The Prospect of Universal Health Coverage and Equity Access to Health Care Services in Lao PDR

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Certification

I, BOUNKHAM Viengmany (Student ID 61114600) hereby declare that the contents of this PhD dissertation are original and true, and have not been submitted at any other university or educational institution for the award of degree or diploma. All the information derived from other published or unpublished sources has been cited and acknowledged appropriately.

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List of Abbreviations

ADB	Asian Development Bank
CBHI	Community-Based Health Insurance
FCU5	Free Children Under 5-year Care
FMAT	Free Maternal for All Treatment
GDP	Gross Domestic Product
GOL	Government of Lao
HEF	Health Equity Fund
ILO	International Labour Organization
IPD	In-patient Department
LAK	Lao Kip
MOH	Ministry of Health
MOLSW	Ministry of Labour and Social Welfare
NHA	National Health Account
NHIB	National Health Insurance Bureau
NIOPH	National Institute of Public Health
NSB	National Statistics Bureau
NSC	National Statistic Center
NSSF	National Social Security Fund
OOP	Out-Of-Pocket
OPD	Out-patient Department
SASS	State Authority Social Security
SSO	Social Security Organization
UC	Universal Coverage
UHC	Universal Health Coverage
UNDP	United Nations Development Program
WHO	World Health Organization

Abstract

The government of Lao PDR has aimed to achieve universal health coverage by 2025. However, the current coverage of health insurance schemes is lower than the planned expansion for 2015 which was 50% (the actual coverage was only 29% of total population in 2015). The research problem is why the planned coverage failed to reach the planned target and whether Lao PDR will be able to find solutions so that universal coverage can be achieved in the future. This dissertation examines the prospects of achieving universal health coverage and equity access to health care services in Lao PDR. The study includes qualitative and quantitative parts and a field study was also conducted for collection of original data from a large sample of 400 households living in 10 villages in the Xaythany district, Vientiane Capital for an in depth understanding of the issue. The study covers four major areas related to universal coverage and equity access to health service in Lao PDR, the health system and social protection schemes, the expansion of the coverage of health insurance schemes, the level of satisfaction with healthcare services among the insured versus uninsured households, and catastrophic health expenditures among insured and uninsured groups.

The study applies qualitative methods after reviewing the existing relevant literature and documents, by interviewing key informants involved in the implementation of health insurance schemes in Lao PDR as well as providers of health services at various levels from the Ministry of Health down to the district level. In addition, cross-sectional household survey was employed. Structured pre-coded questionnaires were used to collect information from 400 households, half of which were uninsured. An independent sample T-test was used to determine the levels of satisfaction on health care services among the insured and uninsured groups. The WHO catastrophic health expenditure analyzing tools were also employed to determine catastrophic health expenditure among insured and uninsured households in

The results of the study show that low capitation fees, overutilization of health services, unclear roles and mandates of institutions responsible for health insurance schemes, weak law enforcement, and low levels of social solidarity are crucial factors that have slowed the expansion of health insurance schemes in Lao PDR. While health service providers believe that introduction of copayment was necessary to improve the quality of care and eliminate unnecessary health seeking behaviors, health policy makers and health insurance managers did not support the co-payment as they feared that it would discourage people from joining health insurance schemes. The study also found that the insured group had different levels of satisfaction with the overall quality of services, drug supply, attitudes of staff and waiting time in the central hospitals compared to the uninsured group. At the district level, the insured and uninsured households also had different levels of satisfaction with the overall quality and drug supply. In addition, the analysis found that both the insured and uninsured experienced relatively high catastrophic health expenditures. Such high catastrophic expenditures reflect the inadequate depth of health insurance schemes in the country. From these findings, it could be argued that limited financial resources have been the major obstacle for Lao PDR to achieve universal health coverage by 2025, and strategies are needed to gradually increase coverage to expand the size of the insured pool of health care users. This would require policies to encourage the participation of private sector in healthcare, improvement of the quality at public health care facilities, introduction of user fees when possible, and provision of more depth of coverage to deal with catastrophic health care expenditures. This needs to be implemented with a more balanced approach in provision of health services.

Chapter 1: Introduction

1.1 Background

The global economic change has direct impacts on health services delivery. This in turn, influences the rising demand for high quality healthcare and modern medical technology accompanied by an increase in health expenditure per capita. High healthcare expenditures prevent low income groups from access to quality healthcare services. Globally, more than one hundred million people suffer catastrophic health payments and fall into poverty due to direct out-of-pocket payments for their healthcare annually (World Health Organization, 2010). Universal Health Coverage (UHC) is a key concept to promote equity access and prevent people from financial hardship of paying for healthcare. This concept is a long-standing aspiration of World Health Organization. It was a key part of the Primary Health Care and Health for All agenda outlined at Alma-Ata in 1978 (James, 2011).

Since then, many countries have adopted this concept and developed their health financing systems with the aim of ensuring equity access to needed services for all people. Some countries have committed and initiated to shift from direct payment for healthcare services to a pre-payment system in order to achieve universal health coverage and bring equity access to services for their entire population (World Health Organization, 2010a), while others opt to extend health insurance and services coverage to ensure the inclusion of services for the poor. Some developing nations including China, Malaysia, Rwanda and Thailand have successfully established universal coverage (World Health Organization, 2010b). Their successes resulted mainly from appropriate strategies and strong political leadership. For example, Thailand has good governance and strong public administration.

Their healthcare services focus on Primary Health Care[1] in order to ensure "close-to-client" services through sub-district hospitals nationwide (Tangcharoensathien et al., 2013). Similarly, with strong political will and a clear implementation plan, China, the world's largest population, could successfully achieve universal health coverage in 2011 (Hao, 2015).

On the other hand, in several low-income countries including Cambodia, Lao PDR, Myanmar, and Vietnam, due to economic challenges, a high proportion of the poor and informal sector workers are still struggling to attain universal coverage. The critical challenges facing low income countries include the expansion of health insurance and provision of needed healthcare to the entire population with the lowest out-of-pocket payment. They lack both the means and resources to provide health services, particularly for those who live in remote areas.

In a country where insurance coverage is high (almost 100 percent of total population), all necessary healthcare services may be covered by health insurance and is accessible for all income quintile groups (the poor, near poor, middle and high-income groups). This would enable the country to achieve universal coverage and the equity goal. Improved healthcare coverage would bring about improved health outcomes for the population. According to the Human Development Report (2015), in very high human development index countries such as Norway, Australia, Canada, Switzerland, Japan, and others, healthcare services are universal and equitable (United Nations Development Programme, 2015). By improving accessibility to healthcare and well-being, health outcomes would be better, which would contribute to economic growth, and poverty reduction. For example, Japan has the highest life expectancy (83.5 years) partly due to their universal coverage and equity access to healthcare services

[1] Primary Health Care or PHC: a strategy to provide basic healthcare to the entire population and all ethnic groups, which is appropriate for actual needs and acceptable to all the people. PHC expands the health network to remote areas based upon the principles of self-reliance and self-sufficient. It should enable everyone, including family and community, to access health services and to participate in their delivery, in

(Maeda et al., 2014; Organization for Economic Cooperation and Development, 2016). Universal health coverage appears to be very essential for a country to improve its health outcomes.

1.2 Issues of healthcare financing

One of the most important determinants for a country to move closer to universal health coverage is the healthcare financing system (World Health Organization, 2010). In response to a country's demands for universal health coverage, an appropriate health financing policy and strategy are needed to help the country to achieve their goals by improving equity, efficiency and sustainability in the three basic healthcare financing functions which include revenue collection, resources pooling, and purchase of services. The overall objectives of health financing policy and strategy are to uplift health outcomes, ensure financial protection, value of money, and consumer satisfaction across the health system (World Health Organization, 2009).

Most developing countries have not been able to meet the demands and expectation of the population in healthcare services due to a lack of funds, low quality of healthcare provision, and the negative impact of user fees (Jutting, 2003). As a result, the World Health Organization developed a strategy for countries in Asia Pacific Region (2010-2015) in 2009 to guide them to examine their healthcare financing status and identify practical measures to ensure that universal health coverage is obtained (World Health Organization, 2009).

In the case of Lao PDR, the government has developed Lao Health Financing Strategy (HFS) for the period 2010 - 2015 and 2015 - 2025 based on existing strategies on health financing in the region and the World Health Report in 2010. The new HFS was designed to be complementary to recently developed health sector strategies, including those for maternal, neonatal and child health, human resources for health, and health information systems

(Ministry of Health, 2014). The HFS is directly aligned with the stated objectives and priorities of the health sector detailed in the Lao Health Sector Reform Framework by 2025. This strategy aims at achieving the Millennium Development Goals by 2015, and universal coverage by 2025.

In addition to the Healthcare financing strategy and policies mentioned above, the Lao government issued the Decree No. 470/PM on National Health Insurance (NHI) in 2012, and one year later National Health Insurance Bureau (NHIB), an organization for national health insurance, was setup under the Ministry of Health. At the same time, the new Law on Social Security was approved by the National Assembly in 2013. This law aims at enlarging the state social security scheme to ensure that all the population, including non-salaried and salaried workers, is included. The government believed that the new law was an important legislation that can help to expand social security coverage to half of the total population by 2015. Under the law, the state and private employers, employees, and those who voluntarily join the social security scheme have an obligation to provide financial contributions to the National Social Security Fund (NSSF) in the Ministry of Labour and Social Welfare (MOLSW).

However, like many developing countries, Lao PDR is facing a critical challenge in health care financing. The serious under-funding of the health sector could bring about low performance and present a serious constraint to the government in reducing poverty (Japan International Cooperation Agency & Ministry of Health, 2002). The government fund allocated to the health sector in Lao PDR is relatively low, representing only 1.9 percent of the GDP in 2014 (World Health Organization, 2015). This proportion of funding is lower than the average of 5.2 percent of Gross Domestic Product (GDP) of health expenditures in the Least Developing Countries (United Nations Development Program, 2015). Per capita health care spending was only US$ 33 per capita in 2014. This was relatively low compared to the

Thailand and Vietnam was US$ 360 and 142 US$ per capita, respectively (World Bank, 2015). Within these resource constraints, the capacity for improving health care service delivery system is limited.

Regarding healthcare expenditures, there are three major financial sources for health service delivery in Lao PDR. Health care financing relied heavily on direct household out-of-pocket expenditures and foreign assistance for curative care. About 39 percent of the expenditures on health came from household out-of-pocket and around 32 percent from foreign donors. In many health facilities, budget from the government represents only a relatively small portion of the resources consumed. Based on the report by the World Health Organization and the Ministry of Health (2013a), the Lao government allocated only 20 percent of the total health expenditure. The government spending is focused on wage or salary for health workers [2] but non-wage recurrent expenditure for the purchase of medical equipment, drugs, and operational costs for outreach activities is less than 50 percent of the total health spending (World Bank Group, 2016). For example, the government provides an annual operating budget of around US$ 2,000 per health center, and about US$ 2 to 4 non-wage recurrent budgets per capita per year. As a result, between 48 and 83 percent of current revenues of provincial and central hospitals come from drug sales of Revolving Drug Funds[3], and user fees of the services (World Bank, 2016). The Social Health Insurance Fund from the existing social health insurance schemes, including the mandatory State Authority Social Security (SASS), Social Security Organization (SSO), Community-based Health Insurance

[2] Health workers include doctors, medical assistants, nurses and midwives (Ministry of Health, 2014).

[3] Revolving Drug Funds are a specific fund to insure availability of drugs for patients who receive services from government healthcare providers at the village level, health center, district hospital, regional hospital, and central hospitals. The initiated source of fund can be from government, foreign assistance, and various donations from other sources (Ministry of Health, 2000). RDF regulations and guidelines allow facilities to charge a mark-up of 25% on the purchase price of drugs and other commodities, however a recent report indicates that adherence to this mark-up varied widely and some facilities exceeded this 25% ceiling (Ron, 2006; WB, 2016).

(CBHI), and Health Equity Fund (HEF) contribute around 4.9 percent of total government expenditure on health (World Health Organization, 2013).

The government of Lao PDR has attempted to address the budget shortage in health facilities over the past two decades. It officially approved a national policy on user fees[4] and exemption with the Prime Minister's Decree No. 52/PM in 1995. The major objectives of the user fees were to generate revenues to finance public health facilities and to eliminate unnecessary treatments, which in turn save from the operating cost of the health facilities (Marakami et al., 2001). But, user fees appear to deteriorate the inequity in access to health care services among different socio-economic groups in Lao PDR. High out-of-pocket payments for healthcare services could have an adverse effect on healthcare service utilization and consequently, health outcome, and bring about the impoverishment of households (Xu et al., 2003; Patcharanarumol et al., 2009).

Recognizing the adverse consequences of user fees, the government established social protection through health insurance schemes to mitigate the effect of user fees for healthcare. In Lao PDR, currently there are four health insurance schemes. In 1993, the first comprehensive social security scheme was established and applied to civil servants, police and the military through the Prime Minister Decree 178/PM. Then, the scheme was reformed and changed to State Authority for Social Security scheme or SASS with the Decree No. 70/PM in 2006. The target of this scheme is around 11 percent of the population. In 1999, the Social Security Organization (SSO) was created and started to operate in 2001. Theoretically, it is a compulsory scheme that would apply to all employers with more than ten employees. The target groups are employees of the state, private, and partnership enterprises, which comprise approximately 9 percent of the population.

[4] User fees are payments made by individuals or families at point of service for buying healthcare services with whatever form of charge and whatever level of public healthcare provision

One year later, the Ministry of Health piloted a Community Based Health Insurance program in five locations: two districts in Vientiane Capital, and one district in each of the three provinces, Luangprabang, Champasack and Vientiane. The main aim of CBHI is to provide better access to healthcare services for those who are not covered by any health insurance schemes with small amount of regular pre-payment. It is a non-profit and voluntary organization (World Bank, 2010). This scheme targets roughly 65 percent of the population.

In 2004, Health Equity Funds (HEF) was created with the aim of improving access to health services by the poorest households. This scheme is financed by the government and donors, Lao Red Cross and Swiss Red Cross, two agencies for third party payment. The target of this scheme is roughly 15 percent of the population. In addition to these schemes, the government introduced the free healthcare policy for mother and children under five, known as Free Maternity for All, and Free Healthcare for Children under five years old since 2010 to accelerate MDG goals by 2015 (Ministry of Health, 2005).

Recently, the membership coverage of all health insurance schemes was still low and failed to meet the target of 50 percent of the total population in 2015. Although health insurance coverage has increased significantly over the past four years, it covered only 28.04 percent of the total population (excluding coverage of fee exemption scheme, police and military personnel[5]) in 2014. It was estimated that 11 percent of the total population were covered by SASS scheme, and about 2.43 percent were covered by SSO. The CBHI covered around 2.61 percent of the target population, while Health Equity Fund covered only 12 percent of the target population, which was 15 percent of total population (National Health Insurance Bureau, 2015). Among those health insurance schemes both SSO and CBHI have a low coverage of their targeted population; especially CBHI is far behind targets.

[5]The data from police and military schemes are confidential and the total number of their schemes cannot be

1.3 Challenges to expand health insurance coverage

In attempts to achieve universal health coverage, the health sector of Lao PDR is facing two critical challenges, that of limited financial resources and extension capability. The expansion of health insurance schemes requires adequate funding from various sources such as the government, Official Development Assistance, and households. Healthcare financing experts from International Labor Organization (ILO) estimated that the budget for universal health insurance alone in the country would be around US$ 30 million or 0.94 percent of annual GDP (International Labor Organization, 2007). The government was committed to increase general governmental health expenditure to 9 percent of overall government expenditure by 2015. In reality, however, the government didn't have the capacity to allocate the budget as committed. The government claims that the 9 percent of committed expenditures include technical revenue from health facilities that return to the national treasury, and external financing from Official Development Assistance (ODA). These would be unsustainable healthcare financial resources (World Bank Group, 2016).

In addition, institutional capacity is one of the critical issues of health insurance expansion. The organizational design of an institution responsible for streamlining of existing health insurance schemes and coverage expansion is managed by different organizations, and different benefit packages. Moreover, there is no clear legislation and mandate for a particular agency to combine different health insurance schemes. The government, therefore, failed to merge the existing health insurance schemes into the National Health Insurance Fund, and redistribute funds between the formal and informal sectors to allow for broader pooling. To effectively merge these schemes, it requires a strong political leadership, especially at the Ministry of Health, and the Ministry of Labour and Social Welfare. An effective dialogue and collaboration between the main stakeholders are extremely important for this merging process. The concerned sectors must work together to develop an action plan with clear plans

to achieve universal coverage, appropriate legislations and a timeframe for the incorporation of the existing health insurance schemes.

Another constraint to health insurance expansion is that a large number of people live in scattered remote areas and are not accustomed to the concept of social health insurance. It was estimated that around 30 percent of the population belongs to ethnic minority groups; around 23.7 percent of the population was classified as poor, and about 70 percent of population is not covered by any health insurance schemes (Lao Statistic Bureau, 2015). Raising public awareness on the benefits of health insurance also needs to be consistent with long-term efforts for the success of coverage expansion (Ron, 2006). For example, encouraging the better-off, middle-income, and near poor groups to take voluntary health insurance scheme and provide health equity fund for the poor population group is a time-consuming process (Thomson, n.d; Bitran, 2014). With limited resources, it is extremely difficult for health insurance schemes to encourage non-salaried population to become a member of health insurance. This means that their budgets for health care services have relied heavily on direct out-of-pocket payments, which could result in a lower utilization of health care and risk of impoverishment among low income groups.

Low compliance rate among private enterprises is a greater challenge in terms of health insurance membership expansion. A study by Alkenbrck et al., (2015) revealed that many small private enterprises did not enroll in Social Security Organization. Weak law enforcement, a limitation of general understanding on health insurance schemes, small and unstable incomes, and substandard healthcare services are believed to be factors behind unwillingness to join or pay contributions to health insurance fund among employees in the private and informal sector. Consequently, in 2015, the Social Security Organization achieved only 2.43 percent of their target population (Ministry of Labour and Social Welfare, 2015).

There is evidence of a high potential rate of drop-out from both mandatory and voluntary health insurance schemes when insured households are not satisfied with the benefit package and the quality of healthcare services in public hospitals. During 2008 - 2009, percentage of dropped-out members in SSO increased from 7.9 percent to 20.41 percent before declining to 8.37 percent in 2010 (Based on available data from SSO). Similarly, the dropped-out rate of CBHI members has widely fluctuated during the past decade; it increased from 8.6 percent in 2006 to 70 percent in 2012 before falling to 13.1 percent in 2014 (National Health Insurance Bureau, 2015).

1.4 Research gap

The government of Lao PDR understands the need to improve the quality of health care services and at the same time to protect people from adverse consequences of user fees. The government aims to achieve universal health coverage by 2025. The problem is that the government has limited resources and the coverage of existing health insurance schemes is very low. Understanding how universal coverage has been pursued and how it can be achieved in the future is critical for both academic and practical work.

It is acknowledged that there are some studies (to be discussed in the chapter 2) related to health financing and health insurance in Lao PDR. However, most studies looked at the effect of user fees on the poor population, but their studies did not look at the reasons why household join or do not join health insurance schemes; the factors that discourage people from being a member of those schemes. Furthermore, little research has been conducted with a comprehensive view from both demand and supply sides, which provides an important implication for the expansion of universal health coverage and the promotion of equity access to healthcare services in Lao PDR. Therefore, this study was initiated to investigate potentials to obtain universal health coverage and equity access to health care services in the country.

This study contributes to the knowledge of healthcare financing in financially constrained countries like Lao PDR and the problems they face in the pursuit of universal healthcare coverage and equity access to health care services. Also, it contributes to a better understanding of affordable health insurance schemes and household perceptions on health insurance and health services in this country. The constraints to expansion of universal health coverage have been discussed to include the perspectives of both the staff in the health ministry and health insurance authorities. This information could be utilized by policy makers and implementers in developing better policies and strategies to achieve universal health coverage in Lao. It could also be used as the basis for future research in the area of healthcare financing for universal coverage and equity access to health care service in financially constrained countries like Lao PDR.

1.5 Research questions and the research process

This study attempts to assess potential objectives to reach universal health coverage in Lao PDR by 2025 and evidence of equity access to health care services in the household sample taken from Xaythany district, Vientiane Capital. It applies both qualitative and quantitative approaches (the details will be discussed in the chapter on methodology). These methods are helpful to obtain all important factors contributing to the expansion of universal health coverage in Lao PDR, and equity access to health care services in the selected sample from all levels of public healthcare providers. It is acknowledged that there are several factors involved in the demand for health insurance at individual, household, community, and enterprise levels, which is influenced by the choice for healthcare services such as price and availability of alternative and complementary goods, and income (McPake et al., 2013). At the same time the supply-side of healthcare services and insurance also determines the demand for healthcare and insurance, including quality of healthcare services, provider

payments, physicians, and availability of drugs (Sloan & Hsienh, 2012).

Therefore, to ensure that research goals are fully attained and to keep the research in focus, the following central question of the research is raised:

1. What are the main obstacles or barriers to the expansion of health insurance coverage in Lao PDR, in pursuit of the universal healthcare plan?

The central question extends to universal coverage and also the issue of equity access to health care services in Lao PDR. To be able to analyse this question, the following specific questions are developed.

2. How social protection and health insurance schemes have been implemented (a historical review)? What are the major constraints to the expansion of health insurance in Lao PDR?
3. How do insured and uninsured households assess the value (benefits) versus the cost of insurance, and whether they are satisfied with health care services in the central and district hospitals?
4. What proportion of households has experienced catastrophic health expenditures due to lack of insurance and/or insufficient depth of coverage?

1.6 Research Objectives

The objectives of this study include:

1. To assess the coverage and challenges to the expansion of health insurance schemes in Lao PDR.
2. To assess potentials to achieve universal health coverage in Lao PDR by 2025.

3. To understand insured and uninsured household perceptions on health insurance and services they receive.
4. To explore the level of health expenditure and the risk of catastrophic expenditures on healthcare by the insured and uninsured households.

1.7 Organization of the dissertation

The rest of the study is summarized as follows. Chapter 2 presents the literature review including universal health coverage and its implementation, health equity and impact of out-of-pocket payments in developing countries, successful lessons learned of universal coverage from developed and developing countries, and theoretical and empirical literature on health insurance. Chapter 3 presents research methodology including the study design, conceptual variables, sampling methods, data collection, data analysis, and the conceptual framework. Chapter 4 analyses the current situation which include country profile of Lao PDR, geographic, demographic and socio-economic development, poverty reduction, health profile which includes health status, service delivery, healthcare financing system of the country, and the existing health insurance schemes. Chapter 5 provides results of the investigation over constraints to the expansion of the coverage of health insurance schemes in Lao PDR, which include the factors that impede the expansion of health insurance and whether or not co-payment for healthcare services should be introduced to improve the quality of care for insured people in Lao PDR. Qualitative methods are applied for this chapter by interviewing key informants involved in the implementation of health insurance schemes in Lao PDR as well as providers of health services at various levels from the ministry down to the district level. Chapter 6 provides results of the study in selected district including social demographics and characteristics of the sample, health insurance satisfaction, health services utilization, and satisfaction of households with the quality of healthcare

services in central and district hospitals. Chapter 7 describes the results of the study on the impact of catastrophic healthcare expenditures, and household expenditures. It focuses on catastrophic payments caused by health expenditures on healthcare services, the proportion of households having difficulty to pay for healthcare services between insured and uninsured groups as well as dealing with the costs of treatment among insured and uninsured group in selected study site. The final chapter (Chapter8) discusses all the results and draws a conclusion, and provides some recommendations for policymakers based on research findings.

