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Improving quality of medical services

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Abbreviations

ADB	Asian Development Bank
AFB+	Acid Fast Bacilli (test for Tuberculosis)
CME	Continuous medical education
COPD	Chronic obstructive pulmonary disease
CQI, QI	Continuous quality improvement, Quality improvement
DALY	Disability adjusted life years
DMAIC	Define, measure, analyze, improve, control
DRG	Diagnostic Related Group
EU	European Union
GDP	Gross domestic product
GLP	Good laboratory practice
GMP	Good manufacturing practice
GPP	Good pharmacy practice
HDI	Human Development Index
HIV/AIDS	Human immuno-deficiency virus/ Acquired immuno-deficiency syndrome
HPG	Health Partnership Group
ICD	International Classification of Disease
IMR	Infant mortality rate
ISO	International Standards Organization
JAHR	Joint Annual Health Review
JCI	Joint Commission International
JIT	Just in time
MDG	Millennium Development Goal
MMR	Maternal mortality ratio
MOH	Ministry of Health
MONRE	Ministry of Natural Resources and Environment
NGO	Non-Governmental Organizations
ODA	Overseas Development Assistance
OECD	Organization for Economic Cooperation and Development
PATH	Performance Assessment Tool for Quality Improvement in Hospitals
PDSA, PDCA	Plan, do, study, act; Plan, do, check, act
QA	Quality assurance
QC, TQC	Quality control, total quality control
SAVY	Survey Assessment of Vietnamese Youth
TCN, TCVN	Vietnam Standards
TPS	Toyota Production System
TQM, QM	Total Quality Management, quality management
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VIHEMA	Vietnam Health Environment Management Agency
WHO	World Health Organization

Acknowledgement

The Joint Annual Health Review (JAHR) 2012 is the sixth annual review implemented under the direction of the Ministry of Health together with the Health Partnership Group (HPG). The JAHR 2012 report provides an update on health status and determinants; an update on the current situation of the health system and implementation of the tasks set forth in the five-year plan for the protection, care and promotion of the people's health for the period 2011–2015 (hereafter called the Five-year health sector plan) and provides in-depth analysis on the selected focus of this year's report – quality of medical services.

The JAHR 2012 process has received enthusiastic support from many stakeholders. We are sincerely grateful for the many useful comments and opinions contributed by the leadership and staff of the various departments, administrations, and institutes of the Ministry of Health, various other sectors and localities during the process of developing this Review.

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Editorial Board

Introduction

Purpose of the JAHR

As agreed upon between the Ministry of Health and "Health Partnership Group" - HPG) since 2007, the Joint Annual Health Review – JAHR has been developed every year with a view to *supporting annual planning of the Ministry of Health, and laying a foundation for selecting key issues in cooperation and dialogue between the Vietnamese health care sector and international partners*.

To that end, the JAHR is responsible for: (i) updating the current situation of the health sector, including assessment of progress towards the UN Millennium Development Goals (MDGs) and Vietnam's health-related development goals; (ii) updating the current situation of the health system building blocks, including assessment of the extent to which assigned tasks and previous year JAHR recommendations have been implemented; (iii) analyzing in-depth specific topics selected each year in order to identify priority problems and make recommendations for their resolution.

The JAHRs have made active contributions to *monitoring and evaluation* of the implementation of health policies and annual plans of the health sector; *identifying priority issues* of the health system and recommending supplements and refinements to plans, policies and response measures.

The JAHR 2012 report has been prepared to fulfill the purposes and tasks mentioned above, especially supporting health planning work for the year 2013, supporting implementation of the Five-year health sector plan for the period 2011-2015, and making recommendations for measures to resolve priority issues in improving quality of health care services.

All JAHR reports are available online at the website http://jahr.org.vn .

Contents and structures of the JAHR

JAHR 2007 was the first joint health sector review. It provided comprehensive coverage of *major components of the Vietnamese health care system*. The JAHR 2008 and 2009 analyzed specific topics on *Health financing and Human resources for health* – important components of the health delivery system. The JAHR 2010 aimed at *supporting development of the Five-year health sector plan for the period 2011–2015*, based on assessment of the current situation of the six building blocks of the health system. The JAHR 2011 provided an early assessment of implementation of assigned tasks and new policies including orientations for the health sector identified at the 10th Communist Party Congress, and provided in-depth analysis of selected salient topics on health financing and health system governance.

The experience of JAHR development over the past few years has led to the conceptualization of the JAHR as a five-year cycle as follows:

- In all years, the JAHR provides an update of the people's health status and determinants. It also provides an assessment of implementation of assigned tasks and plan goals, including updates on new policies. This is structured according to the 6 major components of the health system with the intention of supporting annual health planning work and serving as an accountability mechanism.

- Every five years, on the threshold of the five-year government planning cycle (e.g., 2010), the JAHR has the objective of supporting development of the Five-year health sector plan.
- The first year of the Five-year health sector plan (e.g., 2011), the JAHR provides an update of any new orientations set out in the National Communist Party Congress (every 5 years), and the Five-year socio-economic development plan; and provides in-depth analysis of selected topics in order to identify priority issues and propose measures for their resolution.
- In the three subsequent years (e.g., 2012, 2013, 2014), the JAHR supports annual plan development, assesses progress towards meeting plan goals and implementing recommendations, provides recommendations to speed up implementation or make adjustments, and provides in-depth analysis of selected topics.

The JAHR 2012 report was prepared in the 2nd year of the Five-year health sector plan, with the aim of ***"Improving quality of medical services"***, and has the following main contents:

Part I: Update on the current health system situation, including: Chapter 1 - updates on health status and determinants, with a focus on health status disparities across regions and increasing trends in the disease burden from non-communicable disease; Chapter 2 - updates on new and priority health sector tasks assigned by the Government and National Assembly, assessment of progress towards achieving plan goals and assigned tasks in each of the six building blocks of the health system and a summary of measures to be included in the 2013 health sector plan to resolve any shortcomings and difficulties; Appendix - supplement and update JAHR monitoring and evaluation indicators and incorporate discussion of problems into text of Part I.

Part II: Improvement of medical service quality with the objective of identifying priority issues and recommending measures for the topic of *Improving quality of medical services,* including:

- Overview of concepts and approaches; international experience in quality management; and overview of health care service quality in Vietnam.
- Macro-level management of service quality, including the legal framework and administration/regulation for major inputs of health service quality, including: i) health service professionals; ii) service providers; iii) drugs, medical equipment, and infrastructure.
- Facility level quality management.
- The role of community and patients in service quality improvement.
- Payment methods and service quality.

Part III includes chapters on Conclusions and Recommendations.

The Appendix covers an update of monitoring and evaluation indicators for the main goals of the health system, which have been selected for inclusion in the JAHR.

Methodology

1. The general approach in preparing the JAHR 2012 report is reflected in some general requirements, including:

- The process of analyzing, evaluating and providing recommendations for appropriate measures must take into consideration the socio-economic context and specific attributes of the Vietnamese health care system, accurately reflecting the current situation, progress, achievements and clearly recognizing issues that need to be resolved.
- Adopt the World Health Organization's conceptual framework with six building blocks in the updates on the current health care system situation, taking into account the interactions among these six components of the health system in the analysis of each component.
- Relying on an appropriate analytical framework, specifically, the national policies and legal documents, standards and goals to be achieved and recommendations made in the past in order to provide a basis for comparison of current achievements and assess any limitations, shortcomings in need of resolution..

2. Specific methods used to prepare the report included i) literature reviews of documents, including policies, legal documents, research papers, surveys and other references; and ii) gathering of comments and feedback from relevant stakeholders, especially health sector managers, health specialists, line ministry agencies and international experts.

Synthesis and review of available documents, including legal documents (Communist Party, National Assembly, Government, Ministry of Health and other ministries); research and surveys; reports from line ministry agencies; specialized reports; documents from international organizations and foreign agencies.

Gathering of feedback and comments from various stakeholders through the following channels:

- Holding brainstorming sessions to gather feedback and comments from experts.
- Presenting a problem statement at a workshop of the HPG. Holding small group discussions, and plenary discussions.
- Posting draft chapters on the website of JAHR (www.JAHR.org.vn) to gather comments from development partners and other stakeholders.
- Sending draft chapters to various departments, administration agencies of the Ministry of Health and other relevant ministries and sectors for comments.
- In each chapter, 1–2 managers or expert were invited to provide a peer review and comments during the drafting process and final review.

3. Analysis and identification of major issues, priorities and solutions was implemented on the basis of the following conceptualizations:

Shortcomings (Difficulties, limitations, challenges) are situations that are not yet appropriate or have weaknesses, due to various reasons such as shortcomings in policy, mechanisms, resources, management, technology and international cooperation. The basis for assessing problems as shortcomings relates to the situation compared to targets, or to the evaluation criteria of equity, effectiveness, development and quality.

Priority issues were identified based on analysis and synthesis of shortcomings. To be considered a priority issue, shortcomings had to meet the following criteria i) the most urgent issue; ii) essential for resolving a host of other issues; iii) feasible in the immediate future. Priority issues were identified by group, including major issues and specific issues. Analysis

of specific issues was needed to understand the causes of the problem and to serve as a basis for finding solutions.

Recommendations for solutions correspond to priority issues, and include measures related to policies, resources and management as well as technical solutions and international cooperation. They include short-term solutions for the subsequent year and longer term solutions.

4. Monitoring and evaluation indicators

The JAHR 2012 report continues to refine the monitoring and evaluation indicators to reflect trends and performance of implementing major goals of the health system. The indicators include three indicator groups: inputs, processes and outcomes.

Supplementation and refinement of the monitoring and evaluation indicators this year focused on identifying a set of major indicators for monitoring and evaluation of the effect of health financing polices and indicators belonging to national target programs. Many indicators are disaggregated by region, gender or living standards quintile in order to consider equity and regional disparities. In addition, targets for prevention of non-communicable diseases such as cancer, hypertension, and diabetes have also been added to JAHR 2012 report.

Implementation arrangements

Like previous years, the JAHR 2012 report was developed under the auspices of the Ministry of Health and Health Partnership Group. Organizational structure for the report preparation includes:

Editorial board under the leadership of Associate professor Nguyen Thi Kim Tien, PhD, Minister of Health, who directly guided the development and editing of the JAHR 2012 report.

The coordination group, including representatives of the Ministry of Health (Department of Planning and Finance), one international coordinator, one local coordinator and some support staff, were in charge of day-to-day management, administrative work, workshop organization, and collection of feedback from stakeholders, ensuring a participatory process with wide stakeholder involvement; editing, revision and finalization of the report.

Consultants includes international and local consultants with extensive experience in specific health care areas, were responsible for drafting chapters, collecting comments from relevant stakeholders and revising the chapters based on the comments.

PART I: UPDATE ON THE SITUATION OF THE HEALTH SYSTEM

Chapter 1: Health status and determinants

This chapter provides an update of major changes in the health status of the population and health determinants in recent years. It evaluates changes in health indicators, including those related to the MDGs and basic health indicators set forth in the Five-year health sector plan, assesses the morbidity and mortality situation, and examines socio-economic, environmental, behavioral and lifestyle factors affecting health. Recommendations focus on suggesting orientations and measures for the prevention and control of non-communicable diseases, improving health status of the people in disadvantaged areas and responding to changing morbidity patterns and emerging diseases.

I. Health Status

1. Implementation of basic health indicators

In 2011, the health sector continued to achieve the health targets set by the National Assembly and Government. Almost all basic health indicators set out in the Five-year health sector plan have seen improvement (Table 1).

Table 1: Basic health indicators in the Five-year health sector plan, 2010~2015

No.	Indicators	Year 2010	Year 2011	Target for 2015
	Average life expectancy (years)	72.9	73.0	74.0
	Maternal mortality ratio (per 100 000 live births)	68	67	58.3
	Infant mortality rate (per 1000 live births)	15.8	15.5	14.8
	Under-five mortality rate (per 1000 live births)	23.8	23.3	19.3
	Population size (million people)	86.93	87.84	<93*
	Decrease of crude birth rate (‰)	0.50	0.50	0.10*
	Population growth (%)	1.05	1.04	0.93
	Sex ratio at birth (boys/100 girls)	111.2	111.9	<113
	Under-five child malnutrition rate (underweight) (%)	18.0	16.8	15.0
	HIV/AIDS prevalence rate (%)	<0.3	<0.3	<0.3

Note: Targets from the Five-year health sector plan for the period 2011–2015, include several MDGs. Targets marked with (*) are adjustments made in the National Target Program for Population and Family Planning 2012–2015.

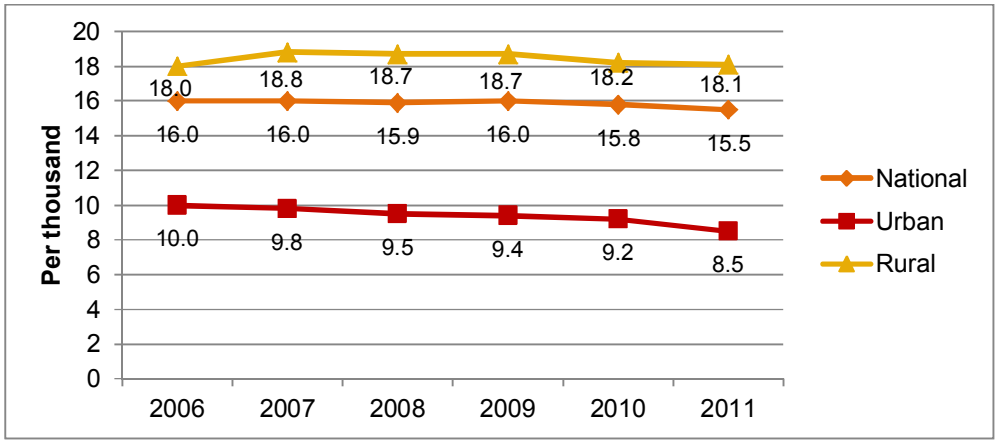
Source: Indicators 1, 3, 4, 5, 6, 7, 8 – General Statistics Office. Survey of population change and family planning 01/04/2011 [1]. Indicators 2, 9 and 10 – Ministry of Health Report on health sector work 2011 [2].

Average life expectancy of the Vietnamese population has seen a slight increase, from 72.9 years in 2010 to an estimated 73.0 years in 2011 (male 70.4 years; female 75.8 years). Regional disparities are large; in 2011, while average life expectancy in the Southeast had reached 75.6 years, in the Central Highlands it only reached 70 years. Average life expectancy of women ranges from 5 to 5.8 years longer than men depending on the region [1]. It will be necessary to make major efforts in the coming period to achieve the average life expectancy target of 74 years in the Five-year health sector plan and to reduce the disparity across regions.

Infant Mortality Rate (IMR) has shown a declining trend over time (Figure 1). The national rate fell from 15.8 per 1000 live births in 2010 to 15.5 in 2011. In urban areas, IMR decreased from 9.2 infant deaths per 1000 live births in 2010 to 8.5 in 2011. However, IMR in rural areas showed little change, declining only slightly from 18.2 infant deaths per 1000 live births in 2010 to 18.1 in 2011. The rural-urban differential remains high and has been increasing, from 1.98 rural deaths per urban death in 2010 2.13 in 2011. The Central

Highlands had an IMR 2.7 times higher than in the Southeast in 2009, and this gap remains high at 2.6 times in 2011. Neonatal mortality (within 28 days after birth) remains a serious problem, accounting for 60% of infant deaths and 40% of under-five child deaths [3].

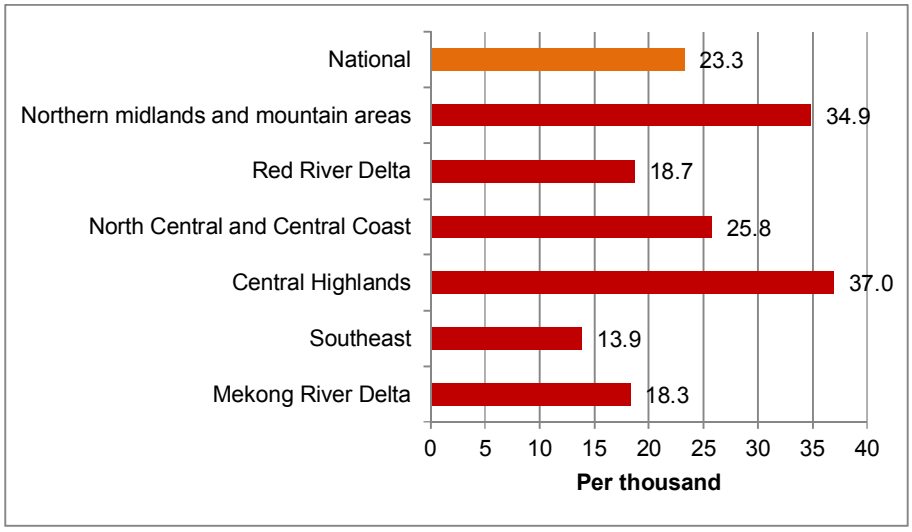
Figure 1: Infant mortality rate, 2006–2011



Source: General Statistics Office. Survey of population change and family planning 01/04/2011 [1].

Under-five mortality rate (U5MR): The nationwide under-five mortality rate declined remarkably from 58 deaths per 1000 live births in 1999 to 23.3 in 2011 (Figure 2). However, to reach the MDG of reducing under-five mortality by two-thirds in the period 1990–2015, (equivalent to a U5MR of 19.3 by 2015), greater efforts will be needed. Large disparities exist across regions. The Central Highlands and the Northern Midlands and Mountains, the two most disadvantaged regions, have the highest under-five mortality rate: 37.0‰ and 34.9‰. Compared to the lowest U5MR, found in the Southeast (13.9%) this represents gaps of 2.7 and 2.5 times, respectively [1].

Figure 2: Under-five mortality rate by social-economic regions in 2011

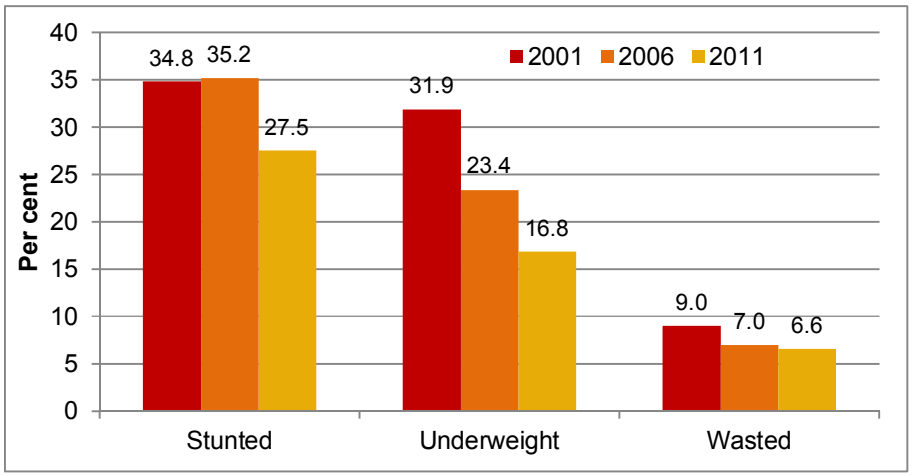


Source: General Statistics Office. Survey of population change and family planning 01/04/2011 [1].

Child malnutrition rate: Child nutrition status has improved over the past decade (from 2001 to 2011) (Figure 3). The average rate of decline in underweight (low weight for age) over the past 10 years is 1.26% per year and in stunting (low height for age) the rate of

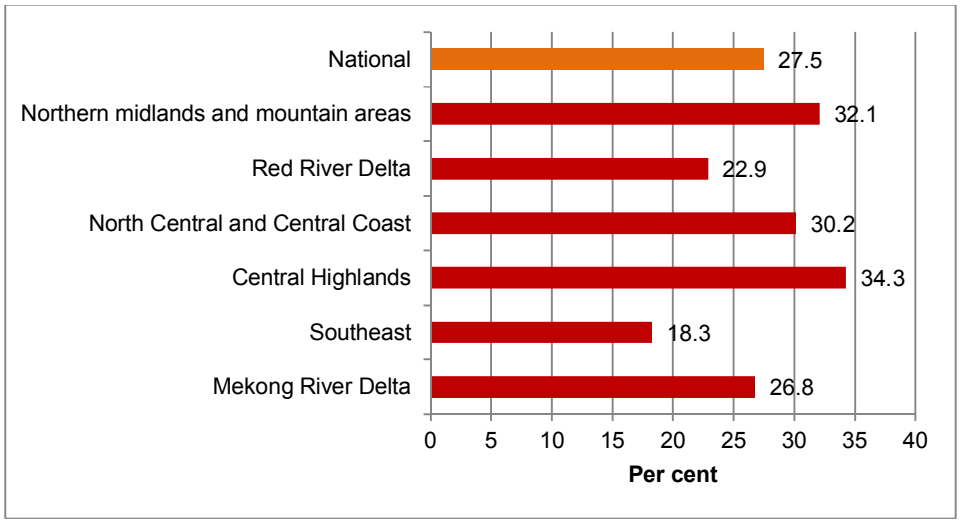
decline was 1.4% per year. In 2011, 18 out of 63 provinces and municipalities (hereafter called simply provinces) had child malnutrition rates above 20% (a high rate according to the World Health Organization - WHO). Stunting can lead to long-term negative health consequences on children's physical health, is closely linked to child mortality, and considered a major health concern to be addressed. The national stunting rate in 2011 was 27.5%. Some 22 provinces having stunting rates above 30% (considered a high level of stunting according to WHO). One province has stunting over 40% (very high level). It is noteworthy that the stunting rates in three regions: the Central Highlands, The Northern Midlands and Mountains and North and South Central Coast regions are still above 30% (Figure 4). The differential in the stunting rates between the regions with the highest and lowest stunting rates has reached 1.5 times, an increase compared to 2009, while the differential between the provinces with the highest and lowest rates has reached 5.4 times (a reduction compared to 2009).

Figure 3: Child malnutrition rates, 2001~2011



Source: The National Institute of Nutrition [4].

Figure 4: Stunting malnutrition, 2011



Malnutrition rate (weighted) in regions for children under age five in provinces following the regional division of the General Statistics Office.

Source: National Institute of Nutrition [4].

Maternal Mortality Ratio (MMR): The maternal mortality ratio has declined remarkably over the past two decades, from 233 maternal deaths per 100 000 live births in 1990 to 69 deaths (in 2009) and 67 deaths (in 2011). This achievement can be attributed in part to major efforts in implementing national programs, policies and legislation on reproductive health nationwide. However, the decline in maternal mortality ratio has decelerated in recent years. In order to achieve the MDG of reducing the maternal mortality ratio by three-quarters between 1990 and 2015, (equivalent to 58.3 deaths per 100 000 live births by 2015), greater efforts are needed. Furthermore, more active measures should be proposed to mitigate large disparities in maternal mortality ratios across regions.

Table 2: Progress towards implementing MDGS in Vietnam, 1990~2011

MDGs	Indicators	1990	2000	2006	2011	Implementation progress
MDG4: Reduce the under-five mortality rate by two-thirds, between 1990 and 2015.	Under-five mortality rate (per 1000 live births)	58.1	42.0	26.0	23.3	Fell by more than half (1990–2011). Greater efforts needed to reduce to 19.3 by 2015.
	Underweight rate (weight/ age)	45%	33.8%	23.4%	16.8%	Reduced by more than half compared to 1990.
	Stunting rate (height/ age)	63% (1992-93)	36.5%	35.2%	27.5%	Reduced by more than half compared to 1990.
MDG5: Reduce the maternal mortality ratio by three quarters, between 1990 and 2015.	Maternal mortality ratio per 100 000 live births.	200 (routine statistics) 233 (UN-Vietnam) 249 (UNICEF/ MOH)	95	75.1	67	Reduced by about two thirds. Greater efforts are needed to reduce the maternal mortality ratio to 58.3 deaths per 100 000 live births.
MDG6: Combat HIV/AIDS, malaria and other infectious diseases	HIV prevalence rate (% people aged 15–49 years)	0.004 (1991)	0.27	0.53	0.45	HIV prevalence rate has begun to fall.
	Malaria prevalence (per 100 000)	1650 (1991)	380	108.9	55	Malaria control goal achieved.
	Tuberculosis incidence (per 100 000)	..	374	283	225	Tuberculosis control goal achievable by 2015.
MDG7: Ensure environmental sustainability including cutting by half the number of people without access to safe water and basic sanitation	Share of population using improved drinking water source	30%	78.1% (1999)		86.7% (2009)	Goal achieved.
	Share of rural population using an improved latrine		16.4% (1999)		54% (2009)	Rate is increasing rapidly but only slightly over half the population is covered.

The statistics in Table 2 above indicate Vietnam has made progress towards achieving the MDGs set out by the United Nations. Goals related to health include: (i) reduce the child mortality rate (Goal 4); (ii) improve maternal health (Goal 5); (iii) prevent and control HIV/AIDS, malaria and other diseases (Goal 6); (iv) ensure access to clean water and

environmental sanitation (Goal 7). In November 2012, the Ministry of Health together with development partners organized a Conference to assess progress towards implementing Vietnam's MDGs.

In summary, achievement and potential to achieve MDGs is clear for some of the goals. Infant mortality rates have fallen from 16 to 15.5 deaths per 1000 live births. If the pace of infant mortality decline continues, this goal will be achieved. In addition, some important goals of Vietnam's health sector are also achievable in advance or latest by 2015. The proportion of children under one year of age who were fully immunized has reached 94% for the whole period 2009–2011. The proportion of children under age 5 who are malnourished has declined steadily each year, with the proportion of children underweight falling from 18.9% to 16.8% (exceeding the goal); the proportion of children stunted has also declined from 31.9% to 27.5%. Outcome indicators related to population such as population size and fertility reduction have reached the targets set out in the Five-year health sector plan.

However, some goals will require major efforts if they are to be achieved. Among the MDGs to which Vietnam is committed, there is a risk of non-achievement for the under-five mortality rate, maternal mortality ratio, and proportion of households with access to a sanitary toilet. Although trends in IMR indicate the goal is likely to be achieved by 2015, the under-five child mortality rate is declining slowly compared to the goal. From 2009 to 2011, under-five mortality rates fell on average 0.4 deaths per 1000 live births each year. With the goal by 2015 to reach 19.3 deaths per 1000 live births, it is necessary to reduce deaths by 1 child per 1000 live births each year in order to achieve the MDG. From 2009 to 2011, the maternal mortality ratio fell only slightly from 69 to 67 per 100 000 live births. In order to achieve the goal of 58.3 maternal deaths per 100 000 it is necessary to reduce 2.2 deaths per 100 000 live births each year, a pace that is more than double the pace over the last 2 years.

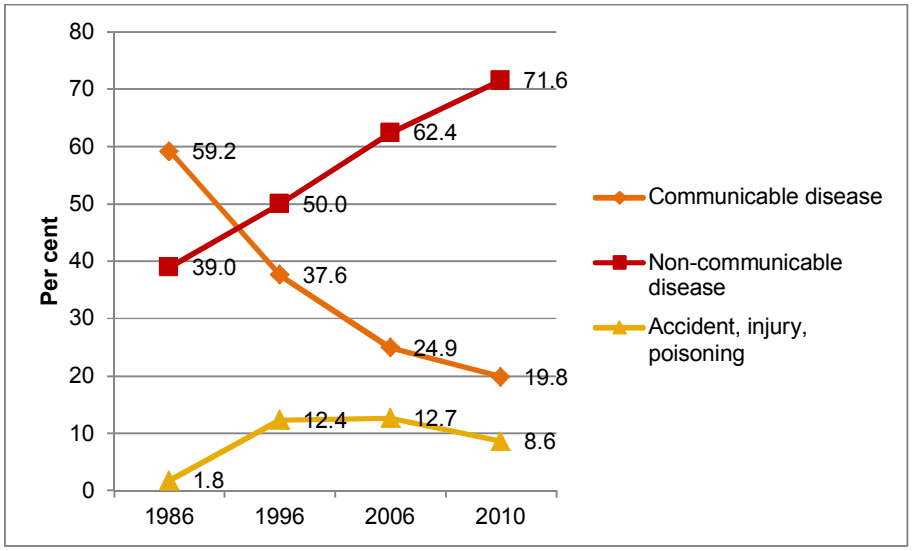
Targets in the Five-year health sector plan also include a few that will be difficult to achieve. For example, average life expectancy has only increased 0.1 year annually since 2009 (72.8 years) to 2011 (73 years). The goal by 2015 is 74 years, requiring an increase of 0.25 years of life expectancy each year till 2015. The sex ratio at birth continued to increase from 111 boys per 100 girls to 111.9 in 2011. If this ratio continues to increase it will be difficult to maintain it below 113 by 2015. The population growth rate, although it has fallen over time from 1.06 to 1.04, remains high compared to the planned target and unlikely to decline because of population momentum related to the high proportion of the population entering reproductive ages.

2. Morbidity and mortality

2.1. Morbidity and mortality patterns

A clear change in morbidity patterns has occurred between 1986 and 2010 (Figure 5). According to the morbidity statistics based on diagnosis at examination and treatment visits in public health facilities found in the 2010 Health Statistics Yearbook, non-communicable disease has continuously increased its share of overall morbidity. While in 1986 this share was only 39%, by 1996 it had increased to 50%, by 2006 to 62% and in the five-year period up till 2010, an increase of 10 percentage points raised its share to 72% of all hospital visits. The opposite trend is seen in healthcare visits at public facilities for communicable diseases, which saw a rapid decline. The share of health care visits related to accidents, injuries and poisoning has stabilized. Thus, the disease burden has seen a dramatic shift towards non-communicable diseases.

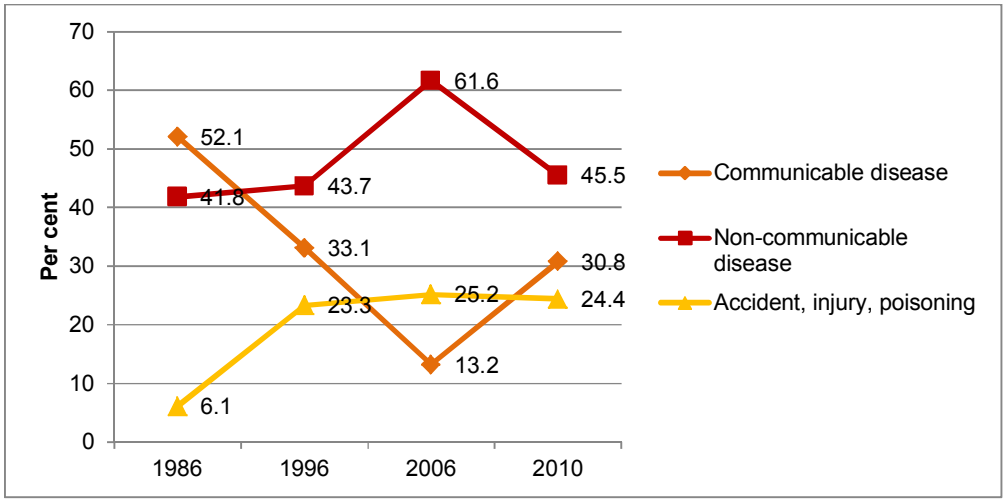
Figure 5: Trends in morbidity based on healthcare visits at state facilities, 1986~2010



Source: Ministry of Health, Health Statistics Yearbook of 2010 [5].

Examination of mortality patterns based on public health facility records also indicates rapid changes. The share of deaths in state health facilities due to non-communicable diseases has increased remarkably over the period 1986–2006 (Figure 6). The share of deaths due to communicable diseases has gradually declined over the period 1986–2006, but by 2010, it had begun increasing again, accounting for 30% of total deaths in the state health facilities. These patterns reflect that in recent years, several fatal communicable diseases have seen a resurgence, such as dengue fever, and several emerging diseases have proven highly fatal, such as influenza A(H5N1), A(H1N1), hand-foot-mouth disease.

Figure 6: Trends in mortality based on healthcare visits at state facilities, 1986~2010



Source: Ministry of Health, Health Statistics Yearbook of 2010 [5].

The figures from the Health Statistics Yearbook suffer from some shortcomings since data are collected mainly from the routine statistical reporting system covering only state health facilities and only reflects the number of contacts rather than number of patients. However, data from other studies confirms the trends in disease patterns and disease burden in Vietnam. An important study on Burden of disease by the Hanoi School of Public

Health [6] shows that Vietnam's total disease burden is 12.3 million DALYs, including: non-communicable diseases (71%); injuries (16%), communicable, maternal, perinatal and nutritional (13%). Disease burden of non-communicable diseases accounts for 66% of total disease burden among men and 77% of total disease burden among women. Unintentional injuries (18%), cardiovascular disease (17%) and neuropsychiatric conditions (14%) are major cause groups of disease burden among men. Among women, major causes of disease burden are neuropsychiatric conditions (22%), cardiovascular diseases (18%) and cancer (12%). Among men, stroke is the leading cause of disease burden (10%), followed by road traffic accidents (8%) and alcohol use disorders (5%). In women, depression is the leading cause of disease burden (12%), followed by stroke (10%) and vision loss (4%). For children under age 15, lower respiratory infection (pneumonia) is the major cause of disease burden, accounting for 11% of the total.

Among children under 5 years of age, according to determination of cause of death from the burden of disease study, over 50% of child deaths were due to communicable disease (mainly respiratory infections), about one third from non-communicable diseases (mainly perinatal conditions and congenital anomalies), and about 13–14% died due to accidents and injuries (primarily drowning). For the elderly (70+), deaths were primarily due to non-communicable disease (87%), while communicable disease was only related to 9% of deaths and accidents for only 3%. Among non-communicable disease deaths in the elderly, cardiovascular disease accounted for 40% of total deaths (stroke was the largest group), while cancer accounted for 14% [6].

Data on morbidity and mortality are extremely important, permitting assessment of disease burden, cause of death and providing scientific evidence for orientating decision making and resource allocation. However, currently, there is a lack of quality epidemiological data available in Vietnam. Therefore, it is necessary to invest in improving the quality of morbidity and mortality registers, and in a center for storage of survey, research data to facilitate more in-depth analysis and monitoring of indicators.

2.2. Infectious diseases and outbreaks

In the first six months of 2012, the dangerous communicable disease situation according to Ministry of Health data [7] was as follows:

Influenza A(H5N1) in humans: In the first 6 months of 2012, Vietnam reported 4 cases of Influenza type A(H5N1). Cumulatively since 2003, Vietnam has recorded 123 confirmed cases and 61 deaths All cases and deaths had a history of contact with sick or dead poultry; however, there is no epidemiological association between the cases. No case of human-to-human transmission has been recorded to date.

Influenza A(H1N1): Vietnam has contained the influenza A(H1N1) outbreak since July 2010. From August 2010 to August 2012, according to the national sentinel surveillance system, some positive cases of influenza A(H1N1) were recorded scattered throughout the country including the pandemic strain. However there is no big reservoir of infection recorded in the community. Currently, the monitoring of influenza A(H1N1) has been integrated into the national sentinel surveillance system.

Cholera: In the first six months of 2012 in Vietnam, no case of cholera was recorded. This represents a decline compared to the same period in 2011 (2 cases and 0 deaths). The nationwide epidemic monitoring of acute watery diarrhea cases is performed regularly. Diarrhea is the seventh leading cause of burden of disease for children under 15 years of age [6].

Dengue fever: The cumulative number of dengue fever cases in the first six months of 2012 was 23 166, with a total of 11 deaths in the same period. There is no major infection reservoir in the community. Infected cases are concentrate mainly in the southern provinces and cities. Compared to the same period in 2011 (19 822 cases and 16 deaths), the number of infected cases has increased by 14.8% while the number of deaths has decreased by 25%. The dengue fever detection rate increased from 122 to 148.1 cases per 100 000 population between 2009 and 2010.

Hand-foot-mouth disease: Cumulatively in the first six months of 2012, Vietnam reported 60 120 cases in 63 localities, in which 31 deaths were recorded in 14 provinces (mortality rate per 100 000 is 0.03; case fatality rate is 0.05%). In the first few months of 2012, the number of cases declined dramatically compared to the last few months of 2011. The number of hand-foot-mouth cases in May 2012 decreased by 14.1% (2108 cases) compared to April and decreased by 17.6% compared to the monthly average number ò cases reported in the last 6 months of 2011.

Rabies: Cumulatively in the first 5 months of 2012, 27 deaths from rabies were reported in 8 provinces. Among these, 89% of cases resided in the Northern mountains provinces of Son La (11), Ha Giang (6), Dien Bien (3), and Yen Bai (3).

***Viral hepatitis*:** Hepatitis B is a major public health problem in Vietnam. According to data on officially reported cases from the Ministry of Health in 2010, the hepatitis B prevalence rate was 11.21/100 000, an increase compared to 2006 (10.78/100 000) [5]. However, according to recent epidemiological studies, the hepatitis B (HbsAG+) prevalence rate is much higher, ranging from 10% to 20% in the general population and 20% to 40% among intravenous drug users and HIV patients [8]. The hepatitis B virus is a major cause of primary liver cancer in humans. Currently prevention and control of hepatitis B in Vietnam relies primarily on vaccination in children and blood screening for HbsAG among blood donors. Liver diseases related to hepatitis B infection will continue to cause a medical burden in Vietnam in the coming decades if appropriate and timely interventions are not implemented. Vietnam needs to develop a Hepatitis B control strategy with consistent, comprehensive and effective measures.

Inflammatory palhoplantar hyperkeratosis syndrome is a newly detected condition that has been plaguing Ba To district, Quang Ngai province. From 19 April 2011 to 11 June 2012, 216 cases were reported in 5 communes. Among these reported cases 12 resulted in death while 11 other deaths in the community are suspected to be related to the disease. Some 45 cases have experienced relapse. The Ministry of Health and WHO suspect that the inflammatory palhoplantar hyperkeratosis syndrome in hands and feet is a result of chronic poisoning, and appears to occur especially in people suffering from malnutrition and micronutrient deficiencies, however more rigorous study of the causes is difficult and will require further time.

HIV/AIDS: Up till 30 June 2012 the total number of people living with HIV was 204 019, the number of AIDS patients was 58 569 and cumulative number of deaths due to AIDS was 61 856. HIV infections have been detected in 78% of all communes and wards (hereafter simply referred to as communes) and nearly 98% of all districts in all 63 provinces [9]. HIV/AIDS prevalence in the community has increased from 187 to 224.3 per 100 000 population.

Tuberculosis (AFB+): The tuberculosis detection rate (AFB+) increased from 52.2 to 57.7 cases per 100 000 population.

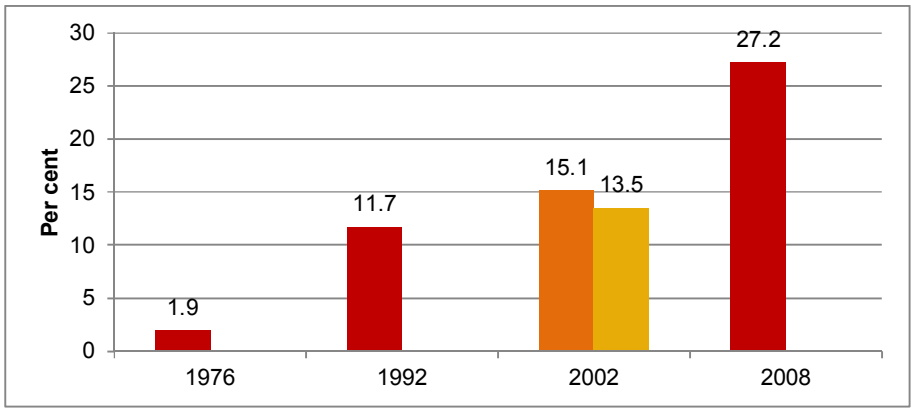
2.3. Non-communicable disease situation

WHO estimated that in 2008, out of the total 57 million deaths globally, 36 million deaths (accounting for 63%) were the result of non-communicable diseases [10]. Non-communicable diseases have led to heavy treatment burdens due to the fact that treatment time is prolonged and costly in terms of human and resource costs and technological means. Meanwhile disability burdens due to disease sequelae, burdens affecting families and the general society, impact negatively on social and economic development. According to WHO, non-communicable diseases cause losses ranging from 2 to 5% GDP depending on the nation.

In Vietnam, while communicable disease has seen a declining trend, non-communicable diseases (mainly cardiovascular diseases, diabetes, cancer and chronic lung diseases) have tended to increase. The increase in non-communicable diseases is related to industrialization, globalization and higher life expectancy. The majority of non-communicable diseases have the same risk factors, including smoking, poor diet, inadequate physical exercise, and alcohol consumption.

Hypertension: Although there is no regular national data source on hypertension, data from research studies since 1976 indicate that hypertension has increased considerably (Figure 7). While in 1976, research data showed that 1.9% of the adult population in the North had hypertension, in 2008, the nationwide infection rate of adulthood population (24 years and older) was 27.2% [11].

Figure 7: Hypertension trends, 1976~2008

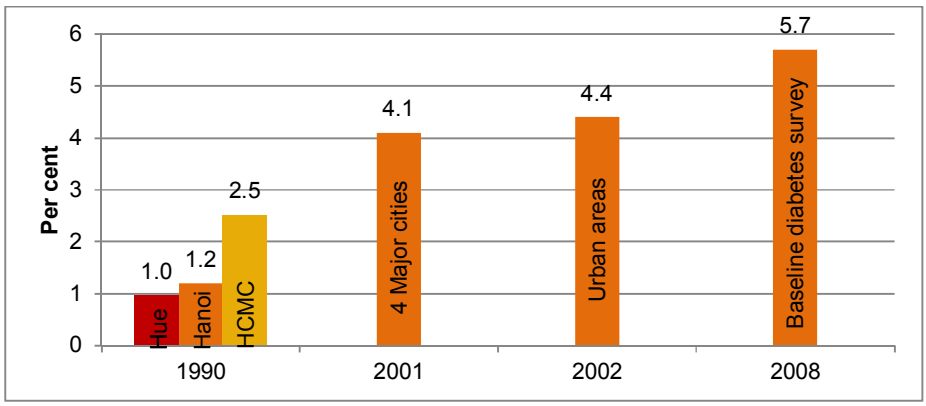


Note: 1976 data: Adult population in the North.
1992 data: National adult population.
2001-02 data: National population over 16 years of age.
2008 data: National adult population.

Sources: Years 1976, 1992 and 2008. The summary report on non-communicable disease prevention and control program 2002–2011. Year 2001–02 National Health Survey 2001-02.

Diabetes: The diabetes situation has also become increasingly serious (Figure 8). Research data in 1990 covering 3 provinces (Thua Thien Hue, Hanoi and Ho Chi Minh City) show that prevalence rates in the community from 0.96%–2.52%. Over time, this rate has increased rapidly to 4.1% in 2001 (research in four major cities) and 5.7% (according to the national Baseline diabetes survey).

Figure 8: Diabetes prevalence, 1990~2008



Source: Summary report on non-communicable diseases prevention and control program 2002–2011;http://ncd.org.vn/index.php?option=com_content&view=article&id=24:benh-dai-thao-duong-tai-vietnam&catid=24:giam-sat&Itemid=49&lang=en

Cancer: Each year, around 100 000–150 000 new cases and 75 000 deaths from cancer are reported (7 times higher than deaths from traffic accidents), and the numbers are increasing. The estimated incidence of all cancer types has increased substantially between 2000 and 2010. In 2000 among men cancer incidence was 141.6/100 000, while in 2010 it had reached 181.3/100 000. In 2000 among women cancer incidence was 101.6/100 000, increasing to 134.9/100 000 by 2010. Research by the Hanoi School of Public Health in 2008 showed that patterns of disease burden in cancer are different between men and women. The cancer disease burden in men is higher than in women for all types of cancer, especially lung cancer, liver cancer and oral cancer, with men having cancer incidence double that of women. Stomach cancer, liver cancer and lung cancer are the most common cancers in both men and women [6].

Neuropsychiatric disorders: According to a survey of the National Psychiatric Hospital No. 1, currently, the combined prevalence of the ten most common neuropsychiatric disorders is around 15%. Statistics in 2009 indicate schizophrenia prevalence at 159 per 100 000 people, while prevalence of epilepsy (neurological disease) was 66 per 100 000 people. It is estimated that depression affects 3.2% of the population.

Accidents and injuries: The number of accidents and number of injuries and deaths due to accidents, especially from road traffic accidents, has increased rapidly over the past 10 years. Deaths from all types of injuries and traffic accidents currently rank first among all causes of deaths in hospitals On average, Vietnam reports over 30 deaths and 70 injuries leading to disability each day. According to the 2010 Health Statistics Yearbook, the mortality rate for road traffic accidents in 2010 was 17.9 per 100 000 population (for men: 28.3/100 000, 3 times higher than for women 7.8/100 000). Besides traffic accidents, other injuries occur in the community, such as poisoning, fire, explosions, electrocution and drowning. The Hanoi School of Public Health research on disease burden and injuries in Vietnam in 2008 showed DALYs from unintentional injuries in men to be 2.5 times higher than in women (1229 compared to 505). Among unintentional injuries, road traffic accidents were the largest cause of disease burden, accounting for 8% among men and 4% among women. Falling and drowning are also two major causes of burden of disease due to unintentional injuries in both sexes [6].

3. Current measures to deal with non-communicable diseases

The rising incidence of non-communicable disease prompted the Prime Minister to approve the non-communicable disease prevention and control program in 2002 with a view to reducing mortality rates from four disease groups: cardiovascular disease, cancer, diabetes and neuropsychiatric disorders.[1] Since then, projects on cancer prevention and control, community management of mental health, hypertension prevention and control, diabetes prevention and control and chronic obstructive pulmonary disease (COPD) prevention and control have been incorporated into the National Health Target Programs.[2] This reflects a strong commitment of the Government and priority placed on the prevention and control of non-communicable diseases for Vietnam.

The establishment of non-communicable disease prevention and treatment programs serves as the foundation for developing activities in non-communicable diseases prevention and control. In the period 2002–2010, the non-communicable disease prevention and control program began to achieve some encouraging results. Endocrinology, mental health, and cardiovascular specialties have developed relatively comprehensive networks from the central to local levels. The surveillance systems for some non-communicable diseases have recently been established, including nine centers for cancer registry, three hospitals (Bach Mai, Central Geriatrics Hospital and People's Hospital 115-Ho Chi Minh City) maintaining stroke registries and regular reporting of information on incidence and mortality from non-communicable diseases at all state hospitals.

Many epidemiological surveys and research studies have been conducted, such as the survey on hypertension in four northern provinces in 2002, the survey on epilepsy and depression in eight regions in 2002 and 2005 and the survey on overweight/obesity in 2005. These studies have provided valuable information on non-communicable diseases and risk factors. The model for community-based integration of prevention and control of non-communicable disease is being implemented, evaluated, improved and gradually scaled up. Models for therapeutic management for each separate disease has been developed and implemented, including a diabetes management model in Thanh Hoa, Thai Binh and Binh Thuan provinces; a hypertension management model in Dong Anh district (Hanoi); a COPD management model in Bac Ninh and Nam Dinh. At the same time, health education and communication activities have been developed and are being expanded and diversified; clinical expertise related to non-communicable disease management for health staff at all levels has been improved.

Currently, the hypertension management model has been set up and maintained at 190 communes of 96 districts in 16 provinces. The total number of hypertension patients currently managed has reached 41 984 people, among them 17 613 are receiving treatment to control blood pressure. Some 73.3% of communes (a total of 8060 out of 11 000) are implementing the community mental health services model currently manages therapy for a total of 177 357 patients whose mental health problems have been detected, with 80% of these patients stabilized. Meanwhile, at the grassroots level, 152 590 diabetes patients are being managed and treated while 24 812 pre-diabetes patients are being managed and monitored.

From 2002 to 2011, the cancer prevention and control project in the provinces has screened over 150 000 in high risk groups for breast cancer and cervical cancer and screened

[1] Prime Ministerial Decisions No. 77/2002/QD-TTg, No. 108/2007/QD-TTg and No. 172/2008/QD-TTg.
[2] Prime Ministerial Decision No. 2331/QD-TTg dated 20 December 2010 and Ministry of Health Decision No. 2406/QD-BYT dated 18 December 2011 on issuing the list of National Target Programs in 2011 and for 2012–2015.

15 000 people for oral and colorectal cancers. COPD and asthma prevention and control project management offices have been set up at Saint Paul General Hospital (Hanoi), Bac Ninh General Hospital, Hung Yen General Hospital and Nam Dinh General Hospital.

Despite these efforts, activities of non-communicable diseases prevention and control projects face some shortcomings. Coordination, integration, and participation of other relevant ministries and sectors in preventing and controlling non-communicable diseases has been limited due to a lack of clear regulations about roles and responsibilities of related ministries and sectors. A diversity of organizations are charged with different risk factor prevention and control activities without a clear comprehensive plan. The network of non-communicable diseases prevention and control and its monitoring system have only been set up at the central level, and not yet in the provinces. The structural organization of the diabetes prevention and treatment networks in different provinces don't follow a uniform model; in some provinces there is an endocrinology-malaria center, in others endocrinology is combined with nutrition and in others it is a stand-alone center. Training to improve health staff capacity on non-communicable diseases has focused largely on the central level and the localities implementing specific projects. Activities are concentrated mainly on treatment while prevention and counseling have received inadequate attention.

4. Policies on health care for the people in mountainous, isolated and remote areas and ethnic minorities

The Communist Party, the National Assembly and the Government have many guidelines and policies on health care for the poor, residents of isolated and remote areas, and ethnic minorities. They have the overall objective of reducing disparities in health status. The policies could be classified into 3 groups: (i) attention to solving health problems faced disproportionately by the poor and ethnic minorities; (ii) improvement in access to basic health services for the people; and (iii) reduction in the financial burden of health care for the poor and ethnic minorities.

(i) Attention to solving health problems of the poor and the ethnic minorities

Among the poor and ethnic minorities infectious and parasitic diseases and malnutrition are prevalent. For many decades, Vietnam has effectively implemented on a large scale various health programs that have focused largely on dealing with communicable diseases. The morbidity rate of infectious and parasitic diseases has fallen dramatically. These targeted programs have benefitted the whole population, but especially people living in mountainous areas.

Health care for women and children in isolated and remote areas has been enhanced to improve their health status, to reduce maternal, infant and child mortality and malnutrition targeted to areas where morbidity and mortality rates remain higher than the national average.

Reproductive health care and nutrition improvement projects, budget allocations and preventive activities prioritize mountainous and disadvantaged provinces. Intervention models are adopted to contribute to improving the health of mothers and children in regions where some existing customs are harmful to health and include strengthening antenatal care, timely referral of high risk pregnancies, provision of clean delivery kits and safe delivery for women unable to reach health facilities in time.

Policies on family planning and population quality in ethnic minority and mountainous areas have been initiated and achieved some promising results. The campaign for strengthening communication and advocacy is being integrated with reproductive health/ family planning services through strengthened education and communication efforts in three

service packages: Safe motherhood; examination and treatment of sexually transmitted diseases; provision of family planning services in provinces with a high density of ethnic minority people. The mix of contraceptive methods used in provinces with large ethnic minority populations has shown some improvements.

(ii) Strengthen the capacity to provide basic health services to the poor and the ethnic minorities

Policies to consolidate the grassroots health network have brought about important achievements in improving people's health, especially of the poor. Grassroots health facilities provide around 80% of health services, serving the poor and people in remote, isolated and disadvantaged areas. In addition to the consolidation, improvement and development of the grassroots health network, capacity for implementing many medical services and technologies has been transferred from higher to lower levels. The grassroots health staff have received classroom and in-service training to update their knowledge. Health facilities have been rebuilt, equipped and provided with medicines to effectively serve the people's needs for health care at the grassroots level. The Ministry of Health has developed policies and effectively implemented clinical mentoring from higher to lower levels through the Program 1816. Many localities have organized mobile health teams, examining, treating and caring for people's health in mountainous, remote and isolated areas.

(iii) Reduce burden of health care costs for the poor and the ethnic minorities

Policies including macro-level health financing policies (for example increases in the state budget for the health sector, budget allocation prioritizing disadvantaged areas, health insurance development...) and specific pro-poor and ethnic minority policies (free health insurance card, health care card for the poor, financial support for food, travel costs and co-payment...) have been implemented to the reduce burden of healthcare costs. A recent study [12] indicates that during the period 2002–2008, the proportion of households in the lowest living standards quintile who faced catastrophic spending ranged from 12.7% to 14.2%. However, by 2010, the proportion of households with catastrophic spending had fallen to 9.9%. This suggests a reduction in catastrophic spending among poor households has resulted in part from health financing policies, including some of the following policies.

- Resolution No. 18/2008/NQ-QH12 of the 3rd session of the XII session of the National Assembly: "Pay attention to allocating the state budget for health care of those who contributed to the revolution, the poor, farmers, ethnic minorities, people in areas with difficult and especially difficult circumstances".
- Governmental Resolution No. 80/NQ-CP dated 19 May 2011 on the orientation for sustainable poverty reduction for the period 2011–2020: "Effectively implement the policy of providing health insurance cards to the poor, subsidizing health insurance for the near poor; developing policies to support the poor who suffer from severe and life-threatening diseases...".
- The Law on Health Insurance promulgated on 14 November 2008: "members of poor households; ethnic minorities living in socio-economically disadvantaged areas" receive health insurance cards paid from the state budget. When seeking medical examination and treatment at the commune health station, they are provided with free services with costs paid by health insurance (100%), when seeking care at state hospitals (including antenatal examination and delivery, as well as high-tech services except for in-vitro fertilization), 95% of the costs are covered; for children under age six 100% of health care costs are to be covered by health insurance.

- Prime Ministerial Decisions No. 139/2002/QD-TTg dated 15 October 2002 and No. 14/2012/QD-TTg dated 01 March 2012 supplemented and revised some articles of Decision No. 139/2002/QD-TTg dated 15 October 2002 on health care for the poor. According to these two decisions, poor people, ethnic minorities living in communes or district towns in disadvantaged areas are provided with free health insurance cards, and provided financial support for food and travel costs when receiving treatment in state hospitals at the district level and above; are provided financial support to pay the 5% co-payment; and receive additional financial support when they face severe diseases or high cost treatments such as cardiac surgery, cancer treatment or renal dialysis.

5. General remarks

From the above analysis we can see that the Vietnamese people's health status continues to improve. Almost all basic health indicators in the Five-year health sector plan have improved. Vietnam continues to make progress towards achieving the health MDGs, such as prevention and control of HIV/AIDS, malaria and other diseases (MDG 6); reduction by 50% in the proportion of people without regular access to basic hygiene and safe water (MDG 7). Besides the progress made, there remain major issues of concern.

In order to achieve the MDGs, in the next 3 years, Vietnam must make greater efforts to reduce the under-five mortality rate (MDG 4) to 19.3‰ by 2015 (currently 23.3‰); reduce the maternal mortality ratio to 58.3 deaths per 100 000 live births (currently 67); and increase the proportion of people with access to sanitary latrines.

Geographic disparities in people's health status across regions and urban-rural areas is an important issue of concern. Together with economic development and poverty reduction through Government programs, strengthening of healthcare work to address health problems in the Central Highlands, Northern Midlands and Mountains, the North and South Central Coast are urgent tasks. In the immediate future, it is recommended to focus efforts to overcome the large and seemingly widening disparities in the infant and under-five mortality rates and stunting.

While some dangerous infectious diseases still threaten the population, newly emerging diseases with complicated epidemiology are confounding public health experts because of their unpredictability and non-communicable diseases continue to increase in prevalence. This combination poses a great challenge to health status of the people and the health care system in Vietnam.

