Health Accounts	19, 42, 45-47, 49, 51-52
Statistical Yearbook of the General Statistics Office	38a-38b
Drug Administration of Vietnam	39-41
National Haematology Institute	43
Health Strategy and Policy Institute	50
Medical Services Administration	33

Vietnam Administration of HIV/AIDS Control	10-12
Department of Organization and Manpower	34

Notes:

28b- In 2008, the standard for solid waste applied was not as strict as in 2009.

35- Based on the National Statistical Indicator System in Prime Ministerial Decision No. 43/2010/QĐ-TTĐ, all indicators related to health and population (indicators number 11, 15-21, 24, 265-285) and their disaggregations were identified (total of 140 indicators). These were compared to statistical indicators in the health statistics yearbook for each year to determine the proportion of national statistical indicators covered by the health statistics yearbook to serve information needs of the health sector

36-The indicator on the proportion of statistical indicators that have been gender disaggregated includes the following indicators: Population, life expectancy at birth, infant mortality rate, child malnutrition, low birth weight, full immunization of children under 1 year of age, age structure of the population, number of children born each year, health insurance coverage rate, number of government health workers, number of medical students, number of inpatient admissions, number of outpatient visits, number of examinations, number of surgeries, number of lab tests, number of x-rays, number of ultrasounds, number of TB patients, number of malaria patients, number of leprosy patients, sexually transmitted diseases, number of people living with HIV/AIDS, number of people with mental illness, victims of traffic accidents and injuries, structure of disease by ICD chapter, 10 most prevalent diseases, 10 diseases causing most deaths, % of people smoking, % of people with disabilities.

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