Chapter 2: Literature Review

2.1 Introduction

This chapter aims at providing a theoretical background for universal health coverage (UHC) and equity access to healthcare services. It seeks to examine the advantages and disadvantages of introduction of the social health insurance towards UHC in developed and developing countries by reviewing relevant literatures on the implementation of UHC, health equity and impact of out-of-pocket payments in developing countries. It will first deal with the definition of universal health coverage or universal coverage (UC) and equity in health sector, and subsequently discuss the rationale or the reasons behind the introduction of UHC in health sector. The third section explains the theoretical approach to universal coverage. The fourth section discusses the successful lessons learned of universal coverage from developed and developing countries and their approaches to attain UHC. The fifth section describes the empirical literature on universal coverage and equity access to healthcare services as well as the impact of out-of-pocket health payments. The following section reviews various studies related to universal coverage and equity access to healthcare services in Lao PDR. The final section provides a brief summary for this chapter.

2.2 Defining Key Concepts of Universal Health Coverage and Equity

Before undertaking research on universal health coverage and equity access to healthcare services, it is essential to understand some technical terms often used as key words in this study. It is acknowledged that scholars and experts may define the term ‘Universal Health Coverage’ and ‘Equity’ differently according to their interests and purposes, however, this study utilizes the definition of universal health coverage and equity by World Health Organization as follows.

Universal Health Coverage means: "*to ensure all people have access to needed services without the risk of financial hardship linked to paying for care* (World Health Organization, 2010, p. x).

Equity is defined as: "*equal health status for different income groups, equal access to care, equal payment for health care, equal uptake of public subsidy."* (WHO, 2009, p.40).

In regard to equity in healthcare, the following concepts are also important in the context of public policy and universal health coverage, defined as the following:

Vertical equity *is defined as****:*** *"the extent to which payments for healthcare vary by income, and can be measured by the progressive of the healthcare financing system. In a progressive financing system, the proportion of income that is used to pay for healthcare rises as income rises. It requires appropriately unequal treatment of dissimilar cases"* (Morris et al., 2012, p.165; World Health Organization, 2014, p. 7)

Horizontal equity: *in healthcare financing, horizontal equity is defined by "comparing what people could pay for healthcare with what they can actually pay. There is horizontal inequity if people with the same ability to pay for healthcare, e.g., the same income pay a different amount for it: tax-based system, different occupation group, different social health insurance schemes. It requires equal treatment of relevantly similar cases."* (Morris et al., 2012, p.165., World Health Organization, 2014, p. 7).

Horizontal equity can be explained by economists' concepts of equity. For example, Margolis (1982) stated that *"individuals are interested in doing their fair share in the*

community, which leads them to want to contribute to making services available, thus the appropriate definition of horizontal equity is equal access to equal need". (cited by Donaldson *et al.,* 2005, p. 85).

Concerning universal health coverage or universal coverage, the World Health Organization extends the definition of Universal Health Coverage as *"ensuring that all people can use promotive, curative, rehabilitative and palliative health services they need, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financing hardship"* (World Health Organization & the World Bank, 2015, p.7).

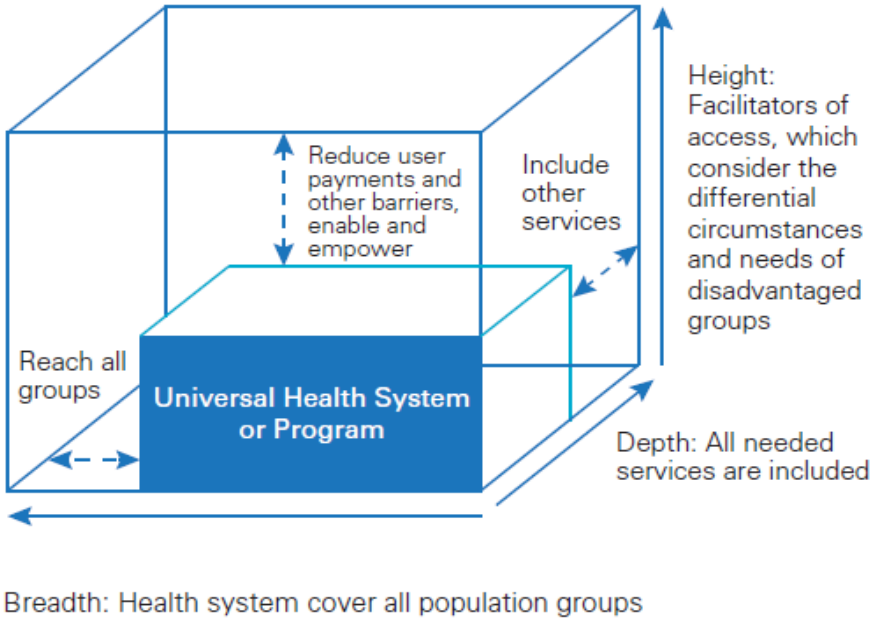
From this definition, universal health coverage includes three related objectives of health systems such as equity access to healthcare services, essential healthcare services coverage and financial coverage. Universal health coverage also consists of three critical dimensions (increase population coverage, expand priority services, and reduce out-of-pocket payments). These dimensions need to be considered and improved when moving to universal coverage (see Figure 2.1). For example, when countries include all people to health insurance schemes and let them access healthcare services in health facilities from different geographical areas by shifting from direct payment to pre-payment in healthcare expenditure, they must seek to remove financial barrier for households and individuals to access to quality of the services. Then, the country would achieve the universal coverage goal (World Health Organization, 2010).

Furthermore, universal health coverage is comprised of much more than health financing. It includes all components of the health systems such as service delivery, human resources for health, health facilities, health information systems, quality assurance

mechanism, and legislation; moving towards universal health coverage means steps towards equity, development priorities, and social inclusion and cohesion (Bristol, 2014; WHO, 2015).

Universal health coverage helps a country to mitigate the negative effect of out-of-pocket payments for health care services, especially low income and high risk households. Many studies on the impact of healthcare payments have showed that catastrophic healthcare expenditure of low income households result in families having to borrow money from money lenders at exorbitant interest rates, sell assets, and take children out of school to help supplement the family income (Shen & Mcfeeters, 2006; Phatcharanarumol, 2009). It is also one of the major causes of impoverishment in the world; reducing direct out-of-pocket payments of healthcare services technically requires switching to systems of "prepayment"[6] through health insurance with subsequent "pooling"[7] of the revenues collected from health insurance scheme. (World Health Organization, 2009).

Figure 2. 1 Three dimensions of universal health coverage with equity



[6] Prepayment means paying before illness

Sources: WHO, 2010 and UNICEF, 2016.

Note: Population = breadth, Services = depth, and Financial protection (OOP) = height

2.3 Background of the introduction of Universal Coverage in Health Sector

Health promotion is crucial to the welfare of citizens and socio-economic development. However, several countries focus on economic matters, for instance, unemployment, labor and living costs. Consequently, health becomes a political issue as governments aim to reach people's hopes and improve quality of life (World Health Organization, 2010). Recently, millions of people miss out on needed healthcare services, especially low-income households, due to catastrophic health expenditures (Xu et al., 2007). As a result of high costs of healthcare payment, a World Health Assembly Resolution in 2005 induced countries to develop their health financing systems to ensure all people attain the health services they need without financial difficulty from health expenditure as universal health coverage. The concept of universal coverage in healthcare was initiated in World Health Organization's constitutions of 1948 and the Alma-Ata declaration of 1978. It is included in concepts of the Millennium Development Goals by 2015 (James, 2011).

The World Health Assembly resolution of 2005 also urged WHO to provide technical and policy supports to countries wishing to implement the resolution and to facilitate the sharing of experiences across countries. Hence, the Health Financing Strategy for the Asia Pacific Region (2010-2015) in 2009 by WHO was produced to guide their country's healthcare financing implementation and help them obtain universal health coverage (World Health Organization, 2009). This strategy developed target indicators to monitor and evaluate progress towards universal coverage in countries and the Asia Pacific Region as follows:

1. Out-of-pocket spending should not exceed 30% to 40% of total health expenditure;
2. Total health expenditure should be at least from 4% to 5% of the Gross Domestic Product (GDP);

3. Over 90% of the population is covered by prepayment and risk-pooling schemes; and
4. Close to 100% coverage of vulnerable populations with social assistance and safety-net programmes.

(World Health Organization, 2009, p. 27)

One year later, the World Health Report of 2010 on health systems financing was published: the path to universal coverage, which sought to bring many of the lessons learned from experience is gathered in a way that it would be readily accessible to countries seeking to move more rapidly to universal coverage. This report provided background documents for countries to move closer to universal coverage. Margaret Chan, director general of the WHO stated that "*Universal Coverage is the single most powerful concept that public health has to offer"* (World Health Organization, 2013).

The 2008 World Health Report on Primary Health Care highlighted that achieving the universal health coverage goal depends on access to health services by all people who need them, including prevention, promotion, treatment or rehabilitation, and on those services. The success of universal health coverage also depends on adjusting broader political, social and economic determinants. For instance, a sustained economic growth contributes to raising people's income and allocating sufficient funds to expand health insurance coverage. While, a strong political leadership is driven to expand the health insurance coverage, countries with strong economic growth and strong political can overcome barriers and move closer to health for all (ILO, 2007; Bristol, 2014). However, health for all and universal access cannot be reached without appropriate health financing system functions, which include raising revenue, pooling health funds, and purchasing health services (World Health Organization, 2011).

Regarding public policy on health financing functions, there are a number of methods for countries to design and implement policy on the three main functions of health financing mentioned above. In order to make health financing function well, the policy makers must

evaluate an appropriate pooling mechanism and grant financial protection to all populations in the country by selecting four main mechanisms of health insurance, which are state-funded system, social health insurance, voluntary or private health insurance, and community-based health insurance. A suitable health policy on these health financing functions has significant implication and financial protection for sufficient funding of at least essential healthcare services; equity on financial distribution; economic efficiency of revenue raising; variety of health services purchased and consumed; technical efficiency of service and production; and equity access to healthcare services (Gottret & Schieber, 2006)

In most western countries, there are two major factors that have induced the introduction of state-financed health care systems providing universal coverage; a strong labour movement and socialist government. These make people value the pursuit of justice and equality. Thus, basic values and the way policy is formulated differ from country to country (Donaldson et al, 2005). On the other hand, in developing countries, the challenge to improve health financing system performance is weak public sector management at the central and local levels. There is a relation between the quality of policies and institutions, such as fund absorption capacity, of the country to improve certain health outcomes (Gottret & Schieber, 2006).

If government resources are scarce, it is very important to ensure that they are not devoted to subsidizing care that will have little effect on the main goals of health policy. Therefore, it is critical to consider any mechanisms for the financing and provision of health services in terms of the extent to which they help to meet policy goals. Therefore, it is necessary to develop a clear statement of policy or proper strategy at an early stage of healthcare financing implementation before moving towards universal health coverage in the country.

In addition, health economists have suggested that social health insurance or health insurance can help to fulfill health policy goals since it can provide additional funding which is not available from other sources. It can also help to improve spending on health (Santerre & Neun, 2010). Additional spending is only justified if it yields greater benefits than spending on other goods or services. Health insurance funding may help to ensure that the wishes of the population for higher spending on health services are met (Carrin & James, 2005). Although there is considerable public pressure for higher spending on health services, it does not necessarily lead to great gains in terms of the main health policy goal of longer life and better health. Some demand is induced by suppliers of care and by those who have an interest in the sale of pharmaceuticals and medical technology, and there is often little evidence that these should be priorities. It is clear that many countries including industrialized countries have overinvested in medical technology which does little to achieve health policy goals (Abel-Smith, 1990).

The success of a health policy should be judged not only by the volume, but also by the mix and distribution of services. The health policy adopted by government depends on the economic, historical, cultural, institutional and political environment, the country's stage of development, and other government policy objectives. Familiarity with a set of institutions may be one reason to continue with them, even if they would never be introduced in that form if a new system were being set up (World Health Organization, 1993; Normand & Weber, 1994).

2.3.1 Transition to universal health coverage through social health insurance

The first social health insurance system was established in Germany over 100 years ago in 1883. Since then, other approaches to financing universal health coverage have developed, such as tax-financed national health insurance systems. Over time, systems have

guaranteeing access to healthcare; to provide high-quality and appropriate care; and to maintain the sustainability and affordability of care through cost containment (Normand & Weber, 1994). After that, the United Kingdom and a number of higher-income countries adopted universal health coverage context and reached full coverage in their countries, for instance, Norway, Switzerland, France, Japan, and etc. Some developing countries began to expand their coverage for universal healthcare, for example, Chile in 1952 and Brazil in 1988. Recently, many countries in Africa and Asia also aim to seek universal coverage including Ghana, South Africa, Senegal, India, China, Indonesia, Philippines, and Vietnam. In Asia, the most successful countries to implement universal health coverage in both health system and coverage are Thailand and Malaysia (World Health Organization, 2010).

2.3.2 Advantages and disadvantages of social health insurance

Social health insurance is thus one method of financing health services, as either the main or a supplementary funding mechanism. It is worth considering more generally the circumstances in which this system can help a country to meet its health policy goals. According to Normand and Weber (2009), the main advantages for choosing social health insurance financing are the following:

- Social Health Insurance helps to prevent both individuals and families from falling into poverty due to high health care cost for their treatment, as it reduces the financial burden of any unexpected accident or disease.
- Social Health Insurance appears to be more appropriate than tax-based financing in developing countries, where there is a high dependence on user fees as a framework for developing risk pooling and social solidarity. This is due to more transparent flows of funds and link between payments and entireness.
- Social Health Insurance can mobilize additional sources for the health system, for example, funding from employers.
- Social Health Insurance can provide a stable source of funding for health care, which is separate from the general government budget and independent of budget provision. Thus, the flow of funds into the health sector is visible.

- Social Health Insurance does not compete directly for a share of the public budget.
- Social Health Insurance is more fair and equitable than out-of-pocket spending and private health insurance.
- Social Health Insurance can help to establish patients' rights as customers of the healthcare providers
- Social Health Insurance can improve transparency of prices, costs and expenditure. It combines risk pooling with mutual support, by allocating services according to need and distributing financial burdens according to the ability to pay.
- The Social Health Insurance framework encourages the development of explicit purchasing arrangements and greater provider autonomy, which can increase efficiency in health care. It can operate in pursuance of government health policy goals, but it can maintain a degree of independence from government.
- Employers and employee representatives have incentives to monitor spending if they are part of the social health insurance management set up.

On the other hand, Social Health Insurance has a number of disadvantages. They are as follows:

- Social Health Insurance constitutes administrative challenge, requiring high administrative costs that may be in short supply.
- There may be limited enthusiasm for solidarity and mutual support from healthcare providers.
- Functional responsibility for pooling and purchasing of different schemes may duplicate one another, unless there are synergies with other schemes and mechanisms. It faces the problem of cost containment.
- Problems of ensuring coverage for workers in agriculture and the informal sector. It may need more administrative effort to register workers in the informal sector and to collect contributions from them.
- Understanding of people on Social Health Insurance concept needs to be explained and a special campaign conducted, especially in developing countries or among poorer and low educated communities.
- The capacity to provide services of appropriate quality is required in order to increase population coverage to all socio-economic groups of people.
- Social Health Insurance schemes may worsen existing inequality in financial protection, especially during their initial development, if formal sector employees are covered first.

(Normand & Weber, 2009, pp.29-30)

Based on the advantages and disadvantages of Social Health Insurance above, it tends to benefit a larger population by reducing out-of-pocket payment for health care when they get ill, and protect them from unexpected catastrophic health care costs. On the other side, there are some disadvantages on institutional design and organizational implementation of social health insurance. The common challenge to introduce social health insurance is how to design an appropriate social health insurance system in the country. Before establishing social health insurance, the government needs to consider the source of funding for implementation. In many Southeast Asia countries, the low level of resources for healthcare as compared with East Asia, the demand for funding to improve motivation of health workers and facilities is even higher since their salaries are low and medical equipment are outdated (Asian Development Bank, 2016). Much of the argument has been driven by the desire of health care staff to improve their incomes. There is a risk that any additional funding will provide higher incomes for staff without any significant increase in the volume or quality of care. However, it is desirable in the long run that there should be a better pay and highly motivated body of healthcare professionals. It is unlikely that this is the highest priority for additional funding (International Laour Organization, 2007).

A gap between the resources a country can afford to devote to health services and the funds that can be mobilized through tax and private insurance may be due to several factors. Political constraints on tax funding (sometimes imposed from outside) can limit the state budget for health. Market failure in the supply of private insurance leaves cover incomplete, especially among poorer people and those who need treatment and care for chronic conditions. However, for some groups in the population, social health insurance can mobilize resources; some people are willing and able to pay for additional protection, but have difficulty obtaining appropriate cover from private or government sources. In countries where

the funding of health services is constrained by the low income of the country and relatively low national priority of healthcare services, the introduction of social health insurance will have less value in mobilizing resources (Norman & Weber, 1994).

The successful development of social health insurance depends in part on the availability of high-quality, appropriate health services for the insured population. The current provision of healthcare services in a country reflects the development of the past, often showing a mixture of private, charitable, religious and government initiatives. Various reforms which were designed to modify the pattern of health service delivery or to increase the coherence and comprehensiveness of the system may have taken place (Carrin & James, 2005). Unfortunately, the typical result of health insurance system developments is a system of healthcare with marked geographical disparities (between regions and between rural and urban areas); the, development of primary health care, and qualification of professionals providing services are often lower in rural areas compared to urban areas. Training in particular skills is often lacking even when the need for those skills has been identified. This description is applicable to many countries with highly developed health services, as it is to developing countries (Patel et al, 2014).

2.3.3 The impact of social health insurance coverage to target population

As mentioned earlier, universal health coverage consists of three dimensions such as population coverage, service coverage and reduced out-of-pocket payment. The focus of this study is population coverage in social health insurance and health insurance schemes, which plays the key role of revenue collection in health financing system target. A number of population groups can be distinguished, whose characteristics, size, needs, technical requirements and political influence may be different in each country. All people in the country must be covered by social health insurance and health insurance before universal

However, in most low-income countries social health insurance rarely covers all population because of their weak political commitment or low macroeconomic growth. These countries are confronted with a critical choice on which group of population should be covered first? The target population to be included in social health insurance varies by geographical areas or socio-economic status, such as rural population, low-income or vulnerable groups (World Health Organization, 2014). Some countries with social health insurance started by protecting subgroups of the population such as employees in large enterprises. Over time, coverage was extended to other groups. In Korea, for example, coverage started with the employees of big firms; later, smaller firms were included, followed by other population groups such as the self-employed. Full protection of the whole population is, at best, a long-term objective in the process of establishing social health insurance (Norman & Weber, 1994).

In addition to the situation prevailing when a health insurance system is being built up, there may be historical, technical or political reasons for not covering the whole population (Soors et al, 2014). There are many examples of countries with established social health insurance systems which do not include certain groups. In Laos, for example, self-employed people, police officers, military personnel and priests are not covered by social health insurance. They are covered by specific health insurance schemes (Ministry of Labour and Social Welfare, 2000). There are also good reasons to establish or allow the establishment of several separate health insurance systems in a country, rather than one uniform system. This may be for historical or technical reasons, such as special requirements for registration and contribution payments for people who work in formal sector or because of the special needs of specific groups like police and military.

For various reasons, social health insurance schemes sometimes exclude particular population groups. For example, persons who can easily afford to make their own insurance

arrangements, either through savings or private insurance, are often excluded from social health insurance coverage. Employees whose earnings exceed a certain upper limit may fall into this category. Self-employed people are sometimes excluded from insurance schemes, largely because of difficulties in assessing their incomes (Norman & Weber, 1994; Williams et al, 2014). In some countries, groups such as public servants, physicians, lawyers, and military personnel have special protection arrangements and are therefore not included in the general social health insurance system. Nevertheless, these groups may be important for mutual support and for ensuring an adequate risk mix (ILO, 2007).

2.3.4 The impact of social health insurance coverage on equity

The population coverage under social health insurance scheme needs to be distributed. A study of Barros and his team (2012) showed that different social groups have unequal probability to receive health care services when they need it (Barros et al., 2012). Thus, social health insurance expansion should be considered in fairness and equity coverage by setting priorities with a clear target population who need health care services and still face financial barriers to access the service. Such groups can be low-income urban dweller and rural population groups (World Health Organization, 2014). This issue may have equity implications relating to the decision of whether to establish one scheme or several. The reason for allowing several schemes may be that systems already exist for certain groups at the time when social health insurance is introduced.

The objective of social health insurance is to provide equal access to services regardless of income. In this case, it may be better to establish two different systems or to create different conditions of membership, for instance, different contributions for urban and rural areas. Urban areas normally have the best infrastructure, with the highest rates of hospitals and physicians per thousand inhabitants. In rural areas, the infrastructure is usually quite poor.

Incomes in urban areas are also generally higher than in rural areas. If the rural and urban populations belong to the same system and pay the same contributions, the rural population may be financing part of the urban infrastructure, since it does not have access to comparable services (Norman & Weber, 1994).

Another equity problem may arise in insurance schemes with wage-related contributions. For example, insured people with extremely low contributions because of artificial low-wage jobs can have access to the full range of insurance benefits if a lower limit on the amount of income required to establish health insurance coverage is not in place (International Labour Organization, 2007). High wage earners may consider a wage-related contribution system to be inequitable, because their contributions will be higher than those of low-wage earners. For this reason, high-wage earners sometimes opt out of social health insurance schemes (if opting out is allowed); this may lead to adverse selection problem in social health insurance implementation. It is important to note that people with higher incomes usually have a relatively low illness risk; hence excluding them from the fund can be harmful to the development of health insurance risk pooling (Nornamd & Weber, 1994).

2.4 Theoretical Approaches to Health Insurance Coverage

In the healthcare market, the theory of perfect market system or perfect competition for healthcare is very important to consider seriously because a perfect market provides a better result of health outcomes of maximum consumer satisfaction or well-being that is relevant to utility with the resources available to society. When the market in healthcare fails to allocate healthcare needs to the population due to market failure, the result is under supply or supplier convinced inefficiency. Consequently, government has to develop structures and policies to intervene and respond to its effect (Donaldson & Gerard, 2005). There are six main

reasons of market failure, such as externality, public goods, imperfect competition, imperfect information, natural monopoly, and income redistribution (Lee, 2009).

In the case of health services, the major causes of market failure are the monopoly power of providers, ignorance and uncertainty among consumers and an element of externality. Possible health policy goals are needed and it should be considered how to design the most suitable health insurance system to the country's context. Social health insurance and other health financing mechanisms should be considered in terms of their potential to contribute to the achievement of health policy goals. It is acknowledged that the introduction of social health insurance will lead to greater diversity in the provision of healthcare services, creating more choices, more efficiency, and improving the quality of care of healthcare service provision (Normand & Weber, 2009).

In addition, the market structure in the healthcare sector consists of three parties in healthcare markets, which include patients (as demand side), providers (as supply side), and payers (as third party). According to microeconomic methodology, the market for health insurance is influenced by the demand of healthcare services. Donaldson and his colleague (2005) mentioned that market theory of demand and supply are fundamental building blocks of microeconomics theory, which is one of the main reasons of perfect market in healthcare. This can be applied to investigate how to make healthcare market function well. Some healthcare systems combined government intervention and competition economy as market force to allocate healthcare resources, especially for the poor who cannot afford the cost of health services. Therefore, market forces lead to the achievement of the utility maximization of all the individuals participating in market transaction, and government intervention to overcome market failure is critical to achieve the equity objective in healthcare services (Donaldson & Gerard, 2005).