II. Determinants of health

1. Socio-economic and population factors

Vietnam's economy has overcome numerous difficulties and challenges and managed to maintain a relatively high growth rate leading to a rise in the size and potential of the economy. Vietnam has escaped from less developed country status to become a lower middle income country. The annual economic growth rate has been maintained at 7% over the past 5 years (2006–2010). Realized investment capital was 2.5 times higher than in the period 2001–2005, reaching 41.9% of the Gross Domestic Product (GDP). Although Vietnam's economy is in the midst of a global financial crisis and economic recession, foreign investment in Vietnam remains steady and high. GDP in 2010 was USD 101.6 billion in real prices, which is 3.26 times higher than in 2000; annual GDP per capita was USD 1168. Almost all sectors and areas of the economy have moderately rapid pace of development. A

developed and stable economy has facilitated increasing investment in health and strengthening of the people's health. The state budget share of GDP spent on health in 2007 was 2.36%, declining to 2.30% in 2008, then back up to 2.77% in 2009 and 3.09% in 2010 – reflecting a rising but unsteady trend over time [13]. It is likely to fall in the next few years as government bond investment is completed.

Along with these impressive achievements there are emerging challenges, such as high underemployment rates and low income of workers. The lives of some parts of the population, especially people living in mountainous, remote, isolated areas continue to face many difficulties. Hunger eradication and poverty reduction achievements are not sustained, as a the proportion of households falling back into poverty remains high. The overall poverty rate in Vietnam has continued to decline from 18.1% in 2004 to 10.7% in 2008. In 2010 the new poverty line was applied giving a poverty rate of 14.2% of the population. However, regionally, the Northwest region still faced very high poverty, reaching 39.4% in 2010, compared to the Southeast with a poverty rate of 3.4%. The rich-poor gap is rising; There has been a slight increase in inequality as measured by the Gini coefficient from 0.420 in 2002 to 0.433 in 2010. In 2010 monthly income per capita was 1 387 100 VND. But there are substantial differentials across regions with the Southeast having per capita income almost three times higher than the Northwest [14]. There remain shortcomings in social sectors and cultural factors, which have been slow to improve, especially in the areas of education and training and health care. Ethics, and lifestyles of some groups in society have deteriorated.[3]

Population factors also can have large impacts on population health and healthcare and protection activities. The Population Census in 2009 indicated that Vietnam's population will continue to rise, on average, about 900 thousand people per year. Population density is high (259 people per km^2), double that of the Asian continent, higher than in China, and nearly 6 times higher than the world's average density. This has put pressure on socio-economic development and the lives of the people. The population age structure has changed dramatically with the proportion of population below 15 years of age falling from 33.0% in 1999 to 24.8% in 2010. Conversely, the share of population in the age group 15–59 years (working ages) has increased from 59.0% in 1999 to 65.8% in 2010 and the age group of 60 years and older rises from 8.0% in 1999 to 9.4% in 2010. The population aging index[4] increased by 11% points from 24.5% in 1999 to 35.9% in 2010. A high elderly proportion of the population will entail rising needs for social welfare and health care services in the immediate future. Nevertheless, the age group of women entering reproductive ages is also very large, and this will heavily influence demand for reproductive health services and pediatric services in the coming years.

Developing industries and shrinking land area under cultivation, rising population in urban areas and decreasing population in rural areas create considerable challenges for health care service provision. Social infrastructure development tends to lag behind population growth in urban areas, including housing, employment, power supply, safe water supply, hygiene and environmental sanitation, and in some cases formation of slums and new settlements lacking basic social infrastructure such as schools and medical facilities.

2. Environmental factors

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, solid

[3] Fourth Draft Master Plan for Health Care System Development for 2011–2020 and vision to 2030
[4] Population aged 60 and older per 100 people aged below 15 years.

waste and man-made disasters are harming human health. Urban air pollution is primarily caused by transportation vehicle exhaust (70%) due to rapid rise in the density of vehicles during urbanization. This causes a number of health problems related to acute and chronic diseases related to short-term and long-term air pollution exposure.

For small enterprises, private enterprises and traditional handicraft enterprises, working conditions are rarely or never monitored, and there are many risk factors for health and disease while there is inadequate assistance from occupational health programs. Waste management in medical facilities remains inadequate so medical waste is also a source of environmental pollution affecting the people's health.

Food safety and hygiene: The food poisoning situation remains complicated. Every year, about 200 food poisoning cases occur with about 30 incidents involving over 30 people affected, and total deaths add up to about 40 people per year. In 2010, 175 food poisoning cases were recorded, with a total of 5664 people affected and a total of 42 deaths. Use of illegal chemicals and additives during food processing remains fairly common. Meanwhile, the technical capacity of provincial food safety and hygiene administration offices is still poor since they are only newly established with inadequate physical infrastructure, facilities and qualified personnel. Supervision, testing and identification of causes of food poisoning is very limited.

Climate change: Vietnam is one of the countries that will be most heavily affected by climate change and increasing ocean levels. Over the past 50 years, Vietnam's average temperature increased about 0.5–0.7^{o}C, with sea level rising by 20 cm. According to the Ministry of Natural Resources and Environment (MONRE), by the end of the 21st century, the average temperature in Vietnam may increase by 2.3^{o}C compared with the 1980–1999 period and sea levels will keep rising. Rising ocean levels mainly affect production, income generation and health of the people living in the coastal areas.

Direct effects of climate change to human health occur through physical and energy exchange relations between humans and the surrounding environment, leading to changes in physiology, habits, adaptability and physical reactions to those impacts. Prolonged heat spells and rising air temperatures can cause negative consequences on human health, leading to increasing health risks for the elderly, people with cardio-vascular disease, mental illness and allergies. Temperature related deaths to elderly people and newborns are not rare. Rising temperature due to climate change combined with urban heat island effects and air pollution in urban area may lead to increased mortality.

Indirect impacts of climate change on human health occur through transmission sources increasing the likelihood of outbreak and spread of epidemic diseases such as avian influenza A(H1N1), Influenza A(H5N1), diarrhea, and cholera. Climate change accelerates the likelihood of emergence and re-emergence of some tropical diseases such as malaria, dengue fever, Japanese encephalitis, and rising growth and development speed of some bacteria, disease vectors and hosts (flies, mosquitoes, rats, fleas, ticks).

3. Lifestyle factors

Tobacco consumption: Vietnam is among the countries with the highest male smoking prevalence in the world. Smoking prevalence in Vietnam in 2010 showed a decline compared to 2002. Male smoking prevalence fell from 56.1% to 47.4%; Female smoking prevalence declines from 1.8% to 1.4% during this period. The proportion of Vietnamese people exposed to second-hand smoke is very high at home, in the work place and in public places [15]. Beside the burden of disease and death, tobacco smoking also causes financial burdens. Legislation on banning tobacco smoking in public, crowded places has been

promulgated but the law enforcement and fines are not yet strong enough so little effect has been seen in smoking behavior.

Alcohol abuse has a large impact on health through three channels: intoxication, alcoholism and alcohol poisoning. Alcohol consumption is high in groups with high educational attainment. The Survey Assessment of Vietnamese Youth (SAVY 1 and SAVY 2) indicates that the proportion of people aged 14–17 years who report ever drinking a glass of alcohol/beer in 2004 was 35% but rose to 47.5% in 2009; For people aged 18–21 years, in 2004 this proportion was 57.9% and increased to 66.9% in 2009. The study on burden of disease in Vietnam found that alcohol use disorders ranked third out of all causes of disease burden in men.

Illicit drug use: There is a large number of illicit drug users and no sign of a declining trend. According to the Ministry of Public Security, in June, 2010 the whole country had over 118 400 drug addicts under management, by September, 2010 it rose to 131 000 addicts. It is estimated that there is a relatively large number of undetected and unmanaged drug addicts among civil servants. HIV/AIDS infection is closely related to drug addiction in Vietnam, about 41% of HIV/AIDS infections are linked to injection drug use [9].

Unsafe sex is a significant factor leading to increases in HIV infections through sexual transmission.

III. Recommendations

From the above assessment of health status and determinants, the report makes recommendations on several general policy measures summarized below (see Chapter 9 for more details).

1. Non-communicable disease prevention and control

- Develop and enforce national policies and plan for the prevention and control of non-communicable diseases.
- Strengthen interventions to reduce prevalence of preventable risk factors of non-communicable diseases.

2. Improving the health of people living in disadvantaged areas

- Address health problems for the poor and ethnic minorities.
- Strengthen the ability to provide basic health care services for the poor and ethnic minorities.
- Further reduce the burden of health care costs for the poor and ethnic minorities.

3. Responding to changing disease patterns and emerging diseases

- Effectively implement the national Strategy for people's health care, protection and improvement for the period 2011–2020, vision to 2030, the Five-year health sector plan 2011–2015 and the comprehensive master plan for health care network at all levels.
- Prioritize preventive medicine and health promotion.

Chapter 2: Update on the health system

1. Main tasks for the health sector in 2012

The major tasks of the health sector in 2012 were laid out in National Assembly Resolution No. 11/2011/QH13 dated 9 November 2011, Government Resolution No. 01/NQ-CP dated 3 January 2012, the 2012 Socio-economic Development Plan and the Government documents guiding implementation of the socio-economic development plan and determining the state budget for 2012. The contents of the resolutions specify the tasks of different components of the health sector for the year 2012 including:

- Consolidate and strengthen grassroots healthcare and the preventive medicine network through application of national preventive medicine standards in provincial preventive medicine centers, effective implementation of national health target programs, carrying out the rural health development project and initiating application of the 2011–2020 national commune health standards.
- Place priority on improving quality of medical examination and treatment, rational use of drugs and high tech equipment, and combining traditional and modern medicine in medical treatment. Implement a consistent set of measures to gradually reduce hospital overcrowding.
- Implement financial management mechanism reforms in public hospitals; strongly promote social mobilization; undertake further research to adjust the medical service price schedule linked with improving quality of medical services, while increasing the subsidies to purchase health insurance for various entitlement groups; support participation of farmers in health insurance.
- Implement activities to achieve health human resource development goals. Strengthen investment in upgrading state health worker training establishments. Expand other forms of training aimed at ensuring human resources for health care facilities in the near future, in particular paying special attention to specialized training, training to meet high tech requirements, transfer of technology and improving management skills. Continue to expand the secondment of medical workers from higher level facilities to work in lower level facilities to improve quality of treatment, and contribute to reducing overcrowding of higher level hospitals.
- Ensure adequate supply of essential medicines to serve treatment needs; ensure transparent and effective management of drug prices and tight control over drug quality.
- Strengthen health information, education and communication and implement a consistent set of measures to maintain population growth at a reasonable rate. Strongly reduce the imbalance in the sex ratio at birth and undertake activities to improve population quality.

Major orientations for health sector activities in 2012 and subsequent years have also been announced by the Prime Minister. These include Announcement No. 62/TB-VPCP dated 27 February 2012, the Prime Minister's Concluding statement at the Conference to initiate the tasks of the 2012 plan and celebrate the 57th annual Vietnam Medical Practitioner Day celebration, and a review of one year implementation of the campaign to learn from and emulate the ethical example of Ho Chi Minh in the health sector. In addition to the above tasks, in the upcoming period, the health sector will need to focus on several crucial tasks as follows:

- Continue to reform and improve Vietnam's health system with an orientation towards equity, efficiency and development. Strengthen the health sector at the district and grassroots levels and the preventive medicine network in order to achieve the best results in caring for the people's health. Urgently study, update and organize effective implementation of master planning for the hospital system and other medical facilities in order to ensure efficiency and pragmatism in the current difficult conditions of resources shortages.
- Reform the operational and financial mechanisms in state medical facilities linked with implementation of the roadmap towards universal health insurance coverage. Implement widespread information and communication campaigns so the people understand clearly and support implementation of the adjustment in medical service prices linked with improvements in medical service quality that the Government has approved. Manage transparently and effectively any adjustments in pharmaceutical prices to serve the needs of the people and contribute to macroeconomic stability.
- Resolutely implement measures to gradually reduce hospital overcrowding, striving to eliminate doubling up of patients in hospital beds. In the short-term, focus priority on resolving overcrowding in central general hospitals and hospitals specialized in oncology, trauma and orthopedics, pediatrics, cardiology, and obstetrics in Hanoi and Ho Chi Minh City.
- Urgently check, revise, amend and issue new mechanisms and policies aimed at creating incentives to strengthen social mobilization, mobilize social resources to more effectively and rationally participate in caring for the people's health.
- Operationalize and implement Vietnam's Master Plan for health human resources development for the period 2012–2020. Implement measures for development of health human resources in mountainous, remote, isolated, rural and disadvantaged areas. Develop and implement appropriate financial incentives for health officials and workers.
- Implement disease control and prevention measures; actively and rapidly control and push back communicable disease and prevent any major outbreaks. Strengthen health information, education and communication to improve awareness of the people about disease prevention and control. Strengthen reproductive health and health care for the elderly.
- Strengthen medical ethics education, continue to promote the campaign to study and emulate Ho Chi Minh's ethical example linked closely with improvements in remuneration and other policies regarding health workers in the health sector.

2. Assessment of the implementation of the Five-year health sector plan and previous year JAHR recommendations

This section provides a general assessment of the implementation of tasks assigned by the Government as well as the targets, tasks and measures set out in the Five-year health sector plan 2011–2015 and previous year JAHR recommendations (hereafter referred to as *tasks*).

2.1. Health service delivery

Achievements

1. Primary health care, preventive medicine and national health programs

Task 1: Strengthen and consolidate the grassroots health system, preventive medicine network and implement national health target programs

Preventive medicine, with a network from the central to the grassroots level encompasses control of infectious disease, food hygiene and safety, prevention of accidents and injuries and control of non-communicable diseases, HIV/AIDS and national health target programs. The preventive medicine system has operated effectively over many years.

The grassroots healthcare network continues to be strengthened. The Ministry of Health has implemented a review of 10 years of implementation of Directive 06-CT/TW on consolidating and improving the grassroots health network. The proportion of communes meeting national benchmarks for the period 2001–2010 reached over 80% overall. By the end of 2011, 78.8% of commune health stations provided medical examination and treatment for insured patients [2]. The Ministry of Health has reviewed implementation of national commune health benchmarks for the period 2001–2010. The proportion of communes meeting national benchmarks for the period 2001–2010 increased from 65.4% in 2009 to 80.1% in 2010. The new national commune health standards for 2011–2020 have been applied since 2011, pushing down the proportion achieving these more stringent standards.

Primary health care is gradually being reformed, medical services offered at the commune level have been expanded, including pilot implementation of community level management of chronic diseases including asthma, hypertension, diabetes, mental illness, contributing to reducing overcrowding of hospitals. The Ministry of Health is also developing a proposal for a project to develop the model of family medicine in order to improve the quality of medical examination and treatment at the primary level while developing a mechanism for a gatekeeper and referrals to contribute to reducing overcrowding at higher levels.

The incidence of some communicable diseases has shown a decline over several years (share of communicable diseases in overall morbidity has declined from 22.9% in 2009 to 19.8% in 2010).The health sector has directed localities to control dangerous epidemics and has controlled outbreaks that occurred during the year including hand, foot and mouth disease; meningococcal infection; dengue fever; and influenza A(H5N1).

The proportion of children under one year of age who have been fully vaccinated reached 95% and includes 7 to 8 types of vaccines.

Environmental health activities have been strengthened: All provinces monitor quality of drinking water; 84% of commune health stations have clean water supply and sanitary toilets, 55% of households in rural areas have a sanitary toilet. The master project for treatment of medical waste for the period 2011–2015 and the orientation to 2020[5] is being implemented. Up till now, 54.4% of all hospitals have a waste treatment system.

The health sector has initiated implementation of Prime Ministerial Decision No. 730/QD-TTg dated 19 June 2012, assigning 2nd July every year as “Patriotic hygiene day for public health”. It has successfully organized the launching ceremony for this campaign.

[5] Prime Ministerial Decision No. 2038/QĐ-TTg, dated 15 November 2011.

The Health Environment Management Agency is drafting a communication plan and a rural sanitation project for the National health target program for clean water and sanitation in rural areas for the period 2012–2015. The Agency has completed the draft circular guiding verification and surveillance of the quality of household latrines. The National plan for occupational safety and hygiene for the period 2011–2015 is being implemented.

In 2012, the Prime Minister approved the National strategy for the control and prevention of HIV/AIDS to the year 2020 with a vision to the year 2030 and the National target program on HIV/AIDS control and prevention for the period 2012–2015.

Task 2: Improve food quality and ensure food safety and hygiene

In 2012, some important legal documents in the area of food safety and hygiene were promulgated, including detailed regulations of articles of the Law on Food Safety and many circulars issuing technical standards for food safety and hygiene.

The National strategy for food safety was promulgated (Decision No. 20/2012/QD-TTg) and the Master plan for food safety from production through consumption has been initiated on the basis of good practice systems. The entire food supply chain is being controlled for safety, meeting requirements for development and international economic integration. The National target program on food hygiene and safety for the period 2012–2015 was approved (Decision No. 1228/2012/QD-TTg).

Activities to prevent food poisoning, monitor risks of food contamination and food poisoning cases have been implemented nationwide. Information and communication campaigns on food safety and hygiene have been implemented through many diverse forms and information channels. Nationally, food poisoning has declined compared to 2010 both in terms of incidents, cases, hospital admissions and deaths.

Task 3: Strengthen health information, education and communication

Health information, education and communication to raise the people's awareness of health promotion and care is receiving increasing focus. The Minister of Health has directed units directly managed by the Ministry to develop and issue a Plan for information, education and communication on health for the period 2012–2013. This is one of the seven priority orientations of the health sector over the next 5 years. Messages and forms of communication are diverse to increase access to knowledge by target audiences in order to change behaviors.

2. Medical examination and treatment

Task 1: Resolve overcrowding of hospitals

The number of inpatient and outpatient contacts per year were respectively 13.7 and 39.9 per 100 population. The average length of hospital stay was 6.9 days in 2009 but increased to 7.4 days in 2010, then fell to 6.8 days in 2011. It is of particular interest that average length of stay in central hospitals has fallen from 10.8 days to 9.4 days in 2011.

Currently the Ministry of Health is developing a Project proposal for reducing hospital overcrowding for the period 2011–2020, and will submit it to the Prime Minister at the end of 2012. The measures proposed for reducing hospital overcrowding range from strengthening and consolidating investments, to improving quality of medical care at the grassroots level, to adjustments in the medical service price schedule in state health facilities (Circular No. 04/2012/TTLT-BYT-BTC). The latter policy includes a regulation reducing bed day charges that can be collected from patients doubling or tripling up in a hospital bed, with the hopes that this will have a positive effect towards reducing hospital overcrowding.

Bed occupancy rates overall in the medical care network have seen a slight decline, from 122% in 2007 down to 111.6% in 2011 [16]. Some medical specialties have seen a reduction of about 30% in the number of patients referred to higher levels [2]. The health sector continues to maintain the secondment of qualified medical staff to provide technical assistance at lower level health facilities. It is estimated that over 650 technology transfers have occurred and over 500 training courses have been organized by the seconded health workers in order to improve capacity of health workers in lower level facilities [2].

Task 2: Improve medical care service quality

In order to implement the goal of standardizing medical service and hospital quality and gradually reaching regional and international standards, the Ministry of Health is drafting a circular to guide implementation of hospital quality management. In practice, several hospitals have applied various models and standards of medical service quality management including ISO and JCI standards or TQM methods and have attained promising results in hospital service quality improvement.[6] Part II of this report will analyze this issue and current measures to resolve this problem.

Task 3: Work out the details of the organizational model for district level health services and implement effectively the hospital system master plan

Up through December 2011, a large majority of district hospitals (91.3%) have been allocated investment capital from government bonds according to Decision No. 47/2008/QD-TTg in order to build infrastructure. Construction has been completed on 147 district hospitals and 46 regional polyclinics that have been put into operation by December 2011. Some 275 hospitals and 60 regional polyclinics anticipate that construction will be completed in 2012 if adequate investment funds are allocated. In addition, 51 provincial general hospitals, 48 specialized tuberculosis hospitals, 35 mental health hospitals, 23 pediatrics/obstetrics-pediatrics hospitals, and 5 oncology hospitals/centers have received investment funds according to Decision 930/2009/QD-TTg. Up through December 2011, 86 of these hospitals have been completed and put into operation [17].

The network of private hospitals continues to expand, in 2011 an additional 31 private hospitals were issued operating licenses, raising the total to 133 private hospitals and the total number of private beds to over 6000 beds [2].

Task 4: Implement registration and issuing of operating licenses to facilities and practice licenses to practitioners

Regulations guiding registration and issue of operating licenses to medical facilities and issue of practice licenses to medical practitioners are gradually being completed (Decree No. 87/2011/ND-CP and Circular No. 41/2011/TT-BYT). The Ministry of Health is currently developing and improving the system for managing the issuing of medical practice licenses through the internet to assist in diminishing hassles for medical practitioners who wish to register their practice, reducing management costs, standardizing the database, providing information on the structure and quality of human resources for health, and more accurately and rapidly forecasting total health manpower supply.

[6] ISO are standards of the International Organization of Standardization; JCI are standards of Joint Commission International; and TQM is total quality management methods.

Task 5: Develop and update legal documents and professional guidelines

In 2011, the Ministry of Health has issued several legal documents guiding implementation of articles in the Law on Examination and Treatment. A series of diagnosis and treatment and care guidelines were issued in order to improve quality of care. (Detailed information is presented in the section on Governance below).

3. Population-family planning and reproductive health

Task 1: Maintain replacement fertility, ensure appropriate sex ratio at birth, implement reproductive health care effectively

Population and family planning work has brought many remarkable achievements: achieving the goal of families limiting themselves to one or two children; maintaining reductions in fertility and achieving replacement fertility every year since 2005 (total fertility rate in 2011 was 1.99 children per woman compared to 2.72 children per woman in 1999) [1]. Although occasionally fertility fluctuates up and down, in general the trend towards reduced fertility has been maintained. In addition, the network of reproductive health care providers is increasingly being consolidated. Safe motherhood services are provided widely. The National target program on population and family planning for the period 2012–2015 has been approved (Decision 1199/2012/QD-TTg).

The General Office for Population, Family planning is currently developing a project proposal to control the imbalanced sex ratio at birth for the period 2012–2020 to submit to the Prime Minister for approval. (Submission document No. 18/TT-BYT dated 9 January 2012). During 2012, the Office continued to implement the existing pilot project for control of sex imbalance at birth in 5685 communes of 43 provinces (maintaining 3463 communes and expanding 2222 communes in the project). The Office has also implemented and expanded a project providing health advice and care for elderly people in the community in 160 communes in 23 provinces with a high share of elderly people in the population (expanding to add 118 new communes and 16 new provinces during 2012).

Task 2: Rapidly reduce child malnutrition rates

The National nutrition strategy for the period 2011–2020 and the vision to 2030 was approved by the Prime Minister (Decision No. 226/QD-TTg dated 22 February 2012). The project on reproductive health and child malnutrition control and prevention in the National health target program for the year 2012–2015 (Decision 1208/2012/QD-TTg) was approved and is being implemented. Child malnutrition control activities continued to be implemented uniformly and comprehensively. In 2011, the underweight rate of children below 5 years of age fell to 16,8%, a decline of 0.7 percentage points compared to 2010, with reductions in all 6 regions. In 2011, the stunting rate for children under age 5 was 27.5%, reflecting a decline of 1.8 percentage points compared to 2010, although this rate remains high.

Task 3: Improve quality of reproductive health services

The National health target program for the period 2012–2015 was approved and includes many activities to increase effectiveness of reproductive health. Reproductive health for women has seen some positive developments. Nationally, the proportion of pregnancies being managed reached 95% (2010) an increase of 0.4 percentage points compared to 2009. In 2010, the proportion of women who delivered with assistance from a trained health worker reached 95.7% nationally, an increase compared to 2009. The proportion of pregnant women vaccinated 2 or more times for tetanus reached 94.5%; the proportion of mothers and

newborn infants given postpartum/postnatal care in the first week after delivery increased from 81.9% to 85%.

Difficulties and shortcomings

- Preventive medicine services are only irregularly monitored. Activities on prevention and management of non-communicable diseases are not adequately intensive or extensive.
- Availability of information and the information management systems to serve monitoring are weak. With the exception of increased intersectoral activities in food safety and control of zoonotic diseases, intersectoral coordination in policy formulation and implementation of preventive medicine activities is weak due to lack of coordination mechanisms and inadequate clarity in allocation of responsibilities across sectors.
- While the grassroots health network has gradually been consolidated, investments in the grassroots health system remain limited and inadequate to meet requirements for recurrent spending, human resources, medical equipment and devices, and basic conditions like clean water and sanitation in 100% of facilities.
- Overcrowding of hospitals remains relatively serious at all levels. Nationally, although overall bed occupancy rates have seen reductions from a peak of 122% down to 111.6% in 2011 [16], bed occupancy rates at the central hospitals have actually from 116% in 2009 to 120% in 2010, before declining slightly to 118% in 2011. This problem is especially severe in the Vietnam National Cancer Hospital (172%), Bach Mai Hospital (168%), Cho Ray Hospital (139%), National Hospital of Pediatrics (119%), and the National Hospital of Tropical Diseases (124%) [2]. Overcrowding of provincial hospitals is also occurring, especially in obstetrics and pediatrics. The main reason for overcrowding of higher level hospitals is shortcomings in physical facilities, equipment, size of staff and their professional competencies in commune and district levels. In addition, overcrowding results from incentives from the financial mechanism and undesired effects of some policies (e.g. the mechanism for state budget allocation to hospitals, hospital autonomy, user fee policy,..). In order to overcome overcrowding of higher level hospitals requires a coherent system of measures to improve quality of medical care at the district and commune levels.
- The criteria for hospital quality assessment have not yet been developed. Development and updating of treatment guidelines, technical procedure guidelines and the list of services that should technically be available at different levels of the system has been slow. The hospital rating assessment has not yet been implemented uniformly throughout the system.
- The evaluation of implementation of Circular No. 3/2008/TTLT-BYT-BNV on the organizational model for district health care system has not yet been implemented to see whether it is necessary and feasible to uniformly structure district health services. Currently there are 697 districts, of which 233 have a district health center that combines examination and treatment with prevention and more than 460 districts have a district health center that implements preventive medicine functions and a general hospital that operates independently.
- Health environment measures need further improvement. A relatively large share (16%) of commune health stations do not yet have adequate water and sanitation

facilities. The proportion of households in rural areas without a sanitary latrine remains high.

- The Vietnamese population is facing many challenges, especially the imbalance in sex ratio at birth, with a rapid rise in the number of boys born for every 100 girls, threatening societal welfare 10 to 20 years from now (In 2010 the sex ratio at birth is 111.2 boys for every 100 girls in 2010). Fertility rates in some regions are still at risk of increasing. Unsafe abortions remain common, especially among adolescents. The quality of Vietnam's population remains low (The HDI ranked Vietnam 113th out of 169 countries in 2010) [18].
- There are wide regional disparities in maternal and child health. Maternal mortality remains high in some regions and provinces, especially in remote, isolated areas, where geography, poverty, and cultural factors inhibit access to health facilities and where quality of maternal and child health care, especially postnatal care, remains weak. Child stunting remains high. The incidence of obstetric complications in 2009 was 2.2‰, increasing to 2.8‰ in 2010, with increases found to be related to infection and pre-eclampsia. This indicates that the quality of pregnancy care remains limited.

2.2. Health financing

Achievements

Task 1: Reform the operational and financial mechanism in state sector health service facilities

Decree No. 85/2012/ND-CP on the operating and financial mechanism in state health service facilities and medical service prices in state medical facilities was issued on 15 October, 2012. This decree comes into effect on 1 December 2012 and replaces Decree No. 95/CP dated 27 August 1994 on partial user fees. In the process of developing this decree, besides gathering feedback from a wide set of relevant units and organizations, the Ministry of Health has paid attention to gathering practical evidence and consulting international experience. The Ministry of Health has directed and organized evaluation of implementation of Decree 43/2006/ND-CP (on hospital autonomy in public hospitals) and collaborated with the World Bank to organize two workshops to exchange international experience on this issue.

In 2012, the Ministry of Health has finally completed and approved revisions to the medical service price schedule after many years of recommendations in the JAHR. Circular No. 04/2012/TTLT-BYT-BTC sets the maximum prices in a schedule covering 447 examination and treatment services at state facilities to replace the user fees issued in Circular 14/1995/TTLB and 80 services in Circular 03/2006/TTLT-BYT-BTC-BLDTB&XH. The price levels were determined on the basis of some of the input cost components of services (i.e. drugs and materials; utilities; maintenance and materials for equipment; salary supplement for overnight and weekend duty and for performing surgeries and procedures).

In addition, the Prime Minister issued Decision No. 14/2012/QD-TTG on revising and amending articles of Decision 139 on health care for the poor. According to this new Decision, target groups to benefit from assistance for healthcare costs were expanded to include people receiving monthly welfare payments from the State and people suffering from cancer, kidney dialysis, heart surgery and other diseases that cause them to suffer difficulties due to high costs and inability to pay. The scope of assistance for the poor and ethnic

minorities was expanded to include food, transport costs and co-payments for health care services.

Task 2: Implement the roadmap towards universal health insurance coverage

The health insurance coverage rate in 2011 reached 64.9%, an increase of 4.9 percentage points compared to 2010 [19]. The health insurance coverage rate reached high levels for specific groups including civil servants (100%), groups where health insurance is paid by social security including pensioners and social welfare beneficiaries (100%), groups where premiums are paid by the state budget including the poor, ethnic minorities and children under 6 years of age (92.6%). Results of the 2010 Living Standards Survey of the General Statistics Office indicate that the proportion of people seeking inpatient and outpatient care who are covered by health insurance or a fee exemption card reached 66.7%, about the same as the proportion of people with health insurance.

In order to strengthen the role and responsibility of Communist Party organizations and authorities at various levels, and to bring into play the strength of the political apparatus in implementation of the goal of universal health insurance coverage, on 22 November, 2012, the Politburo issued Resolution No. 21-NQ/TW on strengthening leadership of the Communist Party in the area of social insurance and health insurance for the period 2012–2020. In September 2012, the Ministry of Health submitted to the Prime Minister a draft Project for implementing the roadmap to universal health insurance coverage for the period 2012–2015 and 2020, including goals, a concrete roadmap, and an overall package of measures to reach the goal of universal health insurance coverage. The Project proposes assigning the target of increasing health insurance coverage as one of the socio-economic development goals for each locality in order to strengthen the accountability of the People's Committees at each level to implement the goal of expanding health insurance.

In 2012, provision of health insurance for government staff (and their dependents) in the Government encryption and secure communication services was implemented following guidelines in Joint Circular No. 03/2012/TTLT-BQP-BYT-BTC. The issuing of Decree 92/2011/ND-CP stipulated penalties for administrative violations in the field of health insurance, with the maximum penalty for violations set at 32 million VND for people not contributing the full health insurance contribution. This is seen as an important legal tool to ensure compliance with health insurance contributions for the compulsorily insured.

Increasing the support for the near poor to buy health insurance to 70% of the premium according to Decision No. 797/2012/QD-TTg has released a basic impediment in implementation of health insurance for the near poor according to the Law on Health Insurance. With 4.8 million people, accounting for 74.7% of all near poor still not participating in health insurance, the increase in support from the state budget from 50% to 70% is expected to lead to clear improvements in health insurance coverage of this group. In 2012, the Ministry of Health has actively brought into play the state management role, implemented supervision over health insurance work. The Ministry of Health issued official letters to local authorities requiring that they increase supervision and intersectoral coordination to ensure issuing of health insurance to 100% of children under age 6.

Health insurance coverage should reduce the financial burden of health expenditures on households assessed through trends in the proportion of households facing catastrophic health spending or the proportion of households falling into poverty because of health spending. Results of a recent study indicate that during the period from 2002 to 2008 the proportion of households spending on health above their capacity to pay ranged from 10% to 11%, but by 2010 had fallen to 8.3%. Likewise, while during the period 2002 to 2008,

impoverishment due to health spending ranged from 3.1% to 4.1%, by 2010 it had fallen to 2.5% [12]. While these results indicate declining financial burden, it will be important in the future to examine the related question whether this decline in financial burden is due to less health seeking among people who need healthcare, or due to effective financial protection.

Task 3: Increase public spending on health through increasing state budget spending on health and expanding health insurance coverage

According to financial data disseminated by the Ministry of Finance, the share of the recurrent state budget spent on health has continuously increased in recent years: from 8.7% in 2010 to 9.1% in 2011 and it is anticipated to reach 9.4% in 2012. The growth rate in government budget spending on health between 2010 and 2011 was 33.2%, higher than the rate of increase of the overall state budget in the same period (27.6%). Thus, the target of state budget spending on health increasing faster than the state budget as set out in Resolution 18 of the National Assembly has been achieved. The public share (including state budget, health insurance and external assistance) of total health spending has seen a slight change, increasing from 42.2% in 2009 to 44.6% in 2010. The increase in public investment for health has contributed towards increased health spending as a share of GDP from 6.6% in 2009 to 6.9% in 2010, and at the same time has helped to reduce the out-of-pocket health spending of households from 50.5% to 47.6% of total health spending.

The pro-poor financing policy and prioritization of state budget spending for social policies and social equity continue to be given precedence. The level of financial subsidies for the poor and near poor continues to increase with the decision to raise to 70% the level of subsidy to help the near poor buy health insurance and the revisions to amend Decision 139 allowing use of funds from the health care fund for the poor to support the poor and ethnic minorities pay for indirect medical care costs (transport and food), health insurance co-payments and high costs of treatment for severe illness.

The policy of prioritizing allocation of state budget for preventive medicine was manifested through national health accounts data with the share of state budget spending on preventive medicine and public health out of total state budget spending on health reaching 38.6%, (at the central level reaching 56.7% and in localities reaching 34.2%) [13].

The state budget allocated to health through government bonds for investment in projects approved by the Prime Minister have played an important role in ensuring physical infrastructure for the system of state health facilities, especially at the grassroots level. Up till June 2012, 592 hospitals have been allocated government bond funds, accounting for 92% of all hospitals in the list to receive investments (see details in the Health Service Delivery section above) [17]. The Ministry of Health continues to mobilize and effectively implement foreign aid funded projects, actively coordinating various sources of external assistance from overseas development assistance and non-governmental organizations.

Task 4: Reform the provider payment mechanism for medical services

In 2012, the Ministry of Health paid much attention to activities aimed at the goal of reforming medical service provider payments, especially through health insurance reimbursements. Provider payments have also received substantial attention from international organizations such as World Bank, Asian Development Bank, AusAID and Rockefeller Foundation. The Minister of Health has decided to establish an office specializing in management of provider payment method reforms within the Department of Planning and Finance.

Capitation payments continue to be expanded for facilities registered as the first point of care for patients with insurance. In 2011, 59 out of 63 provinces implemented capitation payments with a total of 786 out of 1951 (40.3%) facilities applying capitation. At the district level, 51.9% of all facilities applied capitation while at the provincial level only 14% did. The proportion applying capitation exceeds by 10.3 percentage points the goal set out in Joint Circular No. 09/2009/TTLT-BYT-BTC. After more than 2 years of implementing capitation according to the Law on Health Insurance, the Ministry of Health and Vietnam Social Security have collaborated to organize a conference to draw lessons learned, pointing out achievements, but especially pointing out impediments and shortcomings in the process of implementing capitation payments. Special importance has been attached to learning and exchanging experience internationally about provider payments, including discussions with leading international experts in this area and organizing study tours to learn from experience of countries such as Thailand and Germany.

Case mix payments after piloting at Thanh Nhan and Ba Vi hospitals for four diagnostic groups continue to be studied and expanded to cover 24 diagnostic groups within the Asian Development Bank funded Health Human Resources Sector Development Program. Results based financing is being implemented on a pilot basis in selected provinces of the North Central Coast Health Support Project funded by a loan from the World Bank.

Decree No. 85/2012/ND-CP on the operating and financial mechanism in state health service facilities and medical service prices in state medical facilities was issued on 15 October, 2012. This decree comes into effect starting 1 December 2012 and replaces Decree 95/CP dated 27 August 1994 on partial user fees. The decree lays out a roadmap starting in 2012 to adjust the medical service prices so that by 2018, the medical service prices will include all costs of providing services including direct costs (drugs, consumables, salary, maintenance of fixed assets, depreciation) and indirect costs (such as overhead costs, training and research costs to apply new technologies).

Difficulties and shortcomings

- In 2012, Vietnam faced many macroeconomic difficulties, real GDP growth rate in the first 6 months of the year only reached 4.38%, much lower than the goal of 6 to 6.5% set out at the beginning of the year. The Government is implementing a tight fiscal policy to achieve the goal of reducing budget deficits to below 4.8% of GDP. State budget invested in health in 2012 did not meet requirements, especially government bond funds for investment, funds to implement national health target programs. In addition announcement of fund allocations was delayed (the Ministry of Planning and Investment only announced the tasks, goals and funds available on 3 May 2012; The Ministry of Finance announced the budget allocation on 17 May 2012), so implementation of the tasks and budget estimates were very difficult and delayed half a year. Many hospitals have not yet received capital from government bonds for investment and now face heavy debts and lack equipment. This negatively affects investment effectiveness even at hospitals that have been completed and have been put into operation.
- The recently approved medical service price schedule still follows the principle of partial cost recovery, including only some of the cost components for hospital services even though the remaining cost components are not always fully recoverable from other revenue sources, this is causing difficulties for financially autonomous health providers. Implementation of the new service price schedule in provinces and districts is facing some difficulties such as standardizing the costing methods for medical services, and the basis for proposing a reasonable price level according to the

recently issued new medical service maximum price list. Other shortcomings include the fact that the new medical service price schedule still does not cover all services provided by hospitals and the user fee schedule is still to be applied on a fee-for-service payment basis, which does not discourage provision of unnecessary services.

- Continued expansion of health insurance coverage is also facing difficulties and challenges. Health insurance coverage in 2011 has only increased 4.9 percentage points compared to 2010. In the project for implementing universal health insurance coverage, the goal for health insurance coverage was adjusted downward to 75% by the year 2015 and 90% of the population by 2020. The influence from the global and domestic economic recession is negatively affecting the ability and willingness of enterprises and families to pay to participate in health insurance. There are also limitations in compliance with the laws on participation in health insurance and organization of its implementation. Health insurance coverage in some groups remains low, including groups receiving subsidies for their insurance premiums. In 2011, participation in health insurance among enterprises reached only 51.4%. Participation in health insurance among the near poor in 2011 only reached 25,3%, despite the 70% subsidy to the premium. Information, education and communication activities have not yet met requirements. Along with the task of expanding health insurance coverage, deepening of health insurance coverage, consolidating the health insurance package (scope and quality of health services) and height of coverage (reducing the out-of-pocket spending of insured individuals) have also been mentioned in the Five-year health sector plan. Nevertheless, the ability to meet health care needs and access health care services remain limited, especially at the grassroots level and in remote and isolated areas.
- Up till now, there is still no comprehensive plan or project to implement provider payment reforms. Basic conditions for designing and implementing pre-payment mechanisms are not yet in place such as standard hospital information database, data on users of health services, standardized methodology and data on costs of providing health services. The basis for calculating capitation amounts does not yet ensure cost recovery for health service provision. The design of the capitation payments is inappropriate. The impact on quality of medical services has not yet been assessed. Necessary conditions to implement case mix payments, including a minimum database on clinical and financial issues in inpatient care are lacking.
- There remain some limitations in monitoring and assessment of effectiveness as well as impact assessment of programs using state budget funds, such as the program investing government bonds, subsidies of health insurance premiums for the poor, near poor, and children under age 6.

2.3. Health human resources

Achievements

Task 1: Develop a health sector workforce of adequate size and structure, with a balanced distribution

The number and quality of health workers continues to improve. The number of doctors and assistant doctors per 10 000 people continued to increase (12.52 in 2009 to 13.42 in 2010). The number of doctors per 10 000 people increased from 6.6 in 2009 to 7.2 in 2010. The number of nurses per 10 000 people also increased (8.8 in 2009 to 9.4 in 2010). The structure of health workers at the grassroots level also achieved some notable results. In 2011,

the proportion of communes with a doctor reached 72% and the proportion with a midwife or obstetric-pediatric assistant doctor reached 95%. The proportion of villages with active village health workers increased from 75.8% to 82.9%, although this is still low compared to the goal set for 2011 of 86%.

In order to implement the goal of developing adequate number, structure and balanced distribution, in 2011, the health sector issued the policy to update the special occupational salary supplement for health workers who directly perform professional medical duties in public sector health facilities and those working in departments for which it is difficult to recruit new staff even if they do not directly perform medical services, as well as policies stipulating special salary supplements for government workers working in specific public sector health facilities.

Improvement of training quality and assurance of effective performance of health workers will continue to be given attention through various measures, as noted in the contents of Prime Ministerial Decision No. 579/QD-TTg approving Vietnam's National human resources development strategy 2011–2020 dated 19 April 2011.

Task 2: Management of health human resources development

The Master plan for health human resources development 2012–2020 was approved by the Ministry of Health in 2012 (Decision No. 816/QD-BYT dated 16 March 2012). Its contents state the measures to implement the strategy including: measures related to the policy mechanism emphasizing recruitment policy and salary supplements to attract and retain health human resources; measures on training human resources emphasizing development of training establishments and reforming the contents and training methods; and measures related to financial and physical facilities.

Difficulties and shortcomings

Even though policies have, in principle, met policy objectives by appropriately prioritizing disadvantaged regions and areas of specialty for which it has been difficult to attract human resources in recent years, in reality implementation of some of these policies faces many difficulties and low effectiveness. Specifically, implementation of Decree No. 56/2011/ND-CP regulating the special salary supplement for health workers providing services directly to patients in state healthcare facilities, have faced difficulties in relation to classifying almost all health workers at the district level, who in reality almost all have to perform multiple jobs because of a shortage of health workers [20], yet there has been no concrete guidance on how to resolve these cases. Decision No. 75/2009/QD-TTg provides for a monthly stipend for village health workers, yet excludes health workers in urban settings (wards and district capitals), leading to the risk that the health network in urban areas will break down. The objective set out in the Five-year health sector plan calls for expanding forms of training and assessing effectiveness of different forms of training, especially training of human resources for mountainous, isolated, remote areas, but in reality implementation of this policy still faces many shortcomings, especially the training curriculum for directly recruited trainees contracted to return to their facility of origin, because the total number of trainees recruited was too few and the effectiveness of the training curriculum has not yet been evaluated.

The difficulty in attracting and retaining health workers at grassroots level facilities, especially in disadvantaged areas and in some specialties, remains severe. Many factors led to this situation including low incomes, unsatisfactory remuneration and salary supplements, very difficult working conditions in rural and mountainous areas, severe work pressures (especially at the district level), and health workers with few opportunities for training

(learning on one's own remains difficult because of difficult working conditions); even though there have been some training courses, some localities with staff in need of training were unable to send them to attend training because there would have been inadequate remaining staff to work [20].

Regarding the objective of improving quality of training, the current training curriculum for some types of health workers is inappropriate. There is not yet a system of verifying standards of quality in medical training establishments. The improvements in quality of training are not yet in line with rapid development of technology and increasing community demands for quality. The practical competencies of fresh medical school graduates are somewhat limited [20]. Little attention has been paid to the continuous medical training curriculum. Another difficulty influencing training quality is the limited funds invested from the state budget for training establishments. In addition, currently the health sector still lacks strategic direction and coordination to reform the health human resources training system and projects to operationalize implementation of the Master plan for health human resources development for the period 2012–2020.

2.4. Pharmaceuticals and medical equipment

Achievements

Task 1: Ensuring adequate essential drugs to serve treatment needs

In general, the system of manufacturing and supplying pharmaceuticals guarantees provision of adequate essential drugs to meet the needs for health care of the people. Domestic pharmaceutical manufacturing currently meets 47% of domestic need for drugs (in terms of value). Some 234 out of 314 active ingredients included in the VIth National Essential Medicine list are produced locally. The retail pharmacy network is extensive, with an average of one retail pharmacy per 2000 people. The need for vaccines in Vietnam is met from domestic production and imports. Vietnam produces all types of vaccine used in the expanded program on immunization.

The draft VIth Essential Drug List has been completed and is awaiting the signature of the Minister of Health. The draft essential drug list has been expanded and new drugs added to be appropriate with the morbidity patterns, and technical medical capacity of the health system. A draft detailed master plan for development of the pharmaceutical industry in Vietnam for the period to 2020 with a vision to 2030 has been completed and is awaiting the Prime Minister's signature. The Ministry of Health is developing a Master plan to achieve the goal of "Vietnamese people prioritize use of Vietnamese medicine" with the overall aim at increasing the use of local medicines by health care providers as well as by people in community. The plan is expected to support the sustainable development of the pharmaceutical sector, secure a stable supply of medicines to meet people's health care needs and reduce dependence on imported medicines.

Task 2: Tightly control drug prices

The Ministry of Health has cooperated closely with the Ministry of Finance, Ministry of Industry and other related agencies and provincial people's committees to implement many strong measures so drug price increases in 2011 were generally under control. The low increase in the consumer price index for drugs and medical services placed it 10th out of 11 groups of basic consumer goods price indices. According to a survey of the Health Strategy and Policy Institute, the gap between generic drug prices in state health facilities in Vietnam and international reference prices for the same drugs indicated that Vietnam's prices were

generally lower than international prices, or at least within an acceptable range (from 1 to 1.5 times international prices) [21]. Brand-name drugs used in state health facilities had prices about level with international reference prices. The Ministry of Health is piloting drug price management in which drug procurement with state budget or health insurance funds would involve a ceiling on the profit margin allowed between import and wholesale prices.[7] On the basis of evaluating the pilot, lessons will be learned and proposals made for revisions and amendments to regulations on drug price management in the Pharmaceutical Law.

A majority of drugs used in state medical facilities are procured through competitive bidding. Circular No. 1/2012/TT-BYT-BTC was issued guiding competitive bidding for procurement of drugs in medical facilities to overcome many shortcomings in competitive bidding procedures according to Circular 10/2007/TT-BYT-BTC. The Ministry of Health has also issued Circular No. 11/2012/TT-BYT dated 28 June 2012 guiding the procedures for bidding invitations in medical facilities. Circular No. 50/2011/TT-BYT-BTC-BCT was issued to overcome some shortcomings of the previous drug price declaration policy. In the past year the state management agency for pharmaceuticals has paid much attention to the tasks of controlling drug prices and has had positive policy responses for resolving difficulties in this area.

Task 3: Strengthen management of drug quality and safe and rational use of drugs

The Ministry of Health has strengthened implementation of good practice standards in manufacturing, supply and distribution of pharmaceuticals. By the end of 2011, 100% of domestic pharmaceutical enterprises (113 facilities) met good manufacturing standards of WHO (GMP-WHO), 100% drug testing laboratories and centers met good laboratory practices (GLP) according to GMP-WHO or ISO 17025 standards and 158 facilities met good storage practices (GSP). The verification and sampling to test for drug quality has been strengthened. Sampling to verify quality by the drug testing laboratories and centers has been implemented on a more regular basis. Implementation of results reporting in studies of bioequivalence in applications for drug registration has been applied to 12 pharmaceutical ingredients according to Circular No. 08/2010/TT-BYT. This is recognized as a significant effort to improve quality and effectiveness of medicines circulating in the markets.

The Ministry of Health has developed a National action plan for control of drug resistance for the period 2012–2020. The plan contains 6 specific goals including: (i) improve awareness of the community and health workers about drug resistance; (ii) strengthen and complete the national drug resistance surveillance system; (iii) ensure adequate supply of quality drugs to meet needs for care of the people; (iv) strengthen safe and rational use of drugs; (v) strengthen infection control; (vi) strengthen safe and rational use of antibiotics in animal husbandry and aquaculture. The document is awaiting comments to allow for further revisions before the policy will be issued.

Task 4: Promote development of traditional medicines and medicinal materials

The system of legal documents related to development of traditional medicines and medicinal materials has been strengthened from the conservation and development of sources of medicinal materials to the supply and use of medicinal materials in medical facilities and strengthening quality management. A list of 40 medicinal materials with potential for exploitation and market development has been issued by the Ministry of Health (Decision

[7] The maximum margin over wholesale prices (a ceiling on the profit margin between CIF prices and wholesale prices) calculated to include all costs and a maximum profit for all stages from import to wholesale. This is considered an effective method to prevent a long series of intermediaries with hidden costs that push prices up.

No. 15/2012/QD-BYT. Ministry of Health Directive No. 03/CT-BYT dated 24 February 2012 on strengthening management of the supply and use of medicinal materials, traditional medicines and finished herbal products in traditional medicine facilities. This directive also emphasized the strengthening of medicinal materials, traditional medicine and finished herbal products. In order to implement the Government's Action Plan on development of Vietnamese traditional medicine to the year 2020, the Ministry of Health has directed and coordinated various units to develop 12 related projects and implemented quality verification of medicinal materials in some localities. The Ministry has also directed and guided localities to implement the steps to establish a committee and receive applications to consider the second awarding of the honor of Hai Thuong Lan Ong.[8]

Task 5: Strengthen domestic manufacturing of medical equipment

The Ministry of Health has cooperated with the Ministry of Finance to check and study the situation in order to propose tax policy measures to support domestic medical equipment manufacturing enterprises. The draft circular regulating permits to allow medical equipment to be distributed and certificates of free sale for medical equipment manufactured in Vietnam has been completed.

Difficulties and shortcomings

- Tight control over drug prices faces many difficulties because manufacture and supply of drugs in Vietnam depends heavily on international markets for raw materials (90%) and finished products (50%). Domestically produced drugs are still largely basic drugs as the ability to manufacture specialized drugs domestically remains limited. Prices of innovator brand medicines sold at state health facilities are still relatively high compared to international comparator prices (12.1 times). Vietnam still lacks a generic drug policy to strengthen access to substitutes to innovator brand drugs.
- In relation to the task of strengthening management of drug quality, the proportion of drug samples that didn't meet standards in 2011 has not declined since 2010, with the main violations related to traditional medicines. Control over the source and quality of medicinal materials and finished herbal products is facing many difficulties. Implementation of reporting on bio-equivalence study results when registering 12 active ingredients according to Circular No. 08/2010 is facing difficulties because of the limited ability of bioequivalence laboratories to meet enterprise demands for testing.
- Implementation of the objective to strengthen rational use of antibiotics according to recommendations of JAHR 2011 remains very limited, with almost no action taken. Antibiotic use remains widespread (50% of prescriptions for outpatients, rising to 60% in district hospitals) [21]. A high proportion of patients are given injectable antibiotics or more than one type of antibiotic during inpatient care, while there is inadequate implementation of antibiotic sensitivity testing, leading to the situation of extremely high antibiotic resistance.
- Sale of prescription drugs without prescriptions remains widespread (40%) [21]. Pervasive advertisements and direct marketing of dietary supplements leads to the misunderstanding that these products are drugs, negatively affecting the rights of consumers.

[8] This is an important honor in the field of traditional medicine in Vietnam.

- Domestic production of ARV and methadone is facing many difficulties.
- Measures aimed at strengthening state control over investments in medical equipment proposed in the JAHR 2010 and 2011 reports have basically not been implemented including assessment of the current inventory and needs for medical equipment in health facilities at all levels; review and update of the essential medical equipment lists for medical facilities and development of a database of medical equipment at all levels. Management of prices of medical equipment has been neglected and there are no concrete regulations. No action has been taken towards implementing health technology assessment.
- Capacity of the network for calibration and checking of medical equipment remains limited. Currently there are only three Centers for Standardization and Quality Control of Laboratory Testing, and there is a lack of funds for their operation.
- Managerial staff in charge of medical equipment have received little attention: There is not yet a code for medical equipment management occupations in the government pay scales.

2.5. Health management information systems

Achievements

Task 1: Improve policies and plans for developing the health information system by 2015 with a vision to 2020

The Ministry of Health has developed a plan for implementation of the national Statistical development strategy in the health sector for the period 2011–2020, with a vision to 2030.[9] A survey of health statistics human resources was implemented in order to supply baseline information for strengthening and improving the organization of statistical work.

Task 2: Improve health statistics indicators, registers and reports. Issue a decision on the system of health indicators, standardizing the system of basic indicators in the health sector

After issuing revisions in health statistics registers for the reporting system, basic indicators related to fields of health such as examination and treatment, preventive medicine, and national health target programs have been assessed and a revised set of basic health sector indicators has been developed and submitted to the Minister of Health for promulgation.

Ministry of Health Decision No. 517/2011/QD-BYT issuing the forms for recording examination and treatment costs for use at medical facilities is a step forward in standardizing hospital cost information, although so far it has not been widely used in statistical costing exercises.

Indicators for monitoring implementation of the Five-year health sector plan are gradually being integrated into various donor-funded projects in the form of triggers for disbursement if targets are met, especially with regard to the European Union budget support program.

[9] Prime Ministerial Decision No. 1803/QD-TTg, dated 18 October 2011, approving the Strategy for the Development of statistics in Vietnam for the period 2011–2020, vision to 2030.

Task 3: Issue official forms for private sector statistical reporting

Circular No. 41/2011/TT-BYT on issuing of medical practice licenses to practitioners and operating licenses to medical facilities includes provisions for the provincial health departments to gather information systematically about health practitioners and facilities issued licenses/permits, to make this information transparent and available in electronic form and on a bi-annual basis to report this to the Ministry of Health. The circular, if well implemented, will be an important step forward in ensuring comprehensive and centralized information about health sector manpower and private health sector manpower and facilities.

Task 4: Strengthen ability to meet needs of information and data users

The Health Statistics Office (Department of Planning and Finance, Ministry of Health) has reviewed statistical reporting registers and forms for various departments and administrations, national programs and localities in order to propose greater coordination, integration and sharing of information between the multiple information systems within the health sector and between the health information system and information systems of relevant other government agencies. Currently the Ministry of Health is gathering information about 127 indicators including: health status of the population and health sector activities. Almost all these indicators are gathered through the periodic statistical reporting system through statistical registries and forms filled in by the commune, district, provincial and central level units. The Ministry of Health was assigned by the Prime Minister to implement five statistical surveys: Survey of medical facilities and manpower; HIV/AIDS survey; Nutrition survey; National Health Survey; Demographic and Health Surveys,[10] in order to meet information needs for national statistical indicators.[11]

Task 5: Strengthen ability to synthesize, analyze and process data

Some vertical health programs have organized training in supervision and report synthesis skills for program staff, however basic statistical training courses for general statistical staff in the health sector at different levels have not yet been organized.

Task 6: Strengthen dissemination of health information in diverse and appropriate forms

Common forms of information dissemination include the printing of the Health Statistics Yearbook that is officially and widely distributed domestically and internationally. The 2010 Health Statistics Yearbook was published with the aim of providing information to serve research, analysis, monitoring of implementation of the Five-year health sector plan (2006–2010) and developing strategic goals of the health sector for subsequent years. Basic statistical information is available on the web site of the Ministry of Health. In addition, the drafting and dissemination of the JAHR report on an annual basis is also an effective channel for disseminating relatively comprehensive information on the health system.

Task 7: Gradually modernize the health information system including application of information technology

Some specialized software has been developed and used widely (hospital management software, HIV/AIDS management, health insurance management,…). Information on state sector health services and health has been widely disseminated on the health sector website.

[10] Prime Ministerial Decision No. 803/QD-TTg dated 28 June 2012 approving the national statistical survey program.
[11] Prime Ministerial Decision No. 43/2010/QD-TTg, dated 2 June 2010.

Prime Ministerial Decision No. 1605/2010/QD-BYT approving the national program on application of information technology in government agencies for the period 2011–2015 lists 13 priority areas for the Ministry of Health to resolve applications on-line, primarily in relation to pharmaceuticals, cosmetics, health-related chemicals and private sector practice licenses. In addition it includes two national scale projects on information systems in the health sector (electronic patient records and management of examination and treatment; development of medical advising services and telemedicine). The policy also calls for a project to develop an information system for monitoring and evaluating implementation of five-year and annual plans, which includes health sector plans.

Difficulties and shortcomings

- There is not yet a comprehensive plan for development of the *health* information system. There is not yet a policy stipulating clearly the responsibility for and rules for dissemination and sharing of health information.
- Development of health information databases at different levels of the system remain limited, leading to inadequate information for developing policies and plans or for monitoring, supervising and evaluating implementation of policies. Coding of information through standardized application of ICD10 disease codes and ICD9-CM procedures codes has not yet taken place in a consistent manner at all medical facilities, which is one of the reasons for difficulties and limitations in measuring burden of disease. Data collected from the commune health stations is generally not computerized and still relies heavily on hand-written registries, making it difficult to verify and analyze data. Data from national health target programs and preventive medicine generally are not available or are hard to access. There is a lack of data on private sector health providers and activities. There are not yet any regulations laying out obligations and responsibility to update and report statistical data of private sector health facilities.
- Strengthening of ability to analyze and use data to an adequate scale has not yet occurred.
- Coordination with universities and research institutes to analyze data or provide training in analysis remains inadequate.
- No activities have occurred to strengthen disease registries for non-communicable diseases or health determinants, nor for death reporting in the community (through vital records).
- There is not yet a system of feedback on health information data quality.

2.6. Health sector governance

Achievements

Task 1: Improve capacity and quality of health strategies, policies, and master plans

The Government and Ministry of Health have issued policy documents to orient the development and governance of the health sector (master plans, strategies, etc.). The draft National strategy for the protection, care and promotion of the people's health for the period 2011–2020 with a vision to 2030 has been completed and submitted to the Prime Minister for approval. The Ministry of Health is developing an updated master plan for development of the health system 2011–2020, with a vision to 2030 to submit to the Prime Minister at the end of 2012. The gathering of evidence and implementation of assessments has received greater

effort in the process of developing strategies and policies, contributing to strengthening of the quality of legal documents that are promulgated. The Prime Minister issued Decree 63/2012/ND-CP on the functions, tasks, authority and organizational structure of the Ministry of Health.

A new EU-WHO Health Policy Dialogue Programme was initiated in June 2012 with the aim of building Viet Nam's capacity to develop, negotiate, implement, monitor and evaluate robust and comprehensive national health policies, strategies and plans, with a view towards promoting universal coverage, people-centered care, and health considerations in all policies.

Strategies in some areas such as HIV/AIDS (608/QD-TTg in 2012), food safety and hygiene (20/QD-TTg in 2012), population and reproductive health (2013/QD-TTG in 2011) have been approved.

Task 2: Strengthen the capacity for health system management and planning

The Department of Planning and Finance of the Ministry of Health has taken initial steps to develop and initiate on a pilot basis tools for annual assessment of provincial health plans in selected provinces. The Ministry of Health has organized training courses to improve capacity for management and planning for health sector leaders and managerial staff at the Ministry of Health and in some provinces (e.g. Flagship course, hospital management, provincial and district health sector planning). In addition, the Planning and Finance Department, with support from development partners, is developing and refining a provincial planning framework, and evaluation indicators for health plans. In the near future, the project will continue to develop materials and organize training courses to improve health sector planning capacity at all levels.

Task 3: Issue professional regulations and standards

The Ministry of Health has issued national guidelines for diagnosis and treatment of several diseases including: hypertension (8/2010), dengue fever (2/2011), radiation illness (9/2011), diabetes Type 2 (9/2011), hand, foot and mouth disease (7/2011 and 3/2012), meningococcal infection (3/2012), lead poisoning (5/2012), Inflammatory palhoplantar hyperkeratosis syndrome in Quang Ngai (5/2012 and 7/2012) and 34 technical guidelines for examination and treatment in the field of dermatology and leprosy (6/2012) technical guidelines for artificial insemination and in vitro fertilization (7/2012) and guidelines for anesthesia and recovery (8/2012). National standards for reproductive health centers have been drafted. In relation to food hygiene and safety since 2009, 44 national technical standards on food products have been issued. National standard criteria for reproductive health centers have been drafted. In the area of health environmental management, the Ministry of Health has issued national technical standards on quality of drinking and household water: National standards on latrines, and criteria for hygiene maintenance.

Task 4: Strengthen inspections, verification, supervision

Government Decree No. 07/2012/ND-CP dated 09 February 2012 stipulates which agencies are assigned to implement specialized professional inspection functions and the activities they are to perform. Accordingly, the Ministry of Health has a specialized health sector inspectorate for almost all relevant areas: population, pharmaceuticals, food hygiene and safety, preventive medicine, examination and treatment and environmental hygiene.

There are numerous new regulations on penalties for administrative violations in various health sector fields including health insurance (Decree No. 92/2011/ND-CP), examination and treatment (Decree No. 96/2011/ND-CP), drugs, cosmetics and medical

equipment (Decree No. 93/2011/ND-CP), preventive medicine, environmental health and HIV/AIDS control (Decree No. 69/2011/ND-CP), food safety (91/2012/ND-CP). A decree on administrative violations in population has been drafted and is awaiting approval by the Government.

In 2012, the Ministry of Health has revised the inspection procedures for pharmaceuticals (Decision No. 2188/2012/QD-BYT), but there is no information on revisions in other fields.

Task 5: Strengthen participation of important stakeholders in the process of policy formulation and plan development and implementation

In the process of developing legal documents in the health sector increased participation was undertaken through workshop discussions with experts, intersectoral workshops, gathering opinions and feedback from stakeholders according to the regulations of the Law on Promulgation of Legal Documents. This law stipulates the procedures to include establishment of a drafting committee, editorial team with representatives from stakeholder groups, draft documents made available on the Ministry of Health webpage to get feedback from as wide an audience as possible over a 2 month period, conferences and workshops organized to get feedback directly from experts, requests for written comments. All comments are considered and adjustments or non-adjustments are explained.

Task 6: Promote appropriate measures of social mobilization; Encourage all economic sectors to invest in development of health services

The Ministry of Health has coordinated with related agencies to develop a guiding circular for implementation of Government Decree No. 69/2008/ND-CP dated 30 May 2008 on the policy of encouraging social mobilization in the areas of education, training, medicine, culture, sports and environment.

Difficulties and shortcomings

- Health indicators and health care activity indicators are not yet considered important indicators when assessing performance of the Communist Party and authorities at all levels. As a result, there is low awareness of the roles and responsibilities for the protection, care and promotion of the people's health among the Communist Party and authorities, the Fatherland Front and social and community organizations and the people in some localities.
- Some policy and strategy documents are of poor quality, lack internal consistency or do not fit with the situation on the ground. New laws only implemented for a couple of years are already in need of revisions (e.g. the Law on Health Insurance).[12]
- One of major factors affecting the quality of policy and strategy documents is the weakness of the health management information system.
- Management and planning capacity remains limited, especially the analysis of information and assessment of performance.
- Standard treatment guidelines and standard clinical procedures are still limited to a short list of conditions.

[12] One concrete example of this problem is Circular No. 31/2011, in which the list of drugs approved for use in the regional polyclinic is the same as the list for commune health stations, yet in the list of services that should be available at different types of facilities (referral system), the regional polyclinic is considered the same as a district hospital.

- Health service quality management, especially in the private health sector faces many shortcomings, with negative effects on patient safety. There are not yet any regulations allowing professional associations to participate in standardization of health care quality.
- The social mobilization policy still faces many problems and shortcomings like overprovision of services, and increases in prescribing of unnecessary laboratory tests. The development of private hospitals has not yet been fully considered in the master plan for the hospital network. Private medical facilities do not yet participate adequately in the referral system, primary health care and preventive medicine activities of the health system.
- The organization and manpower of the specialized health inspectorate is still inadequate to meet requirements. Inspection activities face many difficulties because there are too few human resources, each province having only a few inspectors, and the district level having no inspection functions. In the process of inspecting, there is a lack of standards and criteria based on evidence about what affects quality and effectiveness of health services. At the same time, because there is no supervisory system aimed at prevention and support, inspections remain largely an ex-post activity once errors have already been made.
- Intersectoral cooperation in developing policies has not yet been effective, with participation often only superficial and procedural.
- There is not yet a systematic continuity of care between different levels of curative care facilities. There are no incentives to integrate and link prevention, treatment and rehabilitation.

3. Recommendations for additional measures

In order to continue to effectively achieve the targets of the Five-year health sector plan and implement recommendations of the JAHR, this report proposes the following recommendations for solutions (See details in Chapter 9):

Health service delivery

- Refine policies, mechanism for surveillance and organizational structures to implement primary health care, preventive medicine and national health target programs. Continue to strengthen investment in a consistent way to lower level facilities in order to improve quality and availability of medical services at the district and commune levels.
- Implement comprehensive and coherent measures to resolve hospital overcrowding at higher level facilities, improve quality of medical services at all levels of the system.
- Complete policies and surveillance mechanisms and organizational structures to implement population, family planning and reproductive health services.

Health financing

- Reform the operational and financial mechanisms in public sector medical service facilities.
- Implement the roadmap towards universal health insurance coverage.
- Ensure the state budget for approved health programs.

- Reform health care provider payments.

Human resources for health

- Manage human resources development. There is a need to develop a plan for health human resources development aimed at sustainability for rural, remote and isolated areas.
- Improve quality of training and reform training curriculum, paying special attention to health human resources in rural areas. Strengthen effectiveness and monitor implementation of retraining for health workers at all levels of health facility.
- Improve deployment and remuneration of health workers in disadvantaged regions.

Pharmaceuticals and medical equipment

- Improve policy documents.
- Ensure rational prices of therapeutic drugs.
- Strengthen drug and vaccine quality.
- Strengthen rational use of antibiotics.
- Implement an evaluation of the current situation and need for medical equipment in medical facilities at all levels.
- Strengthen capacity of professional staff working in the area of medical equipment.
- Improve capacity to implement health technology assessment.
- Strengthen capacity of the centers for standardization and quality control of laboratory testing.
- Strengthen maintenance, servicing and repair of medical equipment.

Health information

- Improve policies and plans for developing the health information system.
- Strengthen the ability to meet needs of data and information users.
- Develop a system for monitoring priority health issues.
- Gradually apply information technology in the health information system.

Governance

- Continue to complete the health sector legal system.
- Complete and stabilize the organizational model for the health network at each level.
- Improve the capacity and effectiveness in monitoring and supportive supervision of implementation of health policies.
- Strengthen the participation of important stakeholders in the process of policy-making.
- Strengthen inspections and verification.

PART II: QUALITY OF MEDICAL SERVICES

Chapter 3: Overview of medical care service quality

1. Basic concepts

A review of recent Vietnamese and international literature indicates that Vietnam lacks a standardized system of concepts and perspectives related to quality of medical services. The Vietnamese definitions and terms related to quality of medical services in many cases is not definitive, leading to lack of consistency in understanding and action and barriers to exposure to and utilization of medical service quality management methods.

The section below presents basic concepts, a theoretical framework and basic monitoring and evaluation indicators for medical service quality management that are widely applied internationally to serve as the theoretical basis for analysis, assessment and structure of the chapters in Part II of this report.

1.1. Medical service quality concepts

Medical services are a special type of service and up till now there is no agreement on how to define medical service quality. Nevertheless there are several broad definitions of medical service quality that are often referred to.

- Quality in healthcare has been defined to include two distinct components: *Functional quality*: how a patient receives a service (food quality, access to care); *Technical quality*: the quality of the care delivery (competence and treatment outcomes) [22].
- The quality of technical care consists in the application of medical science and technology in a way that maximizes its benefits to health without correspondingly increasing its risks. The degree of quality is, therefore, the extent to which the care provided is expected to achieve the most favorable balance of risks and benefits [23].
- Quality of care is the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge [24].
- A quality health service is one which organizes resources in the most effective way to meet the health needs of those most in need, for prevention and care, safely, without waste and within higher level requirements [25] (Øvretveit).
- Quality of care is the level of attainment of health systems' intrinsic goals for health improvement and responsiveness to legitimate expectations of the population [26].

It is clear that the above definitions allow for wide flexibility to define quality depending on the goals and existing conditions of the health system. They incorporate concerns about the expectations of the population, the cost-effectiveness of services, and the clinical effectiveness of services to achieve health goals.

The definition given by Øvretveit is a very useful basis for developing a national strategy and plan for service quality because of the emphasis on the way in which existing resources are used, rather than simply increasing resources available. This definition encompasses three aspects of quality: quality to meet patient needs, technical quality and management quality. This led to Øvretveit's definition being used by WHO in its Guidance on developing quality and safety strategies with a health system approach [27] and also is considered an appropriate approach for assessment of quality of medical services in the JAHR 2012.

Another definition proposed by the American Institute of Medicine [28], and considered by WHO as a practical one [29], indicates six areas or aspects of medical service quality for which action needs to be taken to improve quality. The assessment of services from these aspects is very useful in order to determine methods for intervening in a basic way to improve quality of services. Those aspects are:

- ***Safety,*** providing medical services that reduce to a minimum any hazards and risks to the user of medical services.
- ***Effectiveness,*** providing evidence-based medical services and improving health for individuals and the community based on need;
- ***Patient-centeredness,*** providing medical services that take into account preferences and needs of patients and the culture in the community;
- ***Timeliness***, providing medical services in time, in a geographically rational way, and in facilities that have skills and resources appropriate for medical needs;
- ***Efficiency,*** providing medical services that use resources most efficiently and avoids waste;
- ***Equity,*** providing medical services that don't discriminate on quality based on characteristics of the individual patient such as gender, race, ethnicity, geographic location or socio-economic status.

1.2. Concepts in medical service quality management and improvement

In research and practice of product and service quality management and improvement in all fields, there are many concepts whose differentiated meanings are generally recognized, these include the following common concepts:

Quality assurance (QA) is the totality of activities implemented to set up standards and to monitor and improve performance so that medical services are provided in the most effective and safe manner possible. Quality assurance is implemented through quality management systems and other preventive activities such as failure modes and effects analysis that identifies potential failure modes based on past experience and enables redesign to eliminate such failures in the future.

Quality control (QC) and ***Total Quality Control (TQC)*** aim to detect errors in aspects of the services to be provided before they are provided by examining some or all factors related to the process of implementing the services before the service is provided.

Quality improvement (QI): is an expansion of the quality assurance concept, in which quality assurance is narrowly focused on finding errors while quality improvement is oriented towards improving quality. Quality improvement is part of quality management.

Quality management (QM): Quality management includes all activities organized to direct, control and collaborate to improve quality. These activities include developing policies on quality and setting quality goals, but also encompass quality planning, quality control, quality assurance and quality improvement. In provision of medical services, quality management creates an overall framework to help a medical care provider to organize, control and continuously improve all aspects of medical service provision [30].

1.3. Analytical framework for development of a medical service quality management strategy

A great diversity of analytical frameworks on quality management or quality improvement in medical services are being applied in different contexts depending on existing conditions in a given health system. For Vietnam's current stage of health system development and given its current health system goals, WHO's Guidance on developing quality and safety strategies with a health system approach is very appropriate [27]. According to these guidelines, a strategy development framework is a useful way to assess medical service quality management, identify existing gaps in quality management and set priority for developing quality improvement policies and measures. The detailed contents from WHO's Guidance approach have already been successfully applied in other countries, including Australia's Safety and Quality Framework for Health Care in 2009 and 2010 [31].

According to WHO's Guidance report, from the health system perspective, medical service quality must take into account three aspects of quality, namely:

- *Quality for patients* – providing patients what they want and expect;
- *Professional quality* – following best practice to meet clinical needs of patients; and
- *Management quality* –using resources efficiently, without waste, and within higher level requirements to achieve patient and professional quality.

Quality improvement means defining and measuring aspects of each of these aspects and setting standards.

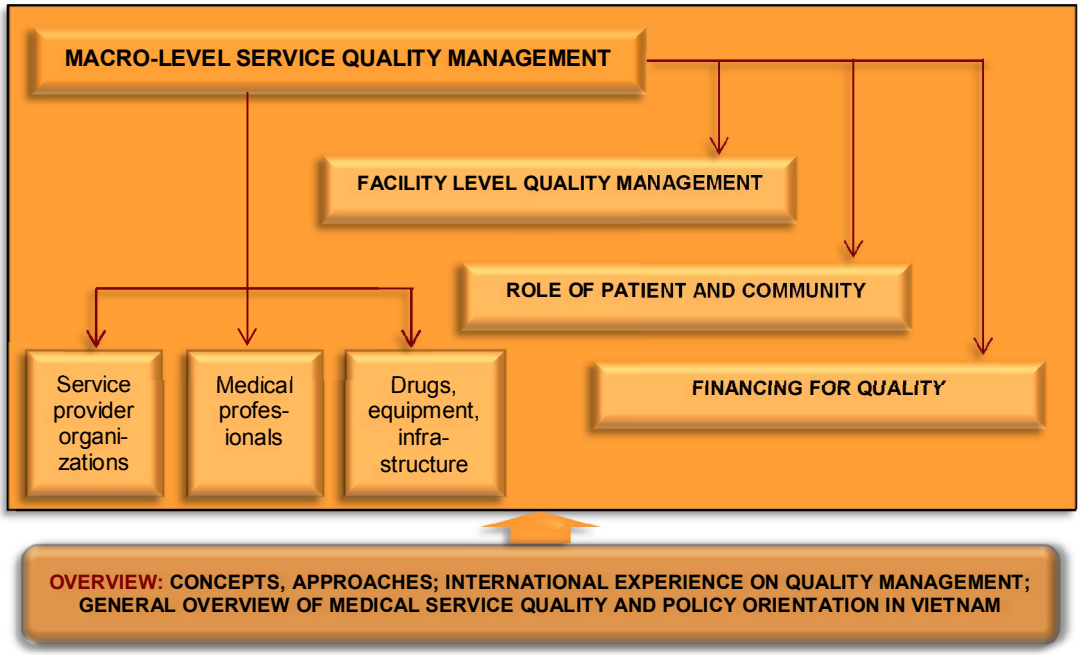
Role and responsibilities of key stakeholders in improvement of quality and safety

Healthcare systems are complex structures with multiple players and multiple functions that influence quality. Quality and safety strategies must address the interaction of professionals, organizations and products with the patients that use them. For JAHR 2012, we consider the macro-level quality management as a cross-cutting area influencing all other elements of the strategy. Figure 9 indicates the macro-level regulation and management of health care providers, health care professionals and inputs to health care such as pharmaceuticals and equipment. At the same time, macro-level management also directly regulates, but allows a certain degree of autonomy to medical facilities to perform their own quality management. Patients can also influence quality of services within the existing regulatory framework with support and facilitation from various organizations. Finally the health financing mechanisms set through government policy also have an important influence on quality through the incentives inherent in how providers are paid.

Macro-level service quality management generally involves external regulation and assessment, but can also involve supportive measures like training and advocacy. This approach aims to develop different national systems to serve different quality purposes including certification of professional qualifications to practitioners or facilities, granting of practice licenses to practitioners or operating licenses to facilities, adverse event reporting, nationally standardized databases, accreditation of facilities and/or dissemination of information on performance indicators to show the level of quality that has been achieved [32]. The objectives range from reducing harm to patients from incompetent practitioners and dangerous services to improvement in quality and safety of care through the incentives of external recognition. The disadvantages are that these are not yet widely applied by practitioners or service providers, are not known or trusted by the people as a basis for choosing quality medical services, and they can be time-consuming and bureaucratic to implement and resources might be better used for other measures to improve quality.

Organizational accreditation could be part of a national quality program, but establishing a full accreditation scheme for health facilities might not be appropriate at the initial stage of quality improvement or in low resource settings.

Figure 9: Diagram of the overall analytical framework for quality of medical services in JAHR 2012



Medical service provider organizations where professionals, medical products and technologies are combined (such as hospitals or clinics) are influenced both by direct regulation mentioned above and by measures taken internally by facilities themselves to improve quality. Internal quality strategies include risk-management, quality improvement and safety programs, organizational innovation, local project teams working on quality-problems, and local standard-based quality management. Standards-based approaches can be used within medical facilities on their, independently of external peer review, professional certification, licensing or accreditation.

Standards for how to provide effective and safe care are defined, communicated, and used as a yardstick to monitor and measure the quality of care. Clinical or technical guidelines are one example of standards, but there are many other types. Personnel are guided to follow standards through training, job aids and supervision. The process is documented and where standards are not followed, supervisors and managers bear the responsibility for taking corrective action. In addition, standards are defined for management activities and service performance [33]. A standards-based approach entails the following phases: (i) Standards development to ensure effective and safe care that are feasible, given the resources available; (ii) Standards implementation involving communicating and supervising application of standards, and documentation when standards are not met; (iii) Corrective action when practice falls below standards through use of problem-solving methods.

Medical professionals and the medical knowledge on which they base their work are recognized as being crucial to delivering health care services. Strategies for addressing issues of professional knowledge and practice include training and continuous medical education,

working conditions that facilitate learning, professional certification, development and implementation of practice guidelines, explicit description of professional competencies, performance measurement, peer review, setting norms and standards to deal with professional misconduct, registering of types and numbers of professionals, health human resources development planning, task substitution amongst professionals and the introduction of new professions.

Specific medical products and technologies applied in health care delivery, such as pharmaceuticals and medical devices, are also important elements influencing quality of medical services. Strategies for addressing medical products and technologies include regulation of market entrance, regulation and monitoring of risks, technology assessment and an overall national innovation strategy.

Patients demand medical services provided by professionals and organizations, and use various medical products and technologies in order to stay healthy, to recover health or to prevent further disabilities or discomfort. Strategies to address patient needs and ensure a patient focus include legislation on patient rights indicating clearly what patients have a right to expect from a healthcare provider; patient/community participation and feedback mechanisms for patients to comment on quality of services and work with providers to make improvements; surveys of patients and other systematic measurement of patient experience to discover what is considered good or bad quality from the patient's perspective; joint decisions on priorities for action; use of problem-solving methods to improve services from the patient's perspective; and making facility performance information publicly available to serve as a basis for patients to choose their provider.

Other actors play an important role, especially Vietnam Social Security Agency as a major purchaser of medical services. Financing of health care, in particular, provides important quality incentives or disincentives. Strategies for addressing financial issues include monetary valuation of quality, the measurement of performance and collection of quality indicator data, structure of financial incentives that promote quality and safety and the issuing of national performance reports.

The choice of specific approaches requires translation and adaptation of measures to the local situation and culture. Legislation, regulation, standard setting and monitoring require substantial government commitment and resource allocation, while team problem-solving or patient/community participation require mainly government facilitation. However, for all of these methods to work, health workers need to feel that high or low quality makes a real difference to them because they want to keep and attract more clients. The financial and social context of health services influences the level of effectiveness of different approaches. The approach of a tax-based public system with budgets for providers not related to the number of patients they treat, will need to be different from the approach where provider benefit is related to the number of patients they serve.

Indicators for measuring and assessing quality

Up till now there is no standard set of indicators that can be used uniformly across countries. Each phase of health system development in each country and each organization within the system will tend to have a different set of indicators on medical service quality. These indicators represent the specific expectations for medical services at a particular point in a health system's development.

WHO's approach is similar to the approach of the American Institute of Medicine. This approach puts less emphasis on direct measurement, instead focusing on recognizing medical service quality through service component concepts.

Other approaches to service quality measurement have focused on three aspects of quality related to (i) quality for patients; (ii) professional quality; and (iii) management quality, with relatively concrete indicators of quality. Indicators include structural and input-based measures, process indicators and outcome or results measures.

- Quality and safety from the patient perspective can be measured through feedback, satisfaction and complaints about services.
- Quality and safety from the professional perspective can be measured by assessing compliance (or non-compliance) with professional guidelines or by assessing patient outcomes and medical errors.
- Quality and safety from the management perspective can be measured in the unit costs, average length of stay, or measurement of resource waste.

When assessing the above three quality aspects generally it is important to combine with measuring and assessing indicators of three other factors, namely:

- Structural and input factors of quality (number of health workers, staff mix, the allocation of individual responsibility in the process of providing services).
- Process factors: activities that are being implemented
- Outcomes: such as results of treatment.

It is difficult for quality assessment indicators to provide a comprehensive overall assessment of the quality of a health system. In reality most systems will rely on very specific indicators related to specific levels within the health system (e.g. primary care) or specific medical conditions such as diabetes or hypertension. Some good sources of indicators include OECD [34], American Institute of Medicine and Centers for Medicare and Medicaid Services Health quality initiative, Australia [31] and Thailand. OECD countries have developed a framework of quality evaluation indicators based on many different approaches for each area of service provision, including general assessment based on the Institute of Medicine approach, while for clinical services the measurement and assessment of quality relates to care provided for specific medical conditions. Australia has also developed specific evaluation indicators for different areas, such as the set of indicators to assess quality of primary care. For clinical care they have built a set of indicators to assess quality of medical services at medical facilities following the stages such as:

- Stage 1: indicators to assess harm to patients (such as rates of treatment failure, hospital acquired infections, surgical site infections within 5 days of surgery), the rate of readmissions after 28 days, share of patients receiving intensive care who didn't need it, etc.
- Stage 2: indicators of mortality due to adverse drug reactions, or due to complications or adverse events of various medical interventions (such as cardiac surgery), etc.
- Stage 3: indicators on side effects of drugs, the proportion of clinical staff who participate in professional peer review, etc.

One study in Thailand developed indicators to assess quality for each different medical facility with a total of 42 indicators divided into 6 groups:

- Indicators of general information about the facility: 10 indicators
- Indicators about inputs and physical facilities: 7 indicators
- Indicators of clinical process and outcomes: 10 indicators

- Indicators of service process and outcomes: 9 indicators
- Indicators of management quality: 3 indicators
- Indicators of the system and process of quality management: 3 indicators.

Thus, determination of indicators to measure and criteria to assess medical service quality depends highly on conditions in each country, each facility and the scale of quality assessment at the system level or for each group, or type of service. Selection of the evaluation approach or framework, various quality aspects to serve as the basis for assessment, specific concrete indicators or medical service quality criteria within different conceptual components of medical services depends on the objectives of the service quality strategy of each country or service unit.

2. International experience on quality management of health care services

This section provides an overview of the theoretical frameworks, approaches and methods of health service quality management in other countries, from which lessons will be drawn for Vietnam.

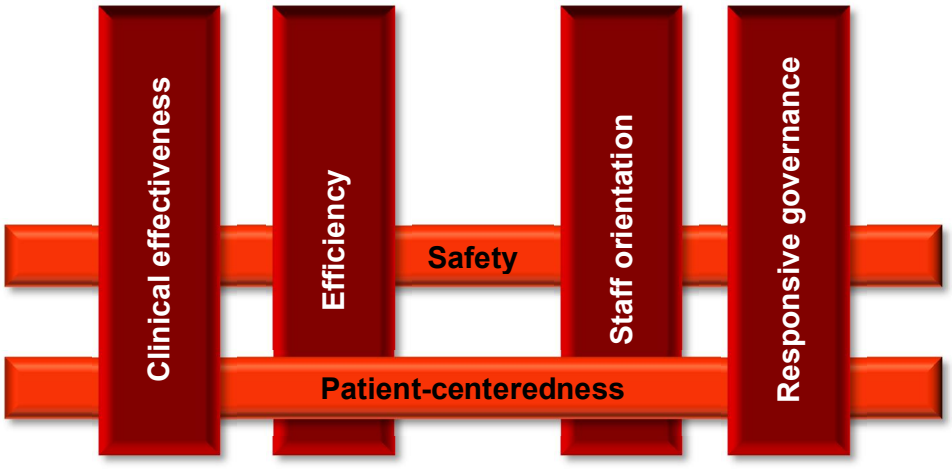
2.1. Theoretical framework on quality management of health care services

Specific perspectives and preferences for quality of medical services depend on whose viewpoint is of concern: the services user, provider or regulatory agency. However, there are some common points for evaluating medical service quality reflected in dimensions of quality.

A 2001 report of the American Medical Institute defined quality of medical care is "Safe, effective, patient-centered, timely, efficient and equitable"[28].

The WHO's Performance assessment tool for quality improvement in hospitals [35] had a similar orientation, indicating that quality trends in health care include (Performance Assessment Tool for Quality Improvement in Hospital, 2007): Safety, patient-centeredness, clinical effectiveness, efficiency, staff orientation, responsive governance (Figure 10).

Figure 10: Theoretical framework for assessing hospital quality improvement



The guiding documents on quality assurance of health care in developing countries

implemented by USAID in some developing countries in collaboration with John Hopkins University [36], provided the following orientations:

- *Safety and accessibility*

It is unacceptable for care to be provided in an environment that is unsafe or deemed unsafe. From the perspective of risk management, the physician's task is to ensure a safe environment for his/her patients. Accidents have many consequences, all of which are bad. Unsafe conditions may lead to problems of personal responsibility, including psychological and physical trauma, as well as loss of goodwill and damage to the reputation of a medical facility in the community. In addition, an unsafe environment will reduce productivity because time will be taken up in settling complaints and pursuing legal action. Safety is an essential and expected lower threshold of quality, especially in the health sector.

Another aspect of quality is accessibility. Accessible care means care that is available, acceptable and affordable to users. Accessibility includes physical, financial and spiritual accessibility. Spiritual accessibility is extremely important in a multi-cultural, multi-ideological and multi-educational environment. Quality care needs to be made widely available to users in their context, under their conditions in order for true access to be achieved. Therefore, effective communication skills are essential in providing accessible health care services.

- *Effectiveness, efficiency and technical capability*

Only appropriate and necessary services should be supplied. Waste and duplication must be eliminated. Only the most efficient and economical care will be assessed highly. In a system requiring high quality but facing scarce resources, it is necessary to make sound decisions about the optimal combination of effectiveness and efficiency.

Providing effective care to clients in an efficient manner requires highly professional skills of the doctors knowing how to apply the principle of "Do it right the first time and do it better the next time". In health care quality, health facilities and physicians need to be trained to update medical knowledge in order to meet the demands and expectations of patients. Health is a complex area and without a strong technical background, the retention of expertise is very weak. Quality should come together with competencies and technical capacity.

- *Interpersonal relations, continuity of care and amenities*

Personal interaction is important for providing high-quality health care services. Health care is provided by individuals with refined skills and high education, but these individuals cannot provide comprehensive care if they do not cooperate in teams. The relationships between people thus play a considerable role in shaping the processes of care and ensuring positive outcomes for patients.

Another problem related to quality is that medical care must be provided continuously. It means that care needs to be started, implemented, evaluated, improved and continuously monitored even after the patient has recovered. Extended care includes the maintenance of well-being, health promotion and disease prevention. Moreover, in case of transfer to other hospitals, it is necessary to make sure that receiving facilities are able to provide appropriate continuation of care. Intermittent care and separate systems are not part of a quality health system as health care quality can never be achieved in such a system.

Finally, clients will always be more satisfied if care services are provided in an acceptable ethical environment. A health facility focusing on small details to bring the

comfort and health to customers is definitely a quality facility. Maybe it is the cleanliness, decor, or other value added services, quality of health care services will be increased thanks to valuable features like that [36].

2.2. Approaches to improve quality and safety in healthcare

2.2.1. National level

At the national level, improving quality is implemented with many different approaches:

General approach

The most common approach is allocating more resources for healthcare services in order to educate experts, design and construct quality systems and provide training in quality methods. Resources can also be used for replacing old, unsafe or inaccurate medical equipment and upgrading facilities to meet the demands of patients. However, not all resource investment is effective. Inappropriate investments will waste resources without improving quality.

The second approach is to improve quality and safety through health system reform. Reform or restructuring of the health sector can be achieved through health financing reform, resource reallocation and management decentralization. However, reform of the system requires time, attention and investment from the political system.

The third approach is to strengthen management capacity through leadership training to provide more management skills. If managers lack skills, additional resource investment or system reform might result in failure.

Specific approaches

Quality improvement requires knowledge, selection and use of quality methods adjusted for appropriateness in specific circumstances. There are four groups of different methods:

1) *Strengthening the role of patients and communities*. This approach is implemented through legal regulations on patient rights and protection of patient interests through programs involving patients and communities in improving quality and safety in a variety of ways.

2) *Regulations and evaluation of professional and service quality*. Licensing and certification of medical care practitioners and provider organizations is implemented by state agencies or recognized independent organizations The list of organizations or practitioners that have been licensed, certified or accredited may or may not be published.

3) *Application of standards and guidelines*. Standards and guidelines are developed, and supervision and verification are undertaken to encourage or enforce compliance with these standards. The standards and guidelines should be consistent with local conditions and require application of quality management systems. The quality standards and guidelines can be developed by national organizations or adapted from international standards and guidelines.

4) *Quality problem-solving teams*. The quality teams solve specific problems using simple quality tools for which they have received appropriate training such as: improving rational antibiotic prescribing, improving the medical examination process, reducing waiting time, etc.

2.2.2. Hospital level

There are many approaches to improve quality and safety in health care services at the hospital level [37]. These include measures to:

- Increase resources including funds, infrastructure, equipment and manpower;
- Reform the organizational system and financial mechanism;
- Strengthen management capacity;
- Develop standards and professional guidelines; implement supervision, clinical audits and other feedback mechanisms, provide continuous training and professional development for the medical and managerial staff;
- Empower patients and enforce their rights; develop feedback mechanisms on service quality; evaluate patient satisfaction; involve patients in treatment decisions;
- Apply quality management systems or standards, such as ISO;
- Evaluate and recognize internal or external quality, voluntary or compulsory, by independent or governmental quality accreditation organizations.
- Apply total quality management (TQM) or continuous quality improvement (CQI), which emphasize attention on employees, teamwork, empowerment, leadership commitment, using tools and quality methods to improve processes;
- Improve cooperation on quality issues;
- Compare quality indicators;
- Apply benchmarking by using comparable information on quality in combination with complementary methods to help service providers decide how to improve quality;
- Manage risks and safety by identifying processes and content of high-risk practices, seeking out systematic root causes in order to create appropriate solutions.

Depending on resource conditions, technical understanding and especially commitment and concern of the leaders and the overall context of national quality systems, hospitals can apply different combinations of approaches. The same approach applied in two different hospitals may result in different effects.

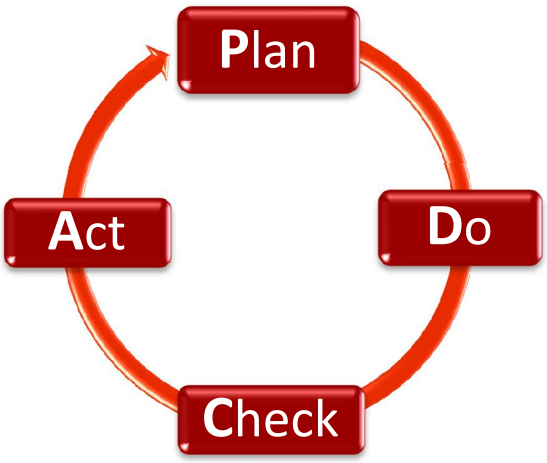
2.3. Quality methods

There are many quality methods, but currently, three main methods are often referred to and applied:

- PDSA (Plan-Do-Study-Act) or PDCA (Plan-Do-Check-Act)
- Six Sigma
- Lean Management

2.3.1. PDSA cycle

The PDSA (Plan, do, study, act) concept is based on the scientific method developed from the work of Francis Bacon in 1620, describing a three step process as hypothesize-experiment-evaluate. Walter Andrew Shewhart (1891–1967) was the first



person to applying the concept to quality improvement. In 1924, when responding to a request for quality improvement in an enterprise, he outlined four elements considered important principles of today's quality cycle. In the late 1930s, Shewhart's ideas were extended from industrial quality management to the other sciences. By the 1950s, the concept was developed and widely introduced by William Edward Deming. He called it the "Shewhart cycle" but it has been remembered with the name "Deming cycle", or quality improvement cycle of PDSA or PDCA.

The PDSA cycle is a basic principle of many quality management models like TQM (Total Quality Management), CQI (Continuous Quality Improvement), and is used in ISO quality management system and in healthcare accreditation [38].

2.3.2. Six Sigma (6 sigma)

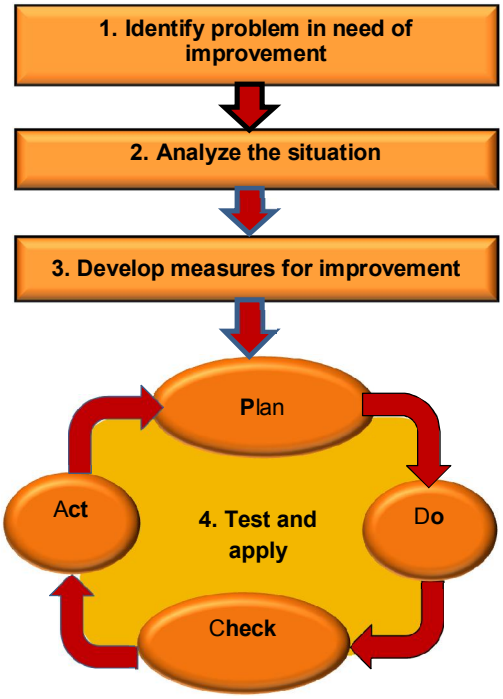
Six Sigma is a method which is implemented rigorously and scientifically. It focuses on effective implementation of techniques and recognized quality management principles. By combining factors in different sectors, Six Sigma focuses on how to implement work without errors. The Greek character sigma (σ) is used to symbolize the standard deviation in the field of statistics. The performance effectiveness of a company is also measured by the sigma level that the company reaches in their business production process. Traditional companies often set three or four sigma as their standard level, although at that level, the probability of error can occur from 6200 to 67 000 per million. If the six sigma level can be achieved, the probability of error falls to only 3.4 errors per million. This enables companies to meet the growing expectations of customers within the complexity of new technology products and process these days.

Six Sigma is not necessarily a statistical technique or even high-tech, as it is based on techniques that have been tested and values that have been confirmed for decades. In fact, the Six Sigma method has gradually eliminated complicated factors by only selecting the most useful tools and involves training and verification by a small number of key technical staff. These people are called the "Six Sigma black belt" and have the function of being a focal point to direct implementation at the macro level. Therefore, techniques used by the black belt group are often high-tech applications, such as the application of advanced computer programs. Tools that are commonly used to improve performance effectiveness are referred to as DMAIC (acronym for the English words: Define; Measure; Analyze; Improve; Control). The contents of these elements are described in Table 3 and Figure 11 below.

Table 3: Summary of Six sigma

D (Define)	Identify objectives of improvement activities. At the macro level in the company, the objectives are strategic objectives such as increase of revenue on invested capital or increase of market shares. At the scale of functional units, these objectives can be either productivity or operational efficiency of production units. And in specific operations, it may be the objective of reducing the rate of errors or increasing the number of quality outputs ... To identify targets for improvement activities, statistical data analysis can be used to search for possible improvement opportunities.
M (Measure)	Measure the current system. It is necessary to establish an adequate reliable system to monitor ongoing improvement activities leading to the objectives. Start by determining the current position. Data analysis and description can easily be used to capture the problem.
A (Analyze)	Systems analysis to find the best way to overcome the gap between the effectiveness of the system or the process to achieve expected objectives. Application of statistical techniques is a useful method of analysis.
I (Improve)	Systems improvement. Think creatively to find out how to work better, cheaper and faster. Use project management methods and other planning and management methods to manage the implementation of new innovative ideas. Use statistical techniques to evaluate the effectiveness of the improvement.
C (Control)	Systems control after improvement. Institutionalize the system after improvement by changing the issues of compensation, policies, work processes, resource planning, budget, work instructions and other management issues. The use of ISO 9000 to institutionalize and document work is a very good means in this case.

Figure 11: Six Sigma framework

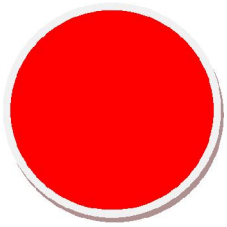


Six Sigma is a concept that will be increasingly used in health facilities in the coming years, especially in certain areas implementing techniques repeatedly with large number of diagnostic medical tests or images.

Table 4 illustrates a comparison between 3.8 sigma and 6 sigma for some typical activities.

Table 4: Example to illustrate Six sigma

3.8 Sigma	6 Sigma
5000 surgeries failed every week	1.7 surgeries failed every week
2 flights have troubles every day	1 flight having trouble every 5 years
200 000 prescriptions with wrong drugs every year	68 prescriptions with wrong drugs every year
7 hours out of electricity every month	1 hour out of electricity every 34 years.

Sigma	Errors per 1 million	
2	308 537 (69.1% of products are good)	
3	66 807 (93.3% of products are good)	
4	6210 (99.4% of products are good)	
5	233 (99.98% products are good)	
6	3,4 (99.99966% of products are good)	

2.3.3. Lean Management

Many concepts of lean management were derived from the Toyota Production System (TPS) and have been gradually implemented throughout the activities of Toyota since the 1950s. Since the early 1980s, Toyota has been increasingly known for its efficiency in the implementation of Just-In-Time (JIT) production systems. Today, Toyota is generally considered one of the most efficient producers in the world and the company that sets the standard for best practices in application of lean management.

Lean management is being applied more widely in the leading manufacturing companies worldwide, led by the great automobile manufacturers and equipment suppliers for these companies. Lean management is becoming an increasingly important theme in the minds of manufacturing companies in developed countries as these companies are seeking more effective competition in the Asian market.

In the health care sector, lean management is also applied more and more widely with the perspective that hospitals are a complicated system with a series of processes and relationships. Medical costs are increasing rapidly, many preventable errors have happened. Lean management can be applied in hospitals and health facilities to reduce waste and unnecessary costs.

The main principles of lean management can be summarized as follows:

1. ***Awareness of waste*** - The first step is to recognize what adds value and what doesn't add value from the customer perspective. Any materials, processes or features that do not add value from the point of view of customers are waste and should be eliminated like reducing waiting time and travel distance of medical staff and patients in the hospital.

2. ***Standardized processes*** - Lean requires the implementation of detailed instructions known as standard operating procedures (SOP), which specify the content, sequence, timing and results for all the processes performed by the staff. This helps to eliminate deviations in the way different health facility staff perform their tasks.

3. ***Continuous cycle*** - In manufacturing, Lean often aims at implementing a continuous production cycle without congestion, interruption, detours, returns or waiting. With successful implementation, the production cycle time can be reduced by up to 90%. In the health sector, potential for improvements can be identified and measures applied in medical examinations, surgical procedures, discharge processes and other aspects of care provision.

4. ***"Pull" Production*** - Also known as Just-in-Time (JIT). Pull production targets at producing only what is needed, when needed. Production takes place under the action of the following stages so each factory only produces at the request of the next stage.

5. ***Quality at the roots*** - Lean aims at eliminating defects at the root cause and quality control is done by the workers as part of their jobs in the production process.

6. ***Continuous Improvement*** - Lean requires striving for perfection by continually eliminating any waste that is detected. This also requires the active participation of employees in the process of continuous improvement.

Table 5: Comparison of methods of quality improvement

	PDSA	**Six Sigma**	**Lean**
Cycle steps	Plan; Do; Study/Check; Act	Design; Measure; Analyze; Improve; Control;	Eliminate unnecessary steps; Eliminate errors in products; Reduce production time;
Improvement focus	Rapid improvement cycle to determine improvement processes in an optimal manner	Reduce errors; customer-centered	Increase efficiency; Eliminate unnecessary activities; Reduce deviation and cycle implementation period; The products are provided when clients want or need them.
Ideal use	The targeted projects have been selected and improved; Scarce resources and limited time.	The targeted projects have been selected for improvement within available resources. Focus on activities repeated with high frequency in the project.	Attention to the efficiency of the process. The process can be clearly identified and there are many useless/ unnecessary activities.
Supportive tools for success	An environment for testing and piloting application of ideas.	Graphs for controlling processes that contain statistical data, experts in 6 sigma ("black belt"; "blue belt")	Value stream mapping, value analysis; Kaizen.

Health experts estimate that 30–50% of medical care activities may be regarded as waste. Opportunity to use Lean to reduce costs is enormous, with benefits to patients, health workers, hospitals, health facilities and communities.

Depending on the conditions in a given health facility, all of the above mentioned quality improvement methods have potential for application (Table 5).

3. Overview of medical service quality in Vietnam

3.1. The current health care network in Vietnam

Vietnam's health care network includes a wide range of facilities from hospitals, polyclinics, specialized clinics to commune health stations. Despite being a developing country, Vietnam has achieved wide coverage of its health care network, including some facilities performing dual functions of curative and preventive care.

As of 31 December 2010, Vietnam had a total of 1087 hospitals. At the central level, are 17 general hospitals, 23 specialized hospitals, 3 traditional medicine hospitals and 1 nursing and rehabilitation hospital. At the provincial level, there are 153 general hospitals, 125 specialized hospitals (mainly on tuberculosis and pulmonary diseases, mental illness, pediatrics, obstetric-pediatrics and ophthalmology), 48 traditional medicine hospitals, 16 dermatology hospitals, 34 rehabilitation hospitals and 47 specialized clinics. At the district level, there are 615 general hospitals, 686 regional polyclinics and 18 regional maternity homes. At the commune level, there are 10 926 commune health stations located throughout the country.

In addition, other sectors such as agriculture, public security, defense and transportation, also have their own medical facilities including 23 hospitals (mainly general hospitals), 15 clinics, 29 rehabilitation centers and 710 health centers in the workplace.

The private sector has also grown apace. As of 2010 there were 102 private hospitals in operation and over 35 000 private clinics (unofficial data). Most private hospitals and clinics are concentrated in big cities like Ho Chi Minh City, Hanoi, Danang, Nghe An, Thanh Hoa.

Total hospital beds amount to 194 435, or the equivalent of 22.4 beds per 10 000 population.[13] Out of total hospital beds, the private sector accounts for 3%, the fully autonomous sectoral hospitals account for 1.4% of all hospital beds. If we include regional polyclinics and maternity homes the total reaches 204 620 beds, with 23.5 beds per 10 000 population [5].

3.2. Overall assessment of health care quality in Vietnam

Generally recognized distinct dimensions of quality relevant to developing country settings include technical competence, access to services, effectiveness, professional ethics, efficiency, continuity, safety, and amenities [36].

Technical competence

Technical competence remains limited in lower level facilities. The excessive overcrowding in tertiary hospitals and some specialties is an obvious consequence of the low

[13] Hospital beds includes general hospitals, specialized hospitals, traditional medicine hospitals, nursing and rehabilitation hospitals, leprosariums in both the public, semi-public and private sectors. The data source used is the Health Statistics Yearbook 2010.

level of technical competencies in responding to the people's health care needs, especially at district level health facilities.

Health sector statistics in 2011 indicate that district hospitals received 4 097 911 inpatient visits (36.8% of all inpatient visits), yet their share of surgeries (type 3 and above) is much lower at only 472 301 (19.3% of all surgeries). Meanwhile, the provincial level had 5 028 741 inpatient visits (45.2%) but undertook 1 314 291 surgical operations (53.6%) [16].

Access to services

Access to services is enhanced through the health insurance policy according to the Law on Health Insurance (Law No. 25/2008/QH12), health care for the poor policy according to Prime Ministerial Decision No. 139/2002/QD-TTg and No. 14/2012/QD-TTg expanding coverage of beneficiaries for health care assistance, including the poor, ethnic minorities, social target groups and patients with chronic diseases or facing high medical costs. In 2011, health insurance coverage reached 64.9% of the population [19].

In 2011, hospitals provided outpatient care for over 129.57 million patient visits, a 6.7% rise (equivalent to an additional 8 million visits) over 2010. Patient visits to hospitals under the Ministry of Health accounted for 7.2% of the total – increasing 7.8% compared to 2010. Some 45.7% of all outpatient visits were at the district level – rising by 6.4%; while 37.1% were at provincial hospitals, increasing by 4.8% compared to 2010. This figures represents a rising trend of health care seeking at higher level facilities.

In 2011, hospital outpatient care provided to insured patients amounted to over 68.59 million visits, accounting for 52.9% of all hospital outpatient visits, an increase of 16.1% over 2010. Free outpatient examination and treatment for other types of patients amounted to 11.62 million visits, increasing by 54.3% over 2010. Total patient visits paid by patients out-of-pocket in 2011 amounted to 49.35 million visits, accounting for 38.1% of the total, representing a sharp decline over 2010. The fact that the share of visits paid directly by patients has fallen 7.1%, while the share paid by health insurance has increased from 48.6% to 52.9% is a strong indication that health insurance has helped increased access to health care services.

Effectiveness of health service provision

Effectiveness of health service provision is assessed through use of clinical standards and guidelines. Over many years, thousands of technical standards and hundreds of treatment protocols have been developed with great efforts by the Ministry of Health, although updating of guidelines has been limited. There is no mechanism in place for assessment or verification of compliance with guidelines by external agencies. Control over guideline implementation is still primarily through internal checking, e.g., peer review of medical records and prescriptions. The risk of over prescription of unnecessary drugs and diagnostic tests and imaging has many roots, one of which is the financial autonomy mechanism and lack of external quality control. The proportion of deliveries performed by caesarean section in 2011 was 30.1% which is double WHO's recommendations of keeping it below 15% [16].

Professional ethics

The Ministry of Health has issued many regulations related to professional ethics (12 principles of medical ethics) and a code of conduct for officials and staff of state health facilities. The Law on Elected and Appointed Officials (Civil Service Law) also stipulates some regulations related to conduct of civil servants.

The press and public opinion often criticize and condemn incidents and reports of medical ethics violations and misconduct of health workers such as poor communication, indifference, coldness, lack of enthusiasm, expressions of anger when interacting with patients and taking envelopes from patients during inpatient treatment or prior to medical interventions. These have caused negative impacts on the physician-patient relationship. In addition the collusion between physicians and pharmaceutical representatives or pharmacies in the form of commissions to doctors for prescribing certain drugs, private clinic sales of drugs without prescriptions, including prepackaged drugs without instructions for use, have seriously negatively affected the safety of patients. Abuse of authority and power to defraud the health insurance fund has been detected and dealt with. Violations of medical ethics are prevalent in both public and private sectors [39]. The Law on Examination and Treatment stipulates the rights and obligations of patients, but so far no assessment has been undertaken to know whether patients know about their rights and obligations and how these rights and obligations are observed within health care facilities.

Efficiency

Efficiency in utilization of health care services is an important element of service quality. In the context of resource constraints, optimal use of health care services requires managerial attention. Overcrowding at high level facilities, including treatment of mild cases that could be treated at lower level facilities, due to patient preference to seek care at higher levels, entails unnecessary costs for the patient (long travel and accommodation) and results in overcrowding that negatively affects quality of care. As health technology assessment is still not practiced in the Vietnamese health system, drugs with low effectiveness and ineffective medical technologies and intervention techniques are still used, leading to waste that should be eliminated. The lack of a mutual recognition arrangement for lab test results across hospitals also leads to unnecessarily high costs for patients.

Continuity

Continuity of care is of prime importance for improving the health care delivery system. In recent years, despite the negative effects of some mechanisms and macro-level policies, continuity of care has seen some initial improvements, especially in national health target programs. For example, the national tuberculosis control program, initiated in 1995, has expanded its network from the central to the grassroots levels. Passive case detection relies on smear positive (AFB +) results and chest x-ray in people with a prolonged cough. Diagnosis of suspected tuberculosis cases is confirmed at district hospitals or provincial tuberculosis hospitals where treatment is started and monitored for an initial period. After the initial period of treatment patients are referred back to commune health stations for treatment follow-up. The commune health station is responsible for dispensing drugs and monitoring patients together with village health workers. District hospitals and provincial tuberculosis hospitals only provide treatment for severe cases with complications or for those indicated for inpatient treatment. During the period 2007–2011, the treatment success rate was over 90% [40].

For non-communicable diseases, continuity of care is particularly important. Since 2002 there has been a Program for the control and prevention of non-communicable diseases including cardio-vascular disease, cancer, diabetes and mental disorders. In 2007 and 2008, the Prime Minister added these and additional non-communicable diseases to the National health target programs. In 2012, the Prime Minister approved the new National health target program for 2012-2015 including a component project on diseases considered a risk to the community. The project includes activities to develop or implement management models for communicable diseases but also for non-communicable diseases including cancer,

hypertension, diabetes, COPD, asthma and mental illness in the community and among children.

The project on diabetes prevention has been implemented since 2010 and obtained initial positive results. Intervention activities include training, instruction on health communication, prevention and treatment of diabetes focusing on skills for screening and management of diabetes patients for health workers at all levels, including staff not on the official government payroll. In 2011, the project screened 248 466 cases, detecting 144 155 cases (58.0%) with risk factors and 18 738 people with diabetes mellitus type II (7.5%) [41].

The project on prevention of COPD and asthma at all levels combines curative and preventive care and health communication. The project was initiated in four provinces in 2011 and will be replicated to six more provinces in 2012 [42].

These projects have linked different levels of care in diagnosis, treatment, counseling and follow-up of patients, strengthening continuity of care, reducing associated costs for patients, and are considered the best solution to strengthen technical capacity for lower level facilities.

Despite these improvements, continuity of care has been adversely affected by the hospital autonomy policy under Decree 43/2006/ND-CP and recent changes in the health delivery system. Restructuring at the provincial and district level includes a series of decrees starting with Decree No. 171/2004/ND-CP and Decree No. 172/2004/ND-CP replacing Decree No. 1/1988/ND-CP, and later adjusted by Decree 13/2008/ND-CP and Decree No. 14/2008/ND-CP (splitting the district health center into a district hospital, district preventive medicine center and district health bureau) and Joint-Circular No. 03/2008/TTLT. Continuity of care across levels and coordination between curative and preventive care have been affected. Previously, under Decree 1, the district health center integrated curative and preventive care and directly managed commune health stations making continuity of care and coordination very effective. On a monthly basis, commune health stations had regular meeting with the district health center and two-way communications were routinely exchanged. Currently, the Ministry of Health and Ministry of Home Affairs are working together to revise this Decree. However, this regulation is subject to the Law on People's Council and People's Committee at all levels therefore adjustments have not been allowed. There remain many difficulties and limitations in continuity of care in prevention and treatment of HIV/AIDS patients between medical facilities, prisons and drug addict and sex worker rehabilitation centers.

Projects targeted at control of non-communicable disease in the National health target program are still only implemented on a small scale in selected provinces because resources for implementation are limited. Widespread implementation of target programs would help to better implement continuity of care, especially for chronic diseases, thus contributing to improving quality, strengthening appropriateness and continuity of care, reducing costs for patients and yielding benefits to health and the economy.

Health care safety

While patient safety is mentioned in many legal documents, such as the Hospital regulations, the Law on Examination and Treatment and circulars on infection control, patient care and drug use, so far there is no comprehensive and overall guidance for patient safety. The Ministry of Health has issued a National action plan to strengthen infection control in medical facilities till 2015 and developed national guidelines on infection control including:

- Sterilization and decontamination of instruments;

- Prevention of surgical site infection,
- Prevention of catheter sepsis;
- Prevention of ventilator-associated pneumonia;
- Safe injections and standard precautions;
- Prevention of urinary tract infections; and
- Surveillance of hospital acquired infections.

These guidelines are in the process of being assessed for approval and promulgation.

Nevertheless, there is still no comprehensive guideline for patient safety. Application of WHO's surgical safety checklist is only being piloted and still under evaluation, while no resources have been secured to disseminate them. Other related issues such as prophylactic use of antibiotics are being discussed and need to be updated with the latest evidence. Safe injection is being piloted. Besides the adverse drug reaction reporting system, there is no other voluntary error or incident reporting system in place, therefore it is impossible to draw lessons and make recommendations for prevention of errors and incidents in a systematic manner.

There is no continuing medical education program on patient safety. This topic is also not covered in the pre-service training curriculum of medical-pharmaceutical schools.