Moreover, there are two problems in insurance-based healthcare systems. They are consumer moral hazard and provider moral hazard[8]. First, the consumer moral hazard is that the insured person reduces the cost of treatment at the point of their services and uses more services covered by health insurance. Some methods to counter consumer moral hazard are applied in some health insurance payment mechanisms, namely co-payment at the point of consumption; medical saving accounts; fixed periodic per capita pre-payment by consumers directly to the provider and others. Second, the provider moral hazard happens within the doctor and hospital in both supply and demand sides, which affect the incentive to provide the service to insured patient by doctor and overutilization in contracted hospital. Methods to counter provider moral hazard are the use fo fee-for-service payment method for health insurance; increase salaries of doctors; reorganizing of allowance; use capitation payments method; charge to patient partly cost of services; allowing the use of private practices (Donaldson & Gerard, 2005).

This study focuses on universal health coverage through social health insurance, health insurance schemes, and equity access to healthcare services. In order to ensure that the entire citizens receive good quality of health services they need without financial hardship for paying the cost of treatment, this chapter reviews some economic theories of both demand and supply of health insurance. The aim is to find theoretical approaches that contribute to the expansion of health insurance coverage.

[8] **Moral Hazard** refers to the situation in which consumers alter their behavior when provided with health insurance. For example, health insurance may induce consumers to take fewer precautions to prevent illness or to shop very little for the best medical prices. In addition, insured consumers may purchase more medical care than they otherwise would have without insurance coverage (Santerre & Neun, 2010).

2.4.1 Supply of healthcare and health insurance

The major suppliers of personal healthcare services are physicians, nurses, hospitals, pharmaceutical manufacturers, and private insurers. The physician or doctor is the main actor of the healthcare team to provide medical advice to their patients. They influence the activities of non-physician providers of healthcare services, and make several decisions on choice and health seeking behavior of both demand of healthcare and health insurance. Some healthcare service providers, for example, surgeons play a role in public law and regulation. In most countries, physicians are an important part of the production process in hospitals except doctors in the U.S because they are not hospital employees. They work in hospitals as self-employed agents and the hospital staff report patient cases to them (Duku, 2016).

In economic theory, price and income effects demand; the demand functions have a positive income effect and a negative own-price effect. Medical care is ultimately provided or supervised by physicians. According to Lee (2009), *"understanding the motivation of physicians is critical. Just as demand-side models simplified physicians to be perfect agents, supply-side models typically simplify patients to be comatose, uninformed, or unable to go elsewhere. In that setting, physicians maximize their utility, unconstrained by patient demands. Referred to supplier-induced demand, has very specific meaning whereby the physicians increase utilization by changing patients' desired treatments (demand) "*(Lee, 2009, p.148). It is common theory that when the price is higher, producers are willing to sell more of a good or service, or more producers are willing to sell a good or service. At the same time, producers are more willing to add workers, equipment, and other resources to sell more (Lee, 2009).

Moreover, Chandra and Staiger (2007) explained that the difficulty in understanding treatment choices is that the patient desire might not be similar as that provided by physicians; and given insurance and price regulation in healthcare, normal forces of market equilibrium

demand and physician assessment of the optimal treatment for the patient (Chandra and Staiger, 2007).

Furthermore, managed care and supply-side cost sharing should reduce the demand response to health insurance coverage. With supply-side policy, utilization is not exclusively demand determined. If demand runs up against rules or reluctance from suppliers, the moral hazard effect of insurance ought to be dampened. This dampening appears in models of supply-side cost sharing and managed care. When desired "supply" (of a provider) differs from desired "demand" (of a patient), either a short-side rule about outcomes or a bargaining model implies that equilibrium quantity move less in response to a change in co-payment (McGuire, 2012, p.364).

2.4.2 Demand for health insurance

Demand is one of the central ideas of economics. It underpins many of economics' contributions to public and private decision making. In general, the demand functions are determined by price (the law of demand); income (consumer's income and their affordability); prices of other goods (the demand for different goods are often interrelated); and tastes and lifestyles (tastes for particular goods may be different). There is a relationship between price and the quantity of goods that consumers demand. Therefore, price is the main factor that affects demand. However, in healthcare the role of price is more subdued. In some cases, it is entirely missing, such as where the government fully subsidizes a service or where it is fully covered by insurance (McPake et al., 2013).

Demand forecasts are essential to management because the analyses of demand help managers anticipate the effects of changes in policy, technology, or prices. Short-term shifts in demand are likely to result from one of two factors: changes in insurance or shifts in the prices or characteristics of substitutes or complements. Short-term shifts in supply are likely

to result from one of three factors: changes in regulations, shifts in the prices or characteristics of inputs, or changes in technology (Lee, 2009). The consumer's demand for health insurance represents the amount of insurance coverage that he or she is willing to buy at different health insurance premiums. Additional insurance coverage (either greater comprehensiveness, additional benefit or less restricted access to providers) will be purchased if the insurance premium is lower. The consumer's marginal benefit of increased comprehensiveness of insurance declines when the coverage is more comprehensive (McPake et al., 2013).

The demand for medical care and the demand for health insurance cannot be significantly separated. There is a relationship on how a consumer selects insurance, and how the insurance will affect the demand for medical care (Phelps, 2010). Demand for healthcare products is complex, and insurance and professional advice have significant effects on demand. There are three resources of insurance which include the out-of-pocket price the consumer pays, the price that insurer pays, and the price that provider charges. The quantity demanded will usually fall when out-of-pocket prices rise, but may not change when the other prices do. Consumers' healthcare decision is based on professional advice. How and how much professionals are paid can affect their recommendations, and recognition of this has helped spur the shift to managed care. To change patterns of consumption, managers may need to change patterns for patients and providers (Lee, 2009, p.105).

The important theory applied by economists to study demand for insurance is the expected utility theory or sometimes called expected utility model. It presents one further insight into the question of how insurance contracts might look without the tax subsidy in place. Based on expected utility model, Arrow (1963) mentioned that a consumer seeking to maximize expected utility will select a policy with full coverage above a deductible, when the losses are fully independent of the insurance coverage. The size of the deductible increases as the loading fee increases. Arrow also showed that the optimal policy has a coinsurance feature

included when the insurance company, as well as the consumer, is risk averse. However, the expected utility model showed the weakness of explicit predictions on the way people behave in settings containing uncertainty, and this theory lacks explanation of the link between income and health insurance (Arrow, 1963; Scheider, 2004; Phelps, 2010).

In addition, Phelps (2010) described that health insurance offers a way to protect against financial risk. Economists' models of expected utility maximization predict certain patterns of insurance purchases, including the presence of deductibles, copayments, and insurance against the riskiest (large, uncommon) events, rather than lower-risk events (common, relatively low cost). These models predict the actual patterns of insurance purchases in health insurance (Phelps, 2010, p.335-337).

Phelps (2010) also points out that the prospect theory model by Kahnemann and Tversky (1979) and Kahnemann and Tversky (19781) establishes the ideology of a stable utility function. For example, when income or health changes, the utility does not change. The model recommends that people be willing to take risk for better opportunities. Standard expected utility theory predicts that people will not participate if the expected value is negative and the gamble involves risk. In prospect theory, however, the consumer's response to a financial gamble depends on the weights and the frame of reference (Phelps, 2010, p.33).

The demand for health insurance can also be explained by the consumer choice theory on why consumer's behavior or reaction in certain ways changes in response to various factors. Consumer choice theory is based on the idea that people obtain utility by consuming goods. Utility describes the level of satisfaction that consumers obtain through having their desires met. Consumer's decision is then driven by a single objective, the maximization of utility (Morris et al., 2012, p.22).

An additional theory of demand for health insurance is the theory of expected pay-off by Maning and Marquis (1996); they explain that households, particularly low-income

households, will register to health insurance scheme when they acknowledge the benefits or advantages of being insured. They expect that to be a member of health insurance can lower cost of healthcare payments, protect from financial difficulty of unexpected sickness, allow access to good quality of care and less waiting time (Maning & Marquis, 1996; Wagstaff, 2000; Schneider, 2004).

2.5 Lessons learnt for Universal Health Coverage Implementation

In previous sections, we have explored the meaning and the background of universal health coverage and equity in healthcare, including the need for a clear health policy, and discussed needs for the introduction of social health insurance towards universal health coverage. This section gives a brief description of the health sector and experiences of high and middle income countries. The aim is to illustrate the various options and the ways in which different countries have attempted to meet their policy goals. It is useful to draw on the experience of other countries, both those that have adopted social insurance funding, and those that finance services through taxation. These countries represent the diversity of possible approaches to health sector finance and provision towards universal coverage.

In many high-income countries, their health financing system often uses a mix of public and private institutions for contribution collection, risk pooling and purchasing healthcare services. For example, the United Kingdom, Poland, and Sweden provide health insurance through national health services. In Netherlands, Germany, and Israel health insurance is based on competitive markets principle. Contributions often in the form of general or dedicated taxes, are often administratively determined. Switzerland collects individual premiums that may vary by region, age group, and level of the deductible income (Squire et al., 2010). The following countries provide good practices of universal health coverage achievement through national taxation system:

2.5.1 The United Kingdom

Health services in the United Kingdom are financed mainly by government through general taxation; the services are mainly free at the point of use and are mainly provided by government-owned hospitals and other services. This system has been very successful in containing the overall cost of healthcare. The National Health Service provides preventive and primary care and hospital services for the whole population. Less than 10 percent of the population has supplementary private medical insurance, and there are only limited co-payments by patients (Normand & Weber, 1994). In United Kingdom, staff of the Out-patient department receives a mix of salary, capitation, and fee-for-service. This system is also used in Canada, where hospital reimbursements may be done through some form of Diagnostic Relative Group system or global budgets (Squires et al., 2010).

Despite government involvement throughout the system, a significant degree of diversity, decentralization and independence has been achieved, and the U.K. has had universal coverage since 1948. Funds are allocated to District Health Authorities on the basis of the resident population (with some allowance for the age structure), and the authority is then responsible for agreeing on contracts with hospitals and other providers for the provision of services. The authority is thus acting as an agent for patients. Referral to specialist services is through a general practitioner (GP), who acts as a gatekeeper for the more expensive specialist services. Some rationing of non-emergency services is by waiting list. Patients can choose their GP, but in practice have little choice of specialist provider or hospital. Hospitals remain owned by government, but are mostly legal bodies, able to enter into contracts for the supply of services. Sources and levels of funding come from general taxation, and the amount is agreed annually. No earmarked taxes are used. In real terms, public spending on health services has grown over the last two decades, but this growth has been slower than in most comparable countries (Mageed, 2003).

2.5.2 Canada

Health services in Canada are characterized by public financing and private provision. Each of the 10 provinces has jurisdiction over health, so each provincial health system is different. Nevertheless, in practice each province operates a public reimbursement scheme that covers the entire population for the cost of all ambulatory and institutional care. The system is governed by four principles, namely universal access to care with equal terms and conditions for all; cover all necessary expenses: benefits can be transferred between provinces; and provision of services on a non-profit basis. Health services provision are run by boards of trustees on a non-profit basis. Hospital capital acquisition is approved by the provincial government. This has the effect of controlling expenditure and the diffusion of new technology. Most physicians are private practitioners. For payment mechanisms, hospitals receive global operating budgets from the provinces. These budgets do not include the cost of physician services, which are paid for on a fee-for-service basis. Fee schedules are negotiated by physicians and provincial governments. Patients pay for services not covered. These include spectacles, drugs prescribed for outpatients, dental care and nursing-home fees. Private insurance schemes, some based on the place of work, can be taken out to cover the cost of services not covered by the public scheme. Private insurance companies are not allowed to offer insurance for services available under the public scheme. Sources and level of funding come from taxation, at both the federal and provincial level. Canada has been successful in providing universal access with generally high-quality care at relatively lower levels of funding (Vayda et al., 1979., Normand & Weber, 1994).

2.5.3 Germany

Germany has a complex system of health funds, developed over 100 years, with subtle checks and balances. The experience of universal health coverage through mainly social

have applied the German model to their health system in order to reach their policy goal. The Germany health services are funded through compulsory contributions to health funds (normally referred to as "sickness funds"). These are non-profit organizations, operating either over a particular geographical area or for particular occupational groups. Although nominally independent, the system is tightly regulated by state governments but not the federal government. Money is reallocated between funds to take account of differences in the incomes and risk profile to their members. Care is provided by self-employed physicians and a mixture of government and private hospitals. Coverage extends to almost all of the population. There are a large number of funds, which are advantages for negotiations with health providers. The funds form a crucial buyer of health care (Normand & Weber, 1994).

Health service provision in Germany is well designed. Patients can choose services from appropriate providers. This has the advantage that all patients can see themselves as customers who can take their problem elsewhere if they wish. For outpatient care, almost all physicians have their own surgeries and are self-employed. Around 40 percent are general practitioners and 60 percent are specialists. Around one-third of hospitals (but nearly half the beds) are publicly owned, 35 percent of beds are provided by non-profit and voluntary organizations and 15 percent by private for-profit hospitals (OECD, 1990).

Physicians are paid fees for services, based on a points system for unit of work done. When the total funding for physician services is agreed, it is then divided up on the basis of the number of treatments given by each physician. If all physicians provide more treatment, it would help to reduce the sum paid for each treatment. If some work harder, they make money at the expense of their colleagues. This has been an effective way of controlling the cost of physician services, but there are signs that the system is under pressure, and it is under constant challenge by physicians. Although this is a type of fee-for-service system, it has cost containment built in. Cost containment for hospital services and drug costs has not been very

successful. Contracts between hospitals, physicians and health funds are generally reached through negotiation between the associations representing the three parties. Contributions to the health funds are paid by employers and employees, who are both represented on the boards of the funds. The average contribution rate is around 13 percent of payroll. Members receive a comprehensive set of health services, although there is some (very limited) variation in the benefit packages. Co-payments are uncommon (except for dentures) and generally low (6% of health spending). Currently, in Germany like other OECD countries, the aging population affects social health insurance and healthcare programs because it increases the costs of treatment in health facilities (Ridic et al., 2010).

2.5.4 Japan

Japan adopted a similar health insurance system as Germany and developed their health insurance towards universal health coverage (UHC) from 1922 and achieved the UHC in 1963. Japan's political and historical context shows that the country made long-term commitments to UHC that persisted under different political conditions. Japan began its movement toward UHC before World War II as a part of its preparation for war to develop a healthy workforce, and expansion continued during the war years. After the war, UHC was picked up by the governing political party as a national goal for social solidarity contributing to postwar recovery, and as a way to respond to challenges from opposition parties associated with socialist and communist movements (Maeda et al, 2014). Premiums of the elderly, self-employed, and unemployed enrolled in municipality-managed programs are highly subsidized through transfers from central and local government, and from other risk pools with fewer elders. Co-payment may not be effective in a place where elderly population is high since the co-payment rate for the elderly and children is lower than the other groups. There are 5 factors contributing to Japan achievement of universal health insurance coverage: economic

become UC), good design of health insurance system, and good basic administrative system (Shimazaki, 2013).

2.5.5 Republic of Korea

Korea has evolved due to increasing economic growth. The health insurance system is based on some social health insurance financing towards UHC. Korea achieved equitable access to quality healthcare for all in only 12 years, which is considered to be a short period of time compared to other countries**.** Universal coverage goal was introduced first in 1977 and the country accomplished the goal in 1989. The key success factors are economic and social progress. The rapid economic growth and social changes since 1960s have provided adequate budget for health system financing to increase access to healthcare services; the coverage expansion strategy focuses on formal workers and employees first and is family-based. Korea has strong political commitments from the highest level of administration for quality life of people. With such government stewardship, the universal health coverage has been successfully achieved. On the other hand, the contribution of health insurance premium is low but their co-payment policy is still high (In-patient care 20%, Out-patient care 30% - 60%, drugs 30%, and rare and serious diseases 5% - 10%) due to the priority to increased population coverage first, then moving to higher protection. Sources of health finance are mainly from contributions (health insurance premium 85.5%); it was 38.6 trillion KRW or 38.6 billion USD in 2013 **(**the dependents are exempt from contribution), from general tax 11%, subsidy 6.5 trillion KRW or 6.5 billion USD in 2013; from cigarette levy 2%, and from others 1.2% (Park, 2016). The challenge of UHC implementation are increasing healthcare expenditures and unstable financial sustainability because of aging population, prevailing chronic diseases, technologies, and growing demand (Chun et al., 2009; The World Bank, 2013).

2.5.6 Thailand

The healthcare system in Thailand uses mainly public providers, funded by a combination of taxation and user fees. A number of medical benefit and health insurance schemes have existed in Thailand for a long time, including the Civil Servants' Medical Benefit Scheme (CSMBS) and the voluntary health card scheme, which covers the cost of care in government facilities. The 1990 Social Security Act (SSA) aims to extend considerably the use of social insurance funding for health services. The SSA presently covers all workers in companies of 20 or more employees, approximately three million people in total. It was planned to expand coverage to smaller companies in 1994, and to the informal sector in 1995 (Prakongsai et al., 2009).

Thailand has good governance and strong public administration. Their health service delivery system focuses on primary care level through sub-district hospitals, allocates sufficient health workers, and provides incentive to their health staff. Achievements and sustainability of UHC depend more on the committed spirit of the health workers, the ownership by the people, and the good governance system rather than the money, including for example, leadership and continuity, continued political support despite rapid government turnover (10 Prime Ministers, 13 Ministers of Health during 2001-2015); capable technocrats and active civil society. The UC Scheme is owned by members, politicians are held accountable, and the majority of citizen are contributing factors of UHC achievement in Thailand. The health system is less subject to political changes, though continued political support is vital. The design of the UC Schemes is close ended budget and proper mixed of provider payment methods. Primary health care focuses on the District Health System. Their approach is to cover all people who are not in formal social security from general budget revenues, and automatic enticement (WHO, 2014., Patcharanarumol, 2016).

Another important factor is evidence of informed decision, strong institutional capacities through health policy and system research, health technology assessment capacities, and key platforms for evidence informed decisions. However, their system is facing challenges which include increasing demand for services. There are not harmonies and inequities among/within health insurance schemes because of difference in government subsidy, financial contribution, benefit package, delivery systems and payment mechanisms. Financial sustainability is also a challenge for Thailand. It is estimated that the total health expenditure is less than 5% of GDP on health with only 11% Out of Pocket payment, but limited fiscal space (Suphanchaimat et al., 2014).

2.5.7 Malaysia

Malaysia achieved universal coverage through public funding of public services. Health system has evolved and currently it has a dichotomous public-private health care system. All population in Malaysia have equal usage of health services. There is a low incidence of catastrophic health expenditures[9], with progressive distribution of expenditures across socioeconomic groups. For example, catastrophic health expenditure for Malaysia in 2010 was significantly low, accounting for only 0.16%. The overall levels of healthcare utilisation in Malaysia in 2015 are estimated at 3.2 outpatient visits/person/year and 101 hospital admissions per 1000 population. Public sector is being funded through general revenues and taxation which is 52.4% of Total Health Expenditure. These include non-tax revenues such as from oil and tax revenues from both corporates and individuals such as direct income taxes and indirect taxes such as GST. The public sector covers both personal and community care such as dengue control measures. Everyone has access to the public

[9] Catastrophic health expenditure: when the medical bills of one or more household members are high in relation to a household's capacity to pay, it must reduce its expenditure on other necessities for a period of time

healthcare system for a nominal fee which does not cover the cost of the services, while the private sector is being funded by a small amount from social security organisation (SOCSO), which is 0.5% of fund. The rest are through private spending, approximately 38.9% by Out-of-Pocket (OOP) and 6.7% by PHI. The private health service providers are directed towards personal health care and mainly utilised by those with ability to pay (through PHI, fund by employer or OOP). Therefore, both functions operate almost independently from each other (Rajendran, 2016).

2.5.8 Some common lessons learnt from the experience of countries

The experiences of countries mentioned above shows different approaches to achieving universal health coverage. The review is based on available information on high and middle income countries for their path moving to universal coverage. Consequently, some common lessons from the experiences of the countries presented above are summarized below:

- There is a choice in health insurance system. It can be some combination between public funding and private payments to reach universal access for healthcare by combining public and private healthcare providers. In many countries, including Japan and Malaysia, the insured patients can choose either public or private hospitals for their healthcare services, such as Japan and Malaysia.
- Many countries in both high and middle income countries are facing the excess demand for healthcare services, and the services cannot meet all the population. For example, In the U.K. there is a long waiting list for operation. In Thailand, physicians are attempting to shift costs of general healthcare into the area of occupational safety and health. In Germany, the problem is one of controlling costs.

- Concerning the quality of healthcare services provided to insured people, the problem of ensuring a high quality of service can emerge in many different systems. For instance, the U.K. has a tax-funded system, but there are a lot of complaints from users. Incentives for high quality are likely to be incompatible with good cost containment.
- Regarding cost containment of health insurance schemes, all countries are concerned with cost containment, and need mechanisms to enhance the quality of care. Some countries have some methods to control over utilization for healthcare services. Canada and U.K. use general budget for their universal coverage programs; Thailand applies capitation payment to healthcare providers; Germany chooses fee-for-service for hospital and Canada uses fee-for-service for physicians.
- Administrative capacity is very important for social health insurance development. Low skill of health insurance personnel and training on health insurance management can be a more serious constraint than a lack of health service infrastructure. Many of the advantages of social health insurance funding are lost without good administration. The experiences in Thailand show the importance of administrative skills in developing social health insurance.

2.6 Empirical Literature

Empirical literature on the evidence of moving towards universal health coverage, equity access to healthcare services, and the impact of catastrophic health expenditure to household financial burden by health policy researchers and health economic experts provide a useful assessment and measurement for the research on universal coverage and equity access to health care services, as the following:

Mathauer and Garrin (2010) assessed the role of institutions and organizations for

design and organizational practice to assess the health financing function performance on revenue collection, pooling and purchasing or provision of health insurance. The result of analysis showed that inadequate performance can be caused by health system bottlenecks. If a country desires to achieve universal health coverage, it should prepare or change to a conductive environment and institutional capacity of their health financing system (Mathauer & Garrin, 2010). This analytical framework can be applied to analyze qualitative data in this study.

Murray and his team (2003) conducted studies on the distribution of household financial contributions to the health system by using the income and the burden approaches to examine the effect of health system payments and to measure the fairness of financial distribution in 59 countries, and found that the income space distributional measure on the progressivity principal shows little information on risk protection and catastrophic health expenditure outcome related to impoverishment. However, the result of the study revealed that the burden space approach based on capacity to pay provides more information on the proportion of household catastrophic payments and the impact of health insurance coverage arrangement (Murray et al., 2003).

Xu and her colleague (2003) investigated the impact of catastrophic health expenditure by using a cross country analysis design with threshold of payments of at least 40% of a household's capacity to pay. Her study found that catastrophic spending rates were high in transition health financing system countries and particularly in Latin America countries (Xu et al., 2003). In 2005, Xu and her team continued to develop a report on the method to measure the impact of health payments on a household's financial situation and catastrophic health expenditure. The report demonstrated how to measure health expenditure and its impact to household economy. The report includes the distribution of health service

payments across social economic groups, and the determinants on catastrophic health payments (Xu et al., 2005). Her methods are applicable for this study.