Amenities for patients

Facilities have paid little attention to ensuring basic amenities for patients seeking care or during inpatient treatment episodes, which negatively affects service quality especially in public hospitals. Some hospitals still use sedge mats rather than mattresses. Many wards do not ensure coolness in summer and warmth in winter, or have inadequate ventilation. Toilets and bathrooms are neglected, with a strong adverse effect on service quality for patients.

Overcrowding in tertiary hospitals forces patients to share beds, which is disagreeable and detrimental to patients.

Meals for hospital inpatients are generally not provided despite the Circular guiding nutrition and diet in hospitals (Circular No. 08/2011/TT-BYT). Because the costs of feeding patients are not included in the charges for hospital bed days, it is impossible to force hospital to provide foods for all patients. There are many models providing nutrition for patients through service contracting, or hospitals organizing and cooking food for patients and their staff. Results from a survey in 2009–2010 in 742 hospitals at all levels show that only 71.8% of provincial hospitals and 40.8% of district hospitals have a nutrition department or nutrition unit [43]. There is also a need to review and change the attitude that the nutrition department is a source of potential increased revenues to the hospital through sales of food, towards the idea that a well-functioning nutrition department is a minimum requirement for ensuring hospital service quality.

Providing therapeutic nutrition (medical diet) has been neglected, especially in intensive care. Calculation of calories and nutritional intake for patients should be mandatory in emergency and intensive care.

Developing plans for quality

At present, most hospitals have not yet developed a plan for quality, which means they have not developed goals for quality improvement, nor do they have projects, programs or policies for quality management.

According to a survey of over 200 hospitals in 21 provinces in 2012 implemented by the Vietnam Administration of Medical Services [44], some 82% of hospitals intend to develop quality plans over the next two years, however currently the proportion of hospitals with quality plans is only 9%; among the top rated hospitals this proportion is 29%, among the second rated it is 12%, among the third rated it is 2% and at this time no fourth rated hospital has such plans. The proportion of hospitals that have developed goals for quality improvement is 21%. Some quality goals are quite concrete and specific like "improve the procedures for receiving patients"; "reduce hospital acquired infections"; "improve administrative procedures"… but many goals are still very general such as "improve quality of examination and treatment", "raise satisfaction of patients"…

Up till now, only 5% of hospitals have developed projects or programs on quality, this proportion in hospitals rated at the top is 11% and among second rated hospitals is 10%. The proportion of hospitals with quality policies remains very low at only 4%.

Chapter 4: Macro-level service quality management

There are many different measures aimed at ensuring and improving medical service quality, including general measures (such as strengthening financial and human resources; strengthening management capacity, etc.) and specific measures. According to the WHO [27], development of a legal and regulatory framework and external evaluation, in other words, macro-level quality management, is one of four groups of specific measures that are aimed at ensuring and improving medical service quality. The four groups of measures include:

- External regulation and assessment
- Local standard-based quality management
- Patient and community participation or direction
- Local project teams working on quality-problems

Macro-level quality management includes issuing a legal framework, standards, and professional guidelines, then checking, verification and evaluation of compliance by state management agencies and relevant non-governmental organizations for three levels: (i) organizations and facilities that provide medical services; (ii) professionals and practitioners who provide medical services, including their training; and (iii) pharmaceuticals, medical equipment, medical technologies and infrastructure.

This chapter will present issues related to macro-level management at these three levels aimed at medical service quality assurance and improvement.

1. Legal framework and management of medical facilities

1.1. Concepts and definitions

The most important element of administration of health service quality in health care facilities is to set legislation and regulation, and organization for ***licensing*** and ***accreditation*** of service quality for these facilities [32].

Licensing

Licensing is a process in which a competent authority assesses competency and issues permits to competent health care professionals to provide services (*licensing for medical practice*) or organize health care activities (*granting operating licenses)* in the health care sector. The purpose of licensing is to ensure that individuals or organizations practicing medicines are *capable of meeting the minimum standards of* safety and protection of the people's health.

Professionals are licensed after passing exams or providing evidence of training; practice licenses can be renewed on a routine basis on condition that the professionals participate in continuing medical education (CME), and (or) prove their technical capacity.

The operating license for health care facilities is granted after the facility has been checked and it has been verified that they meet the minimum requirements for medical practice and patient safety. To continue operations, the health facility must commit to maintaining the required standards for licensing. Licensing is a *compulsory process;* individuals and organizations are only allowed to provide health care services after they have been licensed for practice.

Certification

Certification is a process, in which a competent authority (governmental or non-governmental agency) assesses and certifies that individual professionals or organizations meet certain pre-determined *requirements or standards*. Certified individual professionals are those who have obtained supplementary training, and proven their technical capacity in their specialty is above the minimum requirements for licensing.

In Vietnam, professional certification is integrated into the licensing system for the practice of medicine, including *licensing* for providing health care services (with minimum requirements) and *certification* (section "Scope of medical work" in the format of *Certificate for practice of medicine* issued under Circular No. 41/2011/TT-BYT).

Accreditation

Accreditation is a process, in which an organization (usually a non-governmental organization officially recognized by competent authorities) assesses and certifies that a health care facility meets certain appropriate, pre-determined and published requirements.

Accreditation standards are often considered optimal requirements that a health facility can achieve with a view to encouraging continuing quality improvement in the facility. Accreditation will be granted to a health facility based on periodic assessment (every two to three years) directly at the facility conducted by a group of experts of the accreditation agency. Unlike licensing, accreditation is a *voluntary* activity, where the health facility is not coerced to participate in the accreditation process. However, some health insurance funds will only enter contracts with accredited health facilities.

External regulation and assessment

External regulation and assessment, or legislation on service quality management and external assessment *on health care facilities* includes such measures as *licensing of facilities, accreditation; assessment and measurement and quality improvement (*Table 6).

Table 6: Basic measures to ensure and improve service quality and safety in health care facilities

Strategies	Basic measures
Legislation and regulation	**Ia**. National licensing system granting licenses for health facilities
	Ib. Legislation on and regulation of professional norms and standards for health care facilities and health care services that pose a risk to patients
Monitoring and measurement	IIa**.** Using performance indicators to assess quality
	IIb. Integrating the performance indicators of health facility into the electronic medical records and systematic collection of health care information.
Assuring and improving the quality and safety of individual health care services	**IIIa.** Service quality accreditation and certification systems
	IIIb. Stimulation of specific quality improvement and safety programs

Strategies	Basic measures
Assuring the quality and safety of health care services as a whole	**IVa.** Accreditation and certification of integrated health care delivery systems
	IVb. Strategies to promote innovation in organization formats through which services are delivered (e.g., providing care for cerebrovascular trauma patients at the nursing home instead of hospital)

Source: WHO, 2008 [27]

1.2. Situation assessment

General legislation

In recent years, the promulgation and implementation of a series of health polices has had a positive impact on the health care service delivery system in general and on service quality in health facilities.

First of all, the government has issued policies aimed at upgrading the technical infrastructure and medical equipment and developing human resources for health. On 2 April 2008 the Prime Minister issued Decision No. 47/2008/QD-TTg approving the Project to build, renovate and upgrade district hospitals and inter-district hospitals using the government bonds and other legal funding sources for the 2008–2010 period. On 30 June 2009, the Prime Minister issued Decision No. 930/QD-TTg approving the Project to invest in building, renovating and upgrading specialized hospitals in the fields of tuberculosis, mental health, cancer and pediatrics, along with provincial general hospitals in selected mountainous and disadvantaged areas using government bonds and other legal funding sources for the for the 2009–2013 period.

In 2007, the Minister of Health issued Directive No. 6/2007/CT-BYT on improving service quality focusing on five elements (i) mitigating hospital overcrowding; (ii) strengthening capacity at the grassroots level; (iii) promoting social mobilization for health care; (iv) enhancing medical ethics in health care facilities, and (v) revising and supplementing legislation on medical examination and treatment.

In 2009, the Ministry of Health initiated Program No. 527/CTr-BYT with a view to improving service quality in hospitals and health care facilities to satisfy patients covered by health insurance. The program set the following objectives:

- Improve health worker behavior and service attitudes towards patients.
- Reform administrative procedures, reduce hassles and inconvenience at admission, during examination and treatment and when making payment.
- Improve service quality in hospitals and health care facilities to ensure the rights and entitlements of insured patients.
- Control overprovision of drugs, technologies, and laboratory tests in order to economize on medical costs and resources.

In 2008, the Minister of Health issued Decision No. 1816/QD-BYT approving the Project on secondment of professional staff from higher facility to support and mentor health workers in lower level facilities to improve their quality of examination and treatment. The project aims to (i) improve quality of medical examination and treatment in lower level

facilities, especially in the mountainous and remote areas with severe understaffing of qualified personnel; (ii) reduce hospital overcrowding at higher level facilities, especially at central hospitals; (iii) transfer knowledge and technologies and provide on-the-spot training of state health workers to enhance their technical skills.

The Law on Examination and Treatment was passed in 2009 and became effective starting 1 January 2011. This is the legal document of highest importance for service quality of medical examination and treatment. The Law stipulates requirements for health professionals and health care facilities; technical regulations in medical examination and treatment; application of new techniques, methods in medical examination and treatment; medical errors, and handling of complaints, claims and disputes in health care; and required conditions for health care work.

The Law on Examination and Treatment reaffirms some previous legislation, and set new regulations for quality assurance for the first time in Vietnam. The Government enacted Decree No. 87/2011/ND-CP guiding details and instructions for implementation of the Law directly related to service quality. Subsequently, on 14 November 2011, the Ministry of Health issued Circular No. 41/2011/TT-BYT guiding licensing for health professionals and operating licenses for health care facilities. Thus, basic legislation on service quality assurance and improvement in health care facilities has been enacted, and implemented since early 2012.

Licensing of health care facility

Achievements and progress

Licensing the operation of health care facilities is one of the most important measures to assure service quality as stipulated in the Law on Examination and Treatment. Licensing the operations of medical facilities is a measure to ensure that a health care facility is permitted to operate only once it has met basic minimum requirements for service quality. To date, the legislative system for licensing the operation of health care facility is quite sufficient. Specifically:

- The Law on Examination and Treatment (2009) stipulates operational requirements for health care facilities, requirements for licensing, authority to issue licenses, the dossier and procedures for issuing and reissuing or adjusting and revoking operating licenses for medical facilities.
- Decree No. 87/2011/ND-CP stipulates details and guidance for implementing some articles in the Law on Examination and Treatment. The Decree sets out a roadmap for licensing public health care facilities.
- Ministry of Health Circular No. 41/2011/TT-BYT dated 14 November 2011 guided the issuing of operational licenses for medical service facilities, stipulating specific conditions to license different types of health facilities; authority to grant licenses,, dossiers and procedures to grant, renew and modify operating licenses for health care facilities and organization of the licensing, adjustment of license and relicensing of health care facilities.

Difficulties and shortcomings

Initial licensing will ensure initial quality conditions of the health care facility. However to maintain quality standards at the licensed facility, the license generally should be time bound so that when it is about to expire, quality standards can be verified before the license is renewed. However, the Law on Examination and Treatment and its guiding

documents do not mention expiration of the license. The Law on Examination and Treatment only stipulates revocation or suspension of the license in some circumstances. Revocation or suspension of the license can only be done effectively when the administration apparatus is strong enough to monitor and supervise the health care facility. Indeed, the current regulation on granting operating licenses for health facility fails to bring into full play its potential role for *maintaining* service quality.

Another limitation of licensing is that the national technical standards on health care facilities have not been promulgated. While a national technical standard is pending, the Minister of Health will have to set out specific requirements for physical infrastructure, medical equipment, organizational structure and staffing for specific forms of health care service provisions and regard them as the basis for granting licenses (Ministry of Health Circular No. 41/2011/TT-BYT dated 14 November 2011 stipulating specific requirements for granting operating licenses to health care facilities).

Finally, issuing operating licenses for medical facilities can only achieve the goal of ensuring quality when the agency assigned responsibility for it has adequate capacity for implementing the tasks effectively, can ensure transparency and especially can prevent the issuing of licenses in a superficial manner, which would waste time and resources of the medical service system.

Technical standards for types of health care services and facilities that pose high risks to the people's health

Radiation safety in health care

Achievements and progress

The Atomic Energy Law (2008) and its guiding documents constitute comprehensive legislation to secure radiation safety in medical care:

- The Atomic Energy Law stipulates that the Ministry of Health is responsible for routine health check-ups for staff working with radiation and guidance on the level of exposure to radiation for patients and control over radiation emission.
- Government Decree No. 7/2010/ND-CP dated 25 January 2010 (*regulating details and instructions for implementation of the Atomic Energy Law*) stipulates that individuals and organizations licensed to undertake work with radioactive materials will be held accountable for ensuring working conditions, protective measures, radiation records, equipment, personal dosimeter, training for new staff, routine health check-ups for staff, and conduct personal radiation exposure assessments every 3 months. In cases of overexposure by radiation staff, they should be sent out for health monitoring and determination of the reasons for overexposure, and measures should be put in place to overcome overexposure and assign the individual to alternative non-radiation work.
- Joint Circular No. 2237/1999/BKHCNMT-BYT dated 28 December 1999 of the Ministry of Health – Ministry of Science and Technology (guiding compliance with radiation safety in medical care) assigns accountability for radiation safety, reporting regulations, licensing for registration, practice, technical requirements for radioactive equipment, locating space to install radiation emitting equipment, and general requirements for radiation safety assurance for the nuclear medicine department, management of radioactive waste, quality inspection, calibration of radiation emitting equipment, measuring clinical dosage and quality assurance in medical radiography; The Circular also stipulates requirements surrounding implementation of radiography;

safety while radiography is in process; and investigation of accidents and incidents related to radiation exposure in patients.

- Government Decree No. 111/2009/ND-CP dated 11 December 2009 (stipulating penalties for administrative violations related to atomic energy) (including nuclear medicine) stipulates what constitutes an administrative violation, the form and level of penalties, other measures to overcome negative consequences, and the authority and procedures for punishment of administrative violations in atomic energy.
- Decision No. 1958/QD-TTg dated 4 November 2011 approved a detailed development plan for application of radiation in medical care through the year 2020, and provides regulations on (i) safety assurance and control of radiation exposure levels in patients and technicians; (ii) safety management of radiation emitting substances in nuclear medicine facilities and sources of radiation left unused in health facilities; phasing out of obsolete radiation emitting equipment and encouraging use of high-tech radiation emitting devices; (iii) Organizing training and drills for preparedness and response to radiological incidents for health care facilities and relevant agencies.

Difficulties and shortcomings

Although there are sufficient legal regulations related to radiation safety in the health sector, compliance remains limited. A report from the Vietnam Health Environment Management Agency (VIHEMA) and the Department of Radiation Safety at the Ministry of Science and Technology, indicates that some health facilities are operating without a license (some of these are preventive facilities); some are unable to ensure safe conditions for radiation rooms; and some fail to fully comply with radiation exposure measurement for patients and personnel.

In 2011, the provincial bureaus of science and technology in 44 provinces conducted an independent inspection of radiation safety in 668 organizations, units; 52 units were found in violation of the regulations, and fines were applied. Some 45 of these units were health care facilities, accounting for about 8% of organizations inspected [45].

In Nam Dinh [46], out of 22 facilities inspected in 2012 (19 of which had X-ray machinery), 2 units neglected to report their x-ray machine; 4 facilities did not provide personal dosimeter to measure staff exposure to radiation; 8 facilities did not provide protective equipment for their staff and 5 facilities did not check radiation emitting equipment on a regular schedule. In Dien Bien, by the end of 2011 only 10 out of 14 health facilities with x-ray equipment were licensed [47].

Management of waste and environmental safety in health care facilities

Achievements and progress

Legislation on management of waste and environment safety in health care facilities is quite sufficient, including:

- Revised Law on Environmental Protection (2005);
- Decree No. 80/2006/ND-CP dated 09 August 2006 stipulating details of some articles in the Law on Environmental Protection;
- Decision No. 2038/QD-TTg, dated 15 November 2011 approving the master plan for medical waste management;

- Decision No. dated 8 February 2012, approving the master plan for medical solid waste management;
- Decision No. 43/2008/QD-BYT dated 30 November 2008 issuing regulations for medical waste management
- Circulars stipulating national technical standards on sewage in medical facilities, exhaust fumes from medical incinerators and other regulations.

The Ministry of Health has established the Vietnam Health Environment Management Agency (VIHEMA) as a point of contact for implementing related activities; Hospital waste management work is inspected both annually and randomly by the Ministry of Health, provincial health bureaus, or jointly with the environmental and public security sectors.

Difficulties and shortcomings

There is a big gap in the current situation of implementation of regulations on hospital waste management and environment safety in health care facilities:

- Some 50% of hospitals ensure separation, collection and transport of solid medical waste according to regulations. Temporary storage and preliminary treatment of waste remains weak;
- Some 35% of hospitals have incinerators in place but the capacity and operation is still inappropriate;
- Most hospitals use burning technologies to manage medical solid waste; the number of hospitals using non-burning technology is very limited;
- By 2011, only 351 hospitals had good medical sewage systems in place; 835 hospitals need to repair or upgrade their sewage systems.

Assessment and accreditation of service quality

Achievements and progress

While licensing is a solution to *secure minimum service quality,* accreditation is a solution to encourage health care facilities to *improve their service quality.*

- The Law on Examination and Treatment (Articles 50, 51) stipulates the use of standards to classify and evaluate service quality of health care facilities. The Law encourages health care facilities to apply standards in service quality management. Accreditation of service quality is based on actual assessment of service quality, verified in comparison with mandatory standards for quality management and is implemented by approved accreditation agencies.
- Government Decree No. 87/2011/ND-CP stipulates and guides details on standards and recognition of quality management standards, approved accreditation agencies, functions, operating conditions and working principles accreditation agencies.

Before the Law on Examination and Treatment became effective, accreditation was almost not applied at all within the health service delivery system in Vietnam. Only a very small number of hospitals were interested in and strived to become accredited such as the French-Vietnam hospital in Ho Chi Minh City, which has been accredited by the Haute Autorité de Santé from France and the Cao Thang Ophthalmology Hospital awarded the Joint Commission International accreditation. Some hospitals have received certification of quality management systems according to ISO 9001: 2000 and ISO 9001: 2008.

Difficulties and shortcomings

Widespread accreditation of service quality in health care facility has not been translated into action under the Law on Examination and Treatment due to the absence of the following pre-conditions:

- *Absence of service quality standards*: There is no quality management standard for health care facilities since the Ministry of Health has no legislation to recognize international and foreign of quality management in health care facilities for use in Vietnam.
- *Lack of approved accreditation agencies.* By the end of June, 2012, no health facility accreditation agency has met the conditions for operation according to Article 13 of Decree, Decree No. 87/2011. No domestic accreditation agency has been established as a state service facility or been issued a business licenses as a private business, nor has any international accreditation agency been granted a foreign direct investment permit for a local branch in Vietnam.
- *Lack of incentives for hospitals to apply for accreditation.* According to current regulations, there is no difference in the rights between accredited and non-accredited health facilities. In many countries, accreditation is a prerequisite for preferential payments (higher payments than to non-accredited facilities). In some countries, accreditation is a necessary condition for signing a service contract with health insurance funds. Many years ago in the United States, only hospitals awarded with Joint Commission International accreditation had the right to providing health care services for Medicare fund patients.

Quality measurement and performance indicators of health facilities

Achievements and progress

The health sector has strived to assess service quality of hospitals annually through use of the *Hospital inventory checklist.* For the past few years, the Ministry of Health has directed and guided hospitals and inpatient facilities, including non-public facilities, to complete the hospital inventory checklist. The purpose of the annual inventory is to make a comprehensive assessment in order to rate hospitals at four different standards and to grant honors and pecuniary awards at the end of the year. The inventory focuses on checking performance on seven tasks and functions and implementation of Hospital Regulations and includes assessment of physical infrastructure, medical equipment, health financing, hospital human resources, quality and efficiency of health care provision. The hospital inventory checklist includes some criteria related with hospital quality, including inputs, processes and performance criteria. In 2011, the hospital inventory checklist had 148 benchmarks for a maximum total of 100 points, 41 categories had point deductions for a maximum of 32 deducted points, and 2 categories had the option of point bonuses with 1 bonus point.[14] The hospital inventory checklist was developed in a meticulous and detailed manner, gathering information on quantitative and qualitative indicators and quantifying results through scoring to comprehensively assess and classify the hospitals, and promote competition.

After hospitals record their self-assessment following the hospital inventory checklist, an inspection team consisting of members from the Ministry of Health and/or provincial health bureau validates the self-assessment results by visiting the facility. The Ministry of Health assign staffs to verify results from hospitals under control of the provincial health

[14] Ministry of Health Decision No. 3296/QD-BYT dated 12 September 2011 issuing the hospital inventory checklist.

bureau, or other sectors. Duration of the checking work is 1–2.5 days per hospital, depending on the size (number of beds) of the hospital.

The international classification of diseases and information technology are beginning to be applied in health care facilities. The Ministry of Health has issued a regulation for application of International Classification of Disease (ICD) coding, and some hospitals are using the ICD for inpatients. Electronic medical records management and computerized prescription have also been applied in some hospitals.

Difficulties and shortcomings

Vietnam does not have a national set of indicators/tools for quality measurement and assessment. Some output indicators such as: mortality rate and average length of stay are not linked to disease categories, making it impossible to use them to assess service quality. Some important output indicators such as: nosocomial infection rate, death within 24 hours after admission, re-admission within 48 hours … are not collected, analyzed or assessed. Certification of compliance with international standards like ISO has been achieved in some hospitals, but these standards are not specialized for use in hospital quality assessment. Many hospitals, especially private hospitals, seek international accreditation at their own volition.

The current annual hospital assessment using the *hospital inventory checklist* plays an important role and so far has been an indispensable tool, yet it lacks an evidence base for its use in service quality assessment. The assessment method is not objective (hospitals self-assess and information is verified by inspectors who are sometimes the managers of the hospital being assessed). It is not possible to ensure effective assessment because the individuals performing the assessment and verification lack training and expertise on service quality assessment. Hospital inventory results in 2011 show that of 1148 hospitals were inspected, and a high number, 504 hospitals, were assessed as outstanding facilities [16]. This suggests that routine hospital quality assessment is not a true professional service quality assessment.

The most basic characteristics of service quality such as effectiveness (including clinical effectiveness), efficiency, safety, equity, access, patient-centeredness, continuity of care… have not been fully taken into account when designing service quality assessment tools. In Vietnam, there are no specialized indicators for service quality assessment that cover all aspects of quality (for example service quality assessment using the conceptual framework of PATH (Performance Assessment Tool for Quality Improvement in Hospitals proposed by the WHO Regional Office in Europe). In addition, health care facilities without inpatient beds, such as commune health stations, regional polyclinics, specialized clinics, etc… have no appropriate quality assessment tools in place.

Information management is a prerequisite for improving service quality including application of international classification of disease codes. However, currently the ICD codes are used in a limited way, without adequate attention paid to coding accuracy. Implementation of ICD coding lacks checking, supervision within facilities and by external administrative agencies.

Organization of the medical care delivery system: Levels of care in the technical referral system in Vietnam and medical service quality

The organization of the health service delivery system and allocation of responsibility for medical services in the system have a large impact on quality of medical services. They influence effectiveness, efficiency, equity, patient satisfaction and continuity of care.

Usually, health systems are organized according to level of care, starting with primary health care, followed by the first referral level, secondary referral level and highest referral level. In some countries, the health system is only organized into three levels: primary care, specialized care and highly specialized care. The commune health station or clinics of family doctors are the facilities that provide primary health care, and meet a majority of health care needs of the people. Hospitals at different levels are responsible for providing technical services that exceed the technical capacity of primary care facilities.

Each level of health care is responsible for providing different professional and technical packages of services; the scope of technical services assigned to each level depends on the morbidity patterns, capacity of the health system and socio-economic conditions in each country. Thus, the technical referral system usually is determined to be appropriate with each level of health care and is adjusted over time, depending on the development of each country.

Below is a summary introduction [48] to various health delivery system models, emphasizing the possible relationships between hospitals and primary health care facilities, aimed at giving some new perspectives to this situation analysis of the health delivery system in Vietnam and its impacts on service quality.

- *Dominant hospital model*: In this model, the hospital plays a dominant role, providing both high-tech services and primary care services. Patients tend to bypass the primary facility where they are registered for care, e.g. the commune health station or family doctor, and go straight to the hospital. This model has been heavily criticized because it does not support but rather breaks up the primary health care system.
- *Hub hospital model.* The hospital plays the role of a focal point in health care for a given catchment area. The hospital takes managerial responsibility for planning, administration, supervision and financing for the primary facilities, but does not directly provide primary care services. This district level model is epitomized by the system in the former Soviet Union. Without a good control system, the hub hospital model easily transforms itself into the dominant hospital model.
- *Comprehensive hospital model.* This is a district level model often found in developing countries during the 1970s and 1980s. Comprehensive hospitals provide both inpatient care and primary health care in the community while integrating curative and preventive care services.
- *Separatist hospital model.* This model is common in developed countries where the hospitals merely provide short-day specialized inpatient services that cannot be performed by primary care physicians. The rationale for this model is that when the hospital makes large investments in medical equipment and advanced technologies and ensures training of human resources for specialized care, these services should only be used to provide specialized treatment to ensure effective use of resources.

Achievements and progress

The former health delivery system at the district level (according to Decree 01/1998/ND-CP) exhibited attributes of a “comprehensive hospital” model as mentioned above, providing integrated curative and preventive care services. In the past, patients with common diseases were treated and cared for at lower level facilities, and were transferred to higher facilities when necessary with a referral letter from the lower level.

According to Ministry of Health Decision No. 23/2005/QD-BYT issuing regulations on the technical referral system and lists of technical medical examination and treatment

services,[15] the public sector medical service provision system was divided into 4 levels: (i) central; (ii) provincial and municipal; (iii) district; and (iv) commune. The decentralization of the health system in Vietnam is tightly linked to the administrative system. The Central level is assigned to implement all technologies on the list, while the provincial, district and commune levels are assigned to implement gradually less complex technologies.

According to current regulations, medical facilities are required to establish committees to develop lists of procedures they will perform and to submit this to the management agencies for approval. Medical facilities are allowed to provide technical services that are officially assigned to a higher level of the system only after applying to the health sector management agencies for consideration and approval. In the case that a technique belongs to the list of techniques assigned only to central level facilities, then approval is required from a Committee at the Ministry of Health.

Continuity of care: Some national target programs (e.g. the tuberculosis control program, national target program for non-communicable diseases control, including cancer prevention, diabetes, hypertension, COPD, and mental illness) have begun, with an admittedly narrow scope, to integrate levels of care for diagnosis, treatment, counseling and monitoring of patients, thus strengthening continuity of care and reducing associated costs for the patients. This is regarded as a good solution to strengthen clinical capacity for lower levels.

In recent years, the systems nature of the health delivery system has seriously deteriorated: patients bypass lower level health facilities to seek care for common diseases at higher levels, while communication and sharing of patient information across levels and health facilities is weak, leading to interruption of continuity of care.

Difficulties and shortcomings

Irrational use of resources between levels of the health care system: Many higher level facilities use specialty medicine resources and advanced technology equipment to examine patients and treat common medical conditions. A study from the Health Strategy and Policy Institute found that 55.8% of patients seeking care at the provincial general hospital had bypassed lower level facilities; at the central general hospitals 59.4% of patients had bypassed lower levels. At the National Hospital of Obstetrics and Gynecology 66% of admissions involved patients whose condition could have been treated at a lower level facility [49]. The above trend leads to resource waste, reduced service quality and induced overcrowding at higher level facilities.

Overcrowding and its impacts on service quality: Overcrowding has become prevalent at higher level facilities in recent years, bed occupancy rate ranges from 120% to 150%; one doctor must examine 60–100 patients per day [49]. Overcrowding has obvious adverse impacts on service quality because of the volume of patients exceeds the ability of facilities to provide quality services (i.e. it exceeds physical capacity and exceeds the ability of health workers to respond appropriately), leading to long waiting time, shared beds in inpatient wards and inability to ensure quality in health services. Of course, breakdown in the referral system is not the only cause of overcrowding. Other policies such as incentives to increase revenues under hospital autonomy (Decree 43) and the pressure to maximize revenues/insurance claims to compensate for deficits in the state budget allocation to pay for salary and additional incomes for staff and the partial coverage of user fees when insured patients bypass the appropriate level of care also contribute to worsened overcrowding

[15] Ministry of Health Decision No. 23/2005/QĐ-BYT dated 30 August 2005 issuing regulations on technical referral system and lists of techniques to be available at different level health facilities.

The law and sublegal documents don't stipulate the design of the medical service provider network: The Law on Examination and Treatment (2009; Article 41) lists various forms of organization of medical facilities, but doesn't stipulate the relationships between these forms of organization in the network of medical service providers, while sublegal documents have not yet clarified these relationships. Sublegal documents do not provide rules for sharing of patient medical examination and treatment information between medical facilities. Thus the current legal framework does not ensure the systems nature of the medical care provider network, and does not ensure sharing of patient information within the network nor continuity of medical care for patients.

Loss of the considerable advantages of integrated curative-preventive care in health facilities: On the other hand, integration between prevention and treatment has been strongly affected by regulations that change the organizational structure at the district level (splitting district health centers into a district hospital, a preventive medicine center and a district health bureau, with the commune health station placed under the administration of the preventive medicine center). This organizational separation eliminated the important advantage of integrated curative and preventive care in one district health facility as under the previous organization.

Roles and responsibilities of administration and organization in service quality management

Achievements, progress

The Ministry of Health. The Law on Examination and Treatment stipulates clearly the role and responsibility of the Ministry of Health in administration of service quality. The Health Minister is authorized to grant, renew, modify and revoke operating licenses of health facilities under the administration of the Ministry of Health, private hospitals and hospitals of other sectors, except for facilities under the Ministry of Defense. The Ministry also has authority to assess and permit health facilities to apply new technologies and methods, and to approve master plans for specialty health care networks…

According to the current regulations, the Vietnam Administration of Medical Services is assigned the functions, tasks and authority[16] for administration of service quality, including the following important tasks:

- Lead development of the national technical standards and submit them to the competent authority for approval.
- Develop regulations for technical assignment of clinical care services by level of facility, medical regulations, national technical protocols for medical examination and treatment and rehabilitation, occupational, forensic and mental health medical evaluation to submit to the Minister of Health for approval.
- Participate in developing regulations for required conditions and standards; and for the establishment, merger or dissolution of health care facilities;
- Direct, guide, check on and organize implementation of legislation and statutory documents, strategies, master plans, clinical guidelines, national technical standards…;
- Direct, guide, and check on the use and management of rational and safe use of drugs in health care…

[16] Ministry of Health Decision No. 16/2008/QD-BYT dated 22 April 2008 stipulating functions, tasks and authority of the Administration of Medical Services, Ministry of Health.

In order to strengthen capacity of the Vietnam Administration of Medical Services for medical service quality assurance, the Medical Service Quality Management Division was established in 2011, and the Vietnam Administration of Medical Services has actively developed legislation to implement the Law on Examination and Treatment.

Provincial/Municipal Health Bureaus: The current legislation assigns authority and responsibility to the provincial health bureaus to assure service quality in local health care facilities, including the following tasks:

- Granting, renewing, and revoking medical practice certificates for staff of medical facilities located in the province, except in the case of facilities directly managed by the Ministry of Health, and for health workers belonging to other ministries;
- Granting, renewing, modifying and revoking operating licenses of health care facilities within their jurisdiction, except for facilities under the control of the Ministry of Health, private hospitals and hospitals of other ministries;
- Proposing a draft Master plan for the local health care network to the chairman of the provincial people's committee for approval.
- Guiding, checking, inspecting and penalizing any violation of technical regulations or technical standards of health care facilities… based on the regulations and guidance of the Ministry of Health as designated in decentralized administration, and the technical division of services across levels of facilities.

Vietnam Social Security. The Law on Health Insurance (Article 41) stipulates that Vietnam Social Security is responsible for verifying service quality and auditing insurance claims. Joint Circular No. 09/2009/TTLT-BYT-BTC guiding implementation of health insurance and assigning responsibility to Vietnam Social Security to verify and assess indications for treatment, use of drugs, chemicals, supplies and medical technologies for patients.

Medical professional associations. None of the professional organizations in the health sector in Vietnam directly participate in monitoring and supervision to assure service quality. The professional associations in the health sector health operate on a voluntary basis. According to the current legal framework, these organizations have no responsibilities or authority for medical service quality. The charters of professional associations, including the charter of the Vietnam Medical Association does not refer to functions, tasks and authority related to service quality (the term "quality" is not mentioned in the charters of these organizations).

Accreditation agency. According to the current legislation, private organizations can participate in quality improvement activities in the coming time. Article 51 of the Law on Examination and Treatment stipulates that *the accreditation agency for health care facilities* must be independent of the health facilities, and set up by agencies, organizations or individuals. The accreditation agency for health care facilities is assigned the function[17] of advising and guiding health care facilities to apply quality management standards to improve service quality; issuing time-limited accreditation certificates for health care facilities and monitoring the maintenance of service quality in accredited facilities as certified by the quality management standards.

Difficulties and shortcomings

[17] Decree No. 87/2011/ND-CP dated 27 September 2011 stipulating details and guiding implementation of articles of the Law on Examination and Treatment.

Government management of the health sector. Overall, there is no consensus on what constitutes "service quality". The conceptualization of medical service quality having at least six basic attributes (*effectiveness, efficiency, accessibility, patient-centeredness, equity and safety*) has not been widely disseminated to health administrators at different levels. Many people still consider "high quality services" to be limited to services that rely on modern equipment.

The second biggest limitation in the state administration of health service quality is that the development and implementation of the strategy for quality assurance and improvement is only at its initial stages as the Law on Examination and Treatment has only just come into effect.

For state administrative agency in the health sector at the central level, specifically the Ministry of Health, major limitations in quality assurance and improvement include:

- Lack of capacity to develop, refine, amend, policies and regulations on medical service quality.
- Limitations in capacity to organize, direct, manage, check and supervise medical service quality.
- Absence of a service quality system with relevant monitoring and evaluation tools.

For the state administrative agencies at the local level (provincial health bureaus): Capacity to organize monitoring and supervision of service quality is limited.

For professional associations in the health sector as analyzed above, the biggest limitation is that their potential role in service quality assurance has not yet been recognized. In addition, given the diversity and abundance of medical-pharmaceutical associations, capacity to undertake quality assurance activities has not yet been assessed.

Finally, although the Law on Health Insurance assigns responsibility to Vietnam Social Security for monitoring of quality of the services provided to the insured, this agency lacks specialized expertise (since it administers not only health insurance fund but other social security funds, e.g. retirement fund, unemployment benefits, etc...) and competent staff, as well as necessary tools for supervision of service quality.

1.3. Priority issues

Based on the scope and degree of severity of each issue mentioned above, and the potential for finding feasible and effective solutions, the following six priority issues in external management of service quality were identified:

Lack of a time limit for operating licenses of medical facilities

According to the current regulations, the validity of an operating license for a medical facility is open-ended. These licenses can only be revoked or suspended under specific circumstances, which leads to the risk that licensed facilities may not maintain the required standards for service quality after receiving the license if the administrator fails to effectively implement regular checks and supervision work.

Lack of specific tools/indicators to measure service quality

Besides the annual hospital inventory that assesses compliance of hospitals with specific regulations but lacks evidence on the validity of its indicators, Vietnam has no specialized instruments or indicators to measure and assess quality of medical services

provided by hospitals and other facilities. It is impossible to monitor and supervise service quality assurance and improvement without specific methods and instruments.

Lack of a mechanism to encourage voluntary seeking of accreditation

The Law on Examination and Treatment and guiding documents form a legal basis for accreditation of health care facilities. However without incentives for accreditation, few health facilities will apply for accreditation and the objective of improving service quality through accreditation will not be achieved.

Quality of medical services is negatively affected by overcrowding at higher levels and breakdown of the medical referral system

The Law on Examination and Treatment and supporting sublegal documents lack stipulations related to division of responsibilities and functions between facilities in the medical care provider network. Health care facilities at the lower levels are not fulfilling their assigned functions, while the higher level facilities are doing the work of the lower level facilities. A high proportion of patients are bypassing lower level facilities to seek care at higher levels, which has led to an inversion of the intended pyramid design of the health delivery system. Overcrowding at higher levels is very serious, and strongly affects service quality. Patient records are not shared within and between health facilities and are not properly archived, which reduces efficiency of the delivery system and increases health care costs for patients.

Limited capacity on service quality management of health administrators

Health sector management agencies lack an appropriate organizational structure, experienced and knowledgeable staff and skills for medical service quality management. The role of Vietnam Social Security in monitoring and surveillance has not proven to be effective yet. Vietnam Social Security has limited capacity or mechanisms to monitor quality of medical services for people with health insurance. Participation of professional associations in medical service quality assurance has been inadequate. Intersectoral cooperation in medical service quality management is limited.

1.4. Recommendations

Proposed solutions to the above issues include (For details see Chapter 9 of this report):

- Move towards fixed period licensing of health care facilities.
- Develop specific tools/indicators for measurement of service quality.
- Develop mechanisms to incentivize hospital accreditation.
- Improve quality of medical services through more effective use of resources at all levels of the healthcare system to ensure improved continuity of healthcare.
- Strengthen service quality management capacity.

2. External regulation and management of health care professionals

The health sector is considered a labor-intensive sector requiring a large health workforce. Macro-level management to ensure the large number of health workers have adequate professional competencies and meet occupational and social standards in the context of rapidly changing medical knowledge and technologies and reforms to health

financing mechanisms, is a task that is particularly important in the strategy for ensuring quality and safety of medical examination and treatment.

This section will analyze the legislation on and regulation of the various types of professionals and their training, evaluate results and progress as well as difficulties and shortcomings in order to identify priority issues and recommend solutions to improve quality of medical services.

2.1. Situation assessment

So far the health sector in general and health services in particular has trained a large workforce and improved skill levels. The number of health workers with university education increases every year. The proportion of commune health stations with a medical doctor has increased to a high level (70% of commune health stations have doctors) [5]. Many medical workers are trained and successfully provide high-tech medical services such as organ transplantation, heart catheterization and cardiac interventions, , endoscopy... There have been some remarkable achievements in management and development of legal frameworks related to human resources for health. Nevertheless one cannot deny the problem of overcrowding in higher level hospitals, which results primarily from weak professional qualifications of medical workers at lower level facilities [50, 51]. In order to gradually resolve this problem, in addition to assessing achievements, it is also necessary to continue to pay attention to difficulties and shortcomings in the legal framework and management of human resources for health.

Establish and issue regulations and standards for qualifications of medical professionals

Achievements and progress

Several legal documents have been developed and issued to ensure that health care workers at each working position meet specific qualifications in order to contribute to ensuring quality of health services. In 1993, the Minister heading the Government Commission on Organization and Manpower issued a decision on the professional standards for civil servant classification of medical personnel, including grades for doctors, assistant doctors, nurses, midwives, medical technicians, pharmacists, pharmacy technicians, assistant pharmacists, medical staff, health workers and herbalists.[18] In recent years, professional standards have been revised for three specialties including nursing, midwifery and medical technology and a new one has been established for public health.[19]

The professional qualification standards mentioned above serve as the basis for recruitment, deployment and management of government employees in the health sector. However, these documents have not kept up with increasingly stringent requirements for management of the qualifications of medical personnel and especially the requirements of international integration. Therefore, in the beginning of 2012, the Ministry of Health issued the basic qualification standards for nursing.[20] During their development, Asian and international standards for nursing were consulted. This useful document is not only the basis for assessing the competencies of nurses but also serves as an output standard for nursing education programs.

[18] Decision No 415/TCCB-VC dated 29 May 1993 of Minister, Head of *Government* Commission on Organization and Personnel.
[19] Circular No 12/2011/TT-BYT dated 15 March 2011; Circular No 23/2009/TT-BYT date 1 December 2009; Decision No 41/2005/QD-BNV date 22 April 2005; Decision No 28/2005/QD-BNV date 25 February 2005.
[20] Ministry of Health Decision No 1352/QD-BYT dated 24 April 2012 approving basic standards of Vietnamese nurses.

Hospital regulations do not specifically stipulate qualifications for each category of health worker, but do mention the task responsibilities of the staff of each hospital department.

Difficulties and shortcomings

The professional standards of several crucial public employee positions in the health sector such as doctor, pharmacist and assistant doctor were set in 1993 and are no longer suitable after the changes that have occurred in the health care system. The Law on Public Employees that became effective starting from 1 January 2012 also requires review and revision of the entire set of regulatory documents on public employee professional standards.

The basic competency standards of public employees play an important role as the basis for assessing professional competencies and outputs of training programs. However, so far, the Ministry of Health has revised and introduced basic professional capacity standards only for nurses, while similar documents for other basic public employees in the health sector, such as doctors or pharmacists, have not yet been developed.

The recruitment and grade promotion processes are based on examination results. However, these are still rather theoretical and not based on evaluation of practice skills. Within hospitals, regular assessment of professional competencies and skills have not been implemented as needed to map a plan for supporting medical staff capacity development. Also, in the process of monitoring through the hospital inventory, the Ministry of Health has neglected to include indicators related to public employee competency assessment.

The health care sector has issued regulations about professional ethics for medical staff. However, there is a large gap between regulations on the books and actual practice. Many doctors are aware of their own unethical practices when providing medical examination and treatment services [52], for example, doctors recommending that patients come to their private clinics for treatment.

During the course of professional practice, occasional technical errors can occur anywhere. However, there is currently no intensive supportive supervision model to ensure that health care staff learn from their own or their colleagues medical errors. The health sector still lacks concrete regulations on dealing with cases of professional medical error.

Capacity of managerial staff in medical facilities

Achievements and progress

The required standards for leaders and managers of units under the Ministry of Health have been issued.[21] They include standards such as integrity, competency, and knowledge. Currently emphasis is placed on professional medical qualifications (based on degrees and certificates), and regulations are not specific about requirements for managerial competencies.

The Ministry of Health does not have any official documents to mandate that hospital managers learn about quality management, but people attending the Master's program on hospital management will be trained about hospital management and hospitals quality management.

Difficulties and shortcomings

[21] Ministry of Health Decision No 10/2007/QD-BYT dated 24 January 2007 issuing standards for high-ranking official leaders and managers from the Ministry of Health and ministerial-level agencies.

The regulations on management capacity for leadership positions at medical facilities mainly focus on diploma-based professional medical requirements, and do not explicitly set standards for managerial experience and competencies, including quality management. According to these regulations, positions for general hospital management are still taken up by medical professionals (except for economic management positions), leading to the lack of adequate managerial capacity of hospitals leadership and waste of professional skills of highly experienced and skilled medical professionals.

Regulations and standards regarding the type and form of continuous medical education, professional mentoring, technology transfer and satellite hospitals

Achievements and progress

In 2008, the Ministry of Health issued a circular guiding continuous medical education for health workers[22] that stipulated mandatory time commitments, programs, training materials and certification of continuous medical education courses. According to this circular, continuous medical education consists of short-term training courses, and does not cover other forms of capacity strengthening such as attending seminars and international conferences or other scientific research activities,… According to the Law on Examination and Treatment, continuous updating of medical knowledge involves medical practitioners participating in short-term training courses to update skills, attend medical seminars and conferences in their field according to programs approved by the Ministry of Health or officially recognized programs that provide certification according to regulations of the Minister of Health (Article 2). The Law regulates responsibility for state management of medical examination and treatment, including an explicit statement that the Ministry of Health has the responsibility to "organize training, continuous medical education and retraining to develop human resources; guide secondment of medical practitioners; research and apply science and technology in medical examination and treatment." (Article 5); one of the rights of practitioners is to "continuously receive training, retraining and update medical knowledge updated in line with professional qualifications." (Article 33), and the medical practice license is to be revoked in the case that the "practitioner does not update medical knowledge continuously during two consecutive years." (Article 29).

The Circular which guides issuing of medical practice licenses for health care professionals and operating licenses for health care facilities stipulate the mandatory period of supervised practice for medical examination and treatment prior to practice registration for each type of health worker.[23]

The Law on Public Employees (Law No 58/2010/QH12), came into effect on 1 January 2012. It reserves an entire section on regulations about the training and upgrading knowledge of public employees and clearly states that state management agencies shall be responsible for developing and organizing training plans and the public employees are responsible for implementation.

The technical mentoring of staff at lower level facilities with the aim of supporting application of specialized techniques by health workers at lower level facilities has long been considered one of the official tasks of leading hospitals and institutes. Recently, this function has been strengthened by the Minister of Health's Decision to clearly assign responsibility for

[22] Ministry of Health Circular No 07/2008/TT-BYT date 28 May 2008 guiding implementation of continous medical education for health workers.

[23] Decree No 87/2011/ND-CP date 27/9/2011 stipulating details and guidelines for implementing articles of the Law on Examination and Treatment, Circular No 41/2011/TT-BYT of the Ministry of Health guiding practice certification for practitioners and operating licenses for health care clinics.

professional mentoring in medical examination and treatment,[24] stipulating the tasks that must be implemented by each institute and central hospital, and the responsibilities of lower level facilities.

Project 1816 has been conducted since 2008 and achieved remarkable results. Preliminary assessments of the project indicate that the project activities significantly contributed to reducing the overload at central hospitals and improved the capacity and quality of health care services at provincial medical facilities. Patients can now access high-tech services at provincial hospitals, thus reducing their medical care costs and ensuring social protection [53].

Difficulties and shortcomings

Until now, the health sector has not implemented practical training after graduation, or assigned responsibility for guiding and aiding new medical school graduates as they start their careers. The conditions in many medical facilities at the provincial, district and commune levels provide an inadequate environment for learning and career development of medical staff. After graduating from medical school, new graduates are immediately given the right to practice medicine, yet many do not yet have adequate basic skills and have not gone through a necessary period of residency with guidance from qualified and experienced medical workers. Therefore, their capacity will be much lower than their colleagues who found positions in higher level hospitals. The newly graduated medical workers who are working in central hospitals have more favorable conditions for career development due to the fact that they have numerous opportunities to learn from their experienced colleagues, although this is still largely voluntary, relying on individual initiative rather than having a legal basis. With the new articles in the Law on Examination and Treatment, along with decrees and circulars guiding implementation of this law, these problems could be solved if clearer regulations were made about the responsibilities of the training centers and mentors for fresh medical school graduates. However, the implementation of professional practice after graduation brings up another problem in need of resolution by the Ministry of Health, namely problems of remuneration of new medical graduates during their probationary period.

The circular on continuous medical education has some articles making it compulsory for health workers to participate in regular training courses, yet it lacks stipulations on how to ensure that medical facilities make appropriate plans to ensure feasibility for their health workers to attend continuous medical education. Lists of course contents have still not been developed to aid health workers develop their own personal continuous medical training plans. Therefore, up till now, continuous medical training is not yet aligned with annual plans of medical facilities to develop their human resources. The requirements of Circular 7 (on continuous medical education) are currently the same for all types of medical workers and do not distinguish between specialist doctors, general practitioners (who need longer periods of continuous medical education) and nurses, assistant doctors, and medical technologists (who need less time). The concept "state health worker" is defined to include elected and appointed officials and public employees currently practicing professionally in the health sector" is somewhat ambiguous. According to this definition, accountants of medical facilities are also health workers, which means that they also have to comply with the guidelines of this circular. The forms of continuous education proposed only require participation in training courses. This form of education is not flexible or up-to-date, and is not appropriate with many work positions. Other forms of learning are mentioned, such as presenting research at international and national conferences, and are considered to be part of the continuous

[24] Ministry of Health Decision No 4026/QD-BYT dated 20 October 2010 about the delegation tasks on technical guidance to the grassroots level of the health care sector.

medical education time requirement. Guiding PhD and Master's degree students are also considered continuous learning, but remains imprecise for many cases in the Vietnamese context.

Another problem lies in the development of continuous medical education programs appropriate with the specific professions and work positions. When the concrete job requirements have not yet been determined for a specific position, it is difficult to develop a standard and appropriate continuous medical education program.

Technical mentoring aims to support development of professional skills and training of medical staff in lower level hospitals. However, these activities are often only implemented as a formality, and can lead to shortages of health workers at higher level hospitals, while becoming a burden for the lower-level hospital receiving the mentors. In some circumstances, the medical staff who implement technical guidance at the lower level only contribute by directly providing services to patients (not really mentoring) or even recommend more patients be referred to higher level hospitals.

Regulations and standards on professional evaluation

Achievements and progress

The civil servant examinations for recruitment or promotion to a higher rank are implemented according to the regulations of the Ministry of Interior and the Ministry of Health.[25] People who would like to work in the state health system or want to be promoted to a higher professional rank must participate in examinations including professional contents, foreign language and computer science. Criteria for assessing professional competencies have been developed and utilized in these examinations.

Difficulties and shortcomings

The Law on Examination and Treatment and other related legal documents stipulate that all medical professionals working in both state and private medical facilities must hold a practice license. However, the law stipulates that practice licenses will be issued only once for life, and therefore do not serve the purpose of ensuring that medical professionals receive continuous medical education to develop their professional careers. Also, the practice licenses are issued simply on the basis of having a diploma and a certain period of medical practice after graduation. There are no requirements to demonstrate professional competencies before issuing the certificates. In many countries, doctors are only allowed to practice medicine when they meet one of the two following requirements: i) studied at a medical school whose health sciences curriculum has been accredited for quality; or ii) pass a national board certification examination. Practice licenses in most countries usually are only valid for a specific period of time and one important requirement for renewal is that they must demonstrate that they have attended continuous medical education in standard training programs. This indicates that it is necessary to change regulations on issuing of practice licenses as soon as possible in order to improve and assure the quality of health human resources.

The health care sector has not established performance appraisal indicators as a tool for assessing the professional quality of the resources.

In many countries around the world, the professional societies play a pivotal role in professional quality controls and ethics of their members. They also take part in the process

[25] Decision No 07/2006/QD-BYT date 26 January 2006 about the regulation issue of the format and content for professional rank promotion exams in medical industry. Decrees No 24/2010/ND-CP of the Government regarding the recruitment, use and manage officials.

of issuing practice licenses. In Vietnam, some professional associations are very active, but in the health sector, only the Vietnam Nurses Association has actively participated in professional competency assessment of their members, while other associations have implemented few activities to improve quality of human resources.

One of the most striking characteristic of the Vietnamese medical system is the role of leading specialists in training and supporting medical practice in lower-level facilities and for new medical school graduates. However, in reality, there has been no clear mechanism or regulations on how leading specialists can better support other levels.

Managing human resources and planning development and deployment of health care workers

Achievements and progress

Vietnam's Master Plan for health human resources development, 2012–2020 has recently been approved by the Health Minister. It proposes measures to enhance state management and human resources management for the health care sector, diversify methods for deployment and retention of practitioners, and strengthen capacity of health sciences training institutions. Regulatory documents about recruitment and deployment of health human resources, professional salary supplements and other preferential measures for medical staff in less attractive medical fields and hardship pay for remote areas were issued.

Difficulties and shortcomings

At present many medical facilities complain about human resources shortages, especially doctors. Their strategic development plans focus to a large extent on developing their medical staff. However, most of these plans focus on the number of health workers, neglecting analysis and proposals of solutions for how existing staff could be deployed more effectively.

State sector health facilities have not specified the tasks for each working position to serve as a basis for evaluating the effective use of human resources and determining the positions-based continuous medical education requirements.

Decree No. 43 granted autonomy to health care facilities and has had a major influence on the quantity and quality of medical staff working in state facilities. Hospitals, in their efforts to cut costs, have skimped on hiring staff compared to requirements of Circular No 08 on staffing norms and mix. At the same time, hospitals are making efforts to attract an increasing number of patients and to extend the average length of stay in order to raise revenues. This may be contributing to the overload of many central and provincial hospitals. Household members and hired caregivers often provide nursing care instead of nurses and orderlies.[26]

The health sector has put in place a technical division of responsibilities across levels of the health system with the objective of determining primary health care and simple medical services that should be implemented at lower level facilities, and which would have the effect of reducing overcrowding at higher levels. However, compliance with this system is poor. Therefore techniques implemented at the lower levels do not follow any strategic direction, and are increasingly concentrated on high technology, while primary care is not prioritize. This situation has negatively affected lower-level facility health worker training strategies.[27]

[26] Comment of experts in the round table discussion about human resources for health dated 9 April 2012.
[27] Comment of experts in the round table discussion about human resources for health dated 9 Aprill 2012.

The regulations and standards on quality accreditation for training establishments

Achievements and progress

The regulations and standards for accreditation of training institutions were issued and implemented as an instrument for external evaluation of training quality and to encourage schools to strengthen education quality assurance.

The General Department of Educational Testing and Accreditation under the Ministry of Education and Training is the state management agency responsible for accreditation of educational quality for all schools and institutes nationwide. Up till now, the Ministry of Education and Training has issued regulatory documents and guidelines for implementation of accreditation in universities, junior colleges and secondary schools. It has also conducted research and prepared a legal framework for allowing the establishment of state-run or private-run independent accreditation agencies.

The Ministry of Health has issued professional standards for training of nurses and midwives in junior colleges and secondary schools, pharmacists in secondary school, assistant doctors, and medical technicians in secondary schools. These standards are used to verify capacity and grant permission for educational establishments to open training in these fields. At the university level, eight medical universities have collaborated to publish the so-called "green book", a book of knowledge, attitude and skills that must be reached before graduating as a general medical doctor. This is considered the output standard that must be achieved by health sciences university students, while other levels of education do not yet have a similar type of reference material. However, it must be acknowledged that the green book is still little used at medical schools.

Difficulties and shortcomings

The process of education quality accreditation is based on general standards for the entire educational system, without specialized requirements for health sciences fields. The accreditation of educational programs for general doctors and university level nurse have not yet been implemented. The quality of training, in general, has declined due to the increasing numbers of students to be taught by a fixed and inadequate number of instructors and facilities for practical training, and slow reforms to training curricula. Importantly, the quality of training for health workers receiving four years of additional university level training to become medical doctors and university-trained pharmacists was inadequate, so many new graduates were unable to work independently at commune health stations.[28] Although no official study has been performed, it is widely recognized that the training quality of some establishments is much higher than others, and large differentials are found between public and private training establishments..[29] The process of internal controls on training quality within medical schools has not been made consistent across establishments. There are no mandatory requirements that medical universities must pay attention to improving training quality.

2.2. Priority issues

By analyzing the situation of the legal framework and health human resources management as above, we have identified the following priority issues that need to be addressed in the upcoming period.

[28] Interviews with managerial officials at the provincial health bureau in mountainous provinces.
[29] Comments of experts at the JAHR workshop dated 16 May 2012.

- *Top priority is the lack of basic up-to-date professional standards for most types of health care workers*. These standards will serve as an important legal basis to establish training programs, evaluate competencies of the workforce, use during recruitment and promotion to higher rank, and to aid in developing continuing medical education plans.
- *So far, there is no quality accreditation system for education programs in the health sciences,* meanwhile education quality is low and variable across training establishments.
- *Continuing medical education still has many shortcomings;* there are no strategy plans or clear regulations on monitoring and evaluating continuous medical education for health facility staff.
- *Quality of health care workers (especially doctors) at lower level facilities is still very weak*. The core problem leading to this situation is the lack of supportive supervision and mentoring during the period immediately after graduation from medical school and inadequate continuing education and career development activities.
- *Professional associations have not actively participated in* quality assurance for health care workers in terms of professional competencies and skills and professional ethics.