Habicht and his team (2006) researched on population's financial protection in Estonia using measurement of financial burden of household from the World Health Organization. The results showed that the proportion of households who spend more than 20% of their capacity to pay on health has increased to cover 1.3% of the vulnerable population (poor and elderly household) facing impoverishment due to catastrophic health payments (Habicht et al., 2006). This research is also useful to my study.

2.7 Previous studies related to universal health coverage and equity in Lao PDR

The study on universal coverage and equity access to health care services has been increasing recently. In Lao PDR, some studies related to health care coverage and equity access to health care service have been conducted. Paphassarang and his colleagues conducted a study on equity and cost recovery in urban healthcare in Lao PDR in 2002. Their study found that the villagers preferred to seek health care in private facilities as their first choice to public health care because of the lengthy procedure and unwelcoming attitudes of the health staff. The better off sought to have health care abroad, while those who have lower income chose to have health care in private pharmacies. Unsurprisingly, the study also found that equity in health is only theoretical rather than practical (Paphassarang et al., 2002).

Ron (2006) conducted a study on linkage of compulsory and voluntary health insurance schemes; her study provides long-term recommendation strategy to reach universal coverage in Lao PDR through the extension of compulsory schemes to all enterprises or provinces and merging at provincial and district levels with appropriate legislation for merging stage. Several factors, including strengthening capacity and national framework;

developing proper mechanism; and creating a roadmap have to be improved in order to successfully link all existing schemes and move towards universal health coverage (Ron, 2006).

Annear and his colleagues (2008) conducted an evaluative study on Health Equity Fund in Lao PDR and found that cost-effectiveness and appropriate service delivery mechanisms remained a major concern (Annear et al., 2008). Annear (2011) also conducted a research on combined action between HEF and CBHI in Lao PDR and Cambodia; his study found a negative cross-subsidization where capitation is used and contact rate for the poor are low. Improving quality of care depends on supply-side subsidies. On the other hand, combining these two schemes does not guarantee improved equity; combining cannot achieve positive cross-subsidization of the poor without large voluntary CBHI risk pool and cannot scale up CBHI without government or donor subsidies (Annear et al., 2011).

Patcharanarumol (2009), a Thai health care financing expert, and her colleagues conducted a study on household coping strategies for illnesses in four villages in Savanakhet province and found that the villagers pay for health expenditure by themselves and were not aware of the user fee exemption. More importantly, their study found that some households experienced catastrophic expenditure caused by health care payment. Leebouapao (2010), on the other hand, conducted a research on social protection in Lao PDR and found that "low income, poverty of the Lao population and low government budget and revenue are the critical challenges hindering an increase in the coverage of social protection in the country, including the informal sector, where the majority of the labor force is engaged" (Leebouapao, 2010).

Alkenbrack (2011) conducted a specific study on health insurance in Lao PDR by examining registration, impacts, and the possibilities for coverage expansion. Her research was supported by the World Bank country office with collaboration of international and

national experts. Her study found that the enrollment of voluntary health insurance scheme increased utilization of health care services in contracted hospitals and reduced Out-of-Pocket, and quality of healthcare affected the enrollment in compulsory schemes

The Ministry of Health and WHO also conducted a study on the financial impact of direct payments for health expenditures and the utilization of health facilities in Lao PDR by using two national data from Lao Expenditure and Consumption Surveys (LECS 3 and 4), and found that there was low utilization of health facility services in both outpatient and admission services. The poor made less use of health services than the non-poor and the poor faced crisis in health expenditure due to their financial burden of OOP payments in health facilities. However, the national data of this study is unclear because data of health care service utilization on health facility were combined between provincial and district health facilities. Therefore, the analysis couldn't describe the differences between utilization at two levels of hospitals. Data for health center and specialized health center were merged, so it was not possible to describe it in this study and it couldn't be used to analyze impoverishment of catastrophic expenditure from treatment (Ministry of Health & World Health Organization, 2012).

Duangvichit and his team (2012) conducted a cross-sectional study in two provincial hospitals in Lao PDR; his study found women covered by health insurance schemes have more opportunity to access maternity care and delivery or cesarean section for delivery at public health facilities than uninsured women. His result showed that about 75 percent of uninsured women paid delivery cost from their own pocket and women in low-income family preferred delivery at home to avoid non-medical care expenses; they also found that health insurance increased delivery utilization in public health facilities (Duangvichit et al., 2012).

Lee Kuan Yew School of Public Policy team (2013) sought the extension coverage of health insurance to informal population in Lao PDR, which would require a huge amount of

money from government and development partners to increase capacity to subsidies for essential medicines. Cross subsidization from informal to formal workers needs consensus and working closely between the Ministry of Health and the Ministry of Labour and Social Welfare. The attempt to increase health insurance coverage through Community Based Health Insurance Scheme is facing challenges on high adverse selection and drop-out rate, and still has small risk pools.

Ahmed and his team (2013) conducted research on institutional design and organizational practice for universal coverage in Lao PDR, related to the establishment of the National Health Insurance Agency by using WHO's institutional and organizational assessment for improving and strengthening health financing conceptual framework. The result of their study showed that lack of means for extension of health insurance coverage to informal population, weak administration capacity to manage merging health insurance schemes, separated organization responsible for revenue collection of health insurance, and different benefit packages lead to failure of cross subsidization from four different health insurance schemes. The study also found that lack of financial resources and inappropriate voluntary health insurance schemes were remarkable constraints to achieve universal health coverage in Lao PDR (Ahmed et al., 2013). The result of his study can be utilized to analyze health insurance expansion in the current research.

Akkhavong and his team (2014) reviewed six building blocks of health system. This review clearly shows that within a short timeframe and in a very challenging environment, the government of Lao PDR has endeavored to improve many aspects of the health system and its services, which include: health financing for the poor; access to health services and better quality of care; coordination of service delivery; and improving the management and governance capacity in health sector. The challenging environment presented many obstacles

also be considered. For instance, the government and development partners need to pay equal attention to increasing government spending on health and to improving efficiency. Moreover, strengthening the health systems such as in areas of human resources, health financing, service delivery, through health sector reform, will be vital to achieve universal coverage for Laos by 2020 (Akkhavong et al., 2014).

2.8 Summary

The literature review in this chapter has explained the meaning of universal health coverage and equity access to health care services, a background to the introduction of the universal coverage, including a number of advantages and disadvantages of social health insurance towards universal coverage, which serve as valuable theoretical background for this study. This chapter has also discussed the theoretical approach on both supply and demand for healthcare and health insurance, the experience on implementation of universal coverage in high and middle-income countries, some empirical studies and previous studies related to the topic of this research. In summary, reasons behind the introduction of universal health coverage were to protect household from catastrophic health expenditures, to raise sustainable financial resource for health care funds, to improve efficiency and quality of care, and to bring equity access to healthcare services.

However, in practice, there have been a number of challenges moving to universal coverage. Many countries are facing challenges on how to design a good health financing system, organizational and administration capacity, and problems of excess demand, cost containment, and the quality of healthcare services. Economic theories on supply and demand of health insurance help explain the important factors related to the implementation of health insurance. The supply-side of health insurance influences the consumers to take up health

The empirical literature provides a useful measure and technic to analyze household financial distribution, household health payments, as well as the institutional design and organizational structure for universal health coverage. The relevant studies on universal health coverage and equity access to healthcare services in Lao PDR found a lack of comprehensive study from key actors of healthcare financing (policy makers, supply for health insurance, and demand for health insurance). Conducting research on universal health coverage can contribute to both academic centers and public health programs, close to the supply and demand for health services. The national research on UHC also can be used to develop research agenda, to raise funds, and to strengthen research capacity by applying research findings in the country context.

Chapter 3: Methodology

3.1 Introduction

This chapter includes the conceptual framework, general research design, and limitations of the study because of the used methodology. The conceptual framework is based on three dimensions of universal health coverage developed by World Health Organization. The research design covers both qualitative and quantitative methods. The qualitative method involves the evaluation of existing policies and strategies, and extensive interviews with key informants from relevant agencies. The focus of qualitative analysis is on the difficulties in expanding universal health coverage and the prospect for co-payment introduction. The quantitative method employs a cross-sectional household survey. The quantitative analysis focuses on satisfaction with health services among insured and uninsured households in order to determine whether or not they have different opinions on the services they receive, and the catastrophic health expenditures. The determination of catastrophic health expenditure is necessary for the analysis of health insurance performance, which can be utilized for the expansion of health insurance scheme in the future.

3.2 Conceptual Framework

According to the main themes of this research, a conceptual framework has been developed to guide the methodology and help the analysis. This conceptual framework contributes to the enhancement of three dimension concepts of universal health coverage, namely population coverage, health services coverage and reduced out-of-pocket payments from the World Health Organization, and economic theory on demand and supply of health insurance. Economic theory can help to explain why people choose to enroll or not enroll in health insurance schemes. Moving toward universal health coverage involves three main key

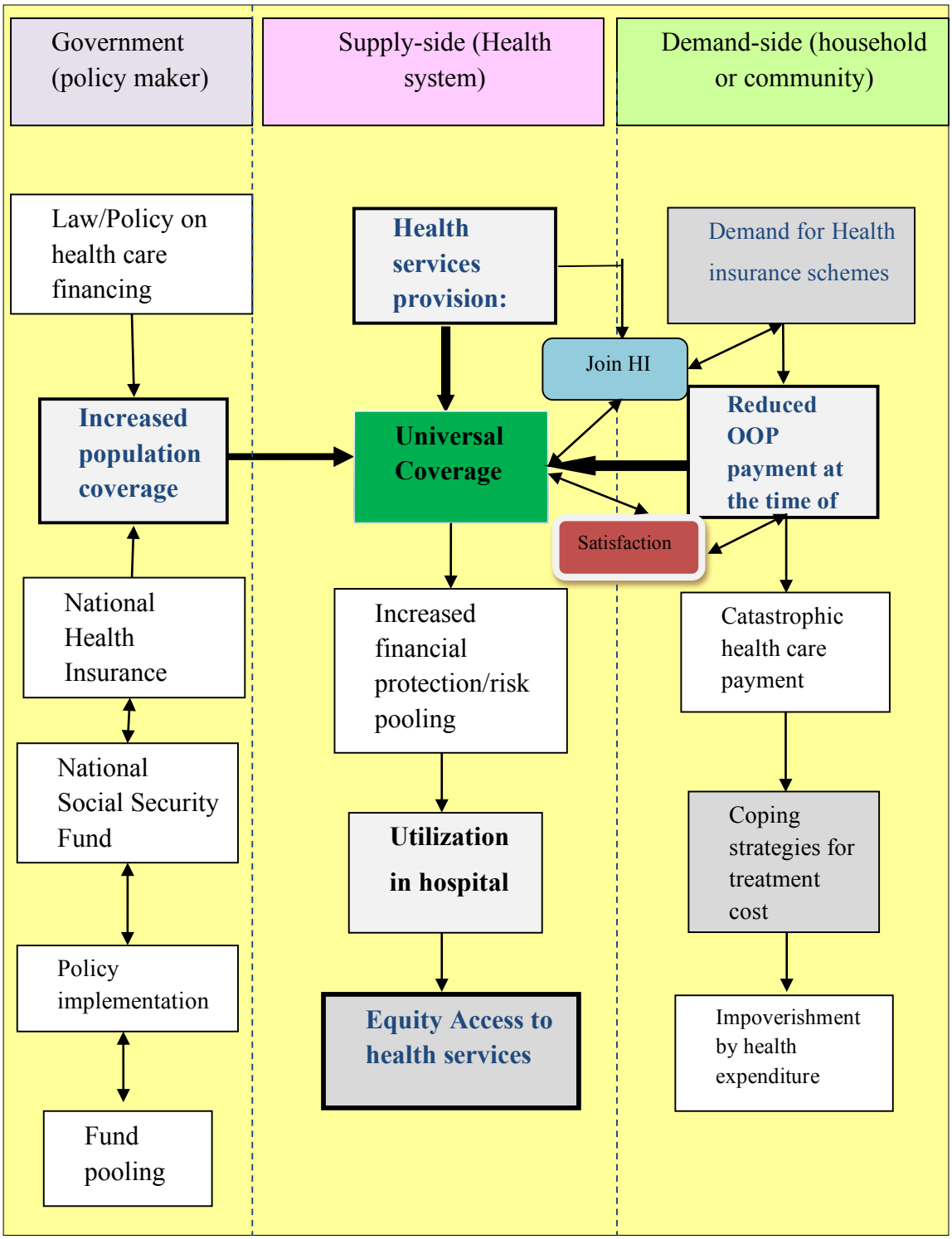
actors of health care financing, which are government, supply-side (health system), and demand-side (household or community) (Patcharanarumol et al., 2009). In accordance with the public interest theory, government's role in healthcare market is mainly to raise the general interests of society and select policies that integrate efficiency and equity by producing public health insurance schemes to population (Santerre & Neun, 2010). Government has the power to carry out health financing functions and resource mobilization by focusing on health policies to guide healthcare financing strategies such as revenue collection, fund pooling, and purchasing (Honore & Amy, 2007). In this research, key implementers of public health insurance schemes to increase population coverage are the National Health Insurance Bureau and the National Social Security Fund. As a result, this study evaluates the universal health coverage on health insurance systems; progress of related policies and strategies from the policy makers and their stakeholders; and determinants of getting equity access to health care services in selected district.

For the supply-side of healthcare, including health service provision at central and district hospitals, the quality of the services, capacity of health personnel, and availability of drug supply are assessed. The implementation of health insurance was assessed through in-depth interview with policy makers and health insurance managers to obtain information on performance, risk pooling/cross-subsidization, capitation payment, utilization of healthcare services by insured and uninsured groups, challenges to provide services under health insurance schemes, and co-payment.

The demand for health insurance is usually determined by the expected demand for healthcare services. Illness of people, treatment seeking patterns, satisfaction with health insurance and healthcare services, and their choice to join health insurance were examined. On the other hand, fees of healthcare services as barriers of access to public health services

pocket health expenditures on the social and economic status of the households. At the end, coping strategies for households to deal with cost of illness were studied from household experiences to understand whether or not households have difficulty in paying hospital bills and whether or not the high treatment costs create financial hardship.

Figure 3.1 Conceptual framework



3.3 Research Design

There are several methods and strategies that may be suitable for this kind of research. Both qualitative and quantitative methods have been applied in the research in order to have a

better understanding of the issue under the study by addressing a set of research questions, which require both qualitative and quantitative evidence and methods (Yin, 2006; Greene, 2007). The original data collection for parts of the study has been done in a rural district not far from the capital city, Vientiane. A larger study with data collected in many areas often requires extensive resources with sophisticated technics of outcome measurement, and long period of time spent on the field for conducting research. Regarding the limitations in time, resources and geographical barriers in travel to remote parts of the country, I have selected an appropriate field comprised of 10 villages near the capital city for the reasons explained under section 3.3.2.

3.3.1 Qualitative Study

The objectives of qualitative study are to assess the coverage and challenges to the expansion of social health insurance schemes, and potentials to achieve universal health coverage in Lao PDR by 2025. The existing relevant literature including policies and legal documents were reviewed and a qualitative research method was applied by interviewing 15 key informants involved directly in the expansion of health insurance schemes (see Appendix 1). The key informants were authorities from the Ministry of Health, four central hospitals, one district hospital, four health insurance schemes, Ministry of Labor and Social Welfare, Ministry of Finance, Vientiane Capital Health Department, Xaythany Governor Office, and District Health Office.

The extensive in-depth interview was conducted during March 2015 in Lao language based on a semi-structured questionnaire. Before conducting interviews, the researcher sought and obtained permission from the Ministry of Health and relevant documents from Vientiane Health Department. Then, researcher contacted each organization for making an interview

provided and the purpose of the interview was explained to all informants. The interviews focused on factors impeding the expansion of health insurance and the perception of health service providers in providing healthcare for insured people. The questions cover the interviewees' background, the function of their organization, information related to health insurance schemes, their reflections on health insurance implementation, especially challenges and counter measures to overcome challenges as well as their perspective on co-payment for healthcare services (see Appendix 2). The discussions were recorded and translated from Lao language to English by the researcher. After the interview, researcher also collected some information related to each question such as term and reference of their organization, number of health insurance membership, and hospital financial reports.

Variables of qualitative study were set to guide information collection and analysis and it helps to draw a conclusion. The variables are as follows:

- Function of their organization.
- Policies, strategies and legislations relevant to universal health coverage and equity.
- Challenges facing the Lao government to achieve universal health coverage and health equity.
- Capitation payment and costing.
- Quality of service provided to insured people.
- Sources of funding for universal health coverage and health equity promotion.
- Co-payment for health care service.

Information collected was recorded in details during and after the interviews. The data was analysed and interpreted accordingly, using a thematic analysis of the in-depth interviews. Firstly, the evidence from each source was summarized and analyzed based on variables, which have been set. Then evidences from different sources are compared and

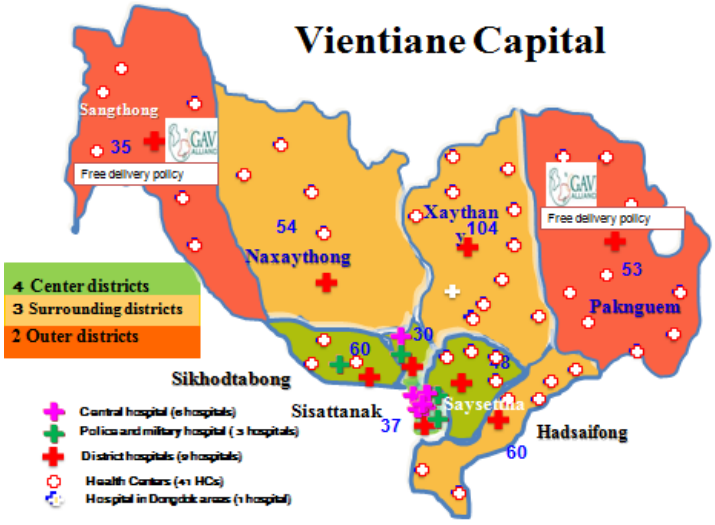
interpreted accordingly. The analysis focuses on similarities and differences from the perspectives of concerned authorities in the expansion of health insurance coverage in Lao PDR. The explanations to these issues are provided accordingly.

3.3.2 Quantitative Study

The quantitative study applied a cross-sectional household survey with cluster sampling technique. The objectives of this study are to assess the promotion of equity access to health care services in Xaythany district, Vientiane capital, Lao PDR; to understand insured and uninsured household satisfaction regarding quality of healthcare services; and to explore level of health expenditure and level of catastrophic cost for insured and uninsured households.

Xaythany district in Vientiane Capital was chosen for this study for the following reasons. First, this district has the highest population, accounting for 21.7 per cent of the total population in Vientiane Capital (Vientiane Capital Governor's Office, 2014). Second, some of the people in this district have poor health outcome. The infant mortality rate was the second highest in the capital, accounting for about 4 per 1,000 live birth, and the maternal mortality rate was 263 per 100,000 live birth in 2013 (Vientiane Capital Health Department, 2013). Third, this district has three main health insurance schemes namely State Authority Social Security, Social Security Organization, and Community-Based Health Insurance Scheme. The implementation of these health insurance schemes is important for the assessment of how the government and local authorities have attempted to minimize the burden of user fees for the poor and the low-income groups of people.

Figure 3.2 Map of Xaythany district in Vientiane Capital



Source: Vientiane Health Department, 2015.

3.3.2.1 Sample Size, Village and Household Selection

Concerning the size of household survey sample to represent insured and uninsured population in the district, cluster sampling technique was used to select a sample in the study areas. The main advantage of cluster sampling is cost-effectiveness because it reduces cost of personal survey. According to Thomas (2004), sufficient sample for survey analysis requires at least 200 observations (Thomas, 2004). The minimum number of sample to analyze logistic regression model in quantitative research is 100 observations (Long & Freese, 2006). Due to limited resources and time that researcher had for the study, the appropriate sample size of this study was 400 households (2,242 individuals) half of which are uninsured households.

Two-stage cluster sampling technique was applied for this study. The first stage is the village, and the second level is the household. Villages were selected based on availability of an adequate number of household with various health insurance schemes, similarity in socio-

the information of health insurance scheme especially the village that Community-Based Health Insurance scheme was established at least two years prior to the study. The detailed information of the selected villages is presented in the table 3.1 below.

Table 3.1 Selected villages

No.	Name of Village	Population	Households	Family	CBHI	Insured	Uninsured
1	Thangon	3,552	444	432	27	46	34
2	Na	1,470	249	245	25	15	15
3	Phoukham	2,050	342	301	34	30	20
4	Hai	1,831	361	340	4	27	13
5	Thasavang	1,269	231	222	9	16	24
6	Nasala	2,864	443	439	1	15	15
7	Dongbang	1,400	185	180	1	11	19
8	Ladkhouy	3,487	725	669	25	15	15
9	Verkham	1,532	333	287	13	13	27
10	Dongmakkhai	1,730	350	346	2	12	18
	Total	**21,185**	**3,663**	**3,461**	**132**	**200**	**200**

Source: Xaythany District Governor Office, 2015

Households were selected based on the list of all households in the village. The researcher asked the village leader to list the names, insurance status, and proxy of different socio-economic groups in the village. With information on insurance and socio-economic status obtained from village chiefs, 30 to 80 households were randomly selected from villages with low and high health insurance coverage (see Table 3.1). Socio-economic status, access to villages and the limited timeframe were also taken into account when selecting households for interview. In cases that household members held different types of health insurance, the type of insurance held by the head of household was selected. The respondents of our survey were the heads of households or other adult family members who were available at the time that interview was conducted.

3.3.2.2 Data Collection, Management and Analysis

Data was collected in July and August 2015. With great cooperation with the village chiefs, the researcher was able to collect information from 400 houses of 10 villages. Two assistants from Village Office were hired to help the researcher to conduct household interview in each selected village. The assistants played a crucial role in helping the researcher in coordinating with village authorities concerned. Each interviewee was informed about the purpose of the survey and the confidentiality of the information they give as well as the time needed for the interviews; consent to participate with the survey was asked to each household. The consent form was either read by household or interviewer (see Appendix 3 and 4). Interviewees were not obliged to answer all questions, and could stop the interview at any time they wished.

Information collected through structured pre-coded questionnaires from the selected villages of Xaythany district was carefully managed. At the end of the interview, questionnaires were thoroughly checked whether or not they were fully completed. Then, the obtained data was coded, cleaned, and entered into SPSS program, version 20.0. The data was analyzed by using independent sample T-test in SPSS program in order to find out whether the insured and uninsured households have the same level of satisfaction with the provision of health care service at central and Xaythany district hospitals. The analysis focuses on the proportion, frequencies, means, and Standard Deviation of data.

In regard to healthcare services satisfaction, the five point Likert scale were applied to assess satisfaction on six major components of healthcare services that were provided in four central hospitals and the Xaythany district hospital. These components include the overall quality of services, drug supplies, medical equipment, skills of health staff, attitudes of staff towards patients, and duration of waiting time. In order to assess satisfaction with healthcare services among those with and without insurance, the measured means determined the level of

satisfaction of the insured and uninsured households. To understand the level of satisfaction from the mean values of each component, the means were grouped into five groups; from 1-1.80 = very satisfied, 1.81 - 2.60 = satisfied, 2.61 - 3.40 = somewhat satisfied, 3.41- 4.20 = not satisfied, and 4.20 - 5.00 = not at all satisfied. The approach assesses satisfaction from combined information of all respondents in the analysis. The lower the mean, the higher the satisfaction level, and vice versa.

Regarding the catastrophic health expenditure, the study applied standard methods developed by World Health Organization (2005). This method was used to measure the incidence of catastrophic health expenditure and impoverishment by using the same data set from cross-sectional household survey with the focus on household expenditure on food and non-food, and payment for outpatient, in-patient, and chronic diseases care services, especially out-of-pocket health expenditures, social health insurance, and others payments (Xu, 2005). In addition, data related to health seeking behaviors and coping strategy with the cost of treatment was also collected and analyzed in STATA program, version 12.1 to compare the impact of the out-of-pocket healthcare payments between the insured and insured group.

3.3.2.3 Research Variables and Measurements

Variables that were used in the survey are household consumption and spending on food and non-food items within one month, individual illness report and health facility utilization in reference period of twelve months prior to the survey, and demographic information about household members. Out-Of-Pocket health expenditures were calculated from the household expenditure in questionnaires. The variables are categorized as follows:

- Healthcare variables

- Health insurance status
- Health Service Utilization: number of out-patient (OP) and in-patient (IP) services during a period of 12 months prior to survey.
- Health Expenditure prior to the point of using OP and IP services.
- Household consumption expenditure
- Assets index

Table 3.2 Conceptualization of variables

Dependent Variables	Independent Variables
1. Household level ➢ Health Service Utilization of OP&IP services - Central Hospitals - District Hospitals - Other Public Health Facilities - Private Clinics - Private Hospitals - Hospitals Abroad 2. Healthcare variable: self-reported illness during the past 4 weeks and admission during the past 12 months. 3. Asset index: housing and property	1. Individual level - Socio-Economic Profiles of Household Members: age group, gender, level of education, etc. - Insurance status, coverage, and satisfaction - Knowledge on health insurance - History of illness of Household Member and Satisfaction with Health Care Services - Catastrophic health payments - Coping with Illness Cost and Welfare Loss in family 2. Expenditure quintile dummies

There are a number of indicators that can be used to measure the path to universal health coverage and health equity in Lao PDR and their impacts from the government side. These include the level of government spending on health, the National Health Account (NHA), and health insurance coverage. In addition, socio-economic determinants such as education, employment, housing, and environment can also be used as variables for the health financing policy implementation.

However, using these indicators as bases of judgment of the health financing policy outcome without care may exaggerate the impact of the health financing policies. The indicators may have been influenced by or resulted from other factors outside the health financing policies. Therefore, this study will ensure that all possible variables that may contribute to the impacts of health financing policies on Universal Coverage and equity access to health care services are taken into account.

3.3.2.4 Questionnaires

This study applied a structured pre-coded questionnaire to obtain data from households. It was adopted from the Lao Expenditure and Consumption Survey 2012/2013 (LECS 5) and WHO World Health Survey 2002. The questionnaires are used to collect information related to general characteristics of households including age, gender, education, occupation, income, illness episodes, satisfaction, and expenditure with healthcare services over a period of twelve months prior to the survey (see Appendix 6).

The results of analysis of data collected through these questionnaires were used to answer specific research questions 3 and 4. They will also help partly answer the main research question. The analyzed information related to satisfaction level of households will help answer question 3, which is to clarify whether or not insured and uninsured households have the same level of satisfaction with health services they receive. Moreover, the analyzed information related to expenditures will help answer question 4, which is to identify the proportion of catastrophic health expenditure experienced by insured and uninsured households. The answers to these questions partly answer the main research question as they are related to both the expansion of health insurance coverage and equity access to health services.

The questionnaire consists of 6 parts (see Table 3.3 below). The respondents of each household should be the head of household and other adult members. The head of household was a proxy respondent for all family members. Adults who were available during the interview period were interviewed for additional individual information. The drafted questionnaires were revised by supervisor and pre-tested on March 2015 in Xaythany district, Vientiane Capital in order to test whether the questionnaire is understandable and able to yield information as expected or not, followed by modification. Before conducting the interviews, the questionnaires were made available.

Table 3.3 Components of questionnaire

Section/ contents	Data specific for:
I. cover-general information about interviewing coding, household coding and consent form	Household
II. household members, socio-economic profiles	
2.1 demographic information	Individual
2.2 education and occupation	Individual
2.3 consumption and expenditure	
2.3.1 food consumption and expenditure	Each member/ household
2.3.2 other expenditure	Each member/ household
2.4 asset	
2.4.1 ownership of durables	Household
2.4.2 housing materials	Household
2.4.3 saving	Household
2.4.4 debtor	Household
2.4.4 debt/loan	Household
III. insurance coverage and satisfactions	
3.1 current insurance coverage	Household
3.2 ex-member of insurance	Household
3.3 attitude towards CBHI	Household
IV. Illness of household member and satisfaction with health services	
4.1 out-patient services	Each member
4.2 Inpatient	Each member
4.3 Satisfaction with health care facilities	Household
4.4 Experience and reason for being treated badly	Household
V. coping with illness cost and welfare loss in family	
5.1 coping with high cost of health expenditure	Household
5.2 experience of welfare loss	Household
VI. general opinion on health insurance and health services	Household

3.3.2.5 Ethical Approval

This study focused on human subjects through interview for the assessment. The information was collected from all members in selected households. All procedures were conducted after obtaining informed consent forms from subjects. Permission to conduct a research on this topic was obtained from the Ministry of Health. The study protocol was reviewed and officially approved by the National Ethnic Committee on Health Research at the National Institute of Public Health Lao PDR (see Appendix 5).

3.4 Limitations

This study, like other case studies, has a number of limitations. First, information on health care financing of Lao PDR is limited and difficult to access because some of information needed may be regarded as sensitive for some officials. It was difficult to get full cooperation from them. They often avoid giving the actual information on health financial management.

Second, a cross-sectional design does not allow for a prospective study over a period of time that would include varying measures over time. This could lead to bias in the estimation of possible interventions. In order to eliminate selection bias, this study has attempted to rely on a well-supplied dataset of variables collected by using primary data, which allows for a careful measurement of factors despite a possible selection bias and unobserved heterogeneity; for example, the measurement of health status, choices for various types of healthcare or risk references.

Third, the cross-sectional household survey was conducted only in one main district, due to limited resources and time, which may lead to large standard errors, and increase the probability of sampling errors. The cross-sectional nature of the data also makes it difficult to

indicate causal relationships.

Fourth, this study was confined to a district near capital city. It may affect the validity and generalization of the study to the whole country; this sample may not properly reflect the total Lao population. Therefore, this could limit the generalization of the results on health insurance coverage, out-of-pocket health expenditure, equity access to healthcare services, and other factors associated with the health insurance utilization and equity issues.

Fifth, the methodology for analyzing financial burden of health payment developed by the World Health Organization has some limitations and challenges for the analysis of catastrophic health expenditure and service utilization. For instance, on catastrophic expenditure, non-users of health services are not considered in the analysis because non-users of services don't pay any cost and the analysis only reflects the short-term impact of health payments on poverty and household financial burden. For service utilization, the analysis relies on self-reported data, and the quality of service is not taken into account. Furthermore, this method is not widely used in academic institutions. To fully understand this method requires a lot of time and effort.

3.5 Summary

This chapter has provided an overview of the conceptual framework, the methodology for both qualitative and quantitative studies, and the limitation of study designs. Some quantitative evidence was also utilized to answer the research questions. Primary data was also obtained through in-depth interviews with key actors and conducting household survey by using structured pre-coded questionnaires.

Chapter 4: Country Situation Analysis

4.1 Introduction

In this chapter, the analysis of country situation will be described. It provides an overview of the general situation of the country which includes geographic and demographic characteristics, economic development, poverty reduction, health profile, healthcare financing, and health insurance schemes in Lao PDR. Understanding the situation of these elements is crucial for the study on prospects toward universal health care and equity access to health services in Lao PDR. The analysis is based on the review of existing literature, including books, journal articles, newspapers, reports from government agencies and development partners, and the interviews with key informants and technical staff of relevant organizations. Chapter 5 will focus on constraints to the expansion of health insurance in Lao PDR with information from the qualitative study; chapter 6 examines the level of satisfaction with healthcare services among insured and uninsured sample in central and district hospitals; chapter 7 measures the household health expenditure of both insured and uninsured households in the sample.

4.2 Country Profile

4.2.1 Geographic and Demographic

The Lao People's Democratic Republic (Lao PDR) was founded in 1975, replacing the Kingdom of Laos after decades of civil war. Its total area is 236,800 square kilometers, and around 70 percent of its territory is mountainous. Its total population is around 6.49 million (Lao Statistic Bureau, 2015) with a five-year average growth rate of 2.1 percent and consists of 48 ethnic groups (Lao Statistic Bureau, 2005). It has the lowest population density in the region, accounting for around 27 persons per square kilometers (Lao Statistic Bureau, 2015).

dynamic Greater Mekong Sub-region (GMS), and it is the only landlocked country in Southeast Asian Region. It shares common borders with five countries namely the People's Republic of China, the Kingdom of Cambodia, the Socialist Republic of Viet Nam, the Republic Union of Myanmar, and the Kingdom of Thailand. The administration of Lao PDR is divided into 18 provinces and one Capital City.

In 2015, a large percentage (50 %) of Lao population was under 23 years of age, while only 4.2 percent were over 65 years old (Lao Statistic Bureau, 2015). According to Census 2015, approximately 72 percent of Lao population relies on subsistence agriculture and about 19 percent of labour force works in non-agricultural occupation, of which more than half (10 percent) work as Government employees or in State cooperatives. Less than 1 percent was reported to be an employer, 1.1 percent in State cooperatives, and 7.5 percent in the private sector. About 81 percent of the population work in informal sector, of which 43 percent were unpaid workers and 38 percent were own account workers (Lao Statistic Bureau, 2015). In these situations, it will be difficult for the country to expand social protection to cover its entire population.

Figure 4.1 Map of Lao PDR

4.2.2 Socio-economic Development

Since the liberation of the country in 1975, the Party and government of Lao PDR have pursued their two strategic duties which are the protection and development of the country. At the beginning, the Party and government of the Lao PDR followed a centrally planned economic development model which was vigorously promoted by the Soviet Union. After almost a decade of trial, the Party and government of Lao PDR realized that the model was not well suited to the country condition and decided to introduce New Economic Mechanism, moving from the centrally planned economy to market oriented economy in the mid-1980s. The key elements of New Economic Mechanism included the introduction of free enterprise initiatives, decentralized decision making, deregulation of pricing and financial systems, and the promotion of domestic and foreign trades and investment.

After that, the Lao economy has continuously grown. From 1990 to 2002 the average GDP growth rate was 6.3 percent (World Food Programme, 2011), and over the following decade the annual economic growth was 7 - 8 percent (United Nations Development Programme, 2011). According to the Seventh Five-Year National Socio-Economic Development Plan from 2011 to 2015, the average economic growth is expected to be around 7.5 to 8 percent per year. In 2010, the GDP grew at an annual rate of 7.9 percent, which was higher than the Sixth Five-Year Plan target (the plan target was 7.5 percent). The growth in share of agriculture in GDP was 4 percent, industry 12.6 percent and services 8.4 percent (Ministry of Planning and Investment, 2011). In addition, GDP per capita has increased gradually from US$ 491 in 2005 (Ministry of Planning and Investment, 2006) to US$ 1,725 in fiscal year 2014 - 2015 (Lao Statistic Bureau, 2015), which was an increase of approximately 23 percent from the fiscal year 2008 - 2009. This has contributed to the increase in the Household Consumption Index per month, which doubled from 1.1 million

Kip in 2002-2003 to 2.2 million Kip[10] in 2007-2008. Specifically, consumption increased from 1.7 to 2.9 million Kip in urban areas and from 0.9 to 1.8 million Kip in rural areas. In summary, average household consumption per month has risen by 14.8 percent per year (Ministry of Planning and Investment, 2011). It is acknowledged that there are two meanings of healthy life: the first views life as a physical existence or the simple fact of living. The second views life as a political or a qualified existence. Usually there is a tension between these two forms of life.

4.2.3 Poverty Reduction

Since its inception, the government of Lao PDR has been trying to eradicate poverty in the country. The government established organizations responsible for poverty reduction from the National Committee for Rural Development and Poverty Reduction at the central level down to the provincial and district levels. Together with the organization establishment, the government issued a specific policy on poverty eradication which was called the National Growth and Poverty Eradication Strategy (NGPES) in 2003. It is an overarching document that guides and sets long-term targets for country planning and policy development until 2020. NGPES follows the five national goals for poverty eradication and sustainable economic growth of the government of Lao PDR, which was endorsed by the Seventh Party Congress in 2001. These include:

- The socio-economic development of the country must be balanced between economic growth, socio-cultural development and environmental preservation. These are three pillars of the Lao PDR's development policy.
- Socio-economic development must be harmoniously distributed between sector and regional development, and between urban and rural development, so as to fully and

efficiently utilise human and natural resources.

- Socio-economic development must be based on sound macroeconomic management and institutional strengthening in order to enhance national solidarity and cohesiveness and to promote democracy within society.
- The development potential and strengths must be combined with regional and global opportunities in order to enable the Lao PDR to participate in regional and international economic integration.
- Socio-economic development must be closely linked with national security and stability.

(The Government of Lao PDR GOL, 2003, p.2-3)

In order to achieve these goals, the Party and the government set ten priorities and a framework which comprises four main sectors, various supporting sectors, and various programs priorities. The sectors include agriculture, education, health and infrastructure particularly roads in rural areas. In addition, the government identified 72 districts as poor, and selected 47 of the poor districts as priorities for the development (GOL, 2003).

In 2004, the GOL set up its targets and relevant indicators within the framework of the MDGs and published its first National MDG Report that went a long way in establishing solid baselines to track the country's progress towards the achievement of the MDGs by 2015. The five-year National Socio-Economic Development Plan 2006-2010 (NSEDP), which incorporate the key elements of NGPES and MDGs, was implemented by the government, who then reported its progress to the National Assembly. The Lao PDR has recently finished the implementation of the 6th NSEDP 2006-2010, and the 7thNSEDP 2011-2015; and the 8th cycle plan for 2016-2020 has been approved and started. The 7th National Five-Year Health Sector Development Plan 2011-2015 (NHSDP) falls under this overall plan as the framework for health sector development plan and forms the basis for health-related targets in NSEDP.

Through the implementation of various policies and strategies, poverty in Lao PDR has declined continuously among almost all ethnic groups. According to Lao Statistics Bureau (2008), poverty declined from 46 percent in 1992-1993 to 33.5 percent in 2002-2003, 27.6 percent in 2007-2008, and to 23.7 percent in 2013-2014. In addition, poverty in districts and villages targeted by the National Growth and Poverty Reduction Strategy declined significantly (the Government of Lao PDR & United Nation Development Programme, 2013). The progress has also been witnessed in other social and economic indicators such as education and health. For example, the net enrolment in primary schools increased from 58 percent in 1991 to 84 percent in 2005. In health, child mortality rate fell from 179 per one thousand life births in 1995 to just 98 per one thousand life births (the United Nations Development Programme, 2012). In terms of international poverty line, Lao PDR experienced a one-third reduction in poverty between 1992-1993 and 2007-2008 (the Government of Lao PDR & United Nations Development Programme, 2013).

4.3 Health Profile

4.3.1 Health Status

Over the past four decades, the Government of Lao PDR (GOL) and development partners (DPs)[11] have strived to develop the healthcare sector with various interventions and approaches. As a result, the healthcare sector has made remarkable progress in improving health outcomes. For example, life expectancy at birth increased by almost 20 years from 49 years in 1980 to 65.7 years in 2014 (United Nations Development Programme, 2014; World Health Organization, 2016; World Bank, 2016). Moreover, there has been a significant decline in under-five mortality and maternal mortality rates. In 2015, the under-five and maternal mortality rates were 66.7 per 1,000 live births and 197 per 100,000 live births,

[11] Development Partners or "DPs" is used to denote all agencies providing aid to Lao PDR including multilateral and bilateral donors, financing agencies and banks, as well as non-governmental organizations

respectively (United Nations Development Programm, 2014; Ministry of Health, 2015). These figures illustrated that Lao PDR achieved Millennium Development Goals in maternal and child mortality reduction.

However, these rates are still among the highest in the East Asia region and the world. For example, the maternal mortality rate was 161 per 100,000 live births in Cambodia, 54 per 100,000 live births in Vietnam, and 20 per 100,000 live births in Thailand (World Health Organization, 2016) (see table 4.1). The key indicators of health outcomes, health coverage and utilization of health facilities remain low, especially in relation to nutrition, maternal, and child healthcare services. For instance, the prevalence of children under-five stunted growth was 36.5 percent in 2014 (Ministry of Health, 2015). The percentage of women giving births with Skilled Birth Attendance (SBA), and receiving at least one Ante-Natal Care (ANC) was low, accounting for 41.5 percent and 54.2 percent, respectively. Measles and DPT coverage were less than 70 percent; only 63.7 percent and 55.5 percent, respectively (World Health Organization, 2016; Lao Social Indicator Survey, 2012).

In addition, Laos is undergoing an epidemiological transition. The incidence of Non-Communicable Diseases (NCDs) and injuries are increasing and posing a major challenge to an already overstretched health system. The prevalence of Non-Communicable Diseases (NCDs) has increased dramatically from 29% in 1990 to 46% in 2013 (Institute of Health Metrics & Evaluation, 2015). Major chronic diseases in the country include high blood pressure, stroke, diabetes, and lung cancer (Phommachanh & Vang, 2007). These chronic diseases are the main causes of deaths detected and have a large socio-economic impact due to the increase in health expenditure per capita (Vang et al., 2010). The top five NCDs burden concerning the cost of treatment are lower respiratory infections, complications of pre-term birth, ischemic heart disease, and cerebrovascular disease (the Ministry of Health, 2015).

Consequently, healthcare services are facing threats from both communicable and non-communicable diseases throughout the country.

Table 4.1 Key population health indicators, Lao PDR and country comparators

Countries	Life Expectancy at Birth (Years)	Maternal Mortality Ratio/ 100,000 live births	Under-five Mortality Rate per 1,000 live births	At least one ANC visit	DTP3 Coverage	Measles Coverage	Stunting Prevalence
Bhutan	69.8	148	32.9	74.4	99	97	33.6
Cambodia	68.7	161	28.7	89.1	97	944	32.4
China	76.1	27	10.7	95.0	99	99	9.4
India	68.3	174	47.7	75.1	83	83	47.9
Indonesia	69.1	126	27.2	95.7	78	77	364
Lao PDR	65.7	197	66.7	52.5	88	87	43.8
Philippines	68.5	114	28	95.4	79	88	33.6
Srilanka	74.9	30	9.8	99.4	99	99	14.7
Thailand	74.9	20	12.3	98.1	99	99	16.3
Vietnam	76	54	21.7	95.8	95	97	19.4
East Asia and Pacific	68.9	127	37.2	85	81.6	84.7	36.1

Source: World Health Organization, 2016.

4.3.2 Health System Delivery

The Health system delivery in Lao PDR is essentially a public system, with government-owned and government-operated health centers, district, provincial and central hospitals. The Ministry of Health is responsible for both public health and curative service delivery. Currently, there are 970 health centers, 135 district hospitals, 17 provincial hospitals, 3 central hospitals, and 5 specialized institutions. Although private health service has expanded rapidly, it is still in a small proportion. Up to date, there is only one comprehensive private hospital in the northern part of Lao PDR, 14 medium private hospitals (8 general, one specialized, one traditional medicine hospitals), and 1,050 private clinics nationwide. The government has only allowed foreign health professionals to operate under

the temporary licenses. It affects the promotion of private investment on health (the Ministry of Health, 2016; Ministry of Planning and Investment, 2016).

The health system is divided into three administrative levels, namely the central (Ministry of Health or MOH), provincial (Provincial Health Departments) and district levels (District Health Offices). Regarding service delivery, there are officially four levels of organization of service providers which include:

① Central-level providers namely hospitals that are managed directly by the MOH;

② Provincial-level providers are managed by the Provincial Health Department in each province;

③ District-level providers are managed by the District Health Office in each district;

④ Community-level providers or health centres are also managed by the District Health Offices.

At the village level, there are many village health volunteers (VHVs) who are a member of community health committees and traditional birth attendants (TBA). They play an important role in providing primary health care and health service delivery in rural remote areas where accessibility is still constrained by the distance, language, culture and financial barriers. Most of the service delivered at this level depends on mobile outreach services. There is a lack of community health education and awareness-raising activities, which hinders the community mobilization of resources for health. With the move to change health volunteers to health workers at the village level, it is expected that awareness on health issues and services will be increased, thereby enhancing community involvement in health related-activities.

Concerning health personnel, there are about 18,000 public health workers, 70 percent of whom are staff of the Ministry of Health and 30 percent are from the Ministry of Public Security and Ministry of National Defense. The number of health workers per 1,000 people

was 1.25 in 2013 (Ministry of Health, 2014). In addition, health staffing in Lao PDR is urban-biased. Most medical graduates avoid going to work in remote areas due to the hardship of living in remote areas, conflict of interests, and the lack of motivation, training, and career development opportunities. In addition, the regulation on dispatching medical graduates to work in remote areas has not been strictly enforced. Therefore, only 63 percent of health students who got scholarship from the government to study in health educational institutions go back to work at health facilities in rural areas where they come from after their graduation. The rest simply find other jobs in the city without having to pay any compensation from the scholarship they got from the government (Ministry of Health, 2014).

4.3.3 Health Seeking Behaviour

Health-seeking behavior refers to action taken for a health event, which does not always mean sickness or pregnancy (Japan International Cooperation Agency & Ministry of Health, 2002). Health seeking behavior differs significantly among different geographic, socio-economic groups. The result of Lao expenditure and consumption survey 2012/2013 by the Ministry of Planning and Investment showed that 31.9 percent of the people stated that they had temporary health problems in the past 4 weeks; a lot of people tend to seek health care by buying drug at a pharmacy for their acute illness. Only 15 percent sought treatment at health facilities or providers, with variation from 20 percent in urban areas to 10 percent in rural areas without access to road. The reason for not seeking healthcare was minor illness, difficulty to get to the facility, and high cost of treatment (Lao Statistic Bureau, 2013). For pregnancy-related health seeking behaviors, not many pregnant women sought the services from skilled health workers. Only 52.5 percent of pregnant women received at least one Antenatal Care (ANC) from midwives, nurses or doctors, whereas 47.5 percent of them did not receive any antenatal care at all (WHO, 2016). The low percentage of women who

explain the high maternal mortality rate in Lao PDR.

In addition, some patients, especially those who live in Lao-Thai border areas, cross the border to seek health care in Thailand because of positive ethics and attitudes of Thai health workers towards patients, good quality of services, less waiting time and good management; good technical skills of medical staff; health facility cleanliness; modern medical equipment; variety of medicine in hospital's pharmacy; and more rooms available for In-Patient-Department (IPD) (Bochanton, 2008).

Some patients do not seek health care at the health facilities simply due to poor transportation means, which takes so much time to get to the facilities. Furthermore, ethnic minority groups tend to have a low level of education and speak their own language dialect. They do not understand the official language that health educators use in providing health education and services. Traditional belief also plays an important role in preventing people from seeking modern health treatments. In some areas, people traditionally believe that their illnesses are caused by ancient spirits or ghosts rather than diseases. As a result, they usually seek treatment of their illness by sacrificing chickens, pigs or cows to satisfy their ancient spirits that made them ill (Patcharanarumol et al., 2009).