2.3. Recommendations

To solve these priority issues, we recommend the following measures:

- Develop and issue basic professional standards for most types of health care workers.
- Implement quality accreditation of training curricula for health care workers.
- Supplement and revise the circular guiding continuing medical education.
- Strengthen appropriate forms of re-training and continuing medical education for medical staff in lower level facilities.
- Gradually promote the role of professional associations in professional quality assurance and medical ethics of members.
- Undertake periodic health human resources policy analysis.
- Assign the tasks of scientific research on medical service quality to relevant research agencies.

3. External regulation and management of pharmaceuticals, medical equipment, technologies and infrastructure

Quality of medical services doesn't only depend on capacity and morals of medical professionals or the quality and effectiveness of medical service providers. It also depends heavily on use of other inputs such as pharmaceuticals, medical equipment, technologies and infrastructure. External regulation and management aims to ensure quality and maximize effectiveness in the use of resources, which is a determining factor in quality and safety of medical services [29].

This chapter will analyze external regulation and management for pharmaceuticals, biological products, medical equipment and infrastructure. It will attempt to assess

performance, progress and limitations and shortcomings, then determine priorities and make recommendations for relevant solutions in order to improve quality of medical services.

3.1. Situation assessment

Pharmacy, biological products sector

Develop and implement external regulation

Achievements and progress

Along with the development of the healthcare system, so far Vietnam has a relatively abundant system of domestic pharmaceutical enterprises and a drug distribution system that cover both urban and rural areas. Pharmaceutical legislation is quite adequate.

The Pharmaceutical Law (2005) regulates pharmaceutical sales, registration, circulation, use, supply, advertisement, clinical trials, administration of addictive and psychotropic drugs, pharmaco-chemical precursors and radioactive drugs; drug quality standards and drug quality testing. Currently, the Pharmaceutical Law is being considered for revision. The health sector has a system of guiding documents to support existing legislation covering most issues in management of pharmaceutical and biological products such as drug quality control, pharmaceutical manufacturing and management of pharmaceutical distribution.

The Project on developing the pharmaceutical industry and drug supply system models for Vietnam 2007–2015 and vision to 2020[30] aims to develop Vietnam's pharmaceutical industry into a key economic-technology sector as part of the process of industrialization and modernization. The project aims to enhance domestic pharmaceutical manufacturing and strengthen the drug distribution system to actively, rapidly and adequately supply drugs that are of good quality, affordable, safe and effective. The draft detailed Master plan to develop the pharmaceutical industry in Vietnam in the period to 2020 and Vision to 2030 has been drafted, in order to enhance capacity to meet drug demand for prevention and treatment.

Difficulties and shortcomings

Despite the existence of the system of legal and guiding documents covering most issues in drug and biological products management, such as pharmaceutical quality management, manufacturing and distribution management, this system has not been fully implemented. Implementation and monitoring have not been as effective as they could be. More details will be described below.

External regulation of the pharmaceutical manufacturing and distribution system

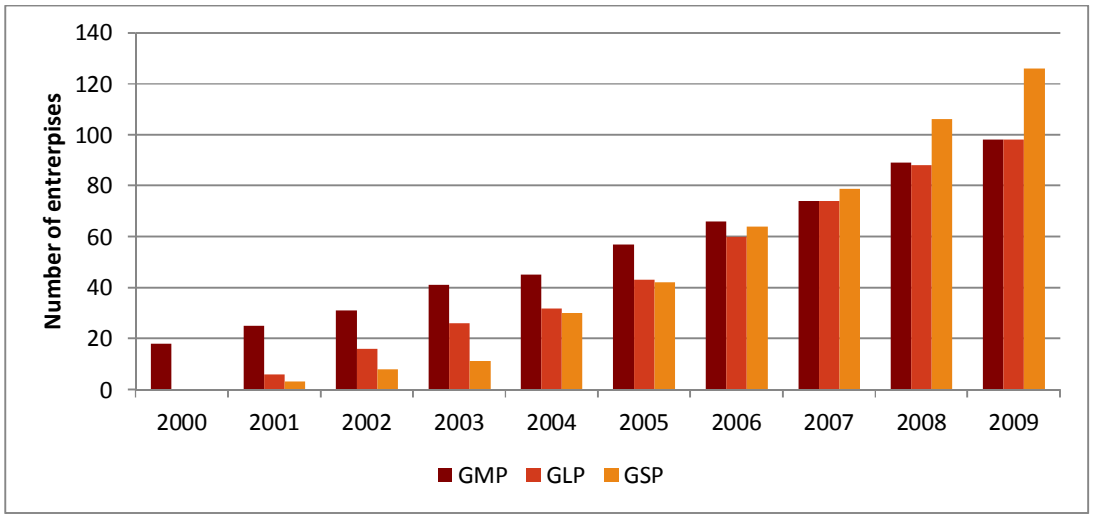
Achievements and progress

Many documents related to management of pharmaceutical manufacturing, distribution and use have been issued and implemented. For the manufacturing and distribution system, there are regulations requiring all pharmaceutical production facilities to meet GMP standards and encourage pharmacies to meet GPP standards. So far, 100% of modern pharmaceutical enterprises meet GMP-WHO standards (not including traditional medicine producers), 34% of pharmacies nationwide achieved GPP standards, 100% of hospital pharmacies meet GPP standards [54]. The Ministry of Health has also issued specific

[30] Prime Ministerial Decision No 43/2007/QD-TTg on 29 March 2007.

regulations on Good Distribution Practice, Good Storage Practice, drug production guidelines, export and import guidelines for drugs and packaging that comes in direct contact with drug products. According to GMP experts of WHO, Australia and Japan, Vietnam has developed GMP rapidly in both scale and quality (Figure 12).

Figure 12: Number of pharmaceutical enterprises meeting good practice standards, 2000–2009



Source: Project on Detailed plan to develop the pharmaceutical industry in Vietnam to 2020 with a vision to 2030. Ministry of Health, 2010

The legal basis for pharmaceutical price management is relatively complete, covering all aspects of pharmaceutical distribution and helping to manage drugs price and stabilize the pharmaceutical market [55]. Effective management of drug prices can help to improve quality of medical services because it reduces financial barriers that create the risk that patients don't buy drugs when they need them.

Difficulties and shortcomings

Despite regulations on GMP standards for production enterprises, so far, this standard has only been implemented in modern drug manufacturing enterprises. In herbal medicine production facilities GMP standards are not fully implemented.

The quality of the drug distribution system is still low. GPP implementation in pharmacies is mostly formalistic and implementation effects have not been evaluated. Storage, maintenance and transportation conditions of drugs have not met regulations, particularly in retail drugstores in rural and remote areas. Good practice standards have been applied unequally across enterprises, research and development has not received adequate investment, medicinal material sources are unstable. Inspections have not been conducted regularly for evaluating good practice implementation including GMP and GPP for domestic enterprises and GMP for foreign manufacturers [54].

Many pharmacies operate as if they are a clinic dispensing drugs directly and without monitoring. Many customers buy drugs for self-treatment based on "prescriptions" made by drug sellers.

Pharmaceutical personnel do not yet meet the needs of the drug distribution network. Recently, there has been an increase in students recruited into pharmaceutical universities with the desire to meet the needs for university trained pharmacists in the state health system. This has led to overcrowding of pharmaceutical schools and decreased quality of training.

The quality of pharmaceutical upgrade training for students starting with a junior college pharmaceutical degree and seeking a university degree, or starting with a secondary degree and seeking a junior college degree in many junior colleges and secondary schools in the public and private education systems is a current concern.

Legal framework for pharmaceutical quality management and safe and rational use of pharmaceuticals

Achievements and progress

Many legal documents related to drug quality management[31] and drug use[32] have been issued. A system for management and verification of drug quality has been built and put into regular operation including: (i) state administrative authority is responsible for licensing of pharmaceutical companies, GMP certificate, drug registration, drug advertisement, and drug quality monitoring, (ii) professional organizations are responsible for evaluating registration documents (drug quality standards), analysis and drug testing; (iii) inspection is responsible for inspecting and supervising.

Health sector also has regulations and guidance on safe and rational use of drugs, as well as adverse drug reaction monitoring. Hospitals have drug and therapy committees. There is a circular guiding the use of drugs in health care facilities with patient beds that stipulates the responsibilities of the hospital pharmacy department with regard to drug information, consultations about use of drugs, monitoring and reporting on adverse drugs reactions. There is an official antibiotic resistance reporting system, although it is not currently functioning. The Ministry of Health has developed a National action plan for control of drug resistance for 2012–2020, which is awaiting feedback, revisions and approval.

Difficulties and shortcomings

The quality of pharmaceutical products is not yet fully assured. Currently, there is no integrated organization to perform inspection of counterfeit and poor quality drugs. The inspection workforce for checking drug quality is still deficient and capacity is still weak. There is a lack of effective instruments to test quality due to inadequate technology, investment and techniques. Bioequivalence and bioavailability have not yet been checked strictly. Counterfeit and low quality drugs are being circulated in markets and dispensed to clients. In 2011, among samples tested, the percentage of substandard drugs amounted to 2.8%, while counterfeit drugs accounted for 0.09% of the total [54]. Quality testing for herbal medicines has not been done strictly, allowing the circulation of some substandard drugs and even drugs containing toxic materials [56, 57].

Widespread advertising of functional foods confuses consumers, convincing them that these products are better than drugs. In a few hospitals, functional foods have even been

[31] Ministry of Health Circular No 04/2010/TT-BYT about taking drug samples for quality testing; Circular 09/2010/TT-BYT about drug quality management; Circular guiding data reporting on bioavailability and bioequivalence study in drugs registration; Circular 38/2010/TT - BYT guide to implement the government regulation on drugs and cosmetics management; Circular 47/2010/TT-BYT guiding import-export activities for drugs and packaging that comes in direct contact with drugs; Circular No 16/2011/TT-BYT Regulating the principle of herbal drug production and a roadmap for applying Good Manufacture Practice (GMP) for enterprises that produce herbal drugs. Circular No 03/2012/TT-BYT Guideline on drug clinical trials; Implement GMP-WHO at 100% domestic western drugs production enterprises.

[32] Circular No 22/2011/TT-BYT regulating the organization and operation of hospital pharmacies; Circular No 31/2011/TT-BYT Issuing and guiding the implementation of the drug formulary for drugs reimbursed by health insurance in health care facilities; Circular No 15/2011/TT-BYT regulate organization and operation of drug retail in hospitals; Circular No 43/2010/TT-BYT on 15 December 2010 issuing the business scope, standards and roadmap to implement GPP.

prescribed as if they are drugs. Some units evade the law by prescribing these items separately from pharmaceuticals.[33]

Monitoring of safe and rational use of drugs remains inadequate. The drug and therapy committees are responsible for monitoring of drug use in hospital. However, operation of these committees is not very effective. Drug and therapy committees are mainly responsible for procurement and dispensing, but play a very limited role in aiding selection of drugs and monitoring of drug use [58]. Private health care facilities, clinics and pharmacies do not have drug and therapy committees.

The Ministry of Health has made an official decision to establish a national surveillance program on antibiotics use and resistance, but this program is not in operation due to a lack of funding. Results of surveillance in 15 hospitals showed that, antibiotic consumption is quite high in most surveyed hospitals and there is an increasing trend in use of new and expensive antibiotics during treatment [59].

Manufacture of vaccines and biologicals

Achievements and progress

Vietnam currently has a high demand for vaccines. The Ministry of Health has issued registration numbers for both domestic and imported vaccines and biological products to meet the demand for vaccine use in Vietnam. Currently, there are eight enterprises participating in vaccine manufacture, who are capable of producing all three vaccine types (toxoid vaccine, inactivated vaccine (pure antigen) or live, attenuated vaccine). Domestic vaccines have met the basic requirements of the Expanded Program on Immunization. Domestic investment for this sector mainly comes from the state budget. Enterprises who invest in the production of vaccines and biological product are entitled to preferential tax policies and investment incentives.[34]

Difficulties and shortcomings

Adjustments have not yet been made in the monopoly for import, processing and distribution, or in the management of the prices of vaccines and other biologicals [55]. There are still vaccines used in Vietnam that do not meet GMP standards.

Blood transfusion safety

Achievements and progress

The Ministry of Health has developed and issued regulations on blood and blood product transfusion safety at all levels, which are all being implemented. The Blood transfusion safety program for the period 2001–2010[35], has been successfully implemented, achieving its targets for blood transfusion safety.

Difficulties and shortcomings

The project on blood transfusion safety currently belongs to the national health target program, which was launched in 2011. However, funding was only provided for a one year pilot, and funds were subsequently cut, with only a small amount available for blood donation activities.

[33] Comments from expert's group discussion on pharmaceuticals, biologicals, medical equipment and health infrastructure, on 16 April 2012.
[34] Project on Detailed plan to develop the pharmaceutical industry in Vietnam to 2020 with a vision to 2030. Ministry of Health, 2010.
[35] Prime Ministerial Decision No. 198/2001/QD-TTg dated 28 December 2001.

Medical equipment and infrastructure

Legal documents on management of medical equipment and infrastructure

Achievements and progress

The Government has put in place preferential policies to encourage social mobilization of investment in some sectors including health. Investments in the health sector (particularly in hospitals) according to the master plan of the health sector are considered high priority and are encouraged with incentives such as priority in allocation of land for construction, value added tax and import-export tax breaks, exemptions from corporate income taxes for newly established hospitals and preferential credit and development credit.[36]

To serve the management of medical equipment, the Ministry of Health has issued a circular to guide medical equipment imports,[37] and is preparing the draft circular regulating conditions for the manufacture and distribution of medical equipment. Some related long-term plans have been developed and issued such as the detailed plan on development and application of medical radiation until 2020.[38]

The Medical Equipment Advisory Committee has been established and regularly meets to provide advice to the Ministry of Health leadership about appropriate and effective investment in medical equipment in health care facilities.

To meet requirements of joining the WTO, the Ministry of Health has established an inquiry point about technical barriers in trade related to medical equipment coordinated by the Department of Medical Equipment and Construction, which reviews management documents, ensures compliance with the regulations of the WTO roadmap and integration commitments.

Difficulties and shortcomings

Although there are some state management documents on equipment and health infrastructure in place, the legal framework this subsector is still weak, insufficient and not up-to-date. Currently, there is no law on medical equipment to serve as the basis for management of activities in this subsector.

Up till now there is no office assigned the function of managing medical equipment and infrastructure at the provincial health bureau. Many provincial hospitals do not have a separate department for medical equipment, but combine these functions within the pharmacy department. In addition, inadequate participation of government professional management agencies, such as the Vietnam Administration of Medical Services and the Administration of Preventive Medicine, in equipment management at the macro level.

Efficiency of investment, use equipment and health infrastructure

Achievements and progress

Along with socio-economic development, the health system in recent years has invested in upgrading medical equipment, as well as infrastructure. Many health facilities have applied new technologies and regularly use modern equipment for diagnosis and treatment, such as diagnostic imaging, biochemical test, operating theatre, and intensive care

[36] Decree 69/2008/ND-CP on 3 May 2008 about policy encouraging social mobilization for activities in education, professional training, culture, sport, environment.
[37] Ministry of Health Circular No. 24/2011/TT-BYT dated 21 June 2011 guiding importation of medical equipment.
[38] Prime Ministerial Decision No. 1958/QD-TTg dated 4 November 2011

units. Commune health stations have also been provided with the necessary equipment and tools for primary health care [60]. In addition to modern medical equipment, investments in infrastructure at health care facilities has also contributed to improving the working environment.

Difficulties and shortcomings

Health care facilities at all levels, including central, provincial, district and commune levels, received investments in many advanced technologies to serve medical examination and treatment. However, the effects of investment in these medical technologies on practice of medicine, on society, on medical ethics and health financing have not been evaluated scientifically. Thus the health sector lacks a scientific evidence base for achieving an effective investment strategy.

Results of utilizing advanced medical equipment and technologies in large hospitals has led to the increasing requests for similar investments in provincial and district hospitals from various funding sources. However, effectiveness in the use of medical equipment remains low and has not been systematically assessed or monitored. The current situation of using laboratory and imaging diagnostics in medical facilities suggests overprovision.

In addition to investments made using state budget and aid funds, the social mobilization policy in the health sector allows other sources of funding to be mobilized for investments in medical equipment. In public hospitals, joint ventures and partnerships are common and involve private financing of equipment placed in public facilities with profit-sharing arrangements, or private financing of equipment combined with monopoly provision of chemical reactants or other inputs. Many high-tech services are provided without public investments of capital, such as diagnostic imaging, (MRI, CT scan, ultrasound), laboratory testing, endoscopic diagnosis and intervention. This helps to increase revenues of hospitals and promote the application of modern technologies in hospitals. However, when this form of investment is not set up in a transparent and independent unit, it can easily lead to overprovision of services if no effective control mechanisms are in place [60].

Investment in health infrastructure, equipment and human resources is not always consistent. Some health care facilities are equipped with modern equipment but lack technicians to use it or maintain it, or fail to exploit all functions and capacities of the equipment.

To serve medical equipment management, hospitals conduct annual inventories checks. However, this information fragmented and data are not used systematically to serve management of medical equipment at the macro level. In addition, there are no data on monitoring and regular assessment of application of professional health standards implementation result of health sector standards or Vietnam quality standards for medical equipment and infrastructure.

Medical equipment in district hospitals (according to the list issued by the Ministry of Health) only meets 30–50% of official requirements, and in some facilities only reaches 20%. Hospitals still lack necessary equipment for the diagnosis, emergency response, and treatment such as X-rays, ultrasound, biochemical tests, hematology, ventilators, patient monitors, surgical instruments, and surgical lights [60]. Medical staff lack adequate training and experience to exploit all the features of the existing equipment, technical staff have inadequate capacity to keep up with rapid innovation in medical technologies.

The number of domestic medical equipment manufacturers is limited and they produce few types of instruments and equipment with relatively low product quality. Medical equipment produced by Vietnam tends to be mechanical or electronic products, but not high

tech products such as digital products. The commercial system for distribution, import and export of medical equipment is incomplete, lacks capital, information, qualified staff with commercial knowledge and technical qualifications on medical equipment [60].

Medical equipment investments in hospitals are considered a strategic tool for competition, yet it has led to high dependency on medical equipment, waste due to lack of knowledge or overprovision of services and equipment investments not linked with the capacity for utilization, unselective adoption of technologies and lack of a state orientation on medical equipment [60].

Standards and quality assurance for medical equipment

Achievements and progress

The health sector has developed and issued some documents regulating standards for medical equipment at different levels. The Ministry of Health has collaborated with the Center of Standards and Quality (Ministry of Sciences and Technology) to develop and issue professional standards (TCN) and Vietnam standards (TCVN) for medical equipment. Standards for medical equipment have been developed and promulgated to meet the requirements of production, business, investment, exploitation, use and management. Volume six of the compiled TCVN-TCN standards on medical equipment for medical units has been published. The Ministry of Health has also developed technical standards as required and implemented inspection on a wide range of equipment such as X-ray machines, CT-scanners, electrocardiograms, ventilators, anesthesia equipment,... A list of essential medical equipment was developed for use by the Project on construction investment to renovate and upgrade district hospitals, regional hospitals and regional polyclinics funded through government bonds and other legal sources of funds.

The Decree on penalties for administrative violations in pharmaceuticals, cosmetics and medical equipment has been issued. A drafting committee for a circular to stipulate registration certification for medical equipment to be circulated domestically and certificate of free sale for exports has been set up and the draft is being completed after receiving feedback from other ministries and relevant agencies.

Checking and verification of medical equipment quality has been assigned to the Institute of Medical Equipment and Construction Design, although implementation of these activities remains weak.

Three Centers for Standardization and Quality Control of laboratory testing, located in Hanoi Medical University, the University of Medicine and Pharmacy in Ho Chi Minh City and the Ho Chi Minh City Health Bureau, have been established and assigned the task of providing quality assurance certificates for medical testing for all health facilities throughout the country. Quality assurance aims to recognize the results of medical testing among health care facilities, to avoid duplicate testing on patients, reducing waste of time and money.

Difficulties and shortcomings

While quality control centers for laboratory testing have been set up, they remain weak in terms of resources and capacity. The Institute of Medical Equipment and Construction Design also has responsibility for inspection, verification and assurance of medical equipment. However, inspection and assurance of medical equipment faces many difficulties due to lack of manpower both in quantity and quality, and lack of necessary equipment.

Human resources for medical equipment management are still weak in both quantity and quality. The most recent data, in 2007, indicate that medical equipment technical manpower in the provincial and district hospitals is inadequate, since only 6% of these staff were engineers, 35% technicians and 59% others with lower technical qualifications [61].

Overall, investment in medical equipment is insufficient, inconsistent and obsolete in comparison to other countries in the region. Most medical equipment being used in health facilities is not regularly calibrated, maintained or repaired. There is inadequate capital to invest and upgrade equipment, while many localities lack funds to procure necessary consumables and pay for maintenance and servicing.

Domestic research on medical equipment is for individual products, experimental production that is not yet competitive in the market in terms of quality or brand recognition, so sales are limited. Many products have not been adequately clinically tested according to regulations.

Three Centers for Standardization and Quality Control of laboratory testing have been established, but do not have an adequate legal basis to support operations and ensure implementation of all assigned functions.

Research and development of medical equipment

Achievements and progress

The Ministry of Health has issued Decision No. 36/2006/QD-BYT dated 14 November 2006 regulating clinical trials for medical equipment, clearly defining the scope for application of clinical trials by State authorized units for both new domestically produced medical equipment and medical equipment imported for the first time for use in Vietnam.

Research on medical equipment is still at a small scale but there have been a number of products produced and exported [60].

Standards and investment in health infrastructure

Achievements and progress

The Ministry of Health has developed and issued sectoral standards and Vietnam standards for health infrastructure, covering details such as area, location, design requirements for commune health stations, hospitals, district hospitals and design standards for departments in hospitals such as the diagnostic imaging department, emergency department, intensive care units, laboratories and surgical departments in general hospitals. At the same time the Ministry of Health has also issued management procedures for medical facility construction projects funded by the state budget.

The health sector has many projects for new construction or upgrading of hospitals, clinics, commune health stations funded by the state budget, external aid and foreign capital.

Currently, the health sector has two major construction projects including the Project on construction investment to renovate and upgrade district hospitals, regional hospitals and regional polyclinics funded by government bonds and other legal sources of funds for the period 2008–2010 (approved by Prime Ministerial Decision No 47/2008/QD-TTg on 02 April 2008), called Project 47; and the Project on construction investment to renovate and upgrade specific hospitals including hospitals specialized in tuberculosis, mental illness, cancer and pediatrics and some provincial general hospitals in remote areas funded by government bonds and other legal sources of funds for the period 2009–2013 (approved by Prime Ministerial Decision No 930/QD-TTg on 30 June 2009), called Project 930.

Project 47 has the objective to construct, renovate and upgrade 645 district hospitals and regional general hospitals in terms of both infrastructure and equipment. Total funds for this project were about 17 trillion VND. The state budget mobilized capital through government bonds accounting for 14 trillion VND. As a result, 592 hospitals/district health centers and some regional polyclinics have received investment funding through government bonds, achieving 92% of the target [62].

In project 930, the total number of hospitals being constructed, renovated and upgraded was 223 hospitals/health care facilities. Total capital for the period 2009–2013 was about 45.280 billion VND. So far, 167 hospitals have received investment capital from government bonds, among them, there are 46 tuberculosis hospitals, 33 mental hospitals, and 24 pediatrics/obstetrics hospitals [62].

Difficulties and shortcomings

Health infrastructure has received much investment from the state budget and external assistance, however, the health infrastructure in many areas still does not meet the requirements of health care services. In many places, the infrastructure does not meet the requirements for equipment installation, security and ventilation. Quality of construction is often low leading to rapid deterioration and irrational use.

Despite significant investments in basic medical construction, there has been no assessment of the effects of this investment, nor evaluation of the relevant construction designs. There is no monitoring system to improve the technical standards of health infrastructure.

3.2. Priority issues

Based on the above analysis of the situation and through roundtable discussions and workshops, priority issues have been identified within the development of the legal framework and state management of pharmaceuticals, medical equipment and infrastructure with the objective of improving medical service quality.

Pharmaceuticals and biologicals

- Existing legal documents on pharmaceutical quality management, manufacturing and distribution management have not yet been fully implemented or monitored for effective performance.
- Counterfeit drugs, substandard drugs are still circulating and coming into the hands of consumers.
- Monitoring of rational and safe use of drugs has not been implemented effectively. Drug and therapy committees in hospitals have not implemented all their functions. The antibiotic monitoring program has not been put into operation because of a lack of funds. The Action plan for control of drug resistance 2012–2020 has not yet been approved.

Medical equipment and infrastructure

- The medical equipment and infrastructure management system is weak.
- There is not yet a law on medical equipment management.
- Health technology assessment has not been implemented and efficiency of medical equipment and infrastructure investment is assessed as low.

- The database for medical equipment and health infrastructure has not been developed to provide information inputs for developing national strategies on medical equipment investment.

3.3. Recommendations

In order to gradually resolve the priority problems mentioned above, this report recommends the following solutions (for details see Chapter 9 of this report).

Pharmaceuticals and biologicals

- Improve implementation of existing legal documents
- Improve control of pharmaceutical quality
- Strengthen monitoring of safe and rational use of drugs

Medical equipment and infrastructure

- Improve the medical equipment and infrastructure management system.
- Establish a medical equipment control system for hospitals and for the market.
- Improve effectiveness of investments in medical equipment and infrastructure.

Chapter 5: Facility level quality management

Service quality management is a complex process, including: (i) external regulation and assessment, through promulgating a legal framework and macro-level administration of health care service providers; health care professionals; pharmaceuticals, medical equipment and medical technologies; and health financing, etc… and (ii) local standards-based quality management.

This chapter discusses some issues of local standards-based quality management, including: (i) compliance with and implementation of national standards, (ii) application of service quality standards and quality management methods; (iii) establishment of service quality management organizations and committees.

1. Situation assessment

1.1. Compliance with regulations and standards of patient safety and care

Surgical safety

Achievement and progress

Surgical safety is implemented according to regulations for the surgery-anesthesia department and some of the general hospital regulations. In 2011, the Vietnam Administration of Medical Services collaborated with the Vietnam Association for Surgeons, Vietnam Society of Anesthesiologists and the Vietnam Nurses Association to apply the WHO checklist for surgical safety (WHO) in five pilot hospitals before scaling up nationwide.

Difficulties and shortcomings

There is no comprehensive and general guidance for surgical safety, and current regulations for prevention of wrong-site surgery, wrong-patient surgery are unspecific. Application of WHO's surgical safety checklist is still limited to a pilot scale and under evaluation, but no secured resources are available to replicate it at scale. Other relevant issues, such as prophylactic use of antibiotics and surgical site infection control are currently being discussed and need to be supported with updated guidance and latest evidence.

There is no voluntary error/incident reporting system in place therefore it is not possible to draw lessons and make recommendations for preventing medical errors and incidents in a systematic manner.

There is no continuing medical education program on patient safety, nor is this content included in the medical school curriculum.

Safe blood transfusion

Achievement and progress

Safe blood transfusion is implemented under the Blood transfusion regulation approved in Ministry of Health Decision No. 06/2007/QD-BYT dated 19 January 2007. The regulation guides Vietnamese and foreign organizations and individuals working in Vietnam in the area of blood transfusion. This regulation stipulates the technical requirements and procedures for blood transfusion.

Difficulties and shortcomings

Vietnam is still experiencing complications and deaths due to transfusion of wrong blood type. There is currently no reporting system for other complications such as HIV infection or infectious diseases transmitted through blood transfusion.

Safe injection, transfusion

Achievements and progress

Since 2001, the Vietnam Nurses Association has run a national campaign for safe injections and conducted surveys on injection safety in 2002, 2005 and 2008. Based on the guidelines for safe injection of the Safe Injection Global Network (SIGN) established by WHO, UNICEF and UNFPA, the Ministry of Health is preparing and about to issue guidelines for safe infection, creating a foundation for standardizing training materials and technical procedures for safe injection.

Difficulties and shortcomings

Results from the survey on safe injection in 2008 indicate that: A major proportion of health workers (55%) is not up-to-date in knowledge about safe injection related to infection control; an inordinately high proportion of prescriptions are for injectable drugs (71.5%); compliance with technical procedures and steps for infection control while performing injections (washing hands, wearing gloves, using clamps to insert needles in syringes, separating and collecting sharps after injection, safe capping of syringe after injection, …) is incomplete, and there is no monitoring or reporting of risks of needle stick injuries (87.7%) [63]. The large number of deltoid fibrosis cases detected in 2008 was found to be related to unsafe injection. In order to perform safe injections, health facilities must implement simultaneously many interventions from different aspects of injection safety.

Ensuring safe drug use

Achievements and progress

Regulations on safe use of drugs are stipulated in many documents. In the Law on Examination and Treatment, Article 60 stipulates regulations on drug use in health care facilities, including: principles of drug use, regulations on prescription, drug dispensing and monitoring of adverse drug reactions.

Circular No. 23/2011/TT-BYT dated 10 June 2011 issued updated regulations for use of drugs in health facilities. Some hospitals have effective drug and therapy committees that ensure appropriate drug formularies, monitor drug use, implement and monitoring drug information activities and monitor adverse drug reactions.

Circular No. 07/2011/TT-BYT dated 26 January 2011 guides nursing care for hospitalized patients. Article 10 of this circular stipulates appropriate dispensing and monitoring of drug use in patients. It requires that when a nurse or midwife dispenses drugs to the patient, he/she must follow the prescriber's instructions, prepare adequate means to deal with an emergency due to adverse drug reaction (e.g. shock), verify the drug name, concentration, type, dose, number of doses per 24 hours, interval between doses, time of drug use and route of administration (oral or injectable) as indicated by the prescriber. In addition the nurse must check the expiration date and quality of the drug through observation of the color, smell, integrity of capsules, vials or tubes. Appropriate guidance and explanations must be made to patients to ensure compliance with the therapeutic regime. Nurses and midwives must implement the five "rights" of drug dispensing including the right patient, right medication, right dose, right time, right route, and that the drugs are taken under the direct

observation of the nurse or midwife. It is necessary to monitor and detect unintended side-effects of drug, or complications after using drugs and make a timely report to the treatment doctor. Nurses and midwives must record that the patient has taken the drugs. Collaboration between doctors, pharmacists, nurses, midwifes in dispensing of drugs to strengthen treatment efficacy and eliminate errors in the prescribing and use of drugs by patients.

Difficulties and shortcomings

The number and quality of clinical pharmacists to advise doctors on drug use is limited. The effectiveness of drug and therapy committees is not even across hospitals. Support tools for safe drug use (e.g. prescribing software, drug interaction warning software, electronic prescriptions, etc.) have only been piloted in select facilities, and their use has not yet been scaled-up.

Almost all hospitals lack capacity to develop specific technical guideline for their own facilities. They fail to assure good control over prescriptions. Drug over prescription has tended to increase due to the influence of the market and the fee-for-service mechanism.

Infection control in hospitals and health facilities

Achievements and progress

Hospital infection control work has been implemented under the Law on Examination and Treatment (2009) and Circular No. 18/2009/TT-BYT dated 14 October 2009. The Law on Examination and Treatment stipulates generally required infection control measures and assigns responsibility to the director of the facility to arrange adequate conditions for infection control work and to manage implementation of infection control rules by health workers and patients. Circular No. 18 stipulates ten specific technical tasks in infection control, as well as the organization, personnel, physical infrastructure, equipment, and training required for infection control. The Vietnam Administration of Medical Services is the focal point guiding and monitoring infection control at the national scale; the infection control societies and hospitals undertake technical work. In each hospital infection control system must be established, including an infection control committee, infection control department and an infection control network. Depending on the number of planned beds, for every 150 beds there should be one full-time staff member for checking and supervising infection control work in the hospital.

One important condition for infection control is assured funding. Joint Circular No. 04/2012/TTLT-BTC-BYT on adjustment of the price schedule for 447 medical services included costs for infection control work, disinfectant chemicals, hospital waste management into the prices, which contributes to ensuring adequate funds for implementation of infection control.

Difficulties and shortcomings

Nevertheless, resources for infection control work remain inadequate. Many hospitals are not fully equipped with infrastructure, medical equipment, supplies and chemicals for infection control. Human resources for infection control are insufficient and it is difficult to attract and retain qualified staff to work in this area. Many hospital managers neglect this important work. Awareness of infection control in general is quite low, while there are few training programs, and these are not fully appreciated.

Quality of laboratories and laboratory tests

Achievements and progress

Management of laboratory quality has begun to receive attention from the Ministry of Health with support from international organizations (CDC, WHO). In 2010, the National action program for improving medical laboratory management capacity was issued under Ministry of Health Decision No. 3701/QD-BYT. Three Centers for Standardization and Quality Control of Laboratory Testing, located in Hanoi Medical University, Ho Chi Minh City Medical and Pharmaceutical University and in the Ho Chi Minh City Health Bureau, have started operation.

Relevant regulatory documents are being developed, including circulars for implementation of laboratory quality management and national technical standards for medical laboratories.

Quality of medical laboratories is being developed to meet the ISO 15189 standard, with its particular advantages, which has been of great interest to many laboratories. In addition, quality standards for laboratories such as those of WHO, JCI and Thailand are being considered for application.

The Ministry of Health has established an Advisory Board for Biosafety under Ministry of Health Decision No. 2912/QD-BYT dated 4 August 2006. Regulations for biosafety at laboratories have been issued and applied. In the Law on Prevention and Control of Infectious Disease (2007), Article 24, 25, 26 stipulate measures for biosafety. Governmental Decree No. 92/2010/ND-CP stipulates detailed instructions for implementation of the Law on Prevention and Control of Infectious Disease and biosafety for laboratories, including detailed regulations on conditions for biosafety, authority over biosafety, dossiers, and procedures required to receive a certificate of biosafety standard.

Difficulties and shortcomings

Draft guiding documents for laboratory quality need to be issued to lay out a legal basis for this work. It is recommended to develop a national technical standard for medical laboratory as a basis for license medical laboratories. The current situation of overprovision of laboratory tests occurs not only because of failure to mutually recognize lab test results across laboratories, but also for economic reasons – a consequence of the financial autonomy policy and fee-for-service payment mechanism.

Implementation of medical ethics and a code of conduct

Achievements and progress

Over the past few years, various documents relevant to professional ethics have been issued. The Anti-corruption law (No. 55/2005/QH11) stipulates that professional associations should work with relevant state agencies to issue professional ethics standards for their members in line with current laws. This should be done through the issuing of internal regulations, standards of communication and conduct and work relationships. Article 40 of the Law on Examination and Treatment stipulates that health practitioners must follow professional ethics standards. Documents related to the code of conduct and professional ethics standards for medical practitioners are found in Decision No. 2088/QD-BYT dated 06 November 1996 stipulating 12 principles of medical ethics for public sector health workers; Decision No. 2526/QD-BYT dated 21 August 1999 issuing concrete medical ethics standards for public hospital officials and staff to strive to achieve; Decision No. 4031/QD-BYT dated 27 September 2001 stipulating appropriate interpersonal communications within health care facilities; Decision No. 29/2008/QD-BYT dated 18 August 2008 stipulating a code of

conduct for officials and staff in state health service facilities. In the Conference reviewing the patriotic movement 2006-2010, exemplary behavior in medical ethics was recognized and made public.

Efforts to implement the code of conduct for officials and staff in state health service facilities together with combatting unethical behavior in medical services have been seen in almost all hospitals, in many different forms. Many exemplary cases of medical ethics have been recognized. Increasingly hospitals are implementing the slogan "say no to envelopes", criticizing inconsiderate and impolite behavior in patient-staff interactions … Some hospitals have provided guidelines for interpersonal communication skills between health workers and patients.

Difficulties and shortcomings

A substantial share of health workers lacks awareness of the strong impact on treatment effectiveness of professional ethics, thoughtfulness and a caring attitude. The press and public opinion often criticize and condemn incidents and reports of medical ethics violations and misconduct of health workers. Communication skills of health workers are poor, exhibiting indifference, coldness and lack of enthusiasm, even anger towards patients. Acceptance of bribes through 'under-the-table envelopes' while patients are hospitalized or prior to medical procedures has negatively affected the physician-patient relationship. The phenomenon of physicians colluding with pharmacies to obtain commissions for prescribing specific drugs is common. Private clinics continue to sell drugs at point of treatment without prescriptions and with obvious conflict of interest. Drugs are often sold in a package without labels or instructions for use which seriously affects patient safety. Some health workers take advantage of their position to defraud the insurance fund. Thus, both public and non-public facilities commit various forms of violation [39]. The Law on Examination and Treatment stipulates the rights and obligations of patients but there is no assessment of patient's awareness of their rights and obligations when seeking care at health facilities, nor an assessment of the extent to which these rights are implemented.

Management of nursing and patient care

Achievements and progress

The nursing management system has been established from the central level (Nursing and dietitian division of the Vietnam Administration of Medical Services), to the provincial health bureau (head nurse of the provincial health bureau) to the nursing department in hospitals.

There have been recent changes in the role of nurses in Vietnam, and they are no longer merely "caregivers, followers of doctor's orders", but also advisors, guides and assistants to physicians, advocates for patients and coordinators of care [64].

The participation of and coordination between the nursing management and organization system and nursing associations at all levels have been strengthened. The nursing training system has been strengthened and continues to develop, including 2 post-graduate training institutions, 35 college-level training institutions and nursing departments in private schools.

There have been many policy changes related to nursing. The term used to call nurses in the state pay schedule has changed to indicate a greater level of responsibility and head nurses are now eligible for the responsibility salary supplement for management positions, nurses, midwives and medical technicians are also now eligible for being awarded the honor of being an "elite practitioner". Training for nurses has been standardized and there is a

continuous medical education program for nurses. There are regulations on standards for nursing staff (Joint Circular No. 08/2007/TTLT-BYT-BNV), and standards for nursing competencies have been developed, while the national action plan for nursing and midwifery for the period 2012–2020 is being completed. The Vietnam Nurses Association has developed a set of standards for patient care and nursing, and this has been piloted in some hospitals.

Organization of patient care in hospital can follow 4 possible models according to Circular No. 7. Currently the team-based care model dominates (83%). Almost all hospitals have 24 hour on-call duty, 43% of hospitals organize work according to 2 shifts, 23% arrange work in 3 shifts for key departments. Only one hospital (Cho Ray hospital) organizes shifts for all departments (2 and 3 shifts depending on the department).

Difficulties and shortcomings

Awareness of the importance of nursing work is inadequate, so recognition of the role of nurses is lower than their true level of importance. There is an inadequate number, an imbalance and ineffective deployment of nurses in public facilities. The nurse to doctor ratio is low, over 50% of head nurses do not meet technical and managerial standards; the proportion of nurses with secondary technical training (two-year training) is higher than the proportion with college and university level training (three to four years of training), while ASEAN nursing standards require at least a junior college level (3 years). There is a severe shortage of nursing instructors, and 70% of current nursing instructors are doctors, which affects professional skills and image. Professionalism in nursing practice is weak due to a persistent attitude that nurses are an inferior occupation compared to other medical professionals. Nurses are still highly dependent on doctors, and large amounts of time are spent on administrative work and too little time on patient care [64].

Hired caregiver services have been increasing in hospitals, either through direct hiring of caregivers by families (26%), or payment of additional fees to hospitals for care services that are not part of the normal user fees. The actual number of beds is higher than the planned number. Sharing of beds by patients is very common in many hospitals, which adversely affects quality of patient care. A survey on the average number of patients taken care of by one nurse, and comparison between night and day indicates that during the day time, one nurse cares for an average of 6.5 patients (ranges from 2–13), but at night time, one nurse cares for an average of 23.8 patients (ranges from 3–85.5), nearly 4 times higher than the day shift. This work overload has negatively affected patient and health worker safety, especially during the night shift [65]. Currently there is no form of bonus, or honors for nursing work as in some other countries (e.g. award star for service as recognition when a nurse receives a letter of praise from patients, or nurse of the year awards).

Nutritional care for inpatients

Achievements and progress

Nutritional care in hospital is implemented under Ministry of Health Circular No. 8/2011/TT-BYT dated 26 January 2011. The Ministry of Health has issued a list of medical diet codes for hospitalized patients. Hospitals are required to follow current food safety regulations. Circular No. 8 stipulates full and detailed conditions needed to ensure nutrition work in hospitals. However, the circular only makes compulsory the medical diet for patients who need it. For patients not on a medically indicated diet, food is generally prepared by the patient's family, and differing conditions at each hospital determine to a large extent whether the hospital provides non-medically indicated meals.

Difficulties and shortcomings

Health workers and patients do not yet consider nutrition as a therapeutic measure. Arrangements for nutritional intake for patients face huge impediments. Clinical nutrition work is undervalued. Food costs are not included in the hospital price schedule, therefore it is impossible to request the hospital to provide foods for all patients. There are various arrangements that provide meals for patients through contracting out via competitive tender or by hospital organizing a kitchen and directly providing food for patients and health workers. Survey results in 2009–2010 in 742 hospitals indicate that only 71.8% of provincial hospitals and 40.8% of district hospitals have nutrition department or unit [66]. Measures should be taken to change the perspective that the nutrition department is simply a potential source of revenues, towards the perspective that it is a compulsory requirement to ensure service quality.

Provision of an appropriate diet during medical treatment has received inadequate attention, for example in intensive and emergency care, the careful assessment of calories and nutrients needed should be implemented to ensure balanced nutrition for serious cases.

There is a severe shortage of dietitians and nutritionists in hospitals. Staff employed in these positions usually lack basic training in the field, and the occupation is currently unattractive.

1.2. Application of standards and methods for service quality in hospitals

Application of methods and tools in service quality management and improvement

Achievements and progress

Some hospitals have been pioneers in applying quality methods in service quality improvement. Common methods are: Quality assurance based on standardizing care pathways and clinical guidelines; development of treatment guidelines and protocols in hospital (Ho Chi Minh City Children's Hospital No. 1, Bach Mai Hospital, Vietnam-Sweden Uong Bi Hospital); development of a training program for professional development in hospitals and various forms of incentives for continuous medical education; and increasing effectiveness of drug and therapy committee performance.

Some initial and promising steps in application of quality methods includes use of quality teams, quality improvement tools, application of the TQM (total quality management) model and the PDCA (Plan-Do-Check-Act) cycle, development of a quality system under ISO 9001 with KPI (key performance indicators) to achieve quality improvement.

Difficulties and shortcomings

The proportion of hospitals applying the PDCA cycle in quality improvement is very small. This is due to the lack of organizations and personnel in charge of quality management. The most relevant quality management model for hospitals is ISO 9001, and some hospitals have begun to pay attention to international quality standards and are applying for hospital accreditation according to these international standards.

A survey in 45 hospitals in the southern region in 2011 shows that 38.2% of hospital leaders and key managers do not know about, or know but didn't apply the PDCA cycle. Of those that did, the most common areas for applying this method include safe drug use: 37 (82.2%), infection control: 40 (88.9%), surgical safety: 36 (80.0%), patient satisfaction: 34 (75.6%), safe blood transfusions: 33 (73.3%), and safe injections: 29 (64.4%). Some 19 hospitals (42.2%) applied at least one quality management model, 18 hospitals apply ISO 9001 standard; 5 hospitals (11.1%) reach the ISO 14001 standard, 5 hospitals reach ISO 15189 standard, 3 (6.6%) hospitals apply TQM, 4 hospitals (8.8%) apply hospital

accreditation. Some 17 hospitals (37.7%) have dedicated staff in charge of quality management; 12 hospitals have a quality management unit in place; but only 3 hospitals having full-time staff for hospital management [66].

According to a recent survey [44], up till now only 11% of hospitals apply quality management models or methods; among these, hospitals mainly apply quality methods according to ISO 9001 and ISO 15189. Application of quality methods recommended by internationally reputed quality accreditation organizations remains quite limited in Vietnamese hospitals. Currently only a handful of hospitals are applying these standards and have received accreditation. According to the survey, many hospitals have not yet correctly understood quality methods and models, for example they consider that simply implementing checklists at the hospital is application of quality models.

The proportion of hospitals applying quality standards is also negligible. According to the survey only 4% of hospitals have applied them. However, this proportion in reality may be even lower, only about 1–2%, because some hospitals did not really understand what quality standards are. Only 1.6% of hospitals have developed their own hospital quality standards.

Development of organizational culture and quality in health care

The application of service quality methods and management should be conducted in parallel with the development of a "quality culture in health care" with a view to improving service quality as a continuing, sustainable process with involvement of all hospital staff.

Organizational culture can be defined as the vision, values, norms, leadership styles, interpersonal behaviors and behavioral expectations and norms of an organization. How authority, responsibility, rewards and incentives and information systems are designed in an organization will drive most people's behaviors and directly influence the organization's culture. Organizational culture is therefore assumed to be a contributor to organizational performance by socializing workers in a way that increases commitment to the goals of the entity, particularly safety and quality assurance.

Safety is one of the basic attributes of service quality, when talking about quality culture; it refers to "safety culture". There are five key principles to achieving a successful safety culture [67]:

- Work attitudes based on safety culture;
- Involvement of all levels of the organization;
- Participation of all members of the organization;
- Safety as the overriding priority;
- Voluntary participation, with joint beliefs about ensuring safety.

Culture cannot easily be mandated—it develops over time as a successful adaptation to conditions, bringing desired results and defining desired norms and values [68]. Application of service quality management models and tools with patients and results, is the best way to shape the organizational culture and quality culture.

Achievements and progress

For many years, the health sector has launched movements and implemented activities to raise the sense of responsibility among physicians and health care facilities, based on promoting culture and ethics. This includes many communication campaigns to implement

the 12 principles of medical ethics;[39] and the "code of conduct for officials and staff in state health service facilities",[40] etc...

Through the education and communication campaigns, health officials, medical and non-medical staff in the health sector, along with patients and their relatives and all of society are effectively implementing a culture of communication and good conduct in health care facilities. This has created a movement for implementation of the code of conduct in state health service facilities, reducing misconduct and making contributions to improved service quality [69].

Difficulties and shortcomings

To date, there is no formal consensus on how to define the concept "service quality". Different aspects of service quality have been referred to in different forums, however there is still no consensus on the basic attributes of "quality health services", as a result, there is no shared consensus on the objectives and methods for quality assurance and safety in hospitals. While a "culture of quality" is understood as the values which are shared, accepted, valued and followed by the staff of an organization, continued inconsistencies and misconceptions of quality values have hindered development of a true quality culture in hospitals.

Service and safety in health care are not covered in basic and advanced training programs. Hospital human resources, from doctors and nurses through managerial staff, have received almost no specialized training or education on medical service quality management.

Professional organizations have failed to bring into full play their role in development of a "culture of quality". The culture of quality is not yet reflected in the principles and performance objectives of professional associations. Coordination and collaboration between professional organizations and health sector administration, as well as with other socio-political organizations within hospitals for improving service quality and assuring safety has been more form than substance.

A culture of quality is not yet considered a prerequisite for hospital operations, and usually exists only on paper, without being translated into the everyday operations of hospitals. Many hospitals pay attention only to the external appearance of a quality culture (e.g., clean and spacious building, modern equipment, strengthened technical capacity, attitudes when interacting with patients…). The core of quality culture is awareness, belief, solidarity and values, but this remains very limited at present. For the sake of immediate benefits, many hospitals have not placed top priority on service quality, and have been slow to overcome negative behaviors and attitudes.

Many health care facilities have begun to become more aware that learning from errors is one of the ways to ensure safety for patients. Approaches to problem-solving in health facilities still focus largely on blame throwing, rather than focusing on systematic problems in management and organization [70].

Managerial awareness of the importance of a quality culture is insufficient, and so far no seminar have been organized on quality culture.

Application of information technology in service quality management

Achievements and progress

[39] Ministry of Health Decision No. 2088/BYT-QD dated 06/11/1996.
[40] Ministry of Health Decision No. 29/2008/QD-BYT dated 18/8/2008 issuing the code of conduct for officials and staff in state health service facilities.

Application of information technology in hospital management can bring about enormous impact on quality improvement due to the ability to store, analyze, transmit and disseminate diverse information about the hospital and reduce time spent on administrative work. Almost all health care facilities have introduced and put in use management software such as: human resources management, supply inventory management, financial and administrative procedures. However, very few facilities have applied software solutions to clinical management.

The Ministry of Health is undergoing a revision to statistical registers, reporting templates and medical records for the hospital system. The electronic medical record system is being prepared to replace the Medisoft 2003 software. Work is ongoing to update and supplement ICD10 and to translate and standardize the international classification of procedures (ICD9-CM) in preparation for a switch from the current fee-for-service payment method to a case mix payment system. However, correct coding of diseases requires the ability to distinguish diagnoses clearly and for professional coders to record codes accurately.

The Ministry of Health has approved a project for developing distance medicine services through the internet. A project on electronic medical record has been approved and financed by the Government. Some hospitals (e.g. Bach Mai and Viet Duc) have set up telemedicine links with satellite hospitals for purposes of training, mentoring, consultation and advising on difficult cases, contributing to quality improvement in training and reducing overcrowding in higher level hospitals. Some hospitals (e.g. Ho Chi Minh City Children's Hospital No. 1, Ho Chi Minh City Medical and Pharmacy University teaching hospital) have applied information technology in all aspects of hospital management: Medical records management, pharmaceutical management, supplies management, web-based return of test results, medical procedures and surgery management, personnel management (timesheet, leave, online duty), continuing education management, user fee collection (a closed flow from department to fee collection unit), financial management, web-based notification for meals (from clinical to nutrition department), information (web, internet, examination registration), reception, prescription and purchase of drugs. These hospitals have an intranet and are linked to the Internet. Pilot tests of distance medicine for diagnosis have been conducted. The Ministry of Health and organizations it manages all have websites. Many hospitals have managed to build or purchase specific software to support their management work [16]. However, software reminding health workers about drug interactions when prescribing drugs, or reminding them of care protocols through checklists on the computer, are not widely available and little used.

Some hospitals have piloted electronic medical records. The teaching hospital of Ho Chi Minh City University of Medicine and Pharmacy applies a patient card system. The Ministry of Health is focusing on implementing projects with a view to applying information technology including the project on electronic medical records and medical examination and treatment management, development of standards for health information technology, strengthening the health information system, development patient management systems using Smartcard technology with distinctive patient codes.

Difficulties and shortcomings

Investment in health information technology remains fragmented and weak, and tends to be part of other activities without a project dedicated to this purpose. There is no comprehensive design for information technology of health care facilities with high quality. There is shortage and imbalance in human resources for information technology in health care facilities leading to spontaneous but inconsistent applications of information technology.

Research, application and training in health care informatics is unable to keep up with the increasing needs for health information technology in Vietnam [71].

Many software companies have participated in designing hospital management systems but have not been successful because of their lack of medical care knowledge. Many hospitals have strived to apply information technology but failed as the software did not respond to their actual needs. As they experienced failure, many hospitals became doubtful of the feasibility of applying information technology in health care, and have gradually become disinclined or even refused to apply information technologies because they have not yet seen positive results from other hospitals.

According to a recent survey [44], only 56% of hospitals are applying information technology. However, among this number many hospitals only apply Medisoft 2003 software, which is oriented towards reporting statistical data, so in reality these hospitals are not yet really applying information technology for management of medical information in their hospitals. Thus, the proportion of hospitals applying information technology in management is substantially lower.

Hospital administrative reform and quality of care

Achievements and progress

Administrative reform for the health sector is included in the public administrative reform under Resolution No. 30c/NQ-CP dated 08 November 2011 on the master program for administrative reform 2011–2020. The objective for the period 2011–2015 is to improve quality of care, ensure satisfaction of patients and organizations of public services in the health field to reach 60% to 80% by 2020.

Program No. 527/CTr-BYT dated 18 June 2009 set the objective of enhancing health worker conduct toward patients, reform of administrative procedures, reduction in onerous procedures and inconvenience in receiving patients, providing medical services and payment of medical fees for insured patients, contributing to improving quality of services and ensuring patient rights.

The Program has been translated into action with encouraging results, for example, improved attitudes when receiving patients, providing medical services in the outpatient department and clinical inpatient and laboratory departments. Many hospitals have applied information technology, issued electronic patient books and identification numbers to serve patients. Some hospitals have even set up appointment systems through the phone, or return laboratory results electronically.

Difficulties and shortcomings

Overcrowding at tertiary facilities affects patient satisfaction. Administrative reform in hospitals has still not been consistently implemented because of the lack of quality teams, inadequate determination of hospitals and insufficient investment in resources. For insured patients, there are still many complicated administrative procedures at all stages such as transfer from one facility to another, medical examination and treatment at primary care facility and procedures for calculation and payment of the patient co-payment. Procedures for signing, verifying and payment of contracted amounts to medical facilities for insured patients undertaken between the medical service facility and the Vietnam Social Security, and allocation of funds by number of insured patients remain complicated for all three parties: Vietnam Social Security, the medical facility and the patient.

1.3. Developing service quality management organizations in hospitals

Achievements and progress

Currently, each hospital is supposed to have a drug and therapy committee, infection control committee, and nursing committee, which are directly involved in service quality. Drug and therapy committees were established under the Hospital Regulations (1997) with responsibility to advise the hospital director of rational, safe and effective provision and use of drugs and adjust treatment protocols to be appropriate for conditions at each particular hospital. Their tasks include: development of an appropriate drug formulary suitable for the disease patterns treated at the facility taking into consideration drug and material costs of the hospital; monitoring implementation of disease diagnosis regulations, patient record recording, prescribing of treatment, regulations on use of drugs and regulations on the pharmacy department; monitoring adverse drug reactions and drawing lessons from errors in use of drugs; providing information about drugs, monitoring use of new drugs in the hospital; developing cooperative relations between pharmacists, doctors and nurses in which pharmacists provide advice, doctors take responsibility in prescribing and nurses implement the doctor's orders and care for patients.

The infection control committee is regulated according to Circular No. 18/2009/TT-BYT. The infection control committee is responsible for reviewing, proposing and advising the hospital director to develop, revise and supplement technical standards and regulations for infection control in line with the Ministry of Health regulations; a development plan for infection control and prevention of medical service and epidemic related infection control; advising on repair, design and building of health service infrastructure appropriate with infection control principles; Organizing training, scientific research, mentoring of lower level facilities and communication on infection control within the organization.

The Nursing Committee is implemented under Circular No. 7/2011/TT-BYT. Tasks of the Nursing Committee are to advise the hospital director on planning for patient care within the hospital and advising him on revisions and supplements to technical regulations on nursing care in line with the Ministry of Health regulation and characteristics of each department.

Almost all hospitals have set up Drug and Therapy Committees and Infection Control Committees, accounting for 99%. The proportion of hospitals with a patient committee is also quite high at 94% [44].

Difficulties and shortcomings

Almost all hospitals have a drug and therapy committee in place however the performance and quality of the committee is heavily dependent on the interest and effort of the hospital director.

No unit within the hospital takes official responsibility for issues beyond the scope of the Drug and Therapy Committee. This includes patient safety issues (surgical safety, safe blood transfusion, environmental safety, risk prevention related to falls, etc…) or implementation of hospital quality improvement. Those above-mentioned tasks are designated to the general planning department, which is already overburdened thus leading to ineffective and unsystematic performance. Some hospitals have piloted a hospital quality management committee (Ho Chi Minh City Children's Hospital No. 1), hospital quality management division (National Hospital of Pediatrics, Vietnam-French hospital), or risk management unit (Cho Ray hospital) which seems effective but the impact is still limited due to absence of legal framework. At present, there is no reporting system for patient safety nor is there much research or analysis to propose recommendations for improving service quality and strengthening patient safety.

According to a recent survey, only 12.5% of hospitals have set up Quality Committees. The proportion of hospitals that have set up risk management units accounts for only 10.3%. Some 13% of hospitals have set up quality management teams. Nevertheless, only 3% of hospitals have set up quality management offices. Human resources related to quality management in hospitals are also quite limited. According to results of the survey, the number of health workers doing quality management work is negligible and almost all of them do this in addition to their main responsibilities, most have not received training in quality methods nor have they got certificates in quality management [44].