4.4 Health Care Financing

4.4.1 Introduction of User Fees in Public Health Facilities

The government of Lao PDR has long been struggling to promote universal health coverage and equity access to health services for the entire population nationwide. From 1975, when Lao PDR was founded to the mid-1990s, the government was trying to provide free health care for all, but the health service was too basic and limited. Most of the facilities mainly received assistance such as drugs and medical supplies from the former Soviet Union. Unsurprisingly after Soviet Union collapsed in 1989, financial aid from the former Soviet

budget constraints and was unable to adequately finance social services including healthcare and to pay the salaries of civil servants (Akkhavong et al., 2014).

In the mid-1990s the government recognized that it could not afford to provide free health care for its citizens due to financial constraints (Lee Kuan Yew School of Public Policy, 2013; Akkhavong et al., 2014). At that time health system was very poor, and there was a huge shortage of necessary medical equipment and essential drugs (Patcharanarumol & Tangcharoensathien, 2007). And, it was not feasible to increase government funding from general tax revenues to solve this constraint. As a consequence, the government decided to downsize civil servants in the health sector through early retirement (Lee Kuan Yew School of Public Policy, 2013; Akkhavong et al., 2014).

At the same time, the government recognized the importance of and allowed the private sector to participate in providing drugs, equipment and health services. Private pharmacies and clinics, for example, have been flourishing in all parts of the country (World Health Organization, 2013a). These private entities have contributed significantly to the availability of drugs and services for the people of all ethnic groups in Laos. Private clinics and pharmacies are preferable for villagers as their choice for healthcare service because of the lengthy procedures and unwelcoming attitudes of health staff in public health facilities. Because of such problem, some of the better off seek healthcare abroad (Paphassarang et al., 2002).

More importantly, the government introduced user fees for public health services in 1995, and a Revolving Drug Fund was created. A year later, the Revolving Drug Fund was expanded and used as an important means to generate revenues to supply all necessary drugs and equipment for public health services from central down to local levels. This Revolving Drug Fund has steadily developed, covering 86 percent of public health facilities and over 1,000 villages. The fees for drugs were set at cost plus a 25 percent margin, and it is still the

main financial source for drugs and medical equipment as well as administrative costs in health service facilities across the country (Ron, 2006; Lee Kuan Yew School of Public Policy, 2013).

However, the government has long been well aware that user fee will have an adverse effect on the people, especially the poor. Along with the user fee introduction, the government, therefore, introduced user fee exemption for the poor, and established health insurance schemes. The Prime Minister's decree No. 52 exempts all fees of health services for the poorest in Lao society, civil servants and their families, monks and school children in public school; a few cases were exempted from user fees in hospitals (Thombe & Pholsena, 2009); but this benefit tended to provide to civil servants and health staff and their relatives rather than the poor (Annear et al., 2008), while a number of the villagers paid for health expenditures by themselves and were not aware of the user fees exemption in public hospitals (Patcharanarumol et al., 2009).

4.4.2 Sources of Healthcare Finance

The health sector is financed by three major sources for health service delivery in Lao PDR. Health services in Laos are provided mainly by the government, but are financed largely by household OOP payments. Around 20 percent of health finance comes from government budget through supply-side budget allocation from the Ministry of Finance; 32 percent comes from Official Development Assistance[12] (ODA), and 39 percent comes from household Out-Of-Pocket (OOP) which is the largest contribution of health finance (World Health Organization, 2013). The rest comes from other sources. In the past, private health expenditure was much higher than the recent figures. In 2008, for example, private health expenditure made up 81.5 percent of the total health expenditure, with 19.9 percent coming

[12]"Official Development Assistance represents foreign aid and assistance coming from donor to recipient

from private health insurance and 62.6 percent coming from OOP spending (Akkahavong et al., 2014). Consequently, health care financing relies heavily on direct household expenditure and to a lesser extent on foreign assistant for curative care.

Over the past five years, although the Lao government has tried to allocate more budgets to the health sector, it is still very low, especially from domestic sources compared with other countries in the region. The total Lao health expenditure (THE) was only 1.9 percent of GDP in 2014, compared to 5.7 percent in Cambodia, 6.5 percent in Thailand, and 7.1 percent in Vietnam (World Bank, 2015) (see table 4.2). The recent increase in the national health expenditure did not meet the minimum requirement of funding to cover the costs of health service, operation and drugs supplies (JICA & WHO, 2002; WB, 2016).

Table 4.2 Health financing indicators in 2014, Lao PDR and ASEAN countries

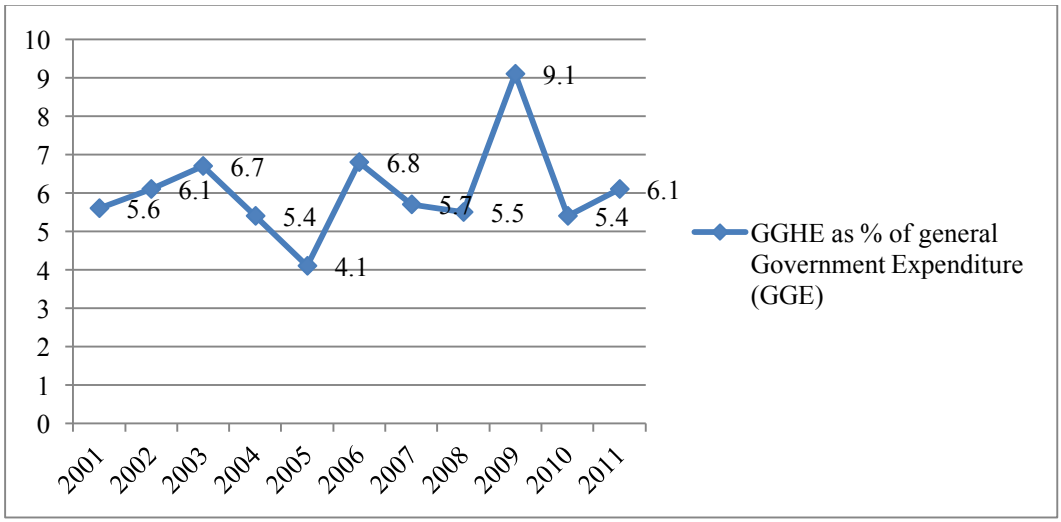
ASEAN countries	THE as % of GDP	GGHE as % of THE	OOP as % of THE	External resources of THE	THE per capita ($)
Brunei	2.6	93.9	6.0	0	958
Cambodia	5.7	22	74.2	16.3	61
Indonesia	2.8	37.8	46.9	1.1	99
Lao PDR	1.9	50.5	39	31.8	33
Malaysia	4.2	55.2	35.3	0	456
Myanmar	2.3	45.9	50.7	21.8	20
Philippines	4.7	43.3	53.7	1.4	135
Singapore	4.9	41.7	54.8	0	2,725
Thailand	6.5	86	7.9	0.5	360
Vietnam	7.1	54.1	36.8	2.7	142

Source: World Bank, 2015 (THE= Total Health Expenditure, GGHE=General Government Health Expenditure, OOP=Out-Of-Pocket payment).

In 2012, the National Assembly endorsed the government commitment to allocate 9 percent of General Government Expenditure (GGE) to the health sector to improve health outcomes and access to health services for the poor. The government has also allocated revenues (around 2 billion kip) from NamThun 2 hydropower to provide free delivery and child healthcare for children under five years as well as Health Equity Fund for the poorest in some priority districts (the poorest district). The General Government Health Expenditure

(GGHE), including revenue collected from user fees and Official Development Assistance (ODA), increased gradually from 2001 to 2003 and then fluctuated from 2004 to 2011 due to the fluctuation of ODA (see Figure 4.2). This means that Lao PDR has an unstable financial resource for health service.

Figure 4.2 Trends of GGHE as percentage of GGHE from 2001-2011



Source: Ministry of Finance 2001-2011 and World Health Organization, 2013c

However, some experts argue that ODA also has negative consequences to the Lao health system. According to Matheson (2013), ODA has negative effects on the Lao health system because the government does not know the true operational costs of health system since the government is mainly responsible for salaries of staff, but operational costs and health infrastructure improvement are usually funded by ODA from various development partners (Matheson, 2013). Furthermore, the development or improvement of each health facility sometimes involves multiple donors. This makes it difficult for the government to identify the precise costs of such facility construction or renovation.

4.4.3 Policies and Strategies of Health Financing

Currently, there is no specific policy on health care financing in Lao PDR. However, the health sector has made an effort to develop a health financing strategy to increase general government health expenditure, especially from domestic sources. In 2014, the department of finance finished the draft of the health care financing strategy which aims at improving health outcomes[13], providing financial protection and ensuring consumer satisfaction by improving equity, efficiency and sustainability of health service delivery. Currently, it is in the process of seeking approval from the leaders of the Ministry and the government of Lao PDR. The strategy specifies critical vision and mission in health financing by 2025. The vision of this strategy is *"To free health services from the state of underdevelopment and ensure full health service coverage, justice and equity in order to increase the quality of life for all Lao ethnic group"* (The Draft Health Financing Strategy, Lao PDR 2014-2025, p.7). The mission of the strategy is "*To achieve universal coverage by reducing out-of-pocket spending, increasing access to needed quality health services for all Lao people without them facing catastrophic financial expenses and contributing to attainment of the health MDGs*….." (Ministry of Health, 2014a, p.7**).**

In order to realize the mentioned vision and mission, four specific objectives were set in the draft Health Financing Strategy. These include:

1. Increase and maintain investment and public health spending, especially from domestic sources within the context of sound financial management practices;
2. Allocate expenditures to maximize health and nutrition outcomes for the population, especially at primary level and amongst the poor;
3. Build on current progress with social health protection schemes to ensure that all Lao people are financially covered against the risks of ill health and out of pocket expenditure by the year 2025;
4. Strengthen institutional capacity in health financing at central, provincial and district levels. (The Draft Health Financing Strategy, Lao PDR 2014-2025)

[13]"Health outcomes refer to population health status that includes infant and child mortality rates, life

The objectives mentioned above are based on an approach which ensures adequate financial resources for provision of primary health care services at the district level. Staffs receive reasonable salaries and social security; insurance contributions are properly funded; and the proportion of out-of-pocket payment in health financing is drastically reduced. To achieve these, the management of donor funds has to be strengthened, and the government has to allocate appropriate budget to the provision of primary health care. It is necessary to ensure that increased spending on primary health care improves its management and efficiency. At the district level, the priority, Maternal and Child Health (MCH), will be provided at no costs. Social security and insurance schemes should play an important role in improving access to a package of essential health services; and innovative financing mechanisms improve the utilization of health service (Ministry of Health, 2014a).

The strategy also aligns with the health Sector Reform Framework Lao PDR by 2025. For example, the 7th Five-year Health Sector Development Plan and the Sector Reform Framework by 2025 of the Lao Ministry of Health emphasize the achievement of universal coverage by expanding and merging social health protection schemes with the aim to shift from the currently dominant out-of-pocket expenditure to pre-payment; to upgrade the quality of care through work-related incentives and appropriate financial remuneration; to ensure access to essential health services by mothers, children and the poor; and improve better financial management systems in health facilities, aiming at sustainability and effectiveness of health spending.

4.5 Social Health Insurance and Health Insurance Schemes

As a part of government policy towards the universal health coverage (UHC) goal by

the burden of financial cost of health care services for government employees and their family members since 1995. Currently, there are two social health insurance[14] schemes namely State Authority for Social Security (SASS) for government employees, and Social Security Organization (SSO) for private employees, two health insurance schemes (Community-based Health Insurance (CBHI) for non-poor and informal labour worker, and Health Equity Fund (HEF) for the poor), plus free delivery and free healthcare for children under-five year policy (free MNCH policy) in Lao PDR (see Table 4.3). More details of these schemes are described as in the table that follows:

Table 4.3 Social health insurance schemes

Component	SASS	SSO	CBHI	HEF	Free MNCH policy
Target population	Government employees with their spouse and children	Enterprise employees with their spouse and children	Informal sector household	Poor household	Pregnancy and children under 5 years
Established year	1995 and revised in 2006	2001	2002 (pilot) and 2006 extension	2004	2010
Legislation	Prime Minister Decree	Prime Minister Decree	National Regulation by the MOH	Ministry of Health Guidelines	Ministry of Health Guidelines
Supervising authority	Ministry of Labour and Social Welfare	Ministry of Labour and Social Welfare	Ministry of Health	Ministry of Health	Ministry of health
Source of funds	Government & government employees	Employer and employee	Household (Government planned to subsidies 50% in 2016)	Subsidies (government & donors)	Government and donors
Benefit packages	Consultation (OPD) and Admission (IPD)+surgeries	Consultation (OPD) and Admission (IPD)+surgeries	Consultation (OPD) and Admission (IPD)+surgeries	Consultation (OPD) and Admission (IPD)+surgeries	Delivery and other related/OPD+IPD for children < 5 years old
Exclusions (not covered services)	Individual request, private facilities, some expensive care already paid services such as HIV, TB, Malaria, Leprosy treatment and national immunization campaign from government vertical program.				
Non-medical services	Not cover	Not cover	Not cover	Food/transportation for admissions, referrals	Food/transportation/incentives

[14] "Social health insurance: insurance scheme providing a defined package of health benefits, usually

Health facility level	Public hospital only (Central, provincial, and district hospitals)	Public hospital only (Central, provincial, and district hospitals)	Public hospital only (Central, provincial, district hospitals, and health center)	Public hospital only (Central, provincial, district hospitals, and health center)	Public hospital only (Central, provincial, district hospitals, and health center)
Provider payment mechanism	Capitation payment to contracted hospitals	Capitation payment to contracted hospitals	Capitation (In 2016, capitation for OPD services and case-based for IPD services	capitation for OPD services and case-based for IPD services	Mainly case-based
No. Target population covered	413,728	183,600	160,062	587,346	180,112
Percentage of target population covered (%)	100	45	4	41	52.3

Source: National Health Insurance Bureau, 2015, and National Social Security Fund,2016

4.5.1 Civil Servant Scheme and State Authority Social Security (SASS) Scheme

The Civil Servant Scheme was formed in 1993 and applied to civil servants, police, military, their dependent spouses, and children under 18 years or 23 if they continue to study, with contribution rate of 8.5 percent from employer (Government) and 8 percent from employee's salaries according to the Prime Minister Decree 178/PM. The scheme provided healthcare benefits, child birth benefits and grants, covered for employment injury or occupational diseases, permanent loss of working capacity, sickness, old age pension, survivor and funeral grant benefits. For healthcare benefits, the fee for service system was used at the point of healthcare services in public health facilities, with a ceiling and the reimbursement model (Sonthany, 2008). However, this model had the problem of over prescription by hospitals and late reimbursement by the department of social security due to time-consuming procedures, and fragmented contacts between the Ministry of Labor and Social Welfare and healthcare providers. Therefore, some civil servants could not claim their

healthcare bill from responsible agencies (Jürgensen, 2005). As a result, the scheme was reformed and replaced by the capitation[15] system with the Decree No. 70/PM in 2006.

In 2008, State Authority Social Security (SASS) was formed to replace the Civil Servant Scheme. It is the first governmental comprehensive social security scheme and it is compulsory under the Ministry of Labour and Social Welfare. The qualifying period of SASS is at least three months of paid contributions, except work injury or maternity services which require at least one month of contributions. The scheme has paid capitation $10.62 USD per registered per year to contracted state hospitals (central hospitals and provincial hospitals) for the purchase of healthcare services which are determined by National Social Security Fund. There is cost-sharing for high cost risk-adjusted capitation around US$ 0.6 per person per year for six chronic diseases or conditions including diabetes, high blood pressure, goiter, renal failure, brain surgery and bone surgery. There is also additional payment for high-cost adjusted services; the scheme covers 50 percent of total treatment costs for CT Scan, MRI, Mammography, brain surgery, bone surgery, chemotherapy, haemodialysis and road traffic accident (Ministry of Labour and Social Welfare, 2011). Healthcare services that are not covered by capitation are prevention and treatment of diseases which are covered by the government projects (TB, leprosy and others), heart surgery, haemodialysis more than 5 times, Thalassemia, denture, HIV prevention medicines, health check-up, and unnecessary medical treatment (sex change surgery, organ transplant, abortion and cosmetic surgery).

The target population of this scheme is 11 percent of the total population. The scheme covered 100 percent of their target population in all provinces and districts at the end of 2015. The utilization rate in contracted public hospitals of this scheme has been the highest among

[15]SASS and SSO schemes have paid $10.62 USD capitation per registered per year to contracted central hospitals for the purchase of healthcare services. Cost-sharing for high cost risk-adjusted capitation is $0.6 USD per person per year for chronic diseases, and covers 50% of total treatment costs for six conditions including diabetes, high blood pressure, goiter, renal failure, brain surgery and bone surgery (Ministry of Labour and Social Welfare, 2011)

the existing health insurance schemes. For example, out-patient services utilization was 1.25 per person per year, while the average utilization rate was 0.63 per person per year in 2014. This rate is higher than the capacity of capitation to cover around one OPD services per person per year (National Health Insurance Bureau, 2015). With such low capitation, most of contracted hospitals are suffering from low capitation payment, hospital financial deficits, and cost containment. Although the government promised to allocate a contribution rate of 8.5 percent of each per person salary per month to the national social security fund, it provided only around 38 to 41 percent of subsidies to their employees per year (Ministry of Labour and Social Welfare, 2011). With limited financial resources, health care providers have no incentive to provide good quality of care and drugs for insured patients. As a result, many insured people are not satisfied with services provided and made complaints to health service providers (Akkhavong et al, 2014).

4.5.2 Social Security Organization (SSO) Scheme

The Social Security Organization (SSO) started to operate in 2001 based on the Prime Minister Decree No.207. It is also a compulsory scheme that applies to all employers with more than ten employees of the state, private, and partnership enterprises, which comprise approximately 9 percent of the total population. The scheme provides the same benefits and all conditions as the SASS scheme (International Labor Organization, 2015). The contribution rate is 11.5 percent (6 percent from employer and 5.5 percent from employee's salaries).

Moreover, it's a mandatory scheme, but it has low compliance. It covers only about 45 percent of their target population or 2.43 percent of total population in 13 provinces in fiscal year 2013-2014. The low compliance resulted from weak law enforcement, low satisfaction of members (limited benefit package that members want), low capitation payment. Insufficient capitation makes it difficult to get providers on board (no budget for incentive to provide

focus on a province that has a significant number of private sector workers (Ron, 2006). The most important issue is that private enterprises with fewer than 10 employees in non-trade industry did not enroll in SSO because of limited benefit package, lack of knowledge on social health insurance, and low quality of care at public hospitals (Alkenbrack et al., 2015).

In 2015, the SSO and SASS were merged to form the National Social Security Fund (NSSF) under the Ministry of Labour and Social Welfare (MOLSW). The SASS and SSO Divisions are working together to prepare for the management of the health financial component of the social protection schemes. The database which links with health providers was established to follow up payment contribution, capitation expenditure, and membership (employers, employees, self-employed, and volunteer from informal sector). The new law approved in 2013 expands the government's social security scheme to cover the whole society and allow self-employed people and others who volunteer to participate in the scheme, unlike two previous prime ministerial decrees that only afforded limited coverage. Decree No.70 covered social insurance for state employees and their immediate family members only, while Decree N0. 207 granted social insurance only to employees of private enterprises.

4.5.3 Community-Based Health Insurance (CBHI) Scheme

Community-Based Health Insurance Scheme or CBHI is a voluntary health insurance scheme as a key mechanism to attain universal health coverage for informal labor sector and non-salaried population who form the majority of total population (Lao Statistic Bureau, 2015). This scheme was launched in 2001. It was first piloted during 2002-2004 in Vientiane Capital, Vientiane Province, Luangprabang, and Champasack provinces by the Ministry of health with financial support from the United Nations Human Security Fund (UNHSF). In 2005, the scheme extended nationwide. This decision was reflected in the Government Policy for Health Development planned from 2001 to 2005*,* which included the goal to:

"Promote community-based health care systems, ensure full coverage and good quality of health care services to all ethnic groups, prioritize disease prevention and health promotion activities, emphasizes disease treatment, combine modern and traditional medicine; promote and support the establishment of health insurance funds, develop health management systems and ensure security for the health sector".

(Ministry of Health, 2000. P.12)

This scheme provides only healthcare benefits (out-patient, in-patient services, and referral to hospitals at provincial, district, provincial and central levels) to insured members and their family members listed in the family book. CBHI scheme also pays capitation[16] to provider payment mechanism in two different types. It pays around US$ 5.6 to contracted district hospitals and US$10 to provincial or central hospitals per register per year. Contributions are paid at the provincial and district levels and pooled at the respective administrative health office, and about 10 percent of contribution is allocated to district management. The contracted hospitals receive limited financial contribution due to low capitation. They could not provide good quality of healthcare services and face hospital financial deficit.

In 2015, the CBHI scheme existed in 45 districts or 32 percent of the total number of districts, and the membership coverage also remained low, accounting for only 4 percent of the target population, which comprises 65 percent of the total population (National Health Insurance Bureau, 2015). Like other voluntary health insurance schemes, CBHI faces adverse selection[17] problem because the sick joined and the healthy dropped-out from the scheme. Dropped-out rate of members is high when they are not satisfied with the services they receive from health facilities and CBHI itself. For example, the dropped-out increased from

[16]Capitation is a system of health care provider reimbursement in which payment is made for each patient on the roster of the provider, regardless of frequency of visits or type of services received by the patient. A health maintenance organization (HMO) is an example of a capitation-based reimbursement scheme.

[17]Adverse selection is a situation where insurance costs are high for healthy individuals because insurers cannot know an individual's propensity to become ill. These low risk individuals often drop out of the market, leaving the bad risks to be insured, further driving up the cost of insurance. In addition, many people choose to leave health insurance scheme due to the effect of government action on life categorized as "power over life" politics, economy, finance, ant etc.); but there is an opposite power named as "power of life" which means

0.8 percent in 2011 to 70 percent in 2012 because CBHI had many institutional problems, including low qualification staff, and transparency and accountability issues.

One critical problem to increase membership coverage of the scheme is late payment and difficulties in premium collection. The contribution fund was collected by village collector or district hospitals; some remote villages transfer contribution money to hospital late and there is no electronic system to timely verify the members. The utilization rate under the scheme is 1.1 outpatient visits and 0.05 inpatients per member per year, which are higher than the national utilization rate (Akkavong et al., 2014).

4.5.4 Health Equity fund (HEF)

Health Equity Funds (HEF) was created under the Ministry of Health (MOH) in 2014 with the aim of improving access to health services by the poorest households and achieving health equity[18] access in healthcare services. This scheme is financed by the government and donors. It has been implemented by different third-party organizations (first initiated by projects, then in large-scale MOH programs funded by grants from donor countries). For example, the government and ADB assigned Lao Red Cross to implement HEF in eight Northern provinces, and World Bank funded Swiss Red Cross to carry out HEF in five southern provinces. It pays for the healthcare services received by registered poor people directly to providers; it either reimburses the providers or provides a combination of capitation and case-based reimbursement on healthcare benefits, food and accommodation allowances. HEF also pays capitation in three different types. It paid US$ 2.5 to contracted health centers, US$ 5.6 to contracted district hospitals, and $10 USD to provincial or central hospitals per registered per year (National Health Insurance Bureau, 2015). On the other hand,

[18] "Health equity defined alternatively as equal health status for different income groups, equal access to health care, equal payment for health care, equal uptake to public subsidy, etc." (WHO, 2009). Equity and equality accept their definitions in a multilateral background named as social history and personal embodied in it, including: culture, beliefs, language, habits, regional, rituals, norms as well as politics, economy, and

some payments are using a fixed fee and some fees for services depending on donor agencies. The capitation payment method was used to control over prescription and utilization but a low capitation rate leads to a small health services package. With no incentive to increase the volume of care, low level of capitation also brought about budget deficit for providers (Tangcharoensathien et al., 2011). As a result, many hospitals are not satisfied with the capitation system and refused to sign contracts with health insurance schemes (Akkhavong et al., 2014).