Among the large number of registers used in hospitals there is a register for medical errors. However, collection of information on patient safety from the medical error register has had only limited results. Currently there is no reporting system on patient safety so few people have researched and analyzed the situation to propose recommendations aimed at improving quality and strengthening patient safety work. In 2012, up to 45.6% of hospitals voluntarily reported medical error and adverse events. However, it was surprising that up to 92% of hospitals reported that in the year 2011 there were no medical errors. This result suggests that the voluntary error and adverse event reporting system established at some hospitals is either not operating or is operating ineffectively [44].

Survey results also indicate that 11.4% of hospitals have developed and applied a patient safety assurance program. Some hospitals have implemented some contents of a patient safety program, such as verifying the patient name when providing medical services (16%); improving information sharing between medical workers (17%); eliminating wrong-site and wrong-patient surgery (13%). The proportion of hospitals that have implemented hospital acquired infection reduction programs and safe and rational use of drugs is higher, accounting for 28% and 32% respectively. In contrast, only 10% of hospitals have shown concern about and implemented programs to prevent patient falls [44].

2. Priority issues

Based on the above situation analysis, it is noteworthy that much health legislation has been developed, yet implementation is incomplete. Some standards and tools have been introduced to strengthen hospital management and hospital quality, but these tools are not applied system wide. Finally, it can be observed that the hospital structure and network do not effectively support compliance with these regulations, and fail to facilitate conditions for service safety and quality for patients. The following priorities have been identified within the authority of hospitals to take action. However, in some cases, it is worth reviewing roots cause of the problems related to issues in the jurisdiction of higher-level management.

Mechanisms, organization and resources for implementation of hospital quality management are incomplete

- There is no master plan/program for hospital quality improvement to orient hospitals to set and implement essential but most effective quality assurance measures.
- There is no accreditation agency
- There is no clear regulation and support for system wide application of methods, models and tools for hospital quality improvement.
- The organization of quality systems within the hospital is incomplete. In particular, service quality is just one of many tasks assigned to the general planning department (as indicated in the current hospital regulations), so there is no full-time unit in charge of quality and safety for patients.

- Lack of full-time staff for service quality management. Lack of competent staff in charge of infection control. Lack of knowledge among health about service quality management.
- Few hospitals are able to develop their own clinical guidelines, protocols and care pathways, partly because the technical guidelines, treatment protocols and care pathway issued by the Ministry of Health are not updated on a regular basis.

Application of information technology is slow and below expectation

- Investment in information technology remains fragmented, without a project focused on the task.
- Technical information technology staff at health facilities are still insufficient and imbalanced.
- Lack of incentives for application of information technology in health care.
- Lack of understanding from the hospital management about potential application of information technology in clinical care and quality management.

The current hospital information system fails to support effective quality management

- There is no reporting system for errors and incidents, nor a mechanism for learning from errors
- There is no national, provincial or facility-level hospital infection supervision.
- Lack of a supervision mechanism for drug prescription therefore there is a rising trend in drug use, especially antibiotics and brand name drugs.
- There is no a quality standard set to act as a basis to develop a set of quality indicators and quality improvement measurement.

Regulations, methods for quality management are not fully implemented

- Patient safety program is only implemented on a pilot scale.
- Incomplete compliance with regulations for safe blood transfusion
- Infection control work in hospitals faces enormous difficulties
- The lab test quality management system is unable to meet the current needs for quality assurance.
- Performance of the drug and therapy committee is uneven.
- The national campaign for safe injection failed to achieve desired outcomes
- State medical service prices do not include full nursing costs, including meals, therefore hospitals lack funds to provide multidisciplinary care, and mainly rely on the patient's family or hired caregivers, while most patients have to provide for their own food, and may be unable to secure adequate nutrition during the treatment episode in hospital.
- Lack of a mechanism to monitor nursing care and nutrition in hospitals.
- Communications and conduct of health workers fails to satisfy patients.

3. Recommendations

In order to gradually resolve the priority problems mentioned above, the JAHR report makes recommendations for the following groups of solutions (for details see Chapter 9 of this report).

- Strengthen mechanisms, organizations and resources to implement quality management in hospitals.
- Promote application of information technology in medical service quality management.
- Strengthen the hospital management information system.
- Strengthen full compliance with regulations and methods of quality management.

Chapter 6: Promoting the role of community and patient in medical care service quality improvement

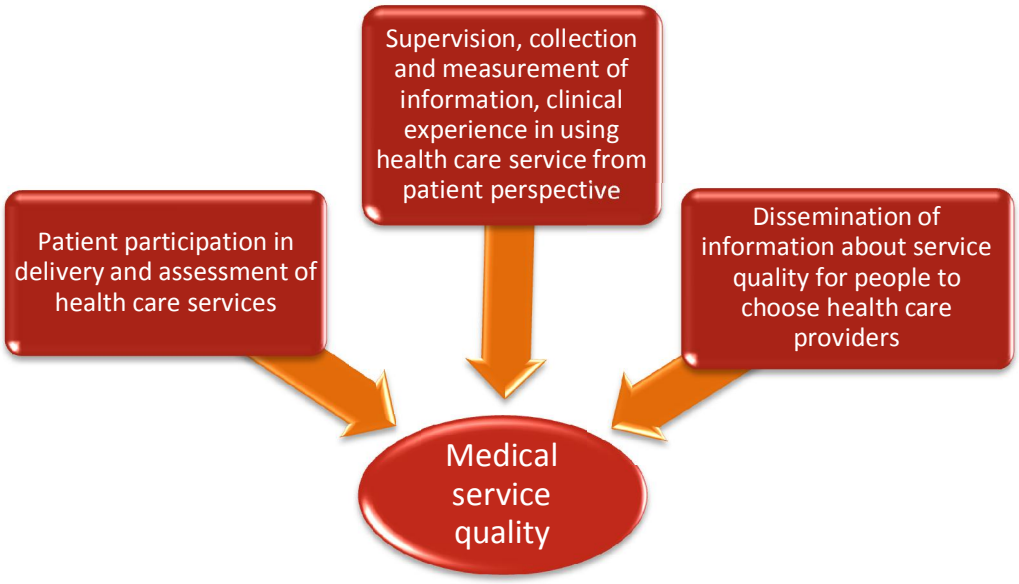
Based on the WHO Guidance on developing quality and safety strategies with a health system approach [27], in order to assess the current situation and propose measures to promote the role of the community and the patient in medical service quality improvement in Vietnam, this chapter will focus on the following main contents below:

- Assessment of legislation that reflects respect for patient rights (right to information access, participation in professional decision-making, etc..).
- Assessment of forms and mechanisms for patient and service user involvement in the process of delivery and evaluation of health care services.
- Assessment of measures for data monitoring, collection and measurement, clinical experience in using health care service from patient perspective.
- Assessment of modes of open and transparent dissemination of information on capacity, performance and quality of care in health facilities as a basis for patient choice of service providers.

1. Concepts and approach

According to the WHO *Guidance on developing quality and safety strategies with a health system approach*, patient-centeredness and community participation are goals, but also belong to one of the four basic methods for improving medical services in general and health care services in particular [27]. Achieving the best possible health for individual patients, and for the community as a whole, is the ultimate goal of health care facilities. Patient experience is a measure of the quality of health care services that they receive (Figure 13).

Figure 13: Patient-centeredness and the role of the patient in medical service quality improvement



Quality improvement approaches that are patient-centered and involve community participation are important because patients and service users are the beneficiaries of medical

service providers. At the same time, patients and service users can also play a critical role in quality improvement strategies. Many studies indicate that patient assessments of health care services can be used as a tool for service quality improvement [72, 73]. Service users and the community can directly contribute to quality improvement through (i) surveys, focus groups, feedback and complaints or direct dialogue with health workers about the quality of services they use; (ii) cooperative interactions between patients and service providers in specific situations to decide on treatment and safely implement medical interventions; (iii) advising and developing patient information on relevant clinical and policy issues; (iv) communicating with providers about clinical experience during the medical care process to help refine clinical and disease-related knowledge and improve service quality; (v) patient and community participation in advising and cooperating for planning and improvement of medical service activities.

In order to bring into play the role of the community and the patient for medical service quality improvement, it is necessary to set up modalities and mechanisms for tight cooperation between health service providers and users, actively collect information from patients in order to detect problems in the service provision process. These activities can help providers set priorities for service quality improvement in line with patient expectations, and at the same time, this helps health service providers to improve their own service quality.

According to the WHO, to ensure patient-centeredness in service provision, enhance the role of patients and the community and help service providers improve service quality, the health service delivery system should ensure the following prerequisites:

- Availability of legislation that reflects respect of patient rights (right to information access, participation in professional decision-making, etc…).
- Availability of forms and mechanisms for patient and service user involvement in the process of delivery and evaluation of health care services.
- Availability of data monitoring, collection and measurement, clinical experience in using health care service from the patient perspective.
- Availability of modes open and transparent dissemination of information on capacity, performance and quality of care in health facilities as a basis for patient choice of service providers.

2. Situation assessment

2.1. Legislation and policies on rights and obligations of patients to health service quality improvement

Patient participation in delivery and assessment of health services

Several legal documents stipulate the role and modality for patient and community participation in service quality improvement. In 1997, the Ministry of Health issued Hospital Regulations, which mention the role of patients in improving hospital performance. The Regulation stipulates the establishment of patient committees.[41] Patient committees are organizations that represent patients, allowing them to express their opinions about the organization and delivery of health services in order to improve service to patients. By 2004, the Ministry of Health issued Official letter No. 4969/YT-DTr dated 8 July 2004 guiding the setting up of hotlines in hospitals[42], with the objective of helping public hospital officials to

[41]Ministry of Health Decision No. 1895/1997/QD-BYTof Minister of Health on issuance of Hospital Regulations.
[42]Official Letter No. 4969/YT-DTr dated 8 July 2004 of Minister of Health on setting up hotlines in hospitals.

gather feedback and comments from service users to improve service quality. In addition, there exists a mechanism for complaint settlement in health care in Decision No. 44/2005/QD-BYT[43] surveying patient satisfaction in the annual hospital inventory.

To strengthen effectiveness of the above mechanisms, the State has stipulated required and prohibited actions of medical practitioners. Decision No. 4031/2001/QD-BYT, dated 27 September 2001 of the Minister of Health regulations patient-physician communications in health care facilities. In those mechanisms, there is a regulation that requires physicians to provide comprehensive examinations, listen to patients and gently explain to patients about their treatment plan and prognosis. It is mandatory to communicate promptly any information and discuss with patients and their relatives all information related to the patient, including timely explanation of the medical practitioner's proposed treatment and patient care plans

Decision No. 29/2008/QD-BYT issued a Code of conduct for officials and staff in state health service facilities, explaining concretely behavior that could be expected from government health workers and officials when interacting with patients. Specifically, health workers must (i) strictly follow regulations on communication with patients in health care facilities (issued under Ministry of Health Decision No. 4031/2001/QD-BYT dated 27 September 2001); (ii) strictly and consistently comply with clinical regulations for medical examination and treatment; (iii) maintain high moral standards, dignity and clean lifestyle of a Socialist physician; (iv) seek to understand the patient's and their family's changing state of mind during the provision of medical services; empathize with and consider patients like relatives; (v) be polite, gentle, encouraging, sympathetic and respectful to patients and their families; (vi) strictly conform to the teaching of Ho Chi Minh ***"Physicians as kind mothers"***; Translate the motto ***"Warm welcome at reception, dedicated care during stay, thoughtful recommendations at discharge"*** into action; (vii) continuously learn, train, cultivate communication skills with patients and their families.

These policy documents also stipulate which practices are prohibited, including: (i) unethical behavior, abuse of trust to gain personal benefit during treatment and care episodes, concretely this means any words suggesting the practitioner has granted a favor, attitudes and gestures to induce bribes in the form of cash or gifts from patients and their families; (ii) authoritarian, imperious, extorting, procrastinating, indifferent, hassling behaviors towards patients and their families; and (iii) violating professional guidelines while providing services.

In 2009, the rights and obligations of patients were stipulated in the Law on Examination and Treatment (effective since 1 January 2011). The Law stipulates the rights to quality medical examination and treatment appropriate with actual conditions. Patients are to be provided advice, explanations and information about their diagnosis and appropriate treatment methods and services. Patient privacy, dignity, age, sex, ethnicity and religion are to be respected. Patients should not face discrimination or stigma regardless of their income level, social strata and rights to choice of health care. Finally, patients have the right to be informed of the contents of their medical records and health care costs and have the right to refuse treatment and leave health care facilities.[44]

To support enforcement of those regulations, the Decree on penalties for administration violations in medical examination and treatment (96/2011/ND-CP) details prohibited practices and corresponding penalty levels. This document stipulates such

[43] Ministry of Health Decision No. 44/2005/QD-BYT.
[44] Chapter II, Law on Examination and Treatment (2009).

practices as failure to provide timely treatment needed by patients, failure to consult with other practitioners or refer cases beyond the facility's capacity to treat. It also stipulates prohibitions on prescribing drugs or services exceeding those required by the patient in order to gain financial benefits or bribes, violating professional regulations, failing to establish or to complete patient medical records, providing surgery or surgical interventions without the agreement of the patient or their representative, failing to detect in a timely manner any adverse drug reactions in order to urgently inform the practitioner managing the case, prescribing drugs inappropriate for the patient's diagnosis, failing to monitor effects and resolve in a timely manner any adverse reactions from use of drugs in patients managed directly by the practitioner, prescribing unnecessarily expensive brand name drugs in order to gain commissions from drug representatives.

According to a recent survey, most hospitals have implemented patient satisfaction surveys from one to two times per year. This proportion is about 85% in the hospitals surveyed. However, these patient satisfaction surveys are mainly formalities, and do not ensure objectivity nor the ability to compare across hospitals.

Monitoring, gathering and measuring information and clinical experience from patient perspectives

In the process of providing services and recording information into patient files, a substantial amount of information is gathered, which has potential for application to quality improvement, especially if this information is computerized.

In aspects of safe use of drugs in health care facilities, the Drug Administration of Vietnam has issued a regulation for collection, entering and processing data in reports on adverse drug reactions (ADR) in both public and private facilities.[45] Analysis of this information could help in determining whether substandard drugs caused adverse reactions, or determining which facility or practitioner did not provide adequate guidance to the patient on use of the drugs leading to adverse events.

In addition, the existing health management information system requests hospitals to report cases of complications and deaths in hospitals and nosocomial infections. Collection and reporting this information on a routine basis is mandatory. However, because of a lack of understanding of how to analyze this data in order to improve quality, information is recorded incompletely in terms of number of cases as well as the relevant details that could be used to find out the causes of complications or deaths.

Various forms of activities of the Patient Committee, feedback letter box, hotline or direct complaints at hospital reception desks, could all provide feedback information from patients on their clinical experiences. However, there is no instrument or mechanism to screen out, gather, and process information on these issues. Currently no unified set of indicators has been established, nor instruments for gathering such information. Likewise there are no regulations on monitoring the gathering, processing and use of this information to improve quality of services in medical facilities.

Dissemination of indicators on service quality as a foundation for the patients to choose health care facilities

According to a notice from the Office of the Government it is recommended to complete and standardize criteria and procedures for assessment of patient satisfaction with

[45] Circular No. 8/BYT-TT dated 4 July 1997 on guiding organization, functions and tasks of the Drug and Therapy Committee, which covers the terms of reference for organizing information of drugs and monitoring of adverse drug reactions (ADR)

health care services at all levels; develop a mechanism to organize the assessment and dissemination of assessment results for hospitals to obtain objective and scientific feedback, and on that basis to propose solutions to improving service quality.[46]

However, presently, service quality information is not widely disseminated. Currently, information on deaths and complications is limited to management at the provincial health bureaus and the Ministry of Health. Patients have no access to information of service quality to support their choice of service providers.

The mass media also provides relevant information on service quality at medical facilities. However, this is an information channel that does not rely on assessment and official acknowledgement from formal authorities, so it could lead to misleading information about medical facilities as well as errors in patient health care seeking behavior.

2.2. Modalities and mechanisms to facilitate patient participation in assessing and providing feedback to health care services

Achievements and progress

Presently, enforcement of legislation on patient-provider feedback is limited to hospitals as stipulated in the Hospital Regulation but is not yet implemented in other health care facilities such as preventive medicine centers, commune health stations, private clinics and other health facilities. In hospitals, under the Hospital Regulations, patients and service users can provide comments and feedback on medical service provision in hospitals through the patient committees. The chairman of the patient committee is responsible for collecting feedback from the members in different departments (disciplines) about issues related to health care services of the hospital and report to the hospital director. The hospital director should address any concerns or questions, as well as use the information collected to make adjustments to hospital management.

Another modality for patients or service users to give feedback to hospitals is through the hospital hotline, in order to inform the hospital director, who can then adjust service provision. Each hospital is supposed to establish some hotlines (telephone line) with 24 hour operation to receive feedback from patients.

A suggestion box has been set up in all public hospitals, with regulations on location, frequency of opening, and assigns to the hospital general planning department responsibility to collect and synthesize the feedback.

In the regulations for the annual hospital inventory, hospitals are expected to carry out an assessment of patient satisfaction about service attitudes, waiting time, administrative procedures and instructions for drug use.

Difficulties and shortcomings

Although there are specific regulations on the role of service users in hospitals, there are no policy documents or effective mechanisms for monitoring the enforcement of and compliance with these regulations in hospitals. Specifically, performance of the patient committee, suggestion box and hotlines varies across hospitals. There is no guiding document for monitoring and consolidating feedback information for the purpose of service improvement. Nor are instructions and supervision tools available.

[46] The Office of the Government. Announcement No. 39/TB-VPCP, dated 3/3/ 2011, Conclusions of the Deputy Prime Minister Nguyen Thien Nhan at a working session on the 2011 workplan of the Ministry of Health. 2011.

So far, in Vietnam there is no study assessing the patient role in improving service quality in health care facilities. A study on the health delivery system in six provinces in 2009 [74], shows that the role, voice and participation of patients and the community in health care planning and service quality improvement remains very limited and needs improvement. In addition, individual studies on patient satisfaction using the SERVQUAL model in some hospitals, indicate that the information collected only helps the hospitals to improve their administrative work not clinical services [75-77]. A literature review of the role of the assessment of patient satisfaction and complaints on specific services or clinical protocols provides some evidence that it can lead to service quality improvement, while evidence of the values of assessment of patient satisfaction on service quality improvement remains inconclusive [78].

2.3. Supervision, collection and measurement of information on the patient experience using medical services

Currently, the health management information system mainly concentrates on financial and human resources management. However, service quality improvement requires a patient-level information system including information on clinical status, paraclinical tests and imaging results, medical interventions and their results. Although hospitals need to maintain statistics and report on deaths and complications, such information is currently not fully reported nor is it used for service quality improvement.

Today, hospitals are implementing procedure for collection, entering and processing of information about adverse drug reactions (ADR), which includes collection of information from patients about the process of using drugs and any side effects. So far, there has not yet been an evaluation of implementation of this regulation in hospitals. Compliance with ADR reporting in Vietnam is very low. For example, in 2011, in Vietnam it was reported that there were 2.3 ADRs per 10 000 admissions yet in the United States in 1998, there were 670 ADR per 10 000 inpatients [79]. Apart from simply maintaining statistics and reports on these figures, data should be analyzed to investigate causes and to establish mechanisms to avoid medical errors resulting in ADR in the future. Besides the ADR reporting system, there is also a regulation requiring reporting on hospital deaths and complications related to blood transfusion, surgery, medical procedures and other causes. However, information is not yet sufficient and rarely used by the health sector to draw lessons and improve safety and quality for patients.

For clinical service quality, there is no specific regulation or model that facilitates health care facilities to exchange information and measure information on clinical and paraclinical services from patients on a regular basis.

2.4. Wide and transparent dissemination of service quality information to facilitate patient choice of provider

Wide and transparent dissemination of information on service quality to facilitate service user choice of health care facility is considered important in developed countries. However, currently in Vietnam's legal system and in the quality management measures taken, there is no system for service quality assessment and dissemination of evaluation results in place. In fact, the mass media (including newspaper, radio and television) can advertise medical facilities even though they don't meet any quality certification standards of the authorities, sometimes leading to misunderstandings among the people. The mass media often also reports on deaths or complications in medical facilities in an incomplete and misleading manner that may lead to social disorder and negatively affect reputation of

medical facilities. This situation is not in line with the desire to develop a voluntary error and incident reporting system in order to determine systematic causes and propose solutions for future prevention of such events. Development of a more comprehensive and objective information dissemination system on quality of medical facilities to serve as the basis for patients to choose their service provider is necessary, but not easy.

3. Priority issues

Patient rights to information about their medical condition, treatment safety and treatment methods are not yet protected

- The Law on Examination and Treatment has been promulgated, but some sublegal documents have not yet been issued related to the relationship, rights and obligations of practitioners and service providers towards patients with regard to service quality assurance and safety for patients, especially regulations on mechanisms and procedures for physician-patient communications to make joint clinical decisions.
- Lack of specific regulations and solutions to help patients identify possible risks in service provision related to quality and safety and mechanism for them to participate in and work with health workers to take preventive measures to avoid possible risks and work together to address unusual situations.
- There is no model or solution to enhance people's awareness and provide them with information and necessary skills to detect risks and work together with health workers in service quality assurance and safety in treatment.

Mechanisms to gather feedback from patients operate ineffectively

- Implementation of regulations on monitoring and collection of feedback from patients is only done in hospitals through the Hospital regulations but not yet expanded to other health care facilities such as general clinics, commune health stations and private clinics.
- There is no mechanism that guides patients on how to send direct feedback and complaints about service quality to government agencies responsible for inspection and supervision of service quality (licensing agency, inspectorate, accreditation agency, etc…). Mechanisms to protect patients are not yet fully implemented.
- At present, the highest legal document - the Law on Examination and Treatment – does not mention the right of patients to participate in evaluation of medical examination and treatment or other health services.

Feedback from patients and data on patient experience using health services and treatment outcomes of patients are not analyzed in a systematic manner

- The current regulations such as hospital regulation are only limited to data collection and resolution of complaint from individual patients without specific regulations such as mechanisms for information synthesis, processing, and use of this information for service quality improvement and enhancement.
- There is no specific regulation on information collection and processing from patients related to service quality improvement such as a set of indicators, information and tools to be used to measure service quality as experienced by patients.

Lack of regulations on service quality information dissemination to facilitate patient choice of service provider

- There is a lack of regulation on service quality information dissemination as stipulated in the Law on Examination and Treatment. There is no regulation that assigns responsibility to health care facilities to disseminate information on service quality. At present, there is no regulation or guidance for service information to be widely disseminated, such as information on compliance with legislation on management, service quality improvement (compliance with standards of physical infrastructure, equipment, human resource and other conditions necessary for the practice of medicine, reduction in risks and improvements in safety).

4. Recommendations

In order to resolve the above priority problems, this report provides recommendations for the following groups of solutions (for details see Chapter 9 in this report).

- Review and supplement hospital regulations and recommend amending the Law on Examination and Treatment regarding regulations on implementing patient rights and promoting the role of patients in medical service quality improvement.
- Improve knowledge and skills of patients.
- Develop a system for accreditation and public recognition of hospital quality along with a mechanism to openly disseminate information about quality.

Chapter 7: Payment methods and quality of health care services

This chapter discusses payment methods and quality of health care services, focusing on incentives inherent in the payment methods and impacts of these incentives on the performance and service quality of health care facilities.

The main content of the chapter consists of an assessment of various forms of provider payment incentives for quality of medical services in Vietnam. On that basis the chapter identifies priority issues and proposes recommendations for measures to initiate implementation of forms of payment incentives that motivate performance and quality of medical services. Some concepts about payment methods and service quality are also introduced.

1. Concepts about payment methods and service quality

1.1. Role of payment methods in improving service quality

Improving quality of health care services is considered a positive measure to promote the efficient use of financial resources and improve cost – effectiveness [27]. On the other hand, financial instruments, particularly payments to service providers, have a very important role in encouraging and promoting health service quality improvement.

Payment methods are not merely a way to reimburse costs of service providers, but are also considered one of the five control buttons of the health system [80], because they directly impact the supply behavior and use of services and service charges, which affect equity, efficiency and quality of the health system. Payment methods in this chapter shall be construed broadly to include funding mechanisms for health care facilities, payment for medical services and health worker remuneration.

Pay for performance (P4P) approaches are increasingly being used by health systems. They involve payment of practitioners and service provider facilities based on results and quality of services. This is an important change compared to conventional payment methods. Health sector management agencies, payers (such as the health insurance fund), service users and especially policy makers have a strong and growing interest in the quality of health care services. This raises the question of how incentive mechanisms, management and quality monitoring can help to improve quality of health care services.

In the current situation of Vietnam's health care system, the main questions being posed are: (i) what is the impact of the current payment policy framework and payment methods currently applied in Vietnam on the quality of health care services; which positive impacts should be promoted and which adverse effects need to be addressed; (ii) what needs to be done to develop and apply advanced payment methods in order to contribute to basic aspects of quality improvement and efficiency. such as simplification of administrative procedures, cost reduction, enhancement of moral values and performance, increasing patient satisfaction, encouragement of continuous clinical improvement and management capacity of health care services …

1.2. Common incentives applied in promoting quality

There are many different incentive models aiming specifically at the objective of improving health care service quality. International experience shows that no incentive form

is perfect or adequate in itself to solve all the quality problems, and appropriateness of different forms depends on the specific situation of each system [81].

Various forms of service quality incentives are classified according to different criteria: financial incentives, non-financial incentives, direct and indirect incentives.[47] Some basic incentive models being used to improve quality are introduced in the following table (Table 7).

Table 7: Incentive models used in health care to change or enable behavior

Financial	Non-financial
Direct	
Periodic or ad hoc bonus	Public dissemination of service quality information of health facilities to motivate employees to compete with other facilities.
Performance-based withhold till performance criteria are met	Reward good performance with greater autonomy
Performance-based fee schedule	Replace managers if performance doesn't meet requirements
Pay per activity	
Shared savings contracts between payers and payees	
Regular increases in budget paid according to performance	
Quality grants for projects to improve quality	
Payments for health care programs	
Indirect	
Differential cost-sharing for beneficiaries	Public dissemination of health facility quality information to influence patient choice of facility based on quality

Source: Thomas Custers, et al. (2008) [81]

Financial incentive models

Bonuses for quality are usually announced by papers on a periodic basis (e.g. annually). Typically, the financial rewards are negotiated at levels of 5% to 10% of the total reconciled payments to the service providers. Progressive award levels help to encourage continuous quality improvement of service providers. Rewarding quality is a common model used in the United States and other developed countries [82].

Performance based withhold. Instead of announcing rewards in advance [83], payers keep a portion (at least 5% or 10%) of total budget for payment to service providers, and pay this portion only after the final performance appraisal results show that the service provider has met the quality requirements. In fact, in Vietnam withholding part of the total budget has already been applied to health facilities with health insurance contracts. The health insurance fund management agency often holds a certain percentage (20%)[48] of the global budget till the end of the quarter or the end of the year to prevent deficits, and this is also linked to compliance with contract terms. However, in Vietnam the main goal has been to control revenues and expenditures rather than incentivize quality.

Performance-based fee schedule is used to pay the service providers following a pre-set fee schedule, adjusted by performance of different level facilities compared to the national

[47] Direct incentives aim to alter the behavior of providers while indirect incentives aim to alter behavior of providers through changes in health seeking behavior of the service users.

[48] Article 32-Chapter VI Law on Health Insurance: Health Insurance organization is responsible for advancing budget for health care facilities serving for health insurance with at least 80% of the actual health care expenditure of health insurance accounted last quarter

average. Usually the units with better results and highest quality are paid with higher fees (e.g. 115%) compared to the average level, the units with average performance are paid the full 100% of the fee and units which do not meet standards are reimbursed at a lower rate (e.g. 85%). The primary difference between performance-based fee schedules and bonuses is the frequency of payment, i.e. continuous versus periodic [84].

Quality grants are paid for selected proposed projects at health care facilities aimed at improving service quality. Projects include improvement initiatives and/or the application of quality improvement and quality assurance models.

Payments for healthcare programs, especially for prioritized health care programs like management and care of chronic diseases (diabetes, heart disease, asthma .. .) in the community. This incentive model is considered to be cost-effective. However, implementation is complicated because it relies on patients to actively seek out screening to detect their disease and cooperate with disease management. To implement this payment mechanism, the program should also have appropriate incentives for people with chronic diseases so that they will actively participate in the screening examinations and periodic examinations as planned.

Differential cost sharing for beneficiaries. Various cost sharing levels are applied in this method to direct service users to facilities evaluated as having better quality. Accordingly, if the patients uses the best quality service facilities, their co-payment levels are the lowest and those using poorer quality services pay higher co-payments.

Other non-financial incentive models

Performance profiling involves rating service facilities to aid in selection of facilities who be permitted to sign service contracts. Service providers are selected based on grading reports. This model requires detailed information about services, cost, quality and expertise of clinical outcomes, safety and satisfaction of service users.

Technical assistance for quality Improvement helps hospitals or service providers to achieve the goal of improving and raising the quality. Technical support is usually targeted towards larger service facilities not yet meeting the quality criteria.

Limited range of service contracts on the basis of practice sanctions of service providers is applied by regulating the scope and volume of services in contracts on the basis of assessment of actual capacity to provide services. These practice sanctions put pressure on service providers to meet performance requirements in order to continue to participate in contracting for service provision.

Other incentive models involving payment for quality are also considered effective, yet, the application of those methods requires reliability of methods and accuracy of measurement and performance assessment tools. Inconsistent databases with unreliable information currently cause difficulties for the effective development and application of appropriate incentive models for service quality.

2. Current situation of payment models for quality of medical services in Vietnam

Reforming the financial mechanism and implementing social mobilization

Achievements and progress

The purchaser-provider split has been implemented in Vietnam. The reform process for health financing mechanisms in Vietnam is ongoing and has achieved positive results.

One of the most noteworthy achievement is the separation of state responsibility for health service provision from health service purchasing. In this process, the health insurance agency has gradually become a major service purchaser, playing an important role in controlling expenditures and quality of medical services. This purchaser-provider split is an important pre-condition for application of different incentive models relying on contracts between service providers and purchaser.

The state budget has a leading role in health financing. The share of state budget allocated to health has increased from 5.4% in 2000 to 9.1% in 2010 [13]. Investment in physical facilities development[49] and the development and transfer of medical technology have been strengthened through allocation of state budget funds, creating positive pre-conditions for increase in quantity and improvement in quality of medical care services. However, this significant contribution of state budget financing is very recent, and has been dependent on government bond funding of infrastructure building. Therefore, one cannot consider this a stable level of state spending. In the upcoming years, investments from government bonds will gradually fall, so maintenance of state spending levels on health will require additional attention.

Financial autonomy is a foundation for increasing efficiency and reducing waste. Implementing autonomy creates favorable conditions for health service providers to manage their own revenues and expenditures, reduce unnecessary costs, mobilize resources for investment in medical equipment, and pay more attention to their "brand" and reputation through improving quality, effectiveness and safety of medical services they provide [85, 86].

The Ministry of Health has recently made greater efforts to monitoring, evaluate, and review implementation of Decree No 43/2006, to ensure openness and transparency in the implementation of the autonomy of state health facilities. The Ministry of Health sent the official document No. 3295/BYT-KH-TC, dated 26 May 2010, to the provincial health bureaus and hospitals under the Ministry of Health requiring them to implement tasks to achieve positive outcomes and make timely adjustments to reduce risks and shortcomings implementation of Decree No. 43/2006/ND-CP granting autonomy and accountability to medical facilities. To improve the efficiency in the utilization of the state budget in procurement and public spending, the Ministry of Health has issued Circular No. 1/2012/TT-BYT guiding the competitive bidding for drug procurement in medical facilities to replace inappropriate stipulations in Circular No. 10/2007.

Difficulties and shortcomings

There are still many limitations in the ability of the purchasing agency (Vietnam Social Security) to manage and monitor costs and quality of services in medical facilities, including insufficient qualified personnel, inadequate technical capacity and poor information support systems.

The policy framework for medical service payments in Vietnam lacks concrete regulations for measuring, managing, monitoring, assessing and paying for service quality.

Methods of allocating health care budgets (a form of line-item budget payments) are still primarily input-oriented, based on population for preventive medicine centers and

[49] Decision No 47/2008/QD-TTg dated 02/4/2008 approving the proposal of building, renovating district general hospitals and multi-district regional general hospitals using the state bonds and other collaboration sources, 2008 - 2010 (in short Scheme 47); Decision no 930/QD-TTg dated 30/6/2009 approving the proposal "Investment in building, renovating hospitals of tuberculosis, mental health, cancer, pediatrics and some provincial hospitals in mountainous and disadvantaged areas using the state bonds and other collaboration sources, 2009–2013".

number of beds for hospitals (provincial and district levels). Key policy documents[50] directly related to rules, regulations and guidance on state budget allocation for the health sector or health insurance procedures and payment mechanisms for health care services[51] did not include any specific regulations on criteria or requirements for quality of service of health facilities.

At the operations level, the health insurance contract with health service providers includes no provisions related to service quality or rewards or penalties related to service quality. One of the important recommendations of this chapter is to add quality measures into these payment regulations.

Performance-based payments to encourage service quality are also being studied and, according to plans, will be applied on a pilot basis starting in 2013 in the North Central Coast Health Support Project funded by the World Bank.

Granting of financial autonomy and accountability to medical facilities has not yet resolved the problem of overprovision of medical services. A report assessing the effects of increased autonomy on medical service providers according to the Decree No 43/ND-CP in 2006 revealed some fundamental limitations and unexpected outcomes associated with the oversupply and overuse of inappropriate health care services. This report was the basis for recommendations to develop and issue specific guidance to ensure accountability of hospitals along with their increased autonomy. It also led to encouragement of hospitals to mobilize and effectively utilize the most important resources from society – managerial and professional resources – with continuous improvement in health system management capacity.

Results and limitations in the process of granting greater autonomy to health facilities obviously shows that greater autonomy must be linked to greater accountability and better management capabilities. This places an increasing demand for training in health services management to improve capacity of managerial staff to solve problems as they arise and reduce undesired results of applying the market mechanism to health service provision. In addition to those measures, it is also necessary to formulate specific policies to better orient the medical service provision system, ensure that the operation of medical facilities, particularly hospitals, is oriented towards social goals rather than purely economic performance.

Remuneration and investment to strengthen capacity of health human resources

Achievements and progress

The policy of salary supplements to encourage health workers to serve regions in especially difficult socio-economic conditions and the policy of granting financial autonomy to medical service providers have contributed to gradually overcoming the problem of low differentiation in remuneration despite substantial differentials in working conditions, risks, and work intensity of medical workers.[52, 53, 54]

[50] Joint Ministerial Circular no 14/TTLB dated 30/9/1995 instructing the implementation of charging part of the hospital fees. And a recently issued document – Joint Ministerial Circular No 04/2012/TTLT- BYT- BCT issuing the maximum cost for some health care services in the public health facilities which is an important document regulating adjusted prices of the health care services.

[51] Law on Health insurance. Chapter IV stipulates regulations on reimbursement of health care costs from the health insurancefund; rights and responsibilities of various parties in relation to health insurance.

[52] Decree No. 64/2009/ND-CP increased the preferential salary supplement to 70% of the basic salary to attract medical workers to socio-economically disadvantaged regions; Prime Ministerial Decision No. 46/2009/QD-TTg created a special salary supplement for health workers and officials working in some special hospitals; Decree

The policy of salary supplements and hardship pay for health workers in regions facing severe socio-economic difficulties is implemented according to Decree No. 64/2009/ND-CP and guiding circular No. 06/2010/TTLT-BYT-BNV-BTC, dated 22 March 2010. According to this Circular, the hardship pay salary supplement to attract health workers to serve these areas is equivalent to 70% of the basic salary. Other additional financial support is provided to aid in additional professional development. This helps to encourage and motivate health staff working in the regions or in specialties with lower pecuniary rewards to receive increased incomes.

Results of creating additional sources of income for staff working in health care facilities have been achieved on the basis of increasing public investment together with social mobilization of health activities. The State continues to invest in health at the same time that reforms in operational and financial mechanisms are being made in the state health sector to achieve increased autonomy, openness and transparency. The remuneration policies for health workers have also improved, reducing the disparity in incomes of health workers among regions and among specialties.

Key projects of the health sector focus on strengthening and improving professional capacity for health staff in different regions of the country. Health support projects in the Mekong River Delta region, Northern Midlands and Mountains, Central Highlands, South Central Coast, North Central Coast, in addition to the GAVI and Global Fund supported health systems strengthening projects… all support training for health workers working in the grassroots level all the way to the central level. Training includes long-term training (PhD, Masters, specialty training for doctors and pharmacists, and upgrade training from nurse or assistant doctor to become a community doctor) and short-term training in professional medical and management contents. Promotion of continuous medical education and updating of professional medical and managerial knowledge for grassroots health workers have contributed positively, and created necessary conditions to achieve the goal of improving quality of medical services for the people.

Difficulties and shortcomings

Although salary supplements have increased, wages of medical workers remain too low compared to requirements and expectations of highly skilled occupations fraught with many occupational dangers and risks. Thus the remuneration policy still does not fully represent preferential treatment for this occupation with its special attributes. The salary supplements and other incentives from the government, though improved, are still lower than the additional income through the social mobilization mechanism, and this is without considering the unofficial income sources (envelopes) which remain common.

The financial mechanism, with the ability to generate additional income for medical workers in medical service facilities, depends heavily on the market power of different specialties, which in some basic respects, cannot be considered as a form of motivation for health workers to work more effectively.

The mechanism to generate additional income does not incentivize health workers in medical facilities to work effectively with a quality orientation. Medical facilities must find

No. 56/2011/ND-CP, dated 4 July 2011, stipulated the priority salary supplement based on medical occupation, with priority supplements from 20% to 70% of the basic salary, depending on the nature of the work performed.

[53] Prime Ministerial Decision No. 75/2009/QD-TTg has increased the stipend of village health workers to 30%-50% of the minimum wage depending on the level of disadvantaged of the region.

[54] Prime Ministerial Decision No. 59/2010/QĐ-TTg dated 30 September 2010 stipulates the allocation of state budget to mountainous and ethnic minority areas. In remote areas at 1.8 times the urban allocation; in highland areas and islands to reach 2.5 times the urban level.

ways to generate additional financial revenues to pay additional incomes of their staff. In reality, the main way additional financial resources are generated relies on market power of different specialties and investments in medical equipment. It operates mainly in the form of capital contributions and profit-sharing. The supplementary financial revenues come mainly from collecting user fees in return for providing services. This is one of the main factors contributing to over servicing [87]. Obviously this does not yet meet the important criteria for quality of medical services of ensuring effectiveness in use of financial resources and ensuring cost-effectiveness in the entire health system.

Additional incomes of health workers in medical facilities depend primarily on advantages related to the medical specialty. For example incomes in emergency services and curative care are higher than in prevention; incomes in surgery and obstetrics tend to be higher than in internal medicine or pediatrics. Incomes are rarely related to capacity or actual performance. This leads to disparities in revenues between units within hospitals and between hospitals with different specialties, discouraging development of underpaid specialties.

Adjust service prices and reform the payment mechanism

Achievements and progress

Efforts to adjust hospital service prices and reform payment methods to create appropriate incentives for patients to seek care at appropriate levels of the system (capitation or case mix payments) are expected to lead to positive changes by establishing pre-conditions to improve quality of health services for the people.

The adjustment of hospital service prices under Joint Circular No. 04/2012/TTLT-BYT-BCT of the Ministry of Health and Ministry of Finance set the maximum official price of a large number of medical care services in state health facilities. The Circular adjusted the prices of 447 health services, although still relying on the principle of partial cost recovery (i.e. covering costs of drugs and materials; utilities; maintenance and materials for equipment; salary supplement for overnight and weekend duty and for performing surgeries and procedures) from out-of-pocket payments or health insurance reimbursements. These new medical service prices finally update fees for basic services set in Joint Circular of the Ministry of Health - Finance - Labor - Government Pricing Committee dated 30/9/1995 and fees for some more high-tech services set in 2006. The adjustment of hospital prices is considered beneficial to both hospitals and insured patients (since the increased prices will be covered by the health insurance fund), by helping to tackle the problem of informal fees. For service providers, hospital price adjustments provide additional funds to reinvest in facilities and human resources in order to improve health care quality and service quality for patients.

Pilot projects and scaling up of capitation payments, and of case mix payments tied to use of care pathways for selected diseases have created a strong basis for further research and extension of the application of new provider payment mechanisms with appropriate forms of incentives and greater effectiveness in motivating productivity, performance and quality of medical services provided to the people. Initial results of capitation and case mix payment methods for specific case types indicate positive results, and can serve as a foundation for implementation of performance- or quality-based payment methods at medical facilities, leading to continuous improvement in the quality of health care services for the people.

Difficulties and shortcomings

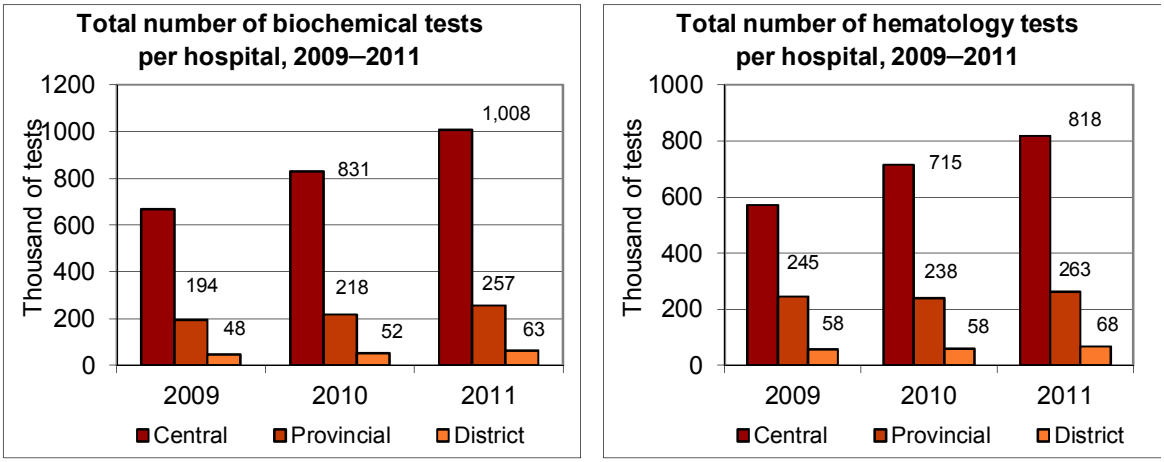
It is difficult to prioritize quality of services when the relationship between service prices and costs have not been resolved. Despite changes to the medical service price schedule, the relationship between costs and service prices has not yet been satisfactorily

resolved, thus hindering the establishment of a consistent financial mechanisms for medical service provision and quality improvement. The objectives of developing a medical service price schedule based on full and correct costing of inputs and a medical service payment system that is transparent, are believed to be the basis for resolving the basic bottleneck in health financing related to medical service payments. Nevertheless, the recent adjustments according to Joint Circular No. 04/2012/TTLT- BYT-BCT of the Ministry of Health and Ministry of Finance only covered 447 of more than 4000 medical service categories, and still follows the partial user fee principle (covering costs of only some of the cost components).

The payment amounts according to the formal price schedule have not yet been adequately adjusted. Costing of many services does not yet include all cost components, so the official payment for these services may be substantially lower than their actual costs. Basic information on costs and prices is absolutely necessary for assessing operational effectiveness of hospitals and for finding solutions to improve performance. When the relationship between service prices and actual costs of hospitals have not been fully costed and clearly analyzed, problems related to resources, revenues and use of revenues from medical services cannot be appropriately resolved. In this context, payments for service quality cannot yet be resolved effectively. This is one of the health financing problems requiring priority resolution, especially to achieve the goal of improving quality of medical services.

Service prices and fee-for-service and capitation payment methods have not yet been developed on the basis of reliable and complete information. This is also one of the causes for the increase in overprovision of medical services, with negative consequences on quality and efficiency of the service delivery system. Annual data reported by hospitals shows that the average number of laboratory tests performed per year per hospital has been increasing in recent years at all levels of the system. Between 2009 and 2011, the total number of biochemical tests has increased by 50% on average at central hospitals, 32% at provincial hospitals and 30% at district hospitals (Figure 14).

Figure 14: Total number of tests per hospital at different levels, 2009-2011



Source: Vietnam Administration of Medical Services, Ministry of Health. Annual Report on Hospital Investigation. *2009-2010-2011*

The rapid and continuous increase in the annual total number of tests performed in hospitals reflects a tendency of facilities to take advantage of the weakness of the fee-for-service payment method to maximize their revenues. This can be beneficial for the service providers, but exacerbates the excessive supply of treatment/specialist services in comparison

with prevention/primary care services and excessively encourages high-tech services in comparison with basic and essential services.

The tendency to rely on revenues from service provision, including provision of services that are not appropriate with the technical professional capacity of the facility, has distorted the referral system, leading to overcrowding at higher levels, negatively affecting service quality, increasing the risk of capitation fund deficit at lower level facilities because of payment for referral cases that lacks an appropriate control through reimbursement levels for the same service at higher level facilities.

From the aspect of the health care service market, large hospitals at higher levels receive higher prices than lower level facilities providing the same services. This gives the large higher level hospitals the potential to dominate the hospital network and undermine the health care facilities at the lower level. Despite efforts to strengthen primary health care as the first point of contact for service users, hospitals at all levels are still predominant in providing almost all health care services including basic services. This is obviously an undesired outcome in terms of equity and efficiency. The inclination to maximize revenue without consideration of service user or health system benefit is also a major barrier to the implementation of innovative programs for transparent and appropriate payment methods for health care services.

Increased autonomy of hospitals, includes autonomy to increase revenues to cover services whose costs have not been fully or transparently estimated, in the context of fee-for-service payments paid out-of-pocket by patients and limited capacity of the medical service management system create the precise conditions that facilitate overprovision of services, especially services applying high tech equipment, and services of the on-request wards of hospitals.

The inclination of medical facilities to boost revenues through overproviding services, and the health service package covered by health insurance including almost all medical services and expensive drugs without consideration of their cost-effectiveness are important causes of the health insurance fund deficit, especially of the capitation funds in district hospitals. This threatens the sustainable development of social health insurance in Vietnam.

The capitation payment mechanism currently does not include incentive factors for quality improvement, especially since fund deficit is prevalent for many service facilities and hospitals contracting with Vietnam Social Security on a capitation basis. The capitation fund model, currently based on separate fund pools at each district, is inadequate to bear the risk and deficits are common. Overprovision, especially in central and provincial hospitals, as analyzed above, has exacerbated the risk of fund deficits for lower level facilities due to the current regulations on payment for referrals, where there is little or no control over the charges to insurance for services provided at higher level facilities.

Fund deficit and problems of service quality are clearly the common situation of many service providers involved in the capitation payments program. Report of Vietnam Social Insurance [88] showed that: In the 50 provinces whose health facilities participate in capitation, only 20 provinces did not have any unit with a fund deficit. Provinces with many health service providers suffering fund deficits in the capitation payments program are Thanh Hoa (16/18); Gia Lai (4/5), Phu Tho (5/6), Quang Nam (6/7); Son La (2/2), and Tra Vinh (3/3). The highest rate of fund deficit was seen in health care facilities of Gia Lai (90%), Son La (44%); Thanh Hoa (34%); Tra Vinh (32%), and Quang Nam (27%). Provincial hospitals implementing the capitation had relatively high rate of fund deficit. The three provincial general hospitals of Quang Nam had the fund deficit rates of almost 50%.

Research for application of reasonable provider payment methods in general, and particularly payment for quality of services, has received inadequate attention. There is no formal study assessing rights of the insured when seeking care at medical facilities implementing capitation. There is also no comprehensive study on payment methods that adequately and harmoniously addresses factors related to all three major stakeholders, providers, purchasers and service users.

The system of statistical reporting at medical service facilities with the current management capacity is rather far from the desired standards, lacks transparency and causes substantial difficulty in monitoring and auditing in general, and extreme difficulty in monitoring and evaluating quality.

3. Priority issues

Situation analysis of provider payment incentives for quality of health care services in Vietnam basically indicates that health financing includes some incentives for service quality. However, there are still many limitations in the necessary pre-conditions for the application of new incentive models (policy framework, reward and sanction mechanism) and the capacity of the systems of information, measurement, evaluation and motivation for medical facilities is limited. Problems that should be prioritized for resolution in the near future include:

- Limitations in the legislative framework for health care service payments from the perspective of encouraging health services quality improvement;
- Inadequate motivation of medical personnel at health service facilities under the current health financing mechanism;
- Lack of consistent and effective payment models to promote quality and difficulties in undertaking research for application of reasonable payment methods. Slow progress in research due to technical capacity constraints and lack of consensus on how to move forward with the policy; and
- Limitations in the management and monitoring of costs and quality of health care services; failure to meet basic requirements for operational and financial reforms to improve performance and quality of services in the health care system.

4. Recommendations

In order to gradually resolve the above priority problems, this report recommends the following groups of solutions, with details laid out in Chapter 9.

- Reviewing and amending regulations and policies on payment for health care services and allocation of the state budget.
- Adjustment and closer monitoring of the implementation of regulations on allocation and use of surplus from collecting user fee revenues.
- Promote research to formulate policies to apply more progressive provider payment mechanisms.
- Strengthen uniformity and quality of the database on medical services.
- Strengthen monitoring and checking on quality of medical services.

PART III: CONCLUSIONS AND RECOMMENDATIONS

Chapter 8: Conclusions

The JAHR 2012 report, developed in the second year of implementing the 11th National Communist Party Congress resolutions, and the Five-year health sector plan for the protection, care and promotion of the people's health for the period 2011-2015, has reviewed the health sector strategic orientations for the coming years; updated information on health status and determinants; assessed progress in implementing tasks assigned to various building blocks of the health system; and provided in-depth analysis on the salient topic of improving quality of medical services.

Major findings of the JAHR are summarized below.

1. Health status and determinants

Health status. In 2011, almost all basic health indicators have improved and many indicate likely achievement of targets set in the Five-year health sector plan for the period 2011–2015. Average life expectancy of the Vietnamese people in 2011 was estimated at 73.0 years, compared to the target of 74.0 years by 2015; The infant mortality rate has fallen to 15.5 per 1000 live births (2015 target is 14.8 per 1000). The under-five child mortality rate has dropped to 23.3 per 1000 (2015 target is 19.3 per 1,000). Child nutritional status has improved. Over the past 10 years, the child underweight rate has fallen by 1.26% per year on average, in 2011 it had reached 16.8%; the stunting rate has declined by 1.4% per year, but remains high at 27.5% in 2011. The maternal mortality ratio has seen a considerable decline over the past two decades, from 233 cases per 100 000 live births in 1990 to 67 cases in 2011.

The above data indicate that Vietnam continues to make progress towards the Millennium Development Goals (MDG), such as: (i) Reduce the under-five mortality rate (MDG 4); (ii) improve maternal health (MDG 5); (iii) Combat HIV/AIDS, malaria and other diseases (MDG 6); (iv) ensure access to safe drinking water and basic sanitation (MDG 7).

To achieve the MDGs, in the next 3 years, Vietnam needs to continue its considerable efforts to: reduce under-five child mortality rate (MDG 4) to 19.3‰ by 2015 (currently at 23.3‰); reduce the maternal mortality ratio to 58.3 cases per 100 000 live births (currently at 67); ensure basic sanitation (currently only 54% have access to a sanitary latrine).

Healthcare for the poor: The Communist Party, National Assembly and Government of Vietnam have many measures and policies to ensure health care for the poor, people in remote, isolated areas and ethnic minorities in order to narrow disparities in health status. The policies can be divided into three categories: (i) prioritize health problems of the poor and ethnic minorities; (ii) strengthen the capacity to provide basic health care services for the poor and ethnic minorities; and (iii) reduce the financial burden of health care costs for the poor and ethnic minorities. Nevertheless, disparities in people's health status across regions and urban-rural residence remain an issue of great concern. Along with socio-economic development and government poverty reduction programs, strengthening health care efforts to address health problems amongst people in the Central Highlands, Northern Midlands and Mountains, North and South Central Coasts is a very urgent task. For the immediate future, efforts need to focus on overcoming the large and not yet narrowing (or even rising) disparities in infant and child mortality rates and child stunting.

Responding to changing morbidity patterns: While some dangerous communicable diseases still threaten the population, newly emerging diseases are being detected and developing in unpredictable ways. The rapidly rising trend in non-communicable diseases

(mainly cardio-vascular disease, diabetes, cancer and COPD) is creating a great challenge to people's health and the Vietnamese health care system.

Non-communicable disease: Since 2002, the Prime Minister has approved the "Non-communicable disease prevention program" with the goal to reduce mortality from four disease groups: cardio-vascular disease, cancer, diabetes, and mental disorders. So far, projects such as cancer control, community mental health services, hypertension prevention, diabetes prevention and prevention of COPD have been incorporated into the national health target program, reflecting the strong commitment of the Government to place priority on non-communicable disease control and prevention.

However, there are some concerns about non-communicable disease prevention. One issue is the limited integration and involvement of other related ministries and sectors. Another is the fact that the non-communicable disease prevention and surveillance network has only been established at the central level and a limited number of provinces. In addition, capacity building training for health workers in non-communicable disease control and prevention is still mainly concentrated at the central level and pilot project localities. The training tends to focus inordinately on curative care, while preventive care and counseling have been somewhat neglected.

Health determinants: Although there have been many positive influences on health from relatively rapid economic development, rapidly rising investments in social sectors, education and health, and improved living standards of the people in all regions…, nevertheless, health status and health care for the people continue to be affected by many adverse factors.

Life for some population groups, especially people living in mountainous, remote and isolated areas, is fraught with difficulties; disparities between rich and poor are growing; high population density is putting pressures on the economy, society and living conditions of the people; infrastructure is failing to keep up with population growth in urban areas and areas with spontaneous in-migration.

Accompanying the ongoing industrialization and urbanization, the problem of urban *environmental pollution* is becoming increasingly serious, leading to severe problems of acute and chronic diseases relate to short-term and long-term exposure to air and water pollution. For small enterprises, private enterprises and traditional handicraft enterprises, working conditions are generally very poor, and there are many risk factors for health and disease. Use of prohibited chemicals and additives during cultivation, animal husbandry and food processing is far too common.

Rising temperature due to climate change combined with urban heat island effects and air pollution have caused negative impacts on human health. Climate change accelerates the likelihood of emergence and re-emergence of some tropical diseases such as malaria, dengue fever and Japanese encephalitis. Rising sea levels pose great threats to livelihoods, everyday life and health for residents of coastal areas.

Increasing intensity of life and changing lifestyles have created risk factors for mental illness, cardio-vascular disease and other non-communicable diseases. Use of tobacco and alcohol have seen increases in some communities and population groups, especially youth and transient workers. The number of illegal drug users is very big and appears to be rising, and it is estimated that about 41% of HIV/AIDS infections result from injectable drug use.

2. Update on the health system

2.1. Implementation of the Five-year health sector plan and JAHR recommendations

Provision of health care services

Preventive medicine and national target programs for health.

The grassroots health care network continues to be upgraded. The proportion of commune health stations reaching the national benchmark standards is over 80%. The national benchmark standards for communal health for the period 2011–2020 have been issued. Health education and communication work has received more attention. Primary health care has gradually undergone reforms, expanding health services available at the communal level, including pilots in community-based disease management of some chronic disease in the community, such as asthma, hypertension and diabetes. Epidemic control has been strengthened and recent outbreaks such as hand, foot and mouth disease, meningococcal infection, dengue fever and influenza A (H5N1), and HIV/AIDS have been controlled. All provinces are able to monitor drinking water quality in their location; 54% of rural households have access to a sanitary latrine.