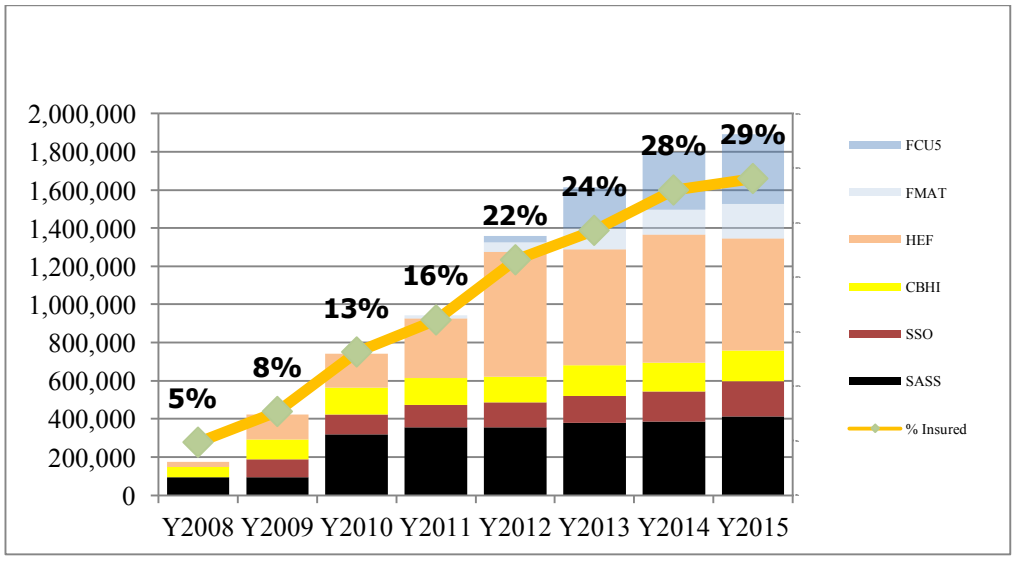
The target of this scheme is roughly 15 percent of the total population. The coverage of this scheme has increased from 12.2 percent in 2013 to 41 percent of target population in 2014 (National Health Insurance Bureau, 2015). Some financial support of the scheme comes from the government revenue (Nam Thun 2 Hydropower revenue), which covered 22 districts, but a large proportion is from the development partners such as ADB, World Bank, Swiss Red Cross, and Luxembourg.

The challenge of HEF implementation in Lao PDR is the remoteness and rough geographic and demographic conditions. The government needs to have a proper strategic plan targeting the poorest community with high poverty incidence rate as well as the ethnic groups in remote areas (Annear et al., 2008; National Health Insurance bureau, 2015). Healthcare financing experts believe that the most effective financial support for HEF is to step by step move away from development partners' assistance to the government tax revenue, and to the merging of HEF with other existing health insurance schemes to ensure the sustainability (Annear et al., 2008).

In addition to these schemes, the government introduced free healthcare policy for mother and children under five, known as Free Maternity for All, and Free Healthcare for Children under five years old in 2010. The government and development partners supported this policy with the aim of achieving Millennium Development Goals (MDGs) by 2015. It

brought about a significant increase in membership coverage for pregnant women and children, and contributed to the increase in coverage of social health protection substantially from 16 percent 2011 to 29 percent of total population 2015 (see Figure 4.3).

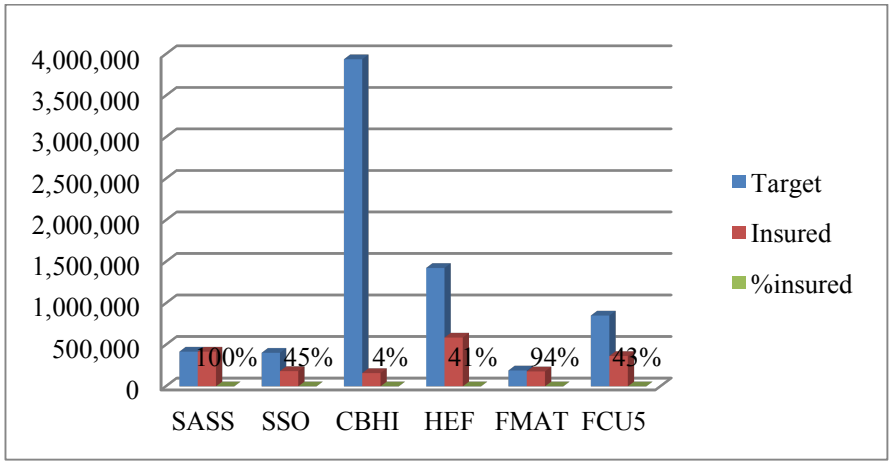
Figure 4.3 Coverage of social health protection in Lao PDR from 2008 to 2015



Source: National Social Security Fund and National Health Insurance Bureau, 2015

However, the coverage of main social health protection and health insurance schemes failed to reach their target of 50 percent of the total population by 2015. It was estimated that the coverage of all schemes was only 29 percent of total population or 1,890,247 people. The data on social protection coverage by each scheme in 2015 indicated that only SASS was able to cover 100 percent of their target population but SSO. CBHI achieved only 4 percent of its target (see Figure 4.4). Therefore, the majority of population has no health insurance and they are directly faced with user fees at point of services (National Health Insurance Bureau, 2015).

Figure 4.4 Membership coverage by all health insurance scheme in 2015



Source: National Social Security Fund and National Health Insurance Bureau, 2015

4.6 Summary

In summary, this chapter provided an overview of country profile and health system of Lao PDR as the study setting. Although the socio-economic conditions of the country have undergone substantial progress during the past four decades, the health system has been facing a number of challenges in both quality and equity access to healthcare services especially the population who lives in rural areas. Many health infrastructures were built but there are insufficient medical personnel and medical equipment. Health facilities are still under-funded for their recurrent and administration costs. These factors lead to poor quality of healthcare services and inequity access to the services because service units in hospitals have relied heavily on user fees from patients. A number of high income population in urban and border areas tends to seek care aboard. Health insurance schemes to protect people from the effect of out-of-pocket payments from user fees were established but the coverage is far from target set and government goals. The next chapter will present the results from field research in selected district, and the impact of household health expenditure; and the final chapter will conclude the results and policy implication of the findings

Chapter 5: Constraints to the Expansion of Health Insurance in Lao PDR

5.1 Introduction

This chapter examines the constraints impeding the expansion of health insurance schemes in Lao PDR. It examines institutional capacity of all existing health insurance schemes, the enforcement of the laws and regulations related to health insurance, capitation payment and social solidarity, and co-payment for health care service. The major objective of this chapter is to identify what makes the expansion of health insurance difficult and to provide some practical recommendations for the future. The analysis focused on perspectives of different key stakeholders such as health insurance schemes, health care service providers, and relevant health staff.

5.2 Overview of Specific Methodology

The existing relevant literatures including policies and legal documents were reviewed and a qualitative research method was applied by interviewing 15 key informants involved in the expansion of health insurance schemes. The key informants were authorities from the Ministry of Health, four central hospitals, one district hospital, four health insurance schemes, Ministry of Labor and Social Welfare, Ministry of Finance, Vientiane Capital Health Department, Xaythany Governor Office, and District Health Office. The interviews were conducted in Lao language based on a semi-structured questionnaire, and before conducting interviews, consent form for the interview was provided and the purpose of the interview was explained to all informants. The interviews focused on factors impeding the expansion of health insurance and the perception of health service providers in providing healthcare for insured people. The questions cover the interviewees' background, the function of their organization, information related to health insurance schemes, their reflections on health insurance implementation, especially challenges and counter measures to overcome

challenges as well as their perspective on co-payment for healthcare service. The discussions were recorded and translated by the researcher. The data was then analyzed and discussed as follows.

5.3 Findings and Discussions

5.3.1 Weak Institutional Capacity

The research found that a weak institutional capacity including the lack of resources, unclear roles and mandates, and weak administrative system of institutions responsible for health insurance are critical factors impeding the expansion of health coverage in Lao PDR. Most institutions responsible for health coverage expansion have limited resources, particularly financial resources to perform their duty effectively. Although data on the deficit or surplus of health insurance scheme is limited, Figure 5.1 below shows that three out of four health insurance schemes experienced deficits from 2006 to 2014. The SASS experienced an increase in annual budget deficit form about 2.1 billion LAK in 2012 to 10.7 billion LAK in 2013 before going down slightly in 2014. Similarly, CBHI and HEF experienced some annual budget deficit, though the amount was much lower than that of the SASS (see Figure 5.1). The budget deficit may have resulted from high utilization of healthcare services as discussed above and high payment ceiling for insured members. The interview with key informants revealed that:

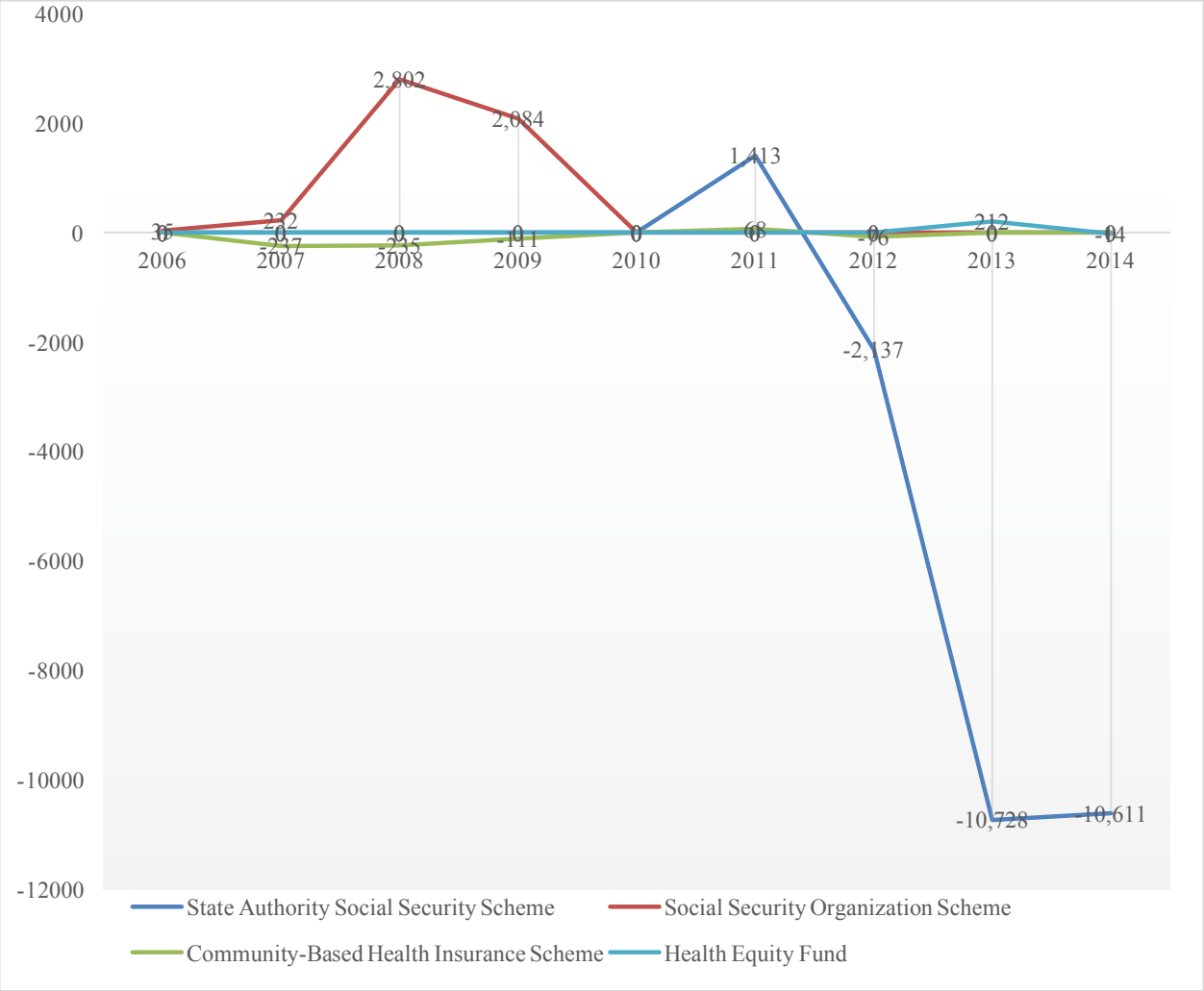
> *"...In some cases, health insurance members were financed by the social security scheme up to 40 to 50 million Kip[19] because there is no ceiling on spending for treatment of each member, especially in accident cases, but if treatment lasts longer than six months, the patient is required to contribute to the cost of treatment and health insurance fund does not cover treatment expenditure for very high treatment cost such*

as heart operations as the fund does not have capacity." (key informant 2, implementer).

Sometimes, the SASS provides spending coverage for treatment overseas when an insured member travels abroad on an official mission and becomes ill and needs treatment, and when domestic hospitals certify that the health problem of its members needs to be treated abroad. In some cases, the organizations responsible for the health insurance implementation do not receive the budgets to perform its activities. For example, the National Health Insurance Bureau NHIB operates under the Department of Finance of the Ministry of Health though it claims to have the same status as the Department of Finance. However, it does not have its own budget and lacks human resources, and there are no clear job descriptions for each type of staff. One key informant from the Ministry of Health mentioned that:

"…One reason for the slow expansion of health insurance coverage on the part of informal workers is limited resources to conduct awareness campaigns especially in distant rural areas. The government is committed to contribute 50% of the National Health Insurance Bureau's budget annually but this organization still hasn't received any budget. Therefore, we don't have money to expand health insurance coverage to reach 50% of MOH's target by 2015." (Key Informant 3, Implementer).

Figure 5. 1 The amount of surplus or deficit by all contracted hospitals



Source: The National Social Security Fund and National Health Insurance Bureau, 2015

Note: Surplus or deficit by all facilities versus user fees (Million Lao Kip, 1USD = 8,000 LAK).

The study also found about unclear roles and mandates of institutions responsible for universal health coverage. For example, NHIB was established in 2013 and its mandate is for health insurance functions of pooling, purchasing/contracting, claims processing, payments and conflict resolution. According to the Prime Minister's Decree No.470, NHIB is composed of SASS, SSO, CBHI, and HEF. In practice, however, NHIB is composed of only

the health insurance or health benefit component under SASS and SSO and will receive only 2 percent of the fund collected through these schemes by the Ministry of Labor and Social Welfare. Currently, no agreement on health insurance between the Ministry of Health and the Ministry of Social Welfare has been reached. Based on the interview of the staff for health insurance in the Ministry of Health, the Ministry of Labor and Social Welfare submits the capitations only to the contracted health facilities, while the Ministry of Health is demanding some money for administrative costs as well (extensive interview, February 24, 2015). With the absence of roles and mandates of the institutions responsible for health insurance in the Ministry of Health and the Ministry of Labor and Social Welfare, it becomes difficult to effectively manage and expand health insurance schemes in Lao PDR. Both ministries were waiting for the problem to be solved, but there is no middle institution or government intervention on the issue.

Another crucial factor that weakens institutional capacity for health insurance expansion and management is the poor administrative system of some institutions responsible for health insurance. The NIHB, for example, has insufficient authority to perform its duties as a health insurance institution and does not have the capacity to pool and manage funds from social security, nor the capability to create and operate a unified management and information system. At the moment, NHIB manages CBHI and HEF (HEF supported by government budget); the proportion of total revenue from CBHI scheme to service providers is 90% of contribution pooled at the provincial and district administrative health offices and 10% for administration and monitoring payment, while HEF is 95% pooled at district hospitals and 5% for administration payment. NHIB did not receive any revenues collected by CBHI.

In addition, CBHI did not have a proper system for receiving contribution payments.

provincial hospitals. The contribution is usually paid every three months. CBHI did not have its own staff at the village level and has to hire a villager to collect the contributions. The problem was that, in some cases, the CBHI assigned individuals to collect the money from villagers, but they did not give it to CBHI. Villagers who paid their contribution did not receive any benefits from CBHI. More importantly, NHIB has a weak reporting system to get accurate data from health insurance schemes, which leads to limited progress in achieving a unified and harmonized process for collecting, processing and reporting information. CBHI did not have a system or resources to monitor the contribution payments made at different levels of health services. The key informant from this organization emphasized that:

> *"…the budget to conduct monitoring at provincial and district levels is not available. Therefore, we assigned provincial staff to monitor the implementation and quality of services provided to insured patients at district hospitals in order to get feedback to NHIB. We also don't have enough budgets to organize regular meetings with healthcare providers to access real implementation issue and solve the problem."* (Key Informant 5, Implementer)

The finding was supported by the study conducted by Hernan (2014) that NHIB was established without a careful design and with no implementation plan, and supported by the study conducted in Vietnam by Rousseau (2014), which revealed that weak management system was partly responsible for inefficiency in the implementation of health insurance. It implies that with the budget deficit, unclear roles and responsibilities, and poor administrative and contribution collection systems, it would be extremely difficult for the health insurance implementers to effectively perform their tasks. This will have an adverse consequence on the satisfaction of their customers, which will in turn affect the expansion of health insurance coverage.

5.3.2 Weak Law Enforcement

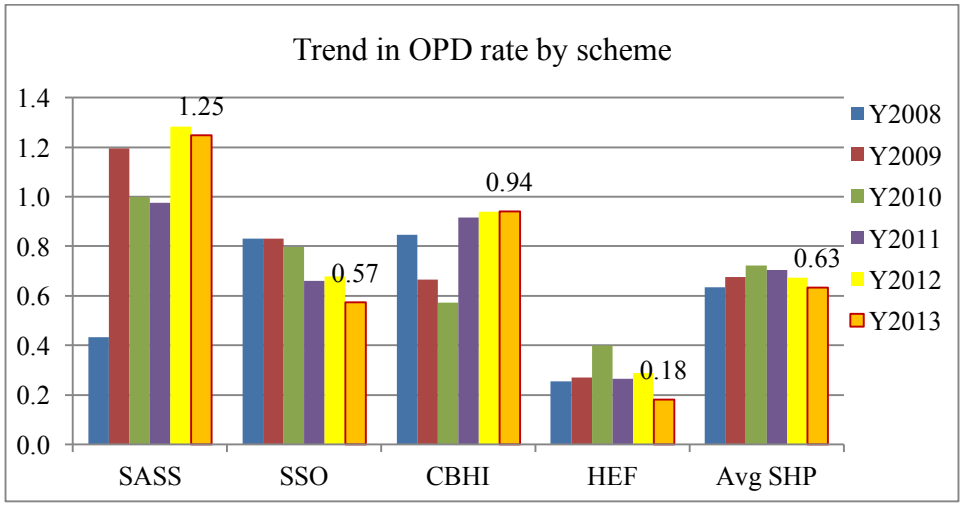
Another factor affecting the expansion of social protection scheme is weak law enforcement. For example, the expansion of SSO failed to achieve its target simply because private enterprises ignored the law and regulations and state authorities seem to do nothing about it. There is no doubt that a large number of private enterprises do not participate in the SSO scheme. For example, in Xaythany district only 35 out of 238 companies have so far joined the SSO scheme to provide social protection and health insurance to their workers. The finding was supported by the study conducted by Alkenbrack and her colleagues (2015). Despite such a large number of companies ignoring the law and regulations, nothing has been done to make them comply with the law and regulations. The Lao Trade Union (LTU), which is responsible for private employee protection has not attempted to solve the problem. The results of their study also revealed that small family owned businesses were less likely to enroll in social security schemes. This is against the Law on Health Care passed in 2005 and the 2013 Law on Social Welfare. Weak enforcement could be explained by various factors, including the lack of political will, weak institutional capacity and inappropriate social security law enforcement mechanisms. Weak enforcement of social security laws also occurs in neighboring countries including Vietnam. As pointed out by Rousseau (2014), Social Security of Vietnam has low power and capacity to control and follow up the implementation of health insurance schemes.

5.3.3 Low Capitation Payment

The study found that the concerned authorities believed that low capitation fees and high utilization rates have had a significant negative impact on the expansion of healthcare coverage. In general, contracted hospitals would receive a capitation of around 85,000 LAK per person per year ($10.62 USD/person/year); the current capitation rate can cover only one

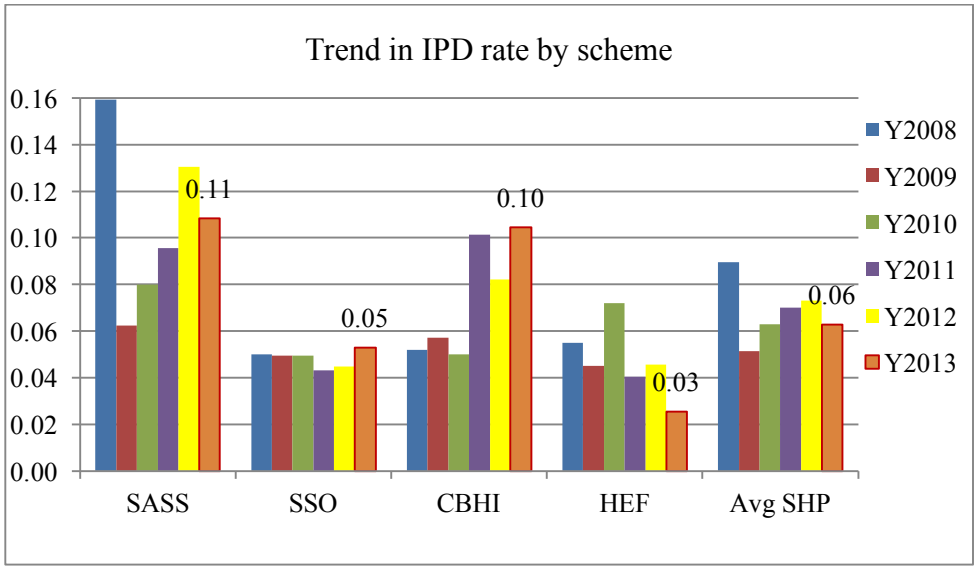
OPD and about 0.2 to 0.4 IPD per year per person. It was more than three times lower than capitation rate of Thailand, which was about $50 in 2007 (Limwattananon et al., 2013). Despite the small capitation, the utilization rate of insured people was high by the Lao standards, given that the number of insured people was low. During the extensive interviews conducted on 24 - 25 February 2015, the key staff in three central hospitals (Setthathirath, Mahosot and Mitaphap) claimed that the utilization rate of health services by insured people was too high. The data from the National Health Insurance Bureau also revealed that among all health insurance schemes, SASS and CBHI experienced, by Lao standards, the highest rates of outpatients and inpatients between 2008 and 2013, accounting for 1.25 and 0.94 percent of all insured people of each scheme respectively (see Figure 5.2 and 5.3).

Figure 5. 2 Trend in OPD utilization rate by health insurance schemes



Source: National Health Insurance Bureau, 2015.

Figure 5. 3 Trend in IPD utilization rate by health insurance schemes



Source: National Health Insurance Bureau, 2015.