In 2012, the National strategy for food safety, the Master plan for food safety; the National target program for food safety 2012–2015; sub-legal documents to implement the Law on Food Safety have been promulgated. Activities such as food poisoning prevention, surveillance of food contamination risk and monitoring of food poisoning cases have been implemented nationwide. There is some indication that the food poisoning situation has dropped compared to 2010.

Medical examination and treatment

The Ministry of Health is focusing on directing implementation of measures to overcome hospital overcrowding, namely: strengthened investment in improving quality of care at the grassroots levels; adjusted the medical service price schedule in public medical facilities; continued technical mentoring by seconding health professionals from higher levels to improve capacity of workers at lower level facilities; improved physical infrastructure of some hospitals. The proposal for a formal project to reduce hospital overcrowding for the period 2011–2020 is in the pipeline, and will be submitted to the Prime Minister at the end of 2012.

A circular to guide hospital quality management is in the pipeline with a view to gradually improving quality of medical services. Some hospitals have had positive results from adoption of models (TQM) or standards (ISO, JCI) of healthcare service quality management.

Consolidation of the organizational structure of the health sector at the district level, and hospital network planning has received some attention. By the end of 2011, 91.3% of district hospitals had been allocated government bond funding for investing in physical facilities. Out of these, 147 district hospitals and 46 regional hospitals have completed construction and been put into operation; 275 hospitals and 60 regional hospitals are expected to be completed in 2012; 51 provincial general hospitals, 48 specialized tuberculosis hospitals, 35 mental health hospitals, 23 specialized obstetric/pediatric hospitals, 5 oncology hospitals and centers have received investments according to Decision No. 930/QD-TTg. In 2011, there were 133 private hospitals (31 new hospitals), with a total capacity of over 6000 beds.

Registration of medical practice, granting of operating licenses for facilities and practice licenses for medical practitioners are all being initiated according to Decree No. 87/2011/ND-CP and Circular No. 41/2011/TT-BYT. Several technical professional guidelines for inpatient care facilities have been supplemented, updated and promulgated.

Population, family planning and reproductive health care

Many achievements have been made in the area of population and family planning: a steady reduction in the fertility rate has been maintained with replacement fertility rate achieved every year since 2005 (the total fertility rate in 2011 was 1.99 children per woman compared to 2.72 children per woman in 1999). The project on community-based care for the elderly has been expanded to 23 provinces where the elderly account for a high share of the population.

Child malnutrition prevention and control continues to be implemented in a uniform and comprehensive manner. In 2011, the proportion underweight among children below five years of age dropped to 16.8% (decline of 0.7 percentage points compared to 2010) and declines have been spread across all six regions. In 2011, the child stunting rate was 27.5%, declining by 1.8 percent points compared to 2010. However, the stunting rate is still very high. In 2012 the Prime Minister approved the National nutrition strategy for the period 2011–2020 and vision to 2030.

Consolidation of the reproductive health care network continues. Safe motherhood services are provided widely. The proportion of pregnant women receiving antenatal care management was 95% (2010) - a 0.4 percentage point increase over 2009. In 2010, the proportion of childbirths with assistance by trained attendants reached 95.7%, an increase over the proportion in 2009.

Difficulties and shortcomings: Monitoring and supervision in preventive care remains irregular. Prevention and management of non-communicable diseases has not yet been implemented intensively or extensively. Intersectoral cooperation in policy-making and implementation of preventive care work is weak. Investment in grassroots healthcare facilities remains limited in terms of operating budget, human resources and equipment.

Overcrowding in hospitals is rather serious at all levels of hospitals. The bed occupancy rate at central hospitals has recently increased and remains high: 116% in 2009, 120% in 2010 and 118% in 2011. Ministry of Health reports in 2011 indicate it is especially serious in some central hospitals such as Vietnam National Cancer Hospital (172%); Bach Mai Hospital (168%); Cho Ray Hospital (139%); National Hospital of Pediatrics (119%); National Hospital of Tropical Diseases (124%) [89].

Hospital quality assessment standards have not yet been developed. The process of updating and supplementing treatment guidelines, technical protocols, and the technical referral system has been very slow. The hospital rating assessment does not yet cover the entire hospital system. No assessment has been conducted regarding implementation of Circular No. 03 on the organizational structure for the district level health system. The imbalance in the sex ratio at birth is rising, posing a future threat to social welfare in the next 10–20 years. The risk of a resurgence in population growth remains high. Unsafe abortion remains widespread, especially among adolescents. There remain large regional disparities in the health status of women and children. Child stunting rates remain very high. The quality of antenatal care remains low. The obstetric complication rate in 2010 was 2.8‰, higher than in 2009, with increases found mainly in infection and eclampsia.

Health financing

Decree No. 85/2012/ND-CP on the operating and financial mechanism in state medical service facilities and medical service prices in state medical facilities was issued on 15 October, 2012. In 2012, the revised schedule of health service prices in state medical facilities was approved (Joint Circular No. 14/2012/TTLT-BYT-BTC, dated 29 February 2012), stipulating the maximum prices for 447 health services, and replacing the fee schedule issued under Circular No. 14/1995 and 80 services in Circular No. 03/2006.

Health insurance coverage in 2011 was 64.9%, a 4.9 percent-point increase over 2010. Decree No. 92/2011/ND-CP on penalties for administrative violations in health insurance was issued and is regarded as a legal instrument to ensure compliance with compulsory social health insurance contributions. Decision No. 797/2012/QD-TTg raised the level of government subsidies from 50% to 70% of the premium for near poor households to obtain social health insurance and is expected to contribute to raising insurance coverage in this group. The Ministry of Health has directed localities to review, and jointly work with other sectors to issue health insurance cards for all children under age six. In September 2012 the Ministry of Health submitted the Draft project of the roadmap towards universal health insurance coverage for the period 2012–2015 and to 2020 to the Prime Minister.

The state budget share of total societal health spending for health has increased from 8.7% in 2010 to 9.1% and is anticipated to reach 9.4% in 2012. The growth rate of state budget spending on health increased 33.2%, higher than the overall growth rate of the state budget (27.6%). The proportion of state budget spending on health that went to preventive medicine and public health reached 38.6%; at the central level it reached 56.7% and at the local level it reached 34.2%. As of June, 2012, a total of 592 hospitals had been allocated investment funds from government bond sales. The Ministry of Health continues to mobilize and implement effectively external aid projects, and actively coordinate external assistance from overseas development assistance and non-governmental organizations.

Activities to reform provider payment mechanisms continue to be implemented and have received strong support from international organizations, such as the World Bank, the Asian Development Bank, AusAID, and the Rockefeller Foundation. In 2011, 59 out of 63 provinces were implementing capitation-based payment including a total of 786 out of 1951 health facilities (40.3%), 51.9% at the district level and 14% at the provincial level. The proportion of facilities applying capitation payments exceeded by 10.2 percentage points the targets set in the roadmap for rolling out capitation found in Joint Circular No. 09/2009/TTLT-BYT-BTC. The case mix payment mechanism continues to be piloted, with plans to expand coverage to 24 diagnostic groups with support from the Health System Strengthening Project funded by the Asian Development Bank and AusAID. Results-based financing is being piloted in selected provinces in the North Central Coast with support from the World Bank.

Difficulties and shortcomings. In 2012, Vietnam faced major macro-economic difficulties. The Government relied on fiscal austerity measures to meet its target of reducing state budget deficits to below 4.8% of GDP. The state budget for health in 2012 was cut and announcement of funding for 2012 was late, making it very difficult to implement assigned task and allocate budgets. Investments relying on government bond funds also faced dilemmas as many hospitals received insufficient funding, negatively impacting on investment efficiency and performance.

The new fee schedule for service prices is still based on partial calculation of medical costs (only included some of the cost components). On the other hand, it does not cover all

services that are being provided by the hospital. The fee-for-service payment method remains very widespread, providing perverse incentives for overprovision of unnecessary services.

Health insurance coverage in 2011 increased only by 4.9 percent points compared to 2010. Expansion of health insurance coverage is faced with huge impediments. It is anticipated that health insurance will cover only 70% of the population by 2015 and 80% by 2020.[55] Strengthening scope and quality of service, and reducing out-of-pocket payment for insurance enrollees remain a big challenge, especially at the grassroots levels, and remote and isolated areas.

There is no comprehensive master plan or proposal on reforming payment methods. The basis for capitation calculation does not ensure adequate cost recovery for providers. Design of the capitation is not appropriate, and its impact on quality of care has not been assessed. Minimum necessary conditions to implement case mix payments are not yet in place, including basic clinical and financial data for inpatient care.

Monitoring and impact evaluation of state-financed programs such as investment from government bonds and subsidies to pay health insurance contributions for the poor, near poor and children under six years old, have not yet been undertaken.

Human resources for health

The number and quality of health workers continues to improve. The ratio of doctors to 10 000 population increased from 6.59 in 2009 to 7.20 in 2010. In 2011, the proportion of commune health stations having a doctor was 72%; the proportion of commune health stations having a midwife or obstetric-pediatric assistant doctor reached over 95%. The special occupational salary supplement for health workers and hardship pay salary supplements for civil servants in public facilities have been enacted.

Quality of medical education has received more attention through implementing the set of measures set out in Prime Ministerial Decision No. 579/QD-TTg, dated 19 April 2011 as well as the Master Plan for Human Resource Development for the period 2012–2020, recently approved by Minister of Health in 2012.

Difficulties and shortcomings. Expansion of training modalities and evaluation of effectiveness of training delivery methods, especially human resource training for the mountainous, remote and isolated areas remains problematic. Staff deployment and retention to work at the grassroots level, especially in disadvantaged areas and some specialties, is very difficult.

Training quality is incommensurate with advanced technology development and people's demand for health care. Practice skills of fresh graduates remain fairly poor. Continuous medical education has not received adequate attention. There is no quality accreditation system in medical education institutions. The state budget for human resources training is very limited. There is no overall and long-term plan for a holistic reform of human resource training for health.

Pharmaceuticals and medical equipment

Current domestic pharmaceutical production only meets 47% of the population's need for drugs (in terms of value). The pharmacy network is widespread with an average of one drug outlet for every 2000 people. Demand for vaccines is met through domestic production and imports. The draft VIth essential drug list is in the pipeline. The draft detailed master plan

[55] Draft Proposal for a Project to implement the roadmap to universal health insurance coverage for the period 2012–2015 and 2020.

for developing Vietnam's pharmaceutical industry for the period 2020 and vision to 2030 has been completed and awaits approval from the Prime Minister.

For drug quality management, good practice regulation for drug production, supply and circulation have been issued. So far, 100% of pharmaceutical production enterprises meet GMP-WHO standards; 100% of drug quality control facilities meet the principles and standards for GLP as recommended by WHO or ISO 17025. Sampling of drugs to verify quality is performed regularly by drug quality control institutions and centers.

Traditional medicines and medicinal materials development is being promoted. A list of 40 medicinal materials with potential for market development has been issued by the Ministry of Health. The Health Minister has issued Directive No. 03/CT-BYT dated 24 February 2012 on strengthening supply management, use of medicinal materials, traditional medicine and finished herbal products in traditional medicine facilities. Twelve projects for implementing Government's action plan for development of traditional medicine and pharmaceuticals in Vietnam to the year 2020 have been developed. Quality verification of medicinal materials is being implemented in some localities.

The Ministry of Health has worked in collaboration with the Ministry of Finance to study and propose some preferential tax measures to promote domestic production of medical equipment, and regulations for permits to allow medical equipment to be distributed locally and certificates of free sale for medical equipment manufactured in Vietnam to facilitate exports.

Difficulties and shortcomings. Capacity for domestic production of specialized pharmaceuticals is weak. Regulations on competitive bidding for drug procurement in hospitals has still not resolved all problems with the procedures. Control of sources and quality of medicinal materials and finished herbal products faces substantial difficulties. There is high prevalence of antibiotic use (50% of outpatient prescriptions overall, and up to 60% at the district level); and antibiotic sales over the counter (40%). State control and regulation on procurement and use of medical equipment in public facilities remains limited. There are no concrete policy measures to control medical equipment prices. So far health technology assessment has not been initiated.

Health information

The national Statistical development strategy for the period 2011–2020 has been endorsed and approved by the Prime Minister. The Ministry of Health has conducted a health statistical workforce assessment, and developed a plan for implementation of the national Statistical development strategy in the health sector. Basic health indicators on medical examination and treatment, preventive medicine, national target programs and other topics have been reviewed. This will serve as a basis for further revisions and approval from the Ministry of Health. The Vietnam Administration of Medical Services has issued instructions for data collection forms to be used in private facilities. Currently, the Ministry of Health is collecting data on approximately 127 indicators, including indicators of health status and sector performance. A review of patient registers and reporting forms of relevant departments, administrations, national programs and localities has been conducted to propose collaboration, integration, provision and exchange of information within the health agencies and between the health sector and relevant ministries/sectors. To provide information for the national statistical indicator system.[56] Recently, the Ministry of Health has been assigned by the Prime Minister to take the lead in conducting five statistical surveys, including: health

[56] Prime Ministerial Decision No. 43/2010-QD/TTg, dated 2 June 2010.

facility and staff assessment; HIV/AIDS prevalence survey; nutrition survey; national health survey; and demographic and health surveys.[57]

The usual form of health information dissemination is publication of the Health Statistics Yearbook. Information on public sector health services and health status are widely disseminated. The JAHR report is also a comprehensive source of health information.

Difficulties and shortcomings. There is still no comprehensive plan for development of the *health* information system. The development of health information databases at various levels remains limited. The establishment of a basic dataset using the international classification of diseases ICD10 and procedures code ICD9-CM has not been consistently implemented at all health facilities. Data from the national target programs and preventive medicine are not regularly available or are difficult to access. Data from private facilities is not available, and there is no feedback system to improve health information quality.

Governance

Attention has been given to improve capacity in policy formulation, strategy development, planning and master planning. Some orientation policies for health sector development and governance (master plans, strategies, etc...) have been issued. The draft National Strategy for the protection, care and promotion of the People's health for the period 2011–2020 has been completed and awaits the Prime Minister's approval. The Prime Minister issued Decree 63/2012/ND-CP on the function, tasks, authority and organizational structure of the Ministry of Health. The Ministry of Health has organized some training courses to improve management and planning capacity for managers and leaders of the Ministry and selected provinces (the Flagship course) with financial support from the World Bank, Atlantic Philanthropies and the Rockefeller Foundation. The health sector has developed and piloted evaluation tools for annual health planning at the provincial level. Attention has been paid to strengthen participation of stakeholders in policy formulation and development and implementation of health plans through holding workshops and consultative meetings and posting draft legal documents on the webpage of the Ministry of Health.

The Ministry of Health has issued updated national guidelines for diagnosis and treatment of some diseases and 44 sets of national technical standards for food products. Health inspection, checking and surveillance have been strengthened. The Ministry of Health now has health inspectors specialized in the following fields: population, pharmaceuticals, food safety and hygiene, preventive medicine, medical examination and treatment and environmental sanitation.[58]

Difficulties and shortcomings. Some policy and strategy documents are of poor quality, lack internal consistency or do not fit with the situation on the ground. Some of the root causes of this problem include the inadequate health information system, limited management and planning capacity, especially in surveillance and performance evaluation, and ineffective intersectoral collaboration in policy-making that is often perfunctory and procedural. There remain gaps in management of service quality and a failure to involve professional associations in standardization of health care services. Continuity of care across levels of the system in curative care is very limited, while there are few incentives for integrating and linking curative care with preventive care and rehabilitation services. Impacts of social mobilization of resources have not been fully analyzed or evaluated, although there appears to be a connection with rising overprovision of medical services in hospitals. The vibrant growth of private sector has revealed many side effects. The organizational apparatus

[57] Prime Ministerial Decision No. 803/QD-TTg dated 28 June 2012.
[58] Government Decree No. 07/2012/ND-CP dated 9 February 2012.

and personnel for specialist health inspectorate have inadequately responded to the requirements and so far the focus is on ex post inspections after problems have arisen rather than ex ante inspections to detect potential problems before incidents occur.

2.2. Main tasks of the health sector in 2012

Governance and leadership tasks throughout 2012 focused on containing inflation, stabilizing the macro economy, ensuring social protection and social welfare, maintaining reasonable growth rates linked to reforms in the growth model and economic restructuring and actively implementing three strategic breakthroughs.[59] Government Resolution No. 01/NQ-CP dated 3 January 2012 on major solutions for guiding implementation of the socio-economic development plan and state budget for 2012 serves to both resolve short-term difficulties and create the necessary resources to ensure social protection and welfare. In order to implement the resolution in 2012, the health sector should focus on accomplishing the following major tasks.

- Strengthen and consolidate the grassroots health network, preventive medicine network and effectively implement the national target programs for health, implement the project on rural health development and apply the 2011–2020 national commune health standards.
- Implement strong measures to ease hospital overcrowding**.** Improve quality of medical care, rational use of drugs and high tech equipment and combine traditional and modern medicine in medical treatment. Study, update and organize effective implementation of master planning for the hospital system.
- Implement financial management mechanism reforms in public hospitals linked to the roadmap for universal health insurance; undertake further adjustments in the hospital price schedule linked with improvements in quality in line with improving quality of medical services, while increasing subsidies to purchase health insurance for entitlement groups. Promote social mobilization of resources and effort to care for the people's health.
- Strengthen investment in upgrading state health workforce training institutions and expand alternative forms of training, continue expanding the secondment of medical workers from higher level facilities to work in lower level facilities to improve clinical quality of treatment.
- Ensure adequate supply of essential drugs for treatment. Ensure transparent and effective management of drug prices.
- Undertake a consistent set of measures to rationally control population growth rate, reduce the imbalance in the sex ratio at birth and improve quality of the population.
- Strengthen medical ethics education, promote the campaign to study and emulate Ho Chi Minh's ethical example, alongside revising the remuneration regime and other manpower policies for state sector health workers.

[59] Announcement No. 62/TB-VPCP, dated 27/2/2012, of the Government Office on the Conclusion of the Prime Minister Nguyen Tan Dung at the Conference deploying tasks and plan for 2012, 57th Anniversary Ceremony of the Vietnamese Physician's Day, Preliminary Review of the learning and following the moral exemplary of President Ho Chi Minh in the health sector.

3. Overview of medical service quality in Vietnam

So far, there are no studies that provide a comprehensive and complete assessment of medical service quality in Vietnam. Medical service quality is a relatively broad and complex issue, and so far in Vietnam there are no agreed-upon criteria for quality assessment. To provide a rough overview of medical service quality, we relied on generally recognized distinct dimensions of quality relevant to developing country settings include technical competence, access to services, effectiveness, interpersonal relations, efficiency, continuity, safety, and amenities [36].

Technical competence has improved, but remains limited at lower level health facilities. This is considered a major cause of overcrowding at higher level hospitals and in some specialties.

Access to services. People's access to services has improved remarkably through such policies as health insurance, subsidies for health care for the poor and development of the grassroots health care network. In 2011, health insurance coverage reached 64.9% and hospitals provided examination and treatment services for 129.57 outpatient and inpatient visits, an increase of 6.7% over 2010. The number of patients paying out-of-pocket dropped by 7.1%, while payment through health insurance rose from 48.6% to 52.9%.

Effectiveness of health service provision. Thousands of technical standards and hundreds of treatment protocols have been developed. However, only a limited number are up-to-date. There is no mechanism in place to inspect and assess compliance with guidelines by external audit agencies. Overprovision of unnecessary drugs, laboratory tests, and imaging remains an issue of concern.

Professional ethics. The Ministry of Health has issued 12 principles of medical ethics and a code of conduct for officials and staff in state health service facilities. The press and social commentary often criticize and condemn violations of medical ethics and misconduct of health workers such as poor communication, indifference, coldness, lack of enthusiasm, expressions of anger when interacting with patients and taking envelopes from patients during inpatient treatment or prior to medical interventions. Collusion between doctors and pharmaceutical vendors to receive commissions for prescribing specific drugs remains prevalent. No assessment has been performed to assess whether patient rights are protected in health care facilities, or if patients understand their rights and obligations.

Efficiency. Overcrowding at higher level facilities, including mild cases that could be treated at lower level facilities results in high medical costs and waste for both patients and society, and thus affects quality of care. As health technology assessment has not yet been implemented, it is difficult to eliminate poor-quality drugs or ineffective technologies that cause waste. Overprovision of technical services and lack of mutual recognition arrangements for lab test results across hospitals also lead to duplication of tests and high costs for patients.

Continuity. The national tuberculosis control program and non-communicable disease projects within the national health target programs such as the target project for diabetes prevention (since 2010), the COPD and asthma projects (in 2011) have integrated diagnosis, treatment, counseling and follow-up of patients across levels of the system, strengthening continuity of care, reducing associated costs for patients. This integration across levels is considered an appropriate solution to strengthen clinical capacity for lower level facilities.

However, continuity of care and coordination between preventive and curative care have been adversely affected by the policy of hospital autonomy under Decree 43 and recent changes in organizational structure at the district level. Some target projects on prevention of

non-communicable diseases have been implemented since 2002, and have become national target programs in 2007 or 2008, yet remain at a small scale of implementation due to limited resources.

Health care safety. Safety in health care is covered in many legal documents but there is no comprehensive and overall guidance for patient safety. The application of the WHO surgical safety checklist has only been piloted and not yet applied widely. Safe injection, prophylactic use of antibiotics, prevention of surgical site infection… need more guidance from the latest evidence. Besides the adverse drug reaction monitoring system, currently there are no other voluntary error or incident reporting systems in operation. There is no continuing medical education program on patient safety.

Amenities for patients. Ensuring basic amenities for patients when seeking care has been neglected, especially in public hospitals. Amenities in patient wards and sanitation conditions in many hospitals are inadequate, negatively affecting service quality.

4. Macro-level service quality management

External regulation and assessment, or *macro-level management of service quality,* is one of four specific approaches to ensure service quality [27]. It includes legislation on and regulation of professional norms and standards, verification and assessment by state management agencies and relevant non-governmental organizations and covers three major areas, namely: (i) health service provider organizations; (ii) health professionals/practitioners and medical education; (iii) medical products, technologies and infrastructure.

Legislation on administration and management of service quality is under development. The Law on Examination and Treatment was passed by the National Assembly in 2009. It introduced, for the first time, new regulations on quality assurance in Vietnam including regulations on conditions for licensing of practitioners and health facilities; technical requirements in medical examination and treatment; application of new technologies and methods in examination and treatment; handling medical errors and complaints, accusations and disputes in health care; conditions for assuring medical examination and treatment. The Government has issued Decree No. 87/2011/ND-CP stipulating details and guidance for implementation of the Law on Examination and Treatment.

Legal framework and management of medical facilities

Licensing

The legal framework for granting licenses to operate health care facilities has been enacted, including: The Law on Examination and Treatment, which stipulates required conditions for operations of health facilities; required conditions for licensing; authority, dossiers and procedures for granting, renewing, adjusting and revoking operating licenses of health care facilities. Governmental Decree No. 87/2011/ND-CP provided a roadmap towards licensing of health facility operations. Circular No. 41/2011/TT-BYT dated 14 November, 2011 of the Ministry of Health provided direct guidance on licensing operations of health care facilities.

However, the Law on Examination and Treatment and instructions to enforce the law do not include a time limit on the license, even though this is an important condition to maintain quality of health facilities. Another drawback is that the national technical regulation framework (NTRF) has not been issued to serve as the criteria for approval of a

license. Ensuring a strict, transparent process and avoiding wasting time and effort must be a priority during the implementation process.

Technical regulations for high risk health services

Radiation safety in health. Legislation on radiation safety in health care is fairly adequate including the Atomic Energy Law 2008; Government Decree No. 07/2010/ND-CP; Joint Circular No. 2237/1999/BKHCNMT-BYT; Government Decree No. 111/2009/ND-CP; Decision No. 1958/QD-TTg. However, oversight and enforcement of legislation on radiation safety in health care remains limited.

Hospital waste management and environmental safety in health facilities. Legislation on hospital waste management and environmental safety in health facilities is fairly adequate. The Ministry of Health has established the Vietnam Health Environment Management Agency (VHEMA) to be technically responsible for this work. Hospital waste management is overseen by the Ministry of Health, provincial health bureaus and an interagency group involving health, environment and public security sectors.

Current practice of waste management and health environment safety is inadequate. Only 50% of hospitals properly comply with separation, collection and transport of solid waste according to regulations. Some 35% of hospitals have incinerators, but capacity is low and technology inappropriate. In 2011, 835 hospitals began repair and upgrading of their sewage systems.

Assessment and accreditation

Accreditation is a measure to encourage health facilities to maintain and improve health care services. The Law on Examination and Treatment includes regulation on "Accreditation for health care facilities" (Article 50) and "Accreditation agencies for health care facilities" (Article 51). Government Decree No. 87/2011/ND-CP also stipulates regulations and instructions for implementation of accreditation.

However, accreditation of health facilities has not yet been implemented, mainly *due to lack of quality management standards; lack of independent accreditation agencies; lack of incentives to encourage health facilities to apply for accreditation.* Accreditation can achieve the objective of maintaining and improving quality of care only when it takes place in a transparent and accountable environment.

Measuring quality and assessment of health facility quality indicators

Annually, assessment of hospital quality is conducted throughout the country using the *Hospital inventory checklist.* The hospital inventory checklist is well-designed with both quantitative and qualitative indicators involving evaluation through scoring with a view to comprehensive assessment and rating of hospitals in order to confer honors and bonuses. The Ministry of Health has regulations on use of international classification of disease and some hospitals have used these codes for inpatients. Electronic medical records and online prescription has also been implemented in some hospitals.

Vietnam does not yet have a set of instruments/indicators to measure service quality. Some output indicators such as mortality and average length of stay cannot yet be risk adjusted by case mix using disease codes, making it difficult to use this information to assess quality of care. Some quality indicators such as: nosocomial infection rate, death within 24 of admission, re-admission rate within 48 hours, etc… have not been collected or analyzed.

The annual hospital assessment using the Hospital inventory checklist has had some positive effects, but is not a specialized method for quality assessment. Basic properties of

service quality such as efficiency, effectiveness, safety, equity, access, patient-centeredness, continuity of care … have not been taken into account when designing the tools for health facility quality assessment. The international classification of disease has merely been used at a small-scale and received inadequate attention and oversight from health sector management agencies.

Health care service provision network arrangements

The Law on Examination and Treatment and sub-legal documents do not stipulate design of the health service provision network. The Law enumerates different types of health care facility organization (Article 41, Law on Examination and Treatment), but does not regulate relations between these organizations in the health service provision network, while sub-legal documents do not clarify these linkages. The Law on Examination and Treatment lacks regulations to secure the continuity of care including regulations on management and information sharing about care and treatment for patients across levels of the system. Meanwhile, regulations on organizational structure at the grassroots level, issued before the Law on Examination and Treatment, split the district health care system into general hospitals and district health center, placing commune health stations under the administration of the health center. Such an arrangement has severely reduced the desired integration of curative and preventive care that existed under the previous arrangement of a unified district health center.

As currently regulated, the health service provision network is divided into four technical levels paralleling the administrative system. The central level provides the full range of medical services, while the provincial, district and communal levels perform gradually simpler technical services. Health facilities are allowed to perform techniques assigned to higher levels, after contacting the health management agency for review and approval. In cases where technical services are assigned only to central level facilities, lower level facilities must seek approval from a technical committee of the Ministry of Health.

Recently, the systems attributes of the health service provision network have seriously deteriorated: large numbers of patients bypass health facilities at the lower level to seek care at higher facilities.[60] Some health facilities at lower levels have invested heavily to be able to provide technical interventions normally only assigned to higher level facilities. At the same time, many higher level hospitals use their specialist human resources and modern equipment for the examination and treatment of common conditions. Both tendencies lead to resource waste, reduced quality of care and contribute to overcrowding at higher levels.

Overcrowding in recent years has been prevalent at higher level facilities, leading to adverse impacts on quality of care. Besides the breakdown in the referral system, other policies also contribute to overcrowding severity such as the policy on hospital autonomy under Decree No. 43 with the pressure to maximize revenues to compensate for the budget deficits and need to pay high salaries and ensure extra incomes for staff and the policy allowing health insurance to reimburse part of the payment for health care costs of insured patients when they bypass their registered facility without a referral to seek care at higher level facilities.

The role and responsibility of agencies and organizations in management of health service quality

[60] 66% of patients admitted to the National Hospital of Obstetrics and Gynecology had diagnoses for diseases that could be treated at lower level facilities.

Ministry of Health. The Law on Examination and Treatment (2009) stipulates the roles and responsibilities of the Ministry of Health in many managerial activities related to service quality. The Vietnam Administration of Medical Services is assigned some tasks in health service management such as: develop national technical standards for approval by competent authorities; regulation of the technical referral system, technical protocols, national technical standards for medical examination and treatment, nursing, rehabilitation, medical assessment, forensic medicine, forensic psychological evaluation; regulations on conditions and standards, as well as on the establishment, merger, reorganization and dissolution of health facilities; directing, guiding, inspecting and enforcing laws, ordinances and legal documents, strategies, master plans, plans and national technical regulations and standards…

Provincial health bureaus. The current legislation assigns provincial health bureaus authority and responsibility to assure service quality in health facilities, including: Granting, renewing, and revoking practice certificate of health workers in health facilities within their jurisdiction, except for employees of facilities under the direct control of the Ministry of Health, and those working at facilities of other sectors. Granting, renewing, modifying and revoking operating licenses of health care facilities within their jurisdiction, except for facilities under the control of the Ministry of Health, private hospitals and hospitals of other ministries. Guiding, checking, inspecting and penalizing any violation of technical regulations, technical standards of health care facilities.

Vietnam Social Security is responsible for "*Checking service quality; processing insurance claims*" (Article 41, Law on Health Insurance). *"Checking and assessing indications for treatment, use of drugs, chemicals, supplies and medical techniques for patients*" (Joint Circular 09/2009/TTLT-BYT-TC).

Medical professional associations. Currently no medical professional associations in Vietnam directly participate in monitoring or supervision to assure service quality. The charters of professional associations, including the charter of the Vietnam Medical Association, do not include any functions, tasks or authority related to service quality.

Capacity in developing and refining policies and regulations on management, regulation and inspection, oversight and assessment of service quality of the state management agencies remains limited. The role of *professional associations* in service quality assurance has not been recognized or promoted; capacity of these organizations in quality assurance has not yet been assessed. Vietnam Social Security lacks expertise, and lacks staff with appropriate competencies and necessary tools to monitor service quality.

Priority issues in macro-level management and regulation for health service providers/organizations include:

- Lack of a time limit on operating licenses for medical facilities that would allow for regular verification of standard conditions of eligibility for a license.
- Lack of specific tools/indicators to measure quality of health facilities.
- Lack of incentives to encourage health facilities to voluntarily apply for accreditation.
- Negative effects on quality of overcrowding at higher levels and low continuity of care.
- Limited capacity in monitoring and supervision to ensure service quality.

External regulation and management of health care professionals

Macro-level management and regulation to ensure that health professionals have adequate technical competence and professional ethics to assure service quality is summarized below.

Promulgation of regulations and standards for technical competence of health practitioners. Professional standards for state health sector officials and staff included in civil servant grades for medical doctors, assistant doctor, nurse, midwife, medical technician, pharmacist, pharmaceutical technician, pharmacist assistant, health worker, medical orderly and herbalist have been issued since 1993.[61] In recent years, professional standards for some specialties have been redesigned, or newly developed (nurse, midwife, medical technology and public health). The Hospital Regulations do not currently include professional standards of individual positions, but mentions tasks of each department of the hospital.

There is no document stipulating that hospital managerial staff must be trained on service quality management, but the Master's training program on hospital management covers topics on hospital management and hospital quality.

Continuous medical education, civil service examinations, performance appraisal. Circular No. 07/2008/TT-BYT of the Ministry of Health stipulated requirements for continuous medical education for health workers. The Law on Examination and Treatment, regulates continuous medical education, retraining and updating medical knowledge, is a right and obligation of health practitioners (Article 29 and Article 33); The Ministry of Health has a task to "Organize training, continuous medical education and developing human resources; guiding secondment of medical professionals" (Article 5). Provision of technical support and mentoring for lower levels to improve capacity to provide medical services is regarded as a major task of leading hospitals and institutes. Staff in the public system, who want to be promoted to a higher professional grade have to undergo an examination of professional competence, foreign language, and computer science.

Management of health human resource development. The Minister of Health has approved the Master plan for health human resources development, including measures for state management, improvement of measures to deploy and retain health workers, and improving training institution capacity. In addition regulations for recruitment and deployment of state health workers, professional salary supplements and, hardship pay for less attractive specialties and disadvantaged regions have been issued.

Regulations on education quality accreditation, applied to all medical universities, colleges and secondary schools, have been issued and are being implemented. The Ministry of Health has issued technical standards for training of nurses, midwifes, secondary pharmacists, assistant doctors, and secondary medical technicians. Eight medical universities have developed a handbook on knowledge, attitude and skills needed to become a general practitioner. However, application of these informal standards remains limited.

Difficulties and shortcomings

Professional competency standards in some civil servant grades like doctor, pharmacist, and assistant doctor were developed almost 20 years ago (1993) and are no longer appropriate. Health facilities have not developed specific job description for each position. Recruitment and promotion to a higher grade are based on civil servant examinations. However, these examinations only test theory, not practice. Hospitals have not conducted professional evaluation on a regular basis. The annual hospital inventory

[61] Decision No. 415/TCCB-VC dated 29 May 1993 of Minister – Head of Government Commission for Personnel Organization.

undertaken by the Ministry of Health has no contents related to professional evaluation of health workers.

Regulations for post-graduate training and continuous medical education for health workers are inadequate. The health sector has no regulations mandating post-graduate practical training or assigning new graduates to residencies. Many provincial and district health facilities are not well-equipped as a learning environment for career development of health workers.

Continuous medical education is not included in the annual work plan of many health facilities. The proposed modalities of continuous medical education are inappropriate for many health workers. There are difficulties in designing continuous medical education training programs appropriate with different professions and positions. Technical mentoring and support remains perfunctory in many facilities. There is no clear regulation or mechanism clarifying how leading specialized institutions should assist lower level facilities. There is no set of indicators to assess performance as a foundation to assess the technical quality of the health workforce. Human resources development within health facilities has paid little attention to proposing effective measures with available resources. Compliance with the technical referral system is weak. Health facilities have tried to invest in high-tech services to increase income while primary health care has been neglected. This has, in return, affected the strategy for staff training at lower levels. Regulations on competence of managerial staff at health facilities mainly focuses on professional standards, qualifications and degrees but not standards for management capacity, especially quality management.

Accreditation of the quality of health workforce training programs has not been undertaken. Training quality has been threatened by the rising number of students while the number of teaching hospitals and teachers has remained unchanged, and the training program has not been reformed.

Regulations on medical ethics have been issued but the gap between principles and practice remains wide. There is no active support mechanism for health workers to learn lessons from medical errors.

Priority issues in macro-level management and regulation of practitioners were identified as:

- Lack of basic professional competence standard for almost all health professions/positions.
- Lack of quality accreditation system for training curricula in health sciences, while quality of training remains low and varies across training institutions.
- Limitations in continuous medical education including lack of a strategic plan and regulations on monitoring and evaluation of its implementation.
- Health workforce quality (especially doctors) at lower level facilities is very poor.
- Lack of professional association participation in health workforce quality assurance in both professional and ethical aspects.

External regulation and management of pharmaceuticals, medical equipment, technologies and infrastructure

Pharmaceuticals and biologicals

The health sector has a system of legal documents covering almost all areas of pharmaceutical and biologicals management. The Pharmaceutical Law was issued in 2005,

and is being reviewed so the National Assembly can make revisions. Regulations compel all manufacturers of modern drugs to meet GMP standards and encourages pharmacies to achieve GPP standards. Regulations on good practice in drug distribution, storage, guidance on pharmaceutical processing, import-export of drugs and packaging have been enacted. There are many regulations on management of drug prices, drug quality and use.

The Ministry of Health has granted registration numbers for circulation of domestically manufactured and imported vaccines and biologicals and issued regulations on blood transfusion safety and blood products at various levels.

Difficulties and shortcomings: Implementation and enforcement of legal documents on drug quality management, pharmaceutical manufacturing and management of pharmaceutical distribution remain limited.

The pharmaceutical quality inspection and verification manpower remains insufficient. Counterfeit and sub-standard drugs are still circulating in the market and are being used by consumers. There is no inter-ministerial agency responsible for controlling counterfeit and sub-standard drugs. Inspection of traditional and herbal medicine quality has not been done strictly. Performance of the drug and therapy committee in drug use oversight in hospital remains limited. The antibiotic use and antibiotic resistance surveillance program is unfunded and on standby mode. The pharmaceutical workforce is unable to meet the demand for drug circulation. Safe blood transfusion activities are under-resourced.

Medical equipment and infrastructure

The list of sectoral standards and national standards for medical equipment has been issued, and is meeting requirements for manufacture, commerce, investment, research and management. A list of essential medical equipment to serve the project on renovation and upgrading of district general hospitals, regional hospitals, and inter-district hospitals has been issued. The decree on penalties for administrative violations in pharmaceuticals, cosmetics and medical equipment has been issued. The Ministry of Health is expected to develop a decree on medical equipment management. Inspection and checking of medical equipment quality is assigned to the Institute of Medical Equipment and Medical Construction. Three quality control centers for medical testing laboratories located in Hanoi Medical University, Ho Chi Minh City Medical and Pharmaceutical University and Ho Chi Minh City Health Bureau are assigned to audit quality standards and grant certificate of medical test quality assurance for all health facilities throughout the country. Regulations on clinical trials of medical equipment have been issued by the Ministry of Health.[62]

Sectoral and national standards for medical infrastructure, and procedures for management of medical facility construction projects using the state budget have been issued.

Difficulties and shortcomings. The system of legal documents for medical equipment and infrastructure is incomplete. There is no unit responsible for regulating/managing medical equipment and infrastructure in provincial health bureaus. Many hospitals don't have a medical supplies and equipment management unit. The collaboration of technical administrators such as Vietnam Administration of Medical Services, Vietnam Administration of Preventive Medicine in medical equipment management at the macro level is lax. Effectiveness of investment and use of medical equipment and infrastructure is low. Systematic monitoring and evaluation is not performed. Joint-ventures and business partnerships investing in medical equipment in hospitals are likely to induce overprovision without an effective control mechanism in place. Some facilities have invested in modern

[62] Ministry of Health Decision No. 36/2006/QD-BYT dated 14 November 2006.

equipment but not used it, or used it below its capacity. There are no monitoring and evaluation statistics on medical equipment, or implementation of Vietnam standards for medical equipment and infrastructure.

Medical equipment of district hospitals only meets 30–50% of official standards, and in some facilities is as low as 20%. Many hospitals lack essential equipment for diagnosis, emergency care and treatment. Medical equipment checking and calibration faces lots of difficulties. Most medical equipment in use at health facilities has not been checked, maintained or serviced regularly. Due to insufficient resource to invest in new equipment, many localities don't have funds to buy consumables or ensure appropriate maintenance of equipment. Effectiveness in the application of medical technologies on medical practice, society, ethics and financial outcomes has not been assessed in a scientific manner. Infrastructure in many places is of poor quality, deteriorated and unable to meet technical requirements. There is no strategy for evidence-based medical equipment and infrastructure development.

Priority issues in macro-level management of medical equipment and infrastructure were identified as:

- Inability to enforce and monitor implementation of legal regulations on management of drug quality, pharmaceutical manufacturing and distribution management.
- Continued circulation and consumer use of counterfeit and sub-standard drugs.
- Inadequate oversight and monitoring of rational use of drugs.
- Weak medical equipment and infrastructure management system. No medical equipment control system for hospital and in the market.
- Lack of a Law covering issues of medical equipment. Lack of strategy on medical equipment.
- No comprehensive health technology assessment in place, efficiency from investments in medical equipment and infrastructure is low.
- Lack of database for medical equipment and infrastructure.

5. Facility-level quality management

Service quality at health facilities or local quality management includes compliance with and implementation of national standards, technical protocols, application of these standards and service quality management methods; and establishment of service quality management units in hospitals.

Compliance with regulations and standards for patient safety and care

Surgical safety should be implemented according to regulations for the surgery-anesthesia department and some regulations in the Hospital Regulation. In 2011, the Vietnam Administration of Medical Services worked with the Vietnam Association for Surgeons, Vietnam Society of Anesthesiologists and Vietnam Nurses Association to apply the surgical safety checklist (WHO) in five pilot hospitals before nationwide scale up. Shortcomings include the lack of a comprehensive and in-depth guidance for surgical safety. Application of the WHO surgical safety checklist has been limited to a pilot scale. There is no voluntary error/incident reporting system in place, nor systematic advising for prevention of medical errors and incidents.

Safe blood transfusion is implemented under the Regulation for Blood Transfusion of the Ministry of Health. However adverse events due to transfusion of wrong blood type still occur. There is no reporting system for other complications such as HIV infection or infectious disease exposure through blood transfusion route.

Safe injection, and intravenous therapy. Since 2001, the Vietnam Nurses Association has launched a national movement for safe injection. The Ministry of Health is about to issue a manual for safe infection. A majority of health workers (55%) is not up-to-date in their knowledge on safe injections. Compliance with technical procedures and steps for infection control, good injection practice and reporting on needle stick injuries is weak (87.7% reported non-compliance).

Safe drug use. Regulations on safe use of drugs are stipulated in many documents. Circular No. 07/2011/TT-BYT gives specific instructions for drug use and monitoring of patients using drugs. However, the number and quality of clinical pharmacists providing advice to doctors about use of pharmaceuticals are limited. Performance of the drug and therapy committee in hospitals is uneven across hospitals. Support tools for safe drug use have only been piloted in some facilities without scaling them up. There is no good mechanism to ensure management of prescribing practices, while over prescription of pharmaceuticals has been increasing due to the fee-for-service payment mechanism and other perverse incentives.

Infection control in hospital and health facilities is implemented under the Law on Examination and Treatment (2009) and Circular No. 18/2009/TT-BYT dated 14 October 2009. The Ministry of Health has developed and issued the National action plan for infection control, 2012–2015; Six national guidelines for infection control are in the pipeline. The Vietnam Administration of Medical Services is the focal point for guiding and checking on infection control at the national scale. According to regulations, each hospital should establish an infection control committee, an infection control department and an infection control network. There should be at least one full-time hospital infection control staff member for every 150 beds. However, resources for infection control remain limited. Infection control is understaffed while infrastructure, equipment and chemicals are insufficient. Many hospital managers don't place priority or emphasis on this work.

Quality of laboratories and medical testing have begun to receive attention from the Ministry of Health with support from international organizations (CDC, WHO). Quality of medical laboratories is being improved with the objective of meeting the ISO 15189 standard with clear benefits to and interest of many laboratories. Other quality standards for laboratories such as WHO, JCI and Thai standards are being studied for possible application. Regulations on biosafety at laboratories have been issued and applied. *Limitations and gaps*: There is a lack of national guidelines and technical standards for medical laboratories. The current situation of overprovision of services and no mutual recognition of lab test results across laboratories, is attributed not only to technical, but also to economic causes.

Implementation of *the code of conduct and medical ethics of health practitioners* in order to reduce misconduct in health care practice is being implemented in most hospitals with diverse methods. Many outstanding examples of ethical behavior have been praised. More and more hospitals are accepting the slogan "say no to envelopes", and criticizing uncaring and rude attitudes of medical workers when interacting with patients.

A substantial share of health workers is not really aware that professional ethics, and a caring attitude of physicians can have a strong influence on treatment effectiveness. The press and societal commentary have criticized incidents of violation of medical ethics and

misconduct, indifference, coldness and anger shown towards patients. The taking of bribes or commissions from pharmaceutical representatives remain prevalent, and there are numerous cases of insurance fraud.

Nursing care policies have undergone many reforms. The Vietnam Nurses Association has developed and piloted a standard for patient care. Patient care is organized according to four different models, in which the team-based caring model dominates (83%). Almost all hospitals organize nursing care 24 hours per day.

The importance of the nursing role has not yet been adequately appreciated. The nurse to doctor ratio is low, over 50% of chief nurses do not yet meet technical and managerial standards. Professionalism in nursing practice is weak and there is still a mentality of nurses being inferior to other medical staff. Nurses still spend too much time on administrative work, which takes them away from patient care. Hired caregivers or family caregivers often implement nursing work. Sharing of beds by multiple patients is still common in many hospitals, negatively affecting quality of care and safety of both patients and health workers. In the daytime shift, one nurse is responsible for about 6.5 patients on average, while at night, nurses are overloaded with an average of 23.8 patients per nurse.

Nutritional care in hospital is implemented under Ministry of Health Circular No. 8/2011/TT-BYT dated 26 January 2011. Hospitals follow current regulations for food safety. However, arrangements for patient nutrition face huge impediments. Clinical nutrition work has been neglected. Survey results in 2010 at 742 hospitals indicate that only 71.8% of provincial hospitals and 40.8% of district hospitals have a nutrition department or unit. Clinical nutrition has received little attention as a key input in the treatment process, especially in intensive care and emergency cases. There is a severe shortage of nutritionists and dieticians in hospitals, and the ones working in these positions often lack basic professional training in the field, as this type of work does not attract many applicants.

Application of standards and methods for service quality in hospitals

Some hospitals have been pioneers in applying quality methods in service quality improvement such as Total Quality Management - TQM, PDCA (Plan-Do-Check-Act), and development of a quality system under ISO 9001 with key performance indicators. The quality management model that has received the most interest is TQM and the quality standards of greatest interest are ISO9001. Some hospitals, especially foreign-invested and private hospitals have begun to pay attention to international quality standards and are applying for accreditation. However, the proportion of hospital applying the PDCA cycle in quality improvement remains very small as found in a survey of 45 hospitals. About 38% of hospital leaders and key managers were unaware or knew about but did not apply the PDCA cycle. Some 19 hospitals (42.2%) applied at least one quality management model, 18 hospitals applied the ISO 9001 standard; 5 hospitals (11.1%) applied the ISO 14001 standard, 5 hospitals applied the ISO 15189 standard, 3 (6.6%) hospitals apply TQM, 4 hospitals (8.8%) applied hospital accreditation. Seventeen hospitals (37.7%) had staff assigned responsibility for quality management; twelve hospitals had a quality management unit in place; but only three hospitals had full-time staff working on hospital quality management [66].

The application of service quality methods and management should be conducted in parallel with the building of a "*culture of quality*", ensuring that quality improvement becomes a sustainable process involving the participation of all hospital staff. For many years, the health sector has launched movements and implemented activities to raise the sense of responsibility among physicians and health care facilities, based on promoting culture and

ethics. This includes campaigns to promote the 12 principles of medical ethics and implementation of the code of conduct for officials and staff in state health service facilities, reducing misconduct and contributing to improving quality of care.

The lack of consensus about the definition of service quality has created a barrier to developing a true culture of quality in hospitals. There is no agreement on the objectives and methods for quality assurance and safety in health facilities. Most hospital employees (technical staff, physicians, nurses, and managerial staff) have never received specialized training in service quality management. The core of quality culture is awareness, belief, solidarity and values, but this remains very limited at present. For the sake of immediate benefits, many hospitals have not placed top priority on service quality, and have been slow to overcome negative behaviors and attitudes. The culture of "learning from mistakes" is one of the ways to ensure safety for patients but health facilities often focus more on blaming others than solving problems.

Application of information technology in service quality management. Most health care facilities have introduced and put in use software for management of human resources, supplies, finances and administrative reporting. However, very few facilities have applied software in clinical management. Some hospitals (e.g. Bach Mai, Viet Duc) have actively linked, through a telemedicine network, with other satellite hospitals for the purpose of training, technical mentoring and joint consultation and advice on difficult cases. Ho Chi Minh City Children's Hospital No. 1 and Ho Chi Minh City Medical and Pharmacy University training hospital have applied information technology in medical records management, pharmaceutical management, supplies management, web-based return of test results, procedure and surgery management, personnel management, continuing education management, user fee collection, financial management, web-based notification of eating time, information, reception, prescription, and purchase of drugs. Some pilots on distance medicine for diagnosis have been conducted. However, the software warning health workers about drug interactions when prescribing drugs, reminding doctors of treatment guidelines through use of care pathway in computerized checklists is rarely done. The Ho Chi Minh Medical and Pharmaceutical University teaching hospital has applied a patient card system. The Ministry of Health is implementing some projects on information technology application, including a project on patient management using Smartcard technology with distinctive patient codes.

Investment in health information technology remains fragmented; comprehensive design of information technology in health facilities is inadequate or of low quality; Research, application and training in health informatics is unable to respond to the increasing needs; Many software companies have designed hospital management system but have been unsuccessful due to their limited medical knowledge. Many hospitals have strived to apply information technology but failed as the software did not respond to the actual needs, many hospitals have become suspicious of the feasibility of using information technology in health care.

Administrative reform and quality of health care. In implementing Program 527/CTr-BYT, many hospitals have undergone administrative reforms, reducing troublesome procedures and inconveniences at admission. However, the reforms have not yet been carried out in a consistent manner. For insured patients, many administrative procedures are still required at all stages of health seeking: examination and treatment at the registered facility, referrals and in paying the co-payments.

Developing service quality management organizations in hospitals

Currently, hospitals set up a drug and therapy committee, an infection control committee, and a nursing committee, which are directly related to service quality. *The drug and therapy committee* is responsible for advising the hospital director on rational, safe and effective use of drugs, and concretizing treatment protocols appropriate with the conditions in each hospital. The *Infection control committee* is responsible for reviewing, proposing and advising the hospital director to develop, revise and supplement technical standards and regulations for infection control in line with the Ministry of Health regulation… *The Nursing Committee* is responsible for advising the hospital doctor on patient care planning within the hospital, providing advice for revision, supplementation of technical regulations for nursing care in line with the Ministry of Health regulations and characteristics of each department.

However, in hospitals, no unit is officially responsible for patient safety issues and implementation of hospital quality improvement. A few hospitals have established a hospital quality management committee (Ho Chi Minh City Children's Hospital No. 1), a hospital quality management division (National Hospital of Pediatrics, Vietnam-French hospital), or a risk management unit (Cho Ray hospital), which may be effective forms of organization, but the impact is still limited due to the lack of a legal framework. There are still no organizations within hospitals that engage multiple departments or units within the hospital to jointly resolve quality-related problems.

Priority issues in management of health care quality include:

- *Incomplete mechanism, organization and resources for implementation of hospital quality management*: There is still no comprehensive plan or program for hospital quality improvement to orient hospitals towards methods to ensure quality in the most effective manner. There is no accreditation agency. There are no clear regulations or forms of support to widely apply methods, models and tools for hospital quality improvement. The organization of the quality assurance system within the hospital is incomplete. There is no full-time unit in charge of quality and safety for patients and there are few facilities with full-time staff responsible for service quality management. Few hospitals are capable of developing their own clinical guidelines, protocols and care pathways.
- *Application of information technology is slow and below expectations.* Investment in information technology remains fragmented. The technical information technology staff in health facilities are still insufficient and the staff mix is imbalanced. There is a lack of incentives for application of information technology in health care.
- The current hospital information system fails to effectively support quality management. There are few error or incident reporting systems, almost no hospital infection surveillance systems, inadequate supervision for drug prescriptions and a lack of quality standards to use to assess quality improvement.
- *Regulations and methods for quality management are not fully implemented.* The patient safety program is only implemented at a pilot scale. Compliance with safe blood transfusion regulations is incomplete, and infection control work in hospitals faces enormous difficulties. The laboratory testing quality management system is unable to meet the current needs for quality assurance. The national effort to improve injection safety has failed to achieve desired outcomes. Insufficient funds are available to cover the costs of comprehensive care for patients, including nutrition during the treatment course in hospital. There is no mechanism to monitor nursing care and diet during hospital stays. Communication and interactions between health workers and patients fail to satisfy patients.

6. Promoting the role of community and patient in medical care service quality improvement

According to WHO, patient-centeredness and community participation are both goals and part of the four basic approaches to improving medical services. The patient's experience is an important measure of the quality of health care services that they receive. On the other hand, patients play a very critical role in quality improvement because patients can provide feedback based on the services they have received. Therefore it is necessary to establish procedures and cooperation mechanism between service providers and users.

Regulations on the rights and obligations of patients

There exist several documents stipulating the role and forms of patient and community participation in service quality improvement, such as the Hospital Regulations (1997) regulating the establishment of patient committees as an organization representing patient interests and reflecting their opinions about the organization and delivery of health services. Official Letter No. 4969/YT-DTr (2004) guides the setting up of a hotline in hospitals to help the hospital leadership gather feedback and comments from service users to improve service quality. The regulations on complaint handling in health care includes surveys of patient satisfaction as part of the annual hospital inventory;[63] Regulation on patient-physician communications in health care facilities stipulate that doctors have to listen to patients and gently explain to them about their treatment plan.[64] A Code of conduct for officials and staff in state health service facilities has been put in place.[65] Efforts are being made to implement the message in the slogan *"Warm welcome at reception, dedicated care during stay, thoughtful advice at discharge"*. Rights and obligations of patients are stipulated in the Law on Examination and Treatment (2009).

Mechanisms to facilitate patient participation in assessing health services

Regulations on patient-provider feedback are implemented in hospitals through either the patient committee or the hotline. Hospitals have established some hotlines (telephone line) open 24 hours to receive feedback from patients. Suggestion boxes have been set up in almost all public hospitals. In the guidance for the annual hospital inventory, hospitals are asked to carry out an assessment of patient satisfaction regarding service attitude, waiting time, administrative procedures and instructions on drug use.

Although there are specific regulations, there is no legal framework or effective mechanism to monitor enforcement and compliance with these regulations. Monitoring, synthesis of feedback and lesson drawing for service quality improvement have not been evaluated. The voice and participation of patients and the community in health care planning and service quality improvement remains very limited. Information on patient satisfaction can only help hospitals improve their administrative work but not clinical services.

Supervision, collection and measurement of information, experience of services from the patient perspective

Currently the health management information system mainly focuses on financial and human resources management. There is no patient-level database containing clinical information, outcomes and interventions. Statistics and reports of deaths and complications in

[63] Minister of Health Decision No. 44/2005/QD-BYT dated 20 December 2005..
[64] Minister of Health Decision No. 4031/2001/QD-BYT dated 27 September 2001.
[65] Minister of Health Decision No. 29/2008/QD-BYT dated 18 August, 2008.

hospitals are incomplete and not yet used for service quality improvement. The procedures for collection, entering and processing reports of adverse drug reactions (ADR), including data collection from patients on drug use and its side effects, are being implemented. However, no evaluation of the impact of implementing this regulation in hospitals has been performed. Apart from statistics on ADR, there is also a regulation on reporting hospital deaths and complications related to blood transfusion, surgical and procedure complications and other adverse events. However, information is not yet sufficient and rarely used by the health sector to draw lessons and improve patient safety.

Information on service quality to facilitate patient choice of provider

In Vietnam, there is no specific regulation regarding assessment and dissemination of information on quality of health facilities. Currently the mass media (including the press, radio and television) can advertise unaccredited health facilities. The press also reports incomplete and sometimes misleading information about deaths or complications that occurred in some health facilities, which can lead to severe public outcry, which complicates efforts to develop a voluntary error and incident reporting system aimed at objectively determining systematic causes to propose preventive measures. Development of a complete and objective information dissemination system is a necessary but difficult task.

Priority issues in promoting the role of community and patient in improving health service quality include:

- *Patient's rights to information about their medical condition, treatment safety and treatment methods are not yet protected.* There is no sub-legal document on the relationship, rights and obligations of practitioners and service providers in relation to patients.
- *Mechanisms to gather feedback from patients operate ineffectively.* The Law on Examination and Treatment neglects to mention the rights of patients to participate in assessing service quality.
- *Feedback from patients and data on patient experience using health services and treatment outcomes of patients are not analyzed in a systematic manner to* improve quality of care.
- *Lack of regulations on service quality information dissemination to facilitate patient choice of service provider.*

7. Payment methods and quality of health care services

Improving quality of health care services is considered a positive measure to promote efficient use of financial resources and ensure cost effectiveness. At the same time, financial mechanisms, particularly provider payments, have a very important role in encouraging and promoting improvement of health service quality.

The JAHR has analyzed incentives mechanism inherent in provider payment methods and their impact on the performance and quality of health facilities.

An important outcome of the health financing reform process in Vietnam has been the purchaser provider split. The health insurance agency has gradually become a major service purchaser. This is an important pre-requisite for purchasers to be able to apply incentive mechanisms when contracting with the service providers.

Policies for hardship pay salary supplements for state health workers and officials working in areas with especially difficult socio-economic circumstances and the policy of financial autonomy have helped to reduce the unfair practices inherent in the remuneration regime that pays similar amounts to all health workers without regard to actual performance. This has contributed positively to encouraging better performance of health workers.

Investments in infrastructure development, development and transfer of medical technologies have been continuously strengthened, creating a positive foundation for improving quality of health care services.

Efforts to adjust hospital fees to encourage medical examination and treatment at appropriate levels of clinical care are expected to help health facilities achieve better conditions to improve quality of care. Initial results of capitation payments and case mix payment methods can be considered the basis for implementation of payment based on performance and quality of care.

Difficulties and shortcomings

There is a lack of specific regulations on measurement, management, monitoring, evaluation and payment for service quality. In public health facilities, input-based and line-item budgeting are the predominant payment methods.

The relationship between the costs and service prices has not been satisfactorily resolved. When the relationship between the administratively set prices and actual costs of hospitals to provide services are unclear, then it becomes difficult to effectively solve the issue of paying for service quality.

The current revenue raising mechanism has not encouraged health workers to work effectively toward quality. Capital contributions from the private sector and profit sharing between investors and medical facilities, where revenues come from direct charges to patients for these services generates extra income for health workers and contributes to excessive provision of services and goes contrary to the key implications of quality health service, that is, ensuring the efficiency of financial resource utilization and cost-effectiveness. The inclination of health care providers to maximize revenues without taking into account the need to balance benefits to service providers with benefits to the health system as a whole is also a major barrier for implementing payment method reform programs toward greater appropriateness and transparency.

The current health financing mechanisms have inadequately motivated health staff in some aspects. Compensation for health workers is much lower than the job requirements in terms of professional skills and work tasks that are subject to a certain amount of danger and risk. The salary supplements and other incentives from the government, although they have been improved, are still lower than additional income through the "mobilized" mechanism.

Capitation payments currently do no provide appropriate incentives for quality improvement when fund deficits are common in many service facilities and hospitals. Fund deficit and issues related to service quality are clearly the common situation of many service providers involved in the capitation payment program.

Research to apply improved payment methods, particularly payment for improved quality, has been inadequate. The system of reporting and statistics at health facilities and at the state management agencies is far below the expected standard, and unable to ensure transparency, causing difficulties for supervision and assessment of quality.

Management and monitoring of service costs and quality of the payer (health insurance agency) remains limited, in terms of human resources, technologies and supporting information system.

Priority issues to be addressed in the immediate future include:

- Limited policy framework for provider payments in terms of incentives to improve service quality.
- Inadequate motivation of health workers for better performance because of the current financing mechanism.
- Lack of consistent and effective payment methods to promote service quality while research on application of appropriate payment method faces substantial impediments. The study process remains very slow due to limited technical capacity and consensus on the policy goals and approaches.
- Management and monitoring of service costs and quality remains limited, unable to meet the requirement for operational and financing reform to improve performance and quality of the entire health system.

Chapter 9: Recommendations

On the basis of the updated information about the health system and in-depth analysis of medical service quality, the report makes recommendations for measures to implement the objectives set out in the in the Five-year health sector plan and other specific policy orientations.

1. Orientation for policies and measures related to health status and determinants

1.1. Non-communicable disease prevention and control

Strengthen policies on prevention and control of non-communicable diseases

- Develop a national intersectoral system for non-communicable disease prevention and control. Integrate the prevention and control of non-communicable disease into the health sector development plan.
- Re-orient and develop the health system to ensure it meets the needs for more effective and equitable management of chronic disease.

Reduce preventable risk factors of non-communicable diseases

- Strategies require the participation of the state and private sectors and of multiple related sectors. Interventions can be delivered in many locations such as schools, workplaces, households and in the community with a view to mitigating risk factors of non-communicable diseases, namely: tobacco smoking, unhealthy diet, inadequate physical exercise and alcohol abuse…
- Implement the Tobacco Control Law and recommendations related to global strategies on diet and physical activity. Implement maternity leave policies, regulations banning advertising of breast milk substitutes, Decree 21 to improve neonatal and small child nutrition and other relevant strategies through issuing national strategies, policies and plans and allocating resources for their implementation.
- Organize and effectively implement health information and education campaigns in the community to change health-related behaviors such as tobacco and alcohol use, improved diet, traffic safety, safe sex, child safety, etc.

1.2. Improving the health of people living in disadvantaged areas

Address health problems of the poor and ethnic minorities

- Continue to prioritize prevention of infectious and parasitic diseases and malnutrition. Effectively implement at scale public health programs with a focus on addressing infectious and epidemic diseases.
- Strengthen health care for women and children in remote, isolated areas to improve their health status and reduce maternal mortality, infant mortality, under-five child mortality and malnutrition. Draw from successful experience of existing interventions implemented by various organizations in Vietnam and found to be effective in reducing neonatal, maternal and child mortality and malnutrition and other priority health problems, in order to expand these interventions to a larger scale.
- Implement activities of reproductive health care and nutritional improvement projects.

- Improve implementation of the national policy for family planning and population quality for ethnic minorities and mountainous people. Integrate reproductive health/family planning services with a view to strengthening education and communication efforts and providing three service packages: Safe motherhood; examination and treatment of sexually transmitted diseases; and promotion of family planning services in provinces with large ethnic minority populations.

Strengthen ability to provide basic health care services

- Complete, approve and implement arrangements for increased collaboration between the National Assembly Committee for Ethnic Affairs and the Ministry of Health during the 13th session of the National Assembly (2012–2016) to improve the development and implementation of health policies related to ethnic minorities and people living in mountainous areas.
- Continue to prioritize investment to strengthen and develop the grassroots health care network and the health care system in mountainous, remote, isolated and disadvantaged areas.
- Strengthen clinical mentoring and technology transfer from higher to lower level as directed in Program 1816.
- Strengthen training, re-training and refresher training on professional knowledge for state sector health workers at the grassroots level.
- Organize mobile health teams to provide medical examination and treatment for people living in the mountainous, remote and isolated areas.
- Pilot, assess and scale up models to increase access to health services (maternity homes, free provision of iron and folic acid pills for reproductive age women, support groups in the community, conditional cash transfers, etc.)

Reduce the burden of health care costs for the poor and ethnic minorities

- Strengthen the state budget allocation for health care in mountainous, remote, isolated and disadvantaged areas.
- Prioritize budget allocations to poor regions and expand health insurance coverage...
- Continue to implement policies to support the poor and ethnic minorities (free health care card, health insurance for the poor, support for food and travel costs and co-payments...).

1.3. Responding to changing morbidity patterns and emerging diseases

- Effectively implement the National strategy for people's health care, protection and promotion for the period 2011–2020, vision to 2030, the Five-year health sector plan 2011–2015 and the Master plan for the health care network at all levels.
- Prioritize investments in preventive medicine and health promotion.
- Strengthen intersectoral and international collaboration to develop and implement long-term comprehensive, multidisciplinary public health strategies.
- Continue to strengthen investment and implement national target programs for 2011–2015, especially programs and interventions on reproductive health to reduce maternal mortality, neonatal mortality and child malnutrition (especially stunting).

2. Measures to continue implementing tasks assigned in the Five-year health sector plan

2.1. Health service delivery

Primary health care, preventive medicine, national health target programs and universal healthcare

Improve policies, monitoring mechanisms and organization to implement primary health care, preventive medicine, national health target programs and move towards universal healthcare

- Submit the draft master plan for development of human resources for preventive medicine to serve as a basis for planning to meet current needs for preventive health care.
- Develop guidelines for management of non-communicable disease in the community and develop concrete plans for their implementation.
- Develop regulations and a periodic monitoring mechanism in preventive medicine.
- Strengthen monitoring of implementation of national commune health standards for the period 2011–2020.
- Continue to invest in grassroots health care and pay attention to investing funds following the direction of National Assembly Resolution No. 18 on investing in preventive medicine activities. Prioritize investments to ensure clean water supply and hygienic toilets at commune health stations that do not yet have these basic sanitation conditions.
- Implement the National strategy for food safety and strengthen monitoring of its implementation.
- Continue to promote health information, education and communication to strengthen awareness of the people about their health care.

Medical examination and treatment

Resolve hospital overcrowding and improve quality of medical services

- Consistently implement all measures, with special emphasis on measures for improving medical service quality at grassroots level medical facilities in order to resolve the overcrowding of hospitals at higher levels. Set up an effective referral

system, adjust the list of medical services that should be available at different levels, implement medical examination and treatment services appropriate with the technical level of the facility, starting with revisions to the Law on Health Insurance. Consolidate and strengthen quality of medical services at the grassroots level. Strengthen preventive medicine activities and primary health care. Continue to implement professional mentoring and secondment of qualified medical staff to work in lower level facilities to help build capacity; research and improve the methods for effective technology transfer.

- Promote more rapid progress so the project for reducing hospital overcrowding can soon be submitted to the Prime Minister for approval.
- In the near future, issue circulars guiding implementation of hospital quality and indicators for assessing hospital quality. Continue to develop and issue treatment guidelines, technical procedures guidelines, and care pathways for common medical conditions with high treatment costs, and develop a mechanism to update and assess implementation of professional guidelines.
- Set up a system for quality management in medical examination and treatment, paying special attention to setting up units for quality management within medical facilities.
- In 2013, continue to refine the system of registration, facility licensing and certification of medical practitioners, continuous medical education, and professional development with an orientation towards reaching world standards.
- Strengthen management, reform the hospital financing mechanism towards greater autonomy, openness and transparency

Population–family planning and reproductive health

Refine policies, monitoring mechanisms and organization for implementing population and family planning and reproductive health care

- Develop action plans for the period 2011–2015 and projects in the area of population and reproductive health as part of the National target program and to implement the Strategy on population and reproductive health in Vietnam for the period 2011–2020 and the National Strategy for nutrition for the period 2011–2020 with a vision to 2030.
- Continue to implement the master plan for the reproductive health network. Strengthen monitoring of implementation of construction of provincial obstetrics and pediatrics hospitals and the integration of obstetrics and pediatrics departments in provincial and district general hospitals.
- Strengthen measures to improve quality of population-family planning and reproductive health services. Strengthen monitoring and supervision over technical medical procedures in obstetrics. Set up a retraining plan for updated treatment protocols in obstetrics and allocate funds for implementing the plan.

2.2. Health financing

Reform the operational and financial mechanisms in public sector medical service facilities

- Continue the process of shifting from providing subsidies to health care providers towards subsidizing the health care users through subsidizing participation in health insurance on the basis of transparency in funding and ensuring cost recovery.
- Implement studies to provide information to guide implementation and monitor implementation of the policy for reforming the operational and financing mechanism in public sector healthcare facilities, such as: costing of health services, analyzing fiscal space for health, and assessing remuneration of health workers.
- Review, monitor and supervise implementation of Circular No. 04/2012/TTLT-BYT-BTC adjusting the medical service price schedule in the provinces, paying special attention to provincial health bureau development of locally appropriate price schedules.
- Continue to implement Decree No. 69/2008/ND-CP on strengthening social mobilization in health care. Continue to assess implementation of joint ventures and business partnerships and other forms of private participation in investments in state-owned medical facilities. Develop a mechanism for appropriate management of various forms of investment.

Implement the roadmap towards universal health insurance coverage

- After approval, implement the project for the roadmap towards universal health insurance coverage for the period 2012–2015 and 2020, including health systems measures for implementing universal health insurance objectives related to all building blocks of the health system, especially the roles of health service providers, human resources and health information.
- Improve the system of health insurance policies, recommend revisions to the Law on Health Insurance and sublegal documents focused on impediments and shortcomings that have arisen in the process of implementing the Law on Health Insurance, such as shifting from individual to mandatory household participation; development of a basic benefits package; revisions and amendments on regulations about registration of facilities for initial care, and payment for referrals. Submit the draft revisions in the Law on Health Insurance in October 2013 according to plans.
- Improve effectiveness of state management, tighten compliance with regulations on health insurance participation of enterprises, and hold the leadership accountable.
- Improve capacity for health service provision for people with health insurance, especially at the grassroots level. Strengthen management of quality assurance in care provided to the insured, increase the role of Vietnam Social Security in supervision and creating incentives for quality improvement through appropriate provider payment mechanisms.
- Promote strongly information and communication to disseminate health insurance legislation, focusing on groups prioritized for expansion of health insurance participation in the short-term such as the near poor and workers in enterprises.
- Strengthen capacity for state management of health insurance; consolidate and strengthen capacity of the agencies implementing health insurance from the central to local levels; strengthen training to improve capacity and professional quality, and professional knowledge of health insurance staff.

Ensure allocation of state budget for approved health programs

- Ensure state budget funding to implement programs/projects already approved by the Government such as: purchasing health insurance for the poor, premium subsidies for the near poor, subsidies for food and transport when seeking medical care and funds for implementing national health target programs.

Reform health care provider payments

- Develop a comprehensive plan or project for implementing provider payment reforms. Strengthen activities to advocate for policy oriented towards achieving a consensus for provider payment reforms.
- Develop the necessary contents and ensure basic conditions to implement reforms in provider payments including: standardization and enhancing consistency in hospital management information systems, including both clinical and financial aspects, develop a basic database on service costs, standardize disease and service coding following the international classifications of diseases and medical procedures.
- Gradually transform provider payments from fee-for-service towards capitation (for primary care and outpatient services), case mix payments, and eventually DRG when conditions permit. Fee-for-service payments in the future will no longer be considered a basic payment mechanism, but only a topping up payment mechanism for especially severe cases with many complications.
- Study to evaluate implementation of capitation and case mix payments to make timely adjustments in policy. Reform allocation of state budget to hospitals and reform the health service payment mechanism.
- Strengthen training in hospital management prioritizing training modules on methods and skills in hospital costing and methods and skills for applying international classification of disease codes (ICD10 and ICD9-CM).

2.3. Human resources for health

Manage human resources development

- Continue to strengthen the health manpower information reporting system in a comprehensive manner from the central to local areas to facilitate health human resources planning. The health manpower reporting information system needs to include data related to training, deployment of health workers and the relationship between training and deployment, as well as data on health workers in the private sector.
- Develop project plans for implementing the Master plan for health human resources development for the period 2012–2020. Develop regulations on retraining and continuous medical education, and meet the needs for updating knowledge of health workers according to the Law on Examination and Treatment.
- Develop standards and procedures for evaluating health workers based on competencies, performance, efficiency and labor productivity.

Improve quality of training and reform training curriculum

- It is necessary to develop a long-term plan for comprehensive reforms of the medical worker training system.

- Review the training curriculum and develop long-term plans for training curriculum reform appropriate for different forms of training. For trainees recruited from their medical facilities and others from localities where they are expected to return, there is a need to review and adjust the training curriculum towards a greater community health orientation. It should be made appropriate for the morbidity patterns and health care needs of the people at present, to ensure that trainees, upon completion of their training, will return to their communities to work and that they have adequate knowledge and skills to meet healthcare needs in their community.
- Develop a system of accreditation and criteria for health worker training quality accreditation. Organize training of experts to be responsible for education quality accreditation.

Appropriately deploy and remunerate health workers in disadvantaged regions

- There is a need for assessment of the effectiveness of training of health workers in remote and isolated areas to make appropriate adjustments.
- Strengthen training aimed at updating knowledge of existing health workers through learning by doing for health workers in disadvantaged areas.
- Strengthen monitoring, supervision of implementation of existing policies on human resources aimed at improving effectiveness in implementation and timeliness in adjusting policies.
- Relying on recent research on remuneration of health workers in rural and disadvantaged areas, at the commune level, determine the level of salary supplements needed to retain and attract health workers to the commune health stations in disadvantaged regions, and find solutions to motivate them to update knowledge, and work to better meet the needs of the people.
- Implement remuneration policies and create advantageous conditions to attract health workers to work in disadvantaged areas, for example special salary supplements, increased salary, housing, transport funds, conditions to upgrade skills and qualifications, and appropriate rewards.

2.4. Pharmaceuticals and medical equipment

Improve the system of policy documents

- Recommend revisions to the Pharmaceutical Law. Approve the new National drug policy for the period 2011–2020, the Strategy for the development of the pharmaceutical sector to the year 2020 and a vision to 2030 and the draft VIth Essential drug list.

Manage drug prices

- Implement a pilot for management of drug prices for drugs procured using state budget or health insurance funds according to the policy of capping the overall margin allowed between import and wholesale drug prices.
- Research to develop a national competitive bidding model for procurement of drugs paid for from the health insurance fund.
- Study and issue a generic drug policy that covers all stages from registering drugs, production and quality assurance through prescribing and use.

Strengthen drug and vaccine quality

- Increase the number of professional pharmaceutical inspectors in the provinces. In selected localities, decentralize responsibility for pharmaceutical inspections to the district health bureau.
- Develop a project to improve capacity of the drug quality verification system: invest and develop facilities to assess bioequivalence and bioavailability.
- More tightly monitor the various stages from distribution to storage and injections in order to avoid vaccine adverse reactions.

Strengthen rational use of antibiotics

- Improve the role and effectiveness of drug and therapy committees in hospitals with regards to supervision and implementation of rational antibiotic use.
- Strengthen and improve capacity of the microbiology departments of hospitals.
- Set up a network for monitoring use of antibiotics and antibiotic resistance in hospitals and the community.
- Develop standard procedures for developing and updating the drug formulary that requires consideration of cost-effectiveness criteria for new drugs to be added to the list, and for drugs to be dropped from the list.

Related to medical equipment

- Review and update the essential medical equipment lists at medical facilities.
- Develop an official occupation code for the government pay scales for staff managing medical equipment.
- Implement development of a project of health technology assessment, starting by focusing on high tech, high cost services, expensive drugs, common technologies that are widely used and methods to control implementation of clinical guidelines in order to limit abuses of drugs, technologies and laboratory tests.
- Ensure funds and human resources so the three Centers for Standardization and Quality Control of Laboratory Testing can implement their responsibilities effectively.
- Strengthen maintenance, servicing and repair of medical equipment.

2.5. Health information

Improve policies and plans for developing the health information system

- Draft a comprehensive plan for developing the health information system.
- Write regulations on health information technology standards.
- Draft legislation on the functions and tasks of health sector statistical organizations.
- Develop regulatory documents on the obligations and responsibilities for updating and reporting data on service provision activities of private sector health facilities.

Strengthen the ability to meet needs of data and information users

- Assign clear responsibility to a specific unit for disseminating statistics and reports at each level of the health system.

- Issue general statistical reporting regulations for the provincial, district and commune levels.
- Develop plans and implement statistical surveys according to Prime Ministerial Decision No. 803/QD-TTg, dated 28 June 2012, especially the second national health survey, which will require technical assistance and financial support from donors.
- Develop national health databases.

Develop a system for monitoring priority health issues

- Set up a network for collecting information on non-communicable diseases. Research the possibility of including biometrics testing (e.g. blood and urine tests) in future national health surveys.
- Gather information on mortality and cause of death in the community either through verbal autopsy techniques, or through regular implementation of burden of disease studies.
- Coordinate evidence-gathering and research by national research institutions, and international partners to focus on priority problem areas where progress is too slow to meet plan targets.

Gradually apply information technology in the health information system

- Develop general reporting software for each level.
- Deploy uniformly in all medical facilities a program of disease coding following ICD10 and procedure coding according to ICD9-CM.
- Encourage wide dissemination of health systems data and health sector research through the websites of the Ministry of Health, and institutes, schools, research units, training establishments, etc.

2.6. Governance

Continue to complete the health sector legal system according to annual Government assignments in the program for developing legal documents.

Complete and stabilize the organizational model for the health network at each level, especially the grassroots health system. Organize an assessment and review of the local health system organizational model in order to stabilize the organization in line with Politburo Resolution No. 46-NQ/TW, specifically "professional health service providers in localities should be managed by the health sector."

Improve the capacity and effectiveness in monitoring and supportive supervision of health policy implementation

- Develop and issue a set of rapid monitoring and evaluation indicators for each building block of the health system for provincial health bureaus to use in supervision and health sector planning.
- Strengthen the supervision and evaluation functions of agencies under the Ministry of Health and provincial health bureaus for implementation of tasks in every health-related area.
- Gradually improve and update monitoring and evaluation indicators of the JAHR report to use as an instrument to contribute towards ensuring accountability in implementation of objectives and major tasks of the health sector.

Strengthen the participation of important stakeholders in the process of policy formulation, health sector plan development and implementation

- Develop regulations on gathering and analyzing comments from the people and various important stakeholder groups in the process of developing and improving health policies.
- Develop regulations officially allowing professional associations to participate in standardization of healthcare quality.

Strengthen inspections and verification: Consolidate the organization and human resources of the health sector inspectorate at all levels. Ensure an adequate number of inspectors to meet requirements for implementing health sector inspections.

Strengthen continuity of care between different levels of the curative care system through appropriate professional guidelines and payment system design.

Encourage integration and linkages between preventive medicine, curative care and rehabilitation in developing a basic package of health care to be paid by health insurance.

3. Macro-level management of medical examination and treatment.

3.1. Improve the legal framework and management of health facilities

Move towards granting time-limited licenses for health care facilities

- Strengthen competent and qualified human resources for the Vietnam Administration of Medical Services (Ministry of Health) and provincial health bureaus to carry out inspection and regular monitoring of licensed health care facilities to ensure they continue to meet licensing conditions, and consider revocation or suspension of licenses if the facilities do not meet the required quality conditions.
- Amend the Law on Examination and Treatment in the direction of granting time-limited operating licenses for facilities and practice licenses for practitioners.

Supplement specific tools/indicators of quality of health facilities

- Organize the development of a set of indicators measuring the quality of health care at hospitals, and pilot application in some types of health care facilities;
- Set up a medical examination and treatment database, starting with training and applying international classification of disease codes ICD9-CM and ICD10 in hospitals, and organize procedures for monitoring and supervising quality of the classification;
- Issue a national toolkit and indicators to measure quality for each type of health facility. Establish a national database on health care quality

Develop mechanisms to encourage applications for hospital accreditation

- Develop and implement regulations on payment for health care at higher prices for accredited health facilities (primarily paid by the health insurance fund).

Improve quality of care through refining the organization of the health care network, effective use of resources at all levels, ensuring continuous improvement in health care services

- Refine the capitation-based payment method (Circular No. 09/2011) to encourage medical examination and treatment of common diseases at lower levels.

- Continue to improve capacity of health facilities.
- Develop policy mechanisms to discourage higher level facilities from providing health care services that belong to the scope of responsibility of lower levels.
- Refine the organization of the health care network to ensure it operates as a system through supplementation and amendment of sub-legal documents on the functions, tasks and relationships between health facilities, across levels of care in the network. Restore the referral system and develop regulations (exchange, sharing and storage) on management of information on diagnosis and treatment of patients between facilities.
- Propose to remove the regulations allowing partial reimbursement by the insurance fund for insured patients bypassing to seek care at higher levels (except for emergencies) (refine Decree No. 62/2011).
- Revise the autonomy policy to limit unintended effects, including overcrowding at higher facilities.

Strengthen capacity in health care service management

- Adjust the organizational apparatus of health authorities (Ministry of Health, provincial health bureaus and medical units of other sectors) to perform their functions of monitoring and supervision to ensure and improve service quality.
- Strengthen the role and participation of professional associations and promote the role of the health insurance agency to ensure and improve service quality.
- Appoint more managerial staff responsible for service quality at the Vietnam Administration of Medical Services and provincial health bureaus.
- Train on quality management and service quality for managerial staff at all levels.
- Hold specialized training on quality management for managers.

3.2. Refine the legal framework and management of health professionals

Develop and issue basic professional standards for most types of health care workers.

- The Ministry of Health should carry out studies on the basic competencies needed for different types of health care workers, but first and foremost for doctors and pharmacists as a basis for further development of basic professional standards.
- Along with the development of a basic professional competency standards system, it is necessary to develop a system of monitoring and evaluation to allow for timely revisions and amendments to the system.

Implement accreditation of education programs for health care workers.

- Make preparations and set up independent quality accreditation of health sciences training curricula and develop criteria and guidelines for assessment of educational programs. Develop the relevant legislation for medical training accreditation.
- In the long term, it will be necessary to make accreditation of training curricula at all schools a regular and compulsory activity.
- In addition to the curriculum accreditation, it is also necessary to organize joint national graduation exams for all schools to ensure the uniformity of the graduates in terms of quality.

Supplement and revise the circular guiding continuous medical education

- The revised circular should focus on medical workers involved in examination and treatment. With other medical workers, general state regulations could be used or special regulations could be issued. Articles of the legislation should ensure the feasibility of implementing the circular contents.
- The health sector should develop a long-term strategic plan for continuing education for health human resources and a system to monitor and supervise the work of continuing medical education, including legal documents.
- Enhance appropriate and truly effective forms of re-training, continuing education for medical staff in lower levels. At the same time research other ways of organizing practical professional training with guidance and supervision for newly graduated medical workers.

Gradually promote the role of professional associations.

- Implement information and communication activities on the role of professional medical associations and supportive measures, capacity building for associations to gradually orient them to participate in professional quality assurance activities and provide professional training to their members.
- Analyze health human resources policies on a periodic basis to review their implementation and assess the need for revisions or amendments to ensure effective implementation.
- The Ministry of Health should approve more scientific study proposals on medical service quality for relevant research agencies, in order to serve the medical service quality improvement tasks and health human resources quality.

3.3. Refine the legal framework and management on pharmaceuticals, medical equipment and infrastructure

Pharmaceuticals and biologicals

Improve implementation of existing legal documents

- Strengthen the management, control and oversight of legislation enforcement. Establish an information storage system of results from management, control and oversight.

Improve drug quality control

- Develop and implement mechanisms to ensure drugs purchased through bidding are used in health facilities and that retail drug outlets reach GPP standards.
- Increase resources for inspection, verification of drug quality, and review the work of drug quality control to improve the performance of related agencies.
- Establish an inter-ministerial committee to control counterfeit and substandard drugs with clearly defined tasks and responsibilities.
- Strengthen capacity in testing bioavailability and bioequivalence of laboratories.

Strengthen supervision and monitoring of rational and safe use of drugs

- Strengthen the limited performance of drug selection and monitoring of drug use by the drug and therapy committee through legal documents and direct supervision from higher level management agencies.
- Make the antibiotic use monitoring program a regular activity.
- Strengthen community participation in drug quality management.
- Upgrade microbiology laboratories. Set mandatory regulations on drug susceptibility testing (DST) and antibiotic prescribing based on antibiotic resistance statistics.
- Develop an electronic database on drug interactions, side effects and determination of the appropriate dose to help doctors prescribe rationally.
- Establish an information verification system to determine unsafe and irrational prescriptions to detect and provide training on substandard prescription habits with a view towards supporting improvement, not punishment of mistakes.

Medical equipment and infrastructure

Improve the medical equipment and infrastructure management system

- Inspect and supervise activities of all departments responsible for medical equipment and infrastructure management at all levels. Make plans for regular capacity strengthening for staff assigned to medical equipment management and develop concrete task assignments along with guidelines if necessary.

Regulate medical equipment

- Conduct research to set up a medical equipment control system.
- Strengthen human resources (especially technical staff on testing and calibrating medical equipment), facilities, and regulations for the three recently established regional Centers for Standardization and Quality Control of laboratory testing.
- Study and gather evidence and prepare justifications for the development and promulgation of the law on medical equipment management.

- Develop a standard list of medical equipment for the HIV/AIDS prevention and control system at all levels; develop a standard design model for HIV/AIDS control and prevention centers.

Enhance effectiveness of medical equipment and infrastructure investment

- Set up a system for regular monitoring and evaluation of effectiveness of medical equipment and infrastructure investments in order to serve development of policies for management of medical equipment and infrastructure.
- Implement assessments of health technologies Assess the current situation of medical equipment and infrastructure, develop databases on medical equipment and infrastructure, store information so it can be used for health technology assessment to support the formulation of strategies and policies on medical equipment and infrastructure.
- Study and propose legislation on procurement and sale of advanced technologies.

4. Management of service quality at health facilities

4.1. Develop a mechanism, arrangements and resources for hospital quality management

- Develop comprehensive programs, plans and projects on hospital quality improvement.
- Prepare a proposal to set up an accreditation agency as stipulated in the Law on Examination and Treatment and Decree No. 87.
- The Ministry of Health should issue and implement the Circular on quality management in hospitals, including establishment of quality management committee/unit/team to enforce hospital quality improvement activities.
- Focus priorities on improvement of outpatient clinics and clinical departments; implement projects on quality improvement focusing on reducing waiting time, patient safety, administrative procedure reform; pilot projects on management methods and quality improvement. Develop a project on assessment of patient satisfaction and pilot it in the field.
- Integrate quality management into hospital management and nursing management training programs. Strengthen infection control training for full-time staff. Strengthen human resources and investments in infection control. Strengthen human resources in nursing, midwifery, medical technology according to Circular No. 08. Study and propose improvement in remuneration for health professionals based on international experience.
- The Ministry of Health must strengthen the development and updating of treatment guidelines and clinical guidelines whose contents focus on principles, while assigning hospitals the task of developing standard operating procedures (SOP) and localized guidelines for their own use. Organize training/coaching on clinical guideline development for hospitals.
- Establish an independent quality accreditation organization in Vietnam; pilot and assess the accreditation process and draw experience. Research the possibility of merging various committees related to quality and safety into one single Quality Management Committee with the responsibility to implement projects on hospital

quality improvement. Conduct systematic assessment of patient satisfaction at the national and institutional level.

- Conduct study and application of methods and quality models suitable for each type of hospital; Disseminate application of quality improvement tools in hospitals.
- Train on integrated quality management at medical and pharmaceutical schools and training programs for hospital managers; apply different forms of training and continuous medical education on quality control.
- Study, adjust, and assign professional associations the task of developing and updating clinical guidelines, submitting them to the Ministry of Health for approval.
- Develop hospital prices that include nutrition costs as part of the treatment method to improve the feasibility of medical diets, providing meals for the sick and strengthening nutrition care in hospitals.

4.2. Promote application of information technology in health care quality management

- Develop a master plan for application of information technology in the health sector.
- Develop information technology standards in the health sector
- Study and design training programs on applied informatics in health care.
- Develop incentives and a legal basis for electronic medical records.
- Implement projects on information technology application in hospital management, electronic medical records, telemedicine and smartcards. Pilot the model of electronic medical records and smartcards in some hospitals to draw experience and replicate at scale. Strengthen training on health information technology. Expand the application of software supporting drug use: electronic prescription, drug interaction warning software.

4.3. Strengthen hospital management information systems

- Establish a national and institutional voluntary errors/incident reporting system to draw from the experience and investigate systematic causes of problems, and then propose remedies and preventive measures.
- Set up hospital infection surveillance system at national, provincial and hospital levels.
- Develop a set of national standards on hospital quality suitable for the setting in Vietnam with participation of hospitals.
- Develop a set of national indicators on hospital quality as a basis for assessing and implementing quality improvement projects.
- Measure hospital quality indicators and implement improvement projects. Develop a set of quality indicators for other health facilities. Review reporting through reports on quality.

4.4. Adequate implementation of quality management regulations and methods

- Implement consistent solutions to improving health care quality according to the approved program.

- Expand patient safety programs; apply the surgical safety checklist widely.
- Amend and supplement the blood transfusion regulation, and strengthen guidance for its implementation, inspection and supervision.
- Review the implementation of Circular 18 on infection control. Strengthen education and awareness-raising on infection control. Hold specialized training on infection control training with different levels for different target groups.
- Refine the regulations on management of lab test quality (Circular and national technical standard regulations on medical laboratories). Strengthen the operation of three Centers for Standardization and Quality Control of laboratory testing, develop project on reference laboratories.
- Strengthen specialized verification of safe, rational use of drugs and activities of the drug and therapy committees.
- Develop programs, materials and training curricula on injections and intravenous therapy.
- Check and assess implementation of Circular No. 7 on patient care following a specific roadmap with concrete targets. Strengthen equipment and instruments for patient care, and scale up the group-based, team-based care model. Study and pilot a medical secretary position to take on administrative and finance work, and allow nurses to spend more time on patient care and perform other nursing functions.
- Strengthen verification of the implementation of Circular No. 8 on hospital nutrition. Include daily meals into daily medical prescribing of doctors, and ensure that hospitals can provide meals to patients based on their medical needs.
- Strengthen education on professional ethics for health workers, including medical students. Guide the implementation of the code of conduct and interpersonal communication skills
- Develop curricula for continuous medical education on patient safety. Integrate patient safety topics into training programs of medical schools (doctors, nurses, midwives, technicians, pharmacists, etc.). Strengthen inspection of regulations on safe blood transfusion. Study the application of certification requirements for staff providing intravenous therapy. Develop and complete the national lab test quality standardization and control system of laboratories according to the National Action Program for Improving Lab test quality. Develop and deploy guidance for prophylactic use of antibiotics. Apply quality standards for patient care; successfully implement the national action plan on nursing, midwifery for the period 2012–2020. Develop a national action plan on hospital nutrition with the goal of ensuring that the hospital provides nutritional needs of patients so they don't have to do it themselves.

5. Promote the role of patient and community in service quality improvement

- Review and supplement the Hospital Regulations on observing the rights and obligations of patients; collect and handle patient feedback to improve service quality.
- Organize information provision activities and improve necessary knowledge and skills for patients so that they can help detect risks related to service quality and give feedback to doctors, hospital leaders or other authorities.

- Recommend amending the Law on Examination and Treatment, to clearly state the rights of patient to participate in monitoring and improving service quality; and the obligations for disclosure of information on hospital quality.
- Develop a quality accreditation system and a mechanism for disseminating hospital quality information.

6. Payment methods and quality of health care services

6.1. Regulations on payments for health services and budget allocation

- Promote the process of updating service prices for the entire list of services on the basis of full cost information. Collect reliable data on costs to adjust the rate of payment in a more rational and efficient manner.
- Adjust the budget allocation mechanism for different specialties that takes into account adjustments to reduce differentials and increase equity in income between specialties. Minimize dependence on "market" advantages of various specialties rather than professional competency or degree of contribution.

6.2. Monitor allocation and use of surplus from service revenues

- Implement “transparent distinction of public and private" in public hospitals: issue specific guidelines to ensure full accountability of the hospital along with increased autonomy. Prohibit autonomous departments within hospitals; prohibit overprovision of services to maximize revenue; restrict investment in the form of capital contribution with profit-sharing, and placement of medical equipment in facilities by private enterprises who then have a monopoly for supplying chemicals and other required inputs.[15]
- Continue to study and propose salary and remuneration policies for health workers. Promote non-pecuniary values, ethics and develop a "quality culture". Study and propose increased top-up of salary independent from direct revenue from service charges.
- Study and propose policies to better orient the health delivery system to ensure that hospitals move toward social goals rather than purely economic objectives.

6.3. Increase research on application of more effective payment methods

- Study and pilot quality-based payment methods, including (i) Performance-based payment; (ii) provide funding packages for projects on improving service quality, including innovation of improvement and/or application of improvement models, quality assurance, primarily for project management programs and chronic disease care in community.
- Study and pilot results-based payment methods (focus on quality of activity/service) to encourage the provision and use of basic services (preventive services, early care instead of curative services, high-tech services), and the principle of universal coverage, *with appropriate and basic health care packages of disease prevention, treatment and rehabilitation at affordable costs for the people*.
- Design quality-based payment in the process of developing package payments or capitation-based payment whose implementation is currently being scaled up.

- Study and propose the capitation fund size for a specific population size, taking into account the degree of risk, frequency of service use - instead of the current fund, which pools risk only within a district.
- Develop and apply care pathways, encourage (and make compulsory for health insurance reimbursed services) use of care pathways for common disease groups, and diseases with high volume of service utilization and diseases accounting for a high proportion of total health care costs.
- Strengthen the Steering Committee and Technical Group on Transforming Payment Methods; improve technical capacity and guidance related to the study, pilot testing and scale-up of various forms of incentives for performance and quality of care.

6.4. Enhance consistency and quality of medical service databases

- Develop and implement programs on improving quality of data and statistics in order to meet requirements for monitoring, oversight and evaluation, and apply various forms to encourage service quality.
- Prioritize the development of grouper software (clinical information according to the international classification - ICD9-CM and ICD10). Construct and develop the HMIS as a management model suitable for a results-based management mechanism in which quality is of prime importance (performance based).

6.5. Strengthen supervision, and accreditation of service quality

- The supervision of medical examination and treatment must be strengthened with clear responsibilities of the payer (Vietnam Social Security) and service users, and encourage independent participation of social and professional organizations.
- Provide practical training on supervision of service quality for managerial staff, staff of Vietnam Social Security and managers of hospitals/health facilities.
- Study and propose mechanisms for post-inspection sanctions, bonuses and penalty mechanisms linked with ex post checking. Reform inspection methods: by applying probability rules, prioritizing supervision of diseases with highest volumes, and high costs.
- Change the form of clinical audit and quality audit, gradually consolidate the supervision, audit system (internal - external), to enhance quality audit work of independent observation and audit agencies.

Appendix: Monitoring and Evaluation Indicators

Monitoring Indicators		Unit	Disaggregation	Year				Type of indicator*	Source of information*	Main proposer of indicator
				2009	2010	2011	2015			
	CORE INDICATORS									
1	Life expectancy	Years	Overall	72.8	72.9	73.0	74	B,C,H	GSO (SPCFP)	MOH/ HPG
			Male	70.2	70.3	70.4	..			
			Female	75.6	75.7	75.8	..			
2	Total fertility rate (TFR)	Children per woman in childbearing ages	National	2.03	2.00	1.99	1.86	B	GSO (SPCFP)	MOH/ HPG
			Red River Delta	2.11	2.04	2.06	..			
			Northern Midlands and Mountains	2.24	2.22	2.21	..			
			North and South Central Coast	2.21	2.21	2.21	..			
			Central Highlands	2.65	2.63	2.58	..			
			Southeast	1.69	1.68	1.59	..			
			Mekong River Delta	1.84	1.80	1.80	..			
3	Annual reduction in fertility	‰	Overall	-0.9	0.5	0.5	0.1	B,C,H		MOH
4	Population growth rate	%	Overall	1.06	1.05	1.04	0.93	B,C,H	GSO (SPCFP)	MOH

Monitoring Indicators		Unit	Disaggregation	Year				Type of indicator*	Source of information*	Main proposer of indicator
				2009	2010	2011	2015			
5	Population	Million people	National	86.0	86.9	87.8	<92.0	B,C,H	GSO (SPCFP)	MOH
			Red River Delta	19.6	19.8	20.0	..			
			Northern Midlands and Mountains	11.1	11.2	11.3	..			
			North and South Central Coast	18.9	18.9	19.0	..			
			Central Highlands	5.1	5.2	5.3	..			
			Southeast	14.1	14.6	14.9	..			
			Mekong River Delta	17.2	17.3	17.3	..			
			Urban	25.5	26.5	27.8	..			
6	Maternal mortality ratio (MMR)	Per 100 000 live births	National	69.0	68	67	58.3	B,C,D,H	GSO	MOH/ HPG
7	Infant mortality rate (IMR)	Per 1000 live births	National	16.0	15.8	15.5	14.8	B,C,D,H	GSO (SPCFP)	MOH/ HPG
			Red River Delta	12.4	12.3	12.5	..			
			Northern Midlands and Mountains	24.5	24.3	23.0	..			
			North and South Central Coast	17.2	17.1	17.1	..			
			Central Highlands	27.3	26.8	24.3	..			
			Southeast	10.0	9.6	9.3	..			
			Mekong River Delta	13.3	12.6	12.2	..			
8	Under-five mortality rate (U5MR)	Per 1000 live births	National	24.1	23.8	23.3	19.3	B,C,D,H	GSO (SPCFP)	MOH/ HPG

Monitoring Indicators		Unit	Disaggregation	Year				Type of indicator*	Source of information*	Main proposer of indicator
				2009	2010	2011	2015			
9	Malnutrition rate of children under age 5 (underweight)	%	National	18.9	17.5	16.8	15.0	A,B,C,H	NIN	MOH
			Red River Delta	17.5	14.6	12.7	..			
			Northern Midlands and Mountains	24.0	22.1	20.8	..			
			North and South Central Coast	20.8	19.8	18.4	..			
			Central Highlands	26.5	24.7	23.5	..			
			Southeast	14.4	10.7	9.7	..			
			Mekong River Delta	18.3	16.8	15.2	..			
10	Malnutrition rate of children under age 5 (stunting)	%	National	31.9	29.3	27.5	26.0	B,C,H	NIN	HPG
			Red River Delta	28.1	25.5	22.9	..			
			Northern Midlands and Mountains	34.8	33.7	32.1	..			
			North and South Central Coast	31.9	31.4	30.2	..			
			Central Highlands	37.0	35.2	34.3	..			
			Southeast	25.9	19.2	18.3	..			
			Mekong River Delta	29.4	28.2	26.8	..			
11	Doctors per 10 000 people	Per 10 000 people	National	6.59	7.20	7.23	8.0	C, H	MOH	MOH/ HPG
12	Proportion of commune health stations with a doctor	%	National	67.7	70.0	71.9	80	B,C,H	MOH	MOH
			Red River Delta	73.2	75.7		..			
			Northern Midlands and Mountains	58.2	61.9		..			
			North and South Central Coast	65.9	66.2		..			
			Central Highlands	49.5	57.8		..			
			Southeast	78.4	80.5		..			
			Mekong River Delta	80.1	80.7		..			

Monitoring Indicators		Unit	Disaggregation	Year				Type of indicator*	Source of information*	Main proposer of indicator
				2009	2010	2011	2015			
13	Proportion of commune health stations with an obstetrics/pediatrics assistant doctor or midwife	%	National	95.7	95.6	95.3	>95	B,C,H	MOH	MOH
			Red River Delta	96.3	92.5		..			
			Northern Midlands and Mountains	94.0	95.3		..			
			North and South Central Coast	96.2	96.6		..			
			Central Highlands	95.4	96.7		..			
			Southeast	97.2	97.5		..			
			Mekong River Delta	96.1	97.3		..			
14	Proportion of villages with a village health worker	%	National	75.8	78.8	82.9	90	C,H	MOH	MOH
			Red River Delta	71.8	85.6		..			
			Northern Midlands and Mountains	95.7	97.2		..			
			North and South Central Coast	89.4	93.0		..			
			Central Highlands	97.0	93.9		..			
			Southeast	21.9	23.6		..			
			Mekong River Delta	88.2	80.6		..			
15	Public (state budget, social health insurance and external assistance) share of total health spending	%	National	42.2	44.6	..	≥50%		MOH/NHA	HPG
16	Proportion of the population covered by health insurance	%	National	58.2	60.3	64.9	80		MOH [19]	MOH

Monitoring Indicators		Unit	Disaggregation	Year				Type of indicator*	Source of information*	Main proposer of indicator
				2009	2010	2011	2015			
17	Proportion of population facing catastrophic health spending (total out-of-pocket health spending exceeds 40% of ability to pay of the household)	%	National	5.5 (2008)	3.9		..		Based on VLSS data [12]	HPG
18	Number of hospital beds per 10 000 people	Per 10 000 people	Public	20.2	21.7		23	B,C,H	MOH	MOH/ HPG
			Private	0.7	0.7		..			
19	Proportion of communes meeting commune health benchmarks (New benchmarks apply from 2011)	%	National	65.4 (2001-2010)	80.1 (2001-2010)	76.8	60 (2011-2020)	C, H	MOH	MOH/ HPG
			Red River Delta	78.6	91.1		..			
			Northern Midlands and Mountains	55.4	74.3		..			
			North and South Central Coast	61.0	73.8		..			
			Central Highlands	48.1	64.7		..			
			Southeast	72.5	87.5		..			
			Mekong River Delta	72.7	86.5		..			
20	Tuberculosis detection rate (AFB+)	Per 100 000 people	National	52.2	52.7	57.7	..		MOH/NTPs	MOH/ HPG
21	HIV prevalence rate	Per 100 000 people	National	187.0	211.3	224.4	<300	B,C,H	MOH/NTPs	MOH/ HPG
22	Dengue detection rate	Per 100 000 people	National	122.0	148.1		..		MOH/NTPs	HPG

Monitoring Indicators		Unit	Disaggregation	Year				Type of indicator*	Source of information*	Main proposer of indicator
				2009	2010	2011	2015			
23	Smoking prevalence	% of people aged 16 and older	National	..	47,4		..	B	MOH	HPG
24	Proportion of children born with low birth weight (< 2500 g)	%	National	5.3	..		NA	B	MOH	
25	Proportion of children under age 1 year who are fully immunized	%	National	96.3	94.6 (7 vac-cines)	96 (8 vac-cines)	>90 (8 vac-cines)	B,C,D,H	MOH/NTPs	MOH/ HPG
			Red River Delta	98.5	98.6	98.2	>95			
			Northern Midlands and Mountains	94.3	94.5	94.5	>90			
			North and South Central Coast	95.8	97.3	95.0	>95			
			Central Highlands	96.2	93.8	95.4	>90			
			Southeast	95.9	94.1	96.8	>90			
			Mekong River Delta	96.1	88.1	94.8	>90			
26	Proportion of births in which the mother had 3 or more antenatal care visits	%	National	..	79.23	82.6 (76.0)	80	D, F	MOH/NTPs (SPCFP)	MOH/ HPG
27	Proportion of deliveries assisted by skilled attendant	%	National	94.4	97.1	97.2	96	D,F	MOH/NTPs	MOH/ HPG

Monitoring Indicators		Unit	Disaggregation	Year				Type of indicator*	Source of information*	Main proposer of indicator
				2009	2010	2011	2015			
28	Sex ratio at birth	Boys per 100 girls	National	111.0	111.2	111.9	<113	B,C,H	MOH/SPCFP	MOH/ HPG
			Red River Delta	115.3	116.2		..			
			Northern Midlands and Mountains	108.5	109.9		..			
			North and South Central Coast	109.7	114.3		..			
			Central Highlands	105.6	108.2		..			
			Southeast	109.9	105.9		..			
			Mekong River Delta	109.9	108.3		..			
29	Proportion of medical facilities whose medical waste is treated	%	National	74.0			80	A,H	MOH	MOH/ HPG
	HUMAN RESOURCES FOR HEALTH									
30	Number of university-trained pharmacists in state facilities per 10 000 population	Per 10 000 people	National	1.77	1.76		1.8	C,H	MOH	
31	Proportion of health workers with a practice license (among those required to have a license)	%	In public general or specialized hospital or traditional medicine hospital	0	0	0	100 (2013)		MOH	
			In medical appraisal, government clinic or maternity ward.	0	0	0	100 (2014)			
			In diagnostic service facility, emergency transport, commune health station	0	0	0	100			
			In private sector	0	0	0	100 (2012)			

	Monitoring Indicators	Unit	Disaggregation	Year				Type of indicator*	Source of information*	Main proposer of indicator
				2009	2010	2011	2015			
	TÀI CHÍNH Y TẾ									
32	Health spending as a share of GDP	%	National	6.6	6.9		..		MOH/NHA	
33	Per capita total health spending (current prices)	1000 VND	National	159.9	185.3		..		GSO	
			Red River Delta	142.2	208.9		..			
			Northern Midlands and Mountains	213.6	229.2		..			
			North and south Central Coast	153.4	165.6		..			
			Central Highlands	184.0	192.2		..			
			Southeast	183.1	203.3		..			
			Mekong River Delta	126.4	134.4		..			
34	Out-of-pocket share of total health spending	%	National	50.5	47.6		..		MOH/NHA	
35	Spending per user of inpatient services over the past 12 months	1000 VND	National	2897 (2008)	3400		..		VLSS/GSO	
36	Spending per user of outpatient services over the past 12 months	1000 VND	National	640 (2008)	755		..		VLSS/GSO	
	PHARMACEUTICALS, BIOLOGICALS, MEDICAL EQUIPMENT									
37	Proportion of drugs detected as substandard	Per 10 000 tested samples	National	330	312				DAV	
38	Ratio of retail pharmacies per 10 000 people	10 000 people	National	4,9	5,0				DAV	

	Monitoring Indicators	Unit	Disaggregation	Year				Type of indicator*	Source of information*	Main proposer of indicator
				2009	2010	2011	2015			
39	Proportion of blood units that have been screened for 5 infectious diseases prior to transfusion (HIV, hepatitis B and C, malaria and syphilis)	%	National	..			100		MOH/NTP	
	HEALTH SERVICE DELIVERY (EXAMINATION AND TREATMENT, PREVENTIVE MEDICINE, HIV/AIDS, FOOD SAFETY, POPULATION, REPRODUCTIVE HEALTH CARE, NATIONAL HEALTH TARGET PROGRAMS)									
40	Inpatient admissions per 100 people per year	Per 100 people	National	13.3	13.7		..		GSO/VLSS	
41	Number of outpatient visits per person per year	Per 100 people	National	37.7	39.9		..		GSO/VLSS	
41 42	Proportion of people with inpatient or outpatient contacts who have a health insurance card or fee exemption card.	%	National		66.7	..	..		GSO	
			Poorest		74.4	..				
			Near poor		61.2	..				
			Middle		60.4	..				
			Better off		66.6	..				
			Richest		70.9	..				
43	Average length of inpatient admission	Days	National	6.9	7.4	6.8	..		MOH	
			Central level	10.8	10.3	9.4	..			
			Other sectors	11.0	11.0	6.6	..			
			Local (provincial, district)	6.7	7.1	6.6	..			

Monitoring Indicators		Unit	Disaggregation	Year				Type of indicator*	Source of information*	Main proposer of indicator
				2009	2010	2011	2015			
44	Tuberculosis (AFB+) cure rate	Per 100 000 people	National	90.6	90.5	90.8	..		MOH/NTPs	
45	Malaria incidence rate	Per 100 000 people	National	70.8		62.0	<15 by 2020		MOH/NTPs	
46	Leprosy prevalence rate	Per 100 000 people	National	0.04	0.04	..	0.2		MOH/NTPs	
47	Leprosy detection rate	Per 100 000 people	National	0.41	0.41	0.37	0.3		MOH/NTPs	
48	HIV incidence rate	Per 100 000 people	National	16.1	15.9	16.1	..	B,F	MOH/NTPs	
49	Proportion of communes integrating community mental health into commune health station activities	%	National	63.8	..	70.0	..		MOH/NTPs	
50	Proportion of hypertension patients receiving treatment	%	National	..	..	..	..		MOH/NTPs	
51	Proportion of diabetics receiving treatment	%	National	..	..	..	..		MOH/NTPs	
52	Proportion of women aged over 40 screened for breast cancer	%	National	..	..	..	20		MOH/NTPs	
53	Food poisoning	Victims	National	5212	5397	4700	..		MOH/NTPs	
		Incidents	National	152	173	148	..			
		Deaths	National	35	49	27	..			

Monitoring Indicators		Unit	Disaggregation	Year				Type of indicator*	Source of information*	Main proposer of indicator
				2009	2010	2011	2015			
54	Proportion of pregnant women who have received 2 or more tetanus vaccinations	%	National	93.7	93.5	94.5	..			
55	Proportion of woman and newborns receiving postnatal/postpartum care within 42 days after birth	%	National	89.2	87.8	87.7	85.0		MOH/NTPs	
56	Proportion of women and newborns receiving postnatal/postpartum care	%	National	81.9	82.6	85		F	MOH/NPTs	
57	Contraceptive prevalence rate	%	National	..	78.0	78.2	100	D		
58	Proportion of households using improved latrine	%	National	48	51.4	55	65		MOH/NTPs	
59	Proportion of households using improved drinking water source	%	National	79	75	78	85		MOH/NTPs	

*Notes on indicators and sources of data

A National Assembly indicator assigned to the health sector

B Government indicator assigned to the General Statistics Office and Ministry of Health for collection

C Indicator in Five-year Health Sector Plan

D	Millennium Development Goal
E	WHO recommendation
F	Indicator in National Health Target Program
H	National Strategy for the protection, care and promotion of the people's health 2011–2020 and vision to 2030
HPG	Health Partnership Group
GSO	General Statistics Office
MOH	Ministry of Health
NHA	National Health Accounts
NIN	National Institute of Nutrition
NTP	National Target Program
SPCFP	Survey of Population Change and Family Planning (GSO)
VHLSS	Vietnam Household Living Standards Survey (GSO)

Principles for selecting and deciding on the monitoring and evaluation indicators

The indicator list of JAHR was agreed to develop from the JAHR 2011. The indicators were selected based on the following criteria:

- Goals assigned by the National Assembly to the health sector;
- Government targets assigned to the health sector by the Prime Minister in Decision No. 43/2010/QD-TTg;
- Targets in the draft National Strategy for the protection, care and promotion of the People's health for the period 2011–2020 and Vision to 2030.
- Millennium Development Goals to which Vietnam is committed;
- Targets in the five-year health plan 2011–2015;
- Targets Vietnam has committed to achieve in the EU budget support program.
- Indicators representing 3 groups: inputs, processes and outcomes of the health system.

The indicators are classified into five groups: (i) Core indicators are the key indicators that the health sector must monitor since they are the targets assigned by the National Assembly and the Government to the health sector. These indicators (19 indicators) are also required in the five-year health plan for the period 2011–2015, in the draft National Strategy for the protection, care and promotion of the People's health for the period 2011–2020 and vision to 2030. In addition, a number of indicators in this group were requested by the Ministry of Health and Health Partnership Group.

The four remaining groups are divided into the building blocks of the health system proposed by WHO including: (ii) Human resources for health; (iii) Health financing; (iv) Pharmaceuticals, biologicals, medical equipment; and (v) Health service delivery.

The amendments and improvements to the monitoring and evaluation indicators in JAHR 2012 are mainly related to creating the group of core indicators for monitoring and evaluation, assessing impact of health financing policies and indicators belonging to the National health goals and some indicators that Vietnam has committed to achieve in the EU budget support project. Many indicators have been disaggregated by region, gender, living standard group in order to examine equity aspects and regional disparities. In addition, indicators on control of non-communicable diseases such as cancer, hypertension, diabetes have also been added in the 2011 report. The JAHR 2012 report has four main changes in indicators including:

- Remove the indicator of proportion of pharmacies that meet good practice standards (GPP);
- Add 3 new indicators including: Proportion of drugs detected to be substandard out of 10 000 selected for testing; Ratio of retail pharmacies per 10 000 population; number of rural households using improved drinking water sources.

Sources of information do not yet meet requirements. The Appendix indicates that there are still some indicators for which information has not yet been collected, including even for 2009. Among these indicators, it is important to note that indicators related to implementation of activities to control non-communicable diseases are still missing, like the proportion of hypertensive patients receiving treatment or the proportion of diabetic patients receiving treatment.

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