With small capitation, hospitals are facing significant losses annually. Although the amount of losses was not available for all healthcare facilities, it has been widely echoed among health service providers that they lost a lot of money from providing care to insured people. According to the staff in charge of health insurance division in Mahosot Hospital in Vientiane, Mahosot Hospital faced a budget deficit of about 2 billion LAK (Lao kip) annually due to low capitation and high utilization of healthcare services (extensive in-depth interview, February 24, 2015). Similarly, the staff responsible for health insurance division at Setthathilath Hospital in Vientiane acknowledged that the hospital faced a budget deficit from providing care to insured people (extensive interview, February 24, 2015). Mitaphab Hospital had a similar experience, facing financial problems in providing healthcare to insured people (extensive interview, February 25, 2015). The findings were supported by the study conducted in Vietnam by Phoung and her colleagues (2015) in that district hospital which faced critical budget deficit due to the low capitation rate. It is obvious that with the budget deficit, hospitals would not be able to provide good quality of healthcare services to the

insured people. Only minimum benefit package was provided; many diseases were not covered and drug supply was extremely limited. This would certainly result in low satisfaction with healthcare services among insured people. This would hinder health insurance schemes from expanding the coverage. The uninsured population will not join the health insurance schemes, and some insured people may be reluctant to renew or opt to terminate their memberships. The concerned authorities should attempt to widely launch an advocacy of right-balanced capitation so that service quality can be improved to meet the expectations of the insured population.

Concerning capitation, the costing of capitation payment per capita for the existing social health insurance and health insurance, the Table 5.1 below, demonstrates how health insurance organization determines capitation per capita per year for each healthcare services. The costing was conducted by Lao health economist experts with supervision of expert from International Labour Organization in 2014. The capitation costing based on out-patient (OPD) services expenditures from drugs, examination fees, medical equipment fees, administration fees, and consultation fees, but not included government budget and ODA. Then, the total OPD services expenditures were divided by total OPD utilization in hospitals (they random some district and provincial hospitals for their expenditures and utilization).

For in-patient (IPD) services, the capitation per capita is based on IPD or admission expenditures which include drugs, medical equipment fees, treatment or surgery fees, consultation fees, and administration fees but not include government budget and ODA. The calculation of IPD/admission costs is same as OPD but the amount of expenditures will be different or higher than OPD service costs. It is important to note that the unit cost of treatment in each level of care depends on treatment capacity and the use of medical equipment. For example, district hospitals have capacity to treat general or primary care.

medical equipment for disease investigation, which makes different unit cost of treatment between secondary and tertiary care.

Table 5. 1 Costing method of capitation payment to service providers

Average cost of outpatient services(OPD)		Average cost of inpatient/admission services (IPD)			
District hospital	28,172	District hospital	119,503		
Provincial hospital	66,789	Provincial hospital	527,288		
Central hospital	79,300	Central hospital	976,664		
Capitation method	**SASS**	**SSO**	**CBHI**	**HEF**	**NHIIF**
Insured member	392,854	144,270	161,905	722,291	6,704,466
Beneficiaries at district hospital	186,263	-	101,837	722,291	4,675,403
Beneficiaries at provincial hospital	126,203	60,457	50,246		1,197,908
Beneficiaries at central hospital	80,388	83,813	9,822		831,155
OPD utilization rate	1.25	0.64	1.00	0.30	0.4
IPD utilization rate	0.11	0.05	0.10	0.06	0.06
Total cost of OPD services	25,003,598,377	6,818,288,703	7,003,690,315	6,104,406,272	111,052,588,123
Total cost of IPD services	19,122,781,011	5,598,784,441	4,037,740,795	5,178,939,147	71,422,948,474
Total treatment cost	44,126,379,388	12,417,073,143	11,041,431,110	11,283,345,419	182,475,536,597
Average per person per year	**112,323**	**86,068**	**68,197**	**15,622**	**27,217**

Source: Ministry of Labour and Social Welfare, 2014

1 USD = 8,000 Lao Kip (LAK) in March 2015.

In addition to capitation, Table 5.2 shows that both capitation payment of SASS and SSO schemes is 105,271 Lao Kip (13 USD) per capita per year. This costing based on domestic average costing, it also leads to hospital financial burden and deficit balance because they have to use an average costing, which is always lower price than actual hospital expenditure. This costing method did not include referral cost from primary health facility to tertiary health facility. According to technical meeting in 2014, the Ministry of Labour and

social welfare agreed to adopt this method, and SSO will provide additional contribution for chronic diseases and high cost adjusted at the point of service in hospital.

Table 5. 2 Capitation rate of each level of hospital

	SASS	SSO	SASS+SSO	HEF	CBHI	NHIF
Central hospital	210,510.85	98,683.95	153,431		181,270.27	90,320
Provincial hospital	143,550.32	49,468.17	113,078		121,841.75	58,353
District hospital	48,788		48,788	15,622	40,648.35	18,439
All schemes	112,323	86,068	105,271	15,622	68,197	27,217

Source: Ministry of Labour and Social Welfare, 2014

5.3.4 Lack of Social Solidarity

The lack of social solidarity has also impeded the social protection schemes. A lot of people just do not see the importance of social protection if they do not have health problems. The experience of CBHI perfectly illustrates the issue associated with the lack of social solidarity. According to personal communication with the staff responsible for CBHI in the Ministry of Health, adverse selection is too common. People often pay contributions only when feeling sick and stop paying after that. This has resulted in high drop-out rates and failure in achieving the targets. People do not see the importance of contributions they make to the health insurance schemes, which can help to save other people's life.

This factor is attributed to the slow health insurance coverage for informal sector, particularly in part for lack of understanding the concept of health insurance. As pointed out by informant that

> *"…it was reported verbally during our monitoring supervision visit in one district that CBHI members can directly go to get healthcare services to provincial hospital without informing health center, sometimes they require referral to provincial hospital when they don't like the way of treatment in district hospital and then dropped-out*

understand the procedure and the reasonable treatment".

(Key Informant 5, health insurance staff)

Moreover, Lao people live scattered in distant remote areas, about 75% of the population live in remote areas where low population density and people not accustomed to the concept of health insurance, and 30% belong ethnic groups (National Statistics Bureau, 2015). Many ethnic groups have their own language, and some of them have very superstitious beliefs. In some areas, the decision of villagers to accept health insurance depends on their village leaders. As a result, to campaign raising awareness on health insurance scheme need more efforts to persuade households in rural villages enroll in health insurance scheme. These leads to greater challenges in term of membership coverage expansion and collecting premium contribution from health insurance members.

5.3.5 Co-payment

Health service providers experience critical budget deficits due to high utilization rate of health care service, and thus co-payment is often proposed to solve the problem. In Lao PDR, co-payment is debated among health care providers and health policy makers whether or not it should be introduced. The results of the study reveal that perceptions on the issue of co-payment were widely divided among the concerned staff in Lao PDR. From the health provider perspective, co-payment should be introduced for two main reasons. First, co-payments would help to reduce budget deficit. Second, co-payments would help to change the behavior of insured people to reduce unnecessary utilization of health services, and improve reasonable treatment for patients because NHIB can monitor expenditure based on co-payments collected in hospital. The staff in charge of health insurance in Mahosot Hospital contended that:

"…Co-payment policy is very useful for hospital for quality improvement and reduces over utilization of insured member. Co-payment should be 10% in order to provide the best quality of care to insured members and subsidies the exemption scheme. Recently, there is some co-payment of health insurance members existing in the hospital for kidney dialysis, VIP room for admission. However, before introducing this policy, the government should pass the Law and enforce it effectively." (Key Informant 6, Service provider).

On the contrary, most of Lao health policymakers and health insurance implementers are reluctant to introduce co-payments. They believe that it will affect health insurance scheme expansion negatively because the public is not ready for copayment. They do not understand the limitations of health insurance schemes and demand for more and more from them. Health staff responsible for health insurance in the Ministry of Health said that even without co-payment, it is still difficult for a voluntary scheme like CBHI to expand its coverage. She further contended that:

"…copayment should not be introduced in Laos at this point in time because we are now encouraging people to join health insurance schemes. Copayment may be possible in 2030, when the country achieves full UC, but it should not exceed 10% in order to change health seeking behaviors of the insured people."

(Key Informant 2, Policymaker)

5.4 Summary

After the introduction of user fees in the mid 1990s, four health insurance schemes have been implemented to alleviate the adverse consequences of user fees for healthcare services in Lao PDR. Currently, there are four health insurance schemes, namely the Social Security Organization (SSO), the State Authority Social Security (SASS), the Community Based Health Insurance (CBHI) and the Health Equity Funds (HEF). However, the expansion of social protection by these four schemes has been below their targets. The coverage of all health insurance schemes was expected to cover 50% of the total population in 2015, but only 28.04 % of the total population was covered by social protection schemes in 2014. Among

these schemes, CBHI, which is a voluntary scheme, could achieve only 2.61% in 2014 out of 65% of its target set by 2015. Even a compulsory scheme like SSO could achieve only 2.4% out of 9% of its target population.

There are several factors that impede the expansion of social protection schemes in Lao PDR. Low capitation of healthcare services causes health facilities to face critical financial problems. Major hospitals in Vientiane complain that they lose a huge amount of money annually from providing healthcare services to insured people. It has affected the quality of care provided and discouraged people from joining health insurance schemes. In connection to the lack of fund, the budget deficit of health insurance schemes could also affect the expansion of social protection because there are not enough financial resources to raise public awareness about the importance of health insurance schemes, particularly voluntary schemes like CBHI and HEF.

The unclear role and mandates of institutions responsible for health insurance schemes and weak law enforcement also impede the expansion of social protection coverage. National Health Insurance Bureau was established, but without having clear mandates and adequate resources it could not perform its duties effectively. Compulsory health insurance schemes like SSO have failed to expand their coverage simply due to weak law enforcement. Several private enterprises do not comply with the relevant law and regulation, but nothing has been done to address the issue.

Poor administrative system of institutions responsible for health insurance has also affected the expansion of health insurance schemes, especially CBHI. There was no proper contribution payment system in place. CBHI did not have accurate information about its finance at different levels. In some cases, the persons assigned by CBHI to collect

contribution payments did not hand in the revenues they collected. This made villagers angry because they could not receive the benefits in accordance with their contribution.

There is no common ground on the issue of co-payment. From the perspective of healthcare service providers, co-payment is necessary to improve the service quality. With co-payment, there will be more financial resources, and insured people may change their health seeking behaviors by not seeking unnecessary healthcare. However, some high-ranking officials in the Ministry of Health and in social protection schemes believe that it is not the right time to introduce co-payment now because it may negatively affect the health service utilization rate.

Chapter 6: Satisfaction with healthcare services among households with/without health insurance in Xaythany District, Vientiane Capital

6.1 Introduction

This chapter aims to assess whether or not the insured and uninsured households have the same level of satisfaction from healthcare services in central and district hospitals. It also aims to identify the areas in which the insured and the uninsured were satisfied/not satisfied in order to provide recommendations to improve the services in the future. In addition, the study seeks to deepen the understanding of the socioeconomic and demographic characteristics of the insured and uninsured households, which is important for satisfaction assessment.

6.2 Overview of Specific Quantitative Methodology

This study is a cross-sectional household survey with cluster sampling technique. It was conducted in July and August 2015. By design, the study did not evaluate the satisfaction of patients who had just received healthcare services. It rather focused on the satisfaction of household leader who himself or whose family members might have sought healthcare services in central hospitals or Xaythany district hospital over the year prior to the survey. The sample size was 400 households, half of which were uninsured. With information on insurance and socio-economic status obtained from village chiefs, forty households were randomly selected from each village. Socio-economic status, access to villages and the limited timeframe was taken into account when selecting samples. In cases that household members held different types of health insurance, the type of insurance held by the head of household was selected. The respondents of our survey were the heads of household or other adult members.

This study applied a structured pre-coded questionnaire to obtain data from households. It was adopted from the Lao Expenditure and Consumption Survey 2012/2013

(LECS 5) and WHO World Health Survey 2002. The questionnaire covered general characteristics of households including age, gender, education, occupation, income, illness episodes, and satisfaction with healthcare services over a period of twelve months prior to the survey. In regard to healthcare services satisfaction, the five point Likert scale were applied to assess satisfaction on six components of healthcare services that were provided in four central hospitals and the Xaythany district hospital. These components include the overall quality of services, drug supplies, medical equipment, skills of health staff, attitudes of staff towards patients, and duration of waiting time.

Each interviewee was informed about the purpose of the survey and the confidentiality of the information given. Interviewees were not obliged to answer all questions, and could stop the interview at any time they wished. All procedures were preceded after consent was obtained from the subjects. This study focused on human subjects through interview for the assessment. The study protocol was reviewed and approved by the National Ethnic Committee on Health Research, Ministry of Health Lao PDR in 2015.

The obtained data was analyzed by using Statistical Package for the Social Sciences (SPSS) in order to assess satisfaction with healthcare services among those with and without insurance. The measured mean determined the level of satisfaction of the insured and uninsured households. In addition, means were grouped into five groups, from 1 - 1.80 = very satisfied, 1.81 - 2.60 = satisfied, 2.61 - 3.40 = somewhat satisfied, 3.41 - 4.20 = not satisfied, and 4.20 - 5.00 = not at all satisfied. The approach assesses satisfaction combined information of all respondents in the analysis. The lower the mean, the higher the satisfaction level, and vice versa. An Independent Sample t-test was also applied to assess whether or not the healthcare insured households were significantly different from that of the uninsured group, and 95% confidential intervals (CIs) of the six components for insured and uninsured

satisfaction, a two tailed P – Value of less than 0.05 was considered to be statistically significant.

6.3 Results

6.3.1 General Characteristics of Surveyed Households

The study found that the share of the insured household leaders aged 51 to 60 was slightly higher compared to that of uninsured group, accounting for 38% and 30.5% respectively (see Table 6.1). It also found that 15% of the insured householder leaders aged 61 or higher compared to 25% of the uninsured group. In addition, it was found that the number of male household leaders was also slightly higher among the insured group accounting for 81.5% compared to 75% among those without insurance.

The results of the study revealed that the insured household leaders had received a higher level of education than the uninsured group. As demonstrated in table 1, about 64% of the insured household leaders surveyed held high-school level or higher education compared to 12% among the uninsured group. The study also found that the insured household leaders had slightly higher working status compared with the other group. More than 73% of the insured household leaders worked formally: 51.5% were government employees, and 22% were state or private company employees. In contrast, only 8.5% of the uninsured group had a formal job, 67% were self-employed and 22% were unemployed.

In regard to the income, the study found that the levels of monthly incomes of insured and uninsured groups were very similar. The percentage of households earning 8 million kip or less per month was higher among the insured group. Just over 80% of the insured and 75% of the uninsured households surveyed earned 7.9 million ($ 980) or less per month.

In a period of four weeks prior to the survey, the use of out-patient service was very similar between the insured and uninsured groups. About 17% of the insured and 15% of the

Similarly, in a period of twelve months prior to the study about 54% of the insured and 60% of the uninsured households used out-patient services. Over the same period, the percentage of in-patient service by the insured and uninsured groups accounted for 27.5% and 29% respectively. It is important to note that the proportion of households with chronic diseases and difficulty to pay for healthcare service was also similar between the insured and uninsured group. Approximately 34% of the insured and 38% of the uninsured households had chronic or long-term diseases, and about19.5% of the insured and 27.5% of the uninsured households had difficulty to pay for healthcare service (see Table 6.1).

Table 6. 1 Background characteristic of households

Characteristic	Insured		Uninsured		Total	
	Count	%	Count	%	N:400	%
Age of head of household						
20-30 years	5	2.50	4	2.0	9	2.25
31-40 years	36	18.00	32	16.0	68	17
41-50 years	53	26.50	53	26.5	106	26.5
51-60 years	76	38.00	61	30.5	137	34.25
> 60 years	30	15.00	50	25.0	80	20
Gender of head of household						
Male	163	81.5	150	75	313	78.25
Female	37	18.5	50	25	87	21.75
Education						
No formal school	11	5.5	20	10	31	7.75
Primary school	34	17	85	42.5	119	29.75
Secondary school	27	13.5	37	18.5	64	16
High school	45	22.5	34	17	79	19.75
College	34	17	20	10	54	13.5
University	31	15.5	4	2	35	8.75
Post graduate	18	9	0	0	18	4.5
Occupation						
Government employee	103	51.5	0	0	103	25.75
State enterprise employee	18	9	0	0	18	4.5
Private employee	26	13	17	8.5	43	10.75
Self-employed	40	20	134	67	174	43.5
Did not work	11	5.5	44	22	55	13.75
Temporary employee	2	1	5	2.5	7	1.75
Household income monthly						
≤ 999,999 Kip (124$)	4	2	3	1.5	7	1.75
1,000,000 - 3,999,999 Kip (125-499$)	75	37.5	68	34	143	35.75
4,000,000 - 7,990,000 Kip (500-999$)	83	41.5	79	39.5	162	40.5
≥ 8,000,000 Kip (1,000$)	38	19	50	25	88	22
Illness episodes and risk aversion						
% OPD service in the last 4 weeks	35	17.5	30	15	50	12.5
% OPD service in the last 12 months	108	54	121	60.5	229	57.25
% OPD services in central hospitals	73	36.6	65	32.5	138	34.5

% IPD service in central hospital	45	22.5	41	20.5	86	21
% chronic disease	68	34	77	38.5	145	36.25
% difficulty to pay for health service	39	19.5	55	27.5	94	23.5

Source: Household survey data, July to August, 2015

6.3.2 Satisfaction from the services in central hospitals and Xaythany district

The overall quality of care: the results of the study showed that the insured and uninsured groups in Xaythany district had different levels of satisfaction with the overall quality of both out-patient and in-patient services they received in four central hospitals in Lao PDR, Mahosot Hospital, Setthathilath Hospital, Mittaphab Hospital, and the 103 Hospital. Concerning the out-patient services, the means value of the groups indicates that the insured households (M = 2.19, SD = 0.46) were more satisfied with the overall quality of out-patient services in central hospitals than the uninsured group (M = 3.75, SD = 0.75). The analysis showed that more than 97% of insured respondents were satisfied or somewhat satisfied, while almost 70% of the opposite group was not satisfied or not at all satisfied with the overall quality of out-patient services (see Table 6.2). The results of the t-test showed that the level of satisfaction of insured and uninsured households with the overall quality of out-patient services in central hospitals differed significantly $t(103.82) = 14.51$, $p < 0.001$.

Similarly, the results of the t-test showed that the level of satisfaction with the overall quality of admission service among the insured group was higher (M = 2.16, SD = 0.47) than that of the uninsured groups (M = 3.98, SD = 0.75). Specifically, the analysis found that about 95% of the insured households using in-patient services in central hospitals over the year were satisfied or somewhat satisfied, while 85.4% of the uninsured group was not satisfied or not at all satisfied with the overall quality of in-patient services in central hospitals in Lao PDR. The t-test result was also statistically significant $t(84) = -13.47$, $p < 0.001$.

Drug supplies: For out-patient services, the test result suggests that the insured households were less satisfied with drug supplies in central hospitals compared to the

uninsured group with M = 3.68, SD = 0.81) and (M = 2.38, SD = 0.67) respectively. More than 70% of the insured households surveyed were not satisfied or not at all satisfied with the availability of drugs. In contrast, about 88% of the uninsured households were satisfied or somewhat satisfied. The t-test result illustrated that differences in level of satisfaction among insured and uninsured group was statistically different $t(136) = 10.12$, $p<0.001$.

For the in-patient service, the test also found that the level of satisfaction with the drug supplies of the insured was lower than that of the uninsured group (M = 3.87, SD = 0.91) and (M = 2.10, SD = 0.43). Specifically, approximately 77.8% of the insured households using in-patient services in central hospitals were not satisfied or not at all satisfied with the availability of drugs, while more than 95% of the uninsured group was satisfied. The t-test found that the levels of satisfaction with drug supplies among these two groups differed significantly $t(64.11) = 11.55$, $p <0.001$ (95 % CI = 1.46 to 2.07).

Medical equipment: The examination of group means indicates that the insured (M = 2.29, SD = 0.69) and uninsured households (M = 2.43, SD = 0.70) had a very similar level of satisfaction with medical equipment. About 86% of insured and 87% of the uninsured households were satisfied with medical equipment used in central hospitals. The result of the independent sample t-test showed that the level of satisfaction with medical equipment in central hospitals among insured and uninsured households using out-patient services was not statistically significant $t(136) = -1.19$, $p= 0.23$ (95% CI = - 0.38 to 0.94).

The test also found that the level of satisfaction with medical equipment among the insured households was also very similar to that of the uninsured group using in-patient services in central hospitals with M = 2.93, SD = 0.86 and M = 2.68, SD = 0.87 respectively. The analysis showed that 66.7% of the insured and 73.2% of the uninsured households using in-patient services were satisfied or somewhat satisfied with the medical equipment. The percentage of dissatisfaction with medical equipment between the insured and uninsured

groups was also similar, accounting for 33.3% and 24.3%, respectively. The results of an independent sample t-test revealed that t (84) = 1.33, p = 0.18 (95% CI = - 0.12 to 0.62).

Skills of health staff: From the group means analysis, it is clear that the level of satisfaction of the insured on the staff skills (M = 2.10, SD = 0.44) was similar to that of the uninsured group (M = 2.29, SD = 0.78). The analysis found that 85% of the insured and 77% of insured households were either very satisfied or satisfied with the skills of the health staffs providing in-patient services in central hospitals. The result of the independent sample t-test showed that the level of satisfaction with the skills of staff between the insured and uninsured groups using out-patient services was not significantly different, t (98.82) = - 1.77, p = 0.07 (95% CI = - 0.41 to 0.02).

The group means examination also illustrated that the level of satisfaction with skills of health staff among the insured and uninsured households using in-patient services was very similar with M = 2.22, SD = 0.56 and M = 2.12, SD = 0.51 respectively. More than 84% of the insured group was satisfied, and about 90% of the uninsured households were very satisfied or satisfied with the skills of the staff. The results of the t-test showed that the level of satisfaction with skills of staff among these two groups was not statistically different t (84) = 0.86, p= 0.38.

Staff attitudes towards patients: An evaluation of the group means indicated that the level of satisfaction with the attitudes of staff towards patients among the insured households (M = 2.78, SD = 0.94) was higher than that of the uninsured group (M = 3.35, SD = 1.03). The analysis showed that more than 80% of insured were either satisfied or somewhat satisfied with the attitudes of staff towards patients, while about 78% of uninsured households were not satisfied. The independent samples t-test found that the difference in the level of satisfaction with the attitudes of staff among insured and uninsured households using out-patient services was statistically significant t (136) =-3.39, p <0.001.

In regard to the in-patient services, however, the evaluation of the group means revealed that the level of satisfaction with the attitudes of staff of the insured households using in-patient services (M = 2.87, SD = 0.86) did not differ significantly from that of the uninsured group (M = 2.93, SD = 1.05). The detailed analysis revealed that 73.3% of the insured and 67.5% of the uninsured households were either satisfied or somewhat satisfied with the attitudes of staff. The test found that the level of satisfaction with the attitudes of staff towards patients among the insured and uninsured households was not significant), t (84) = -0.28, p = 0.77.

Duration of waiting time: An examination of the group means illustrates that the insured households (M = 3.52, SD = 0.81) had a higher level of satisfaction than that of the uninsured group (M = 4.14, SD = 0.79). The analysis revealed that about half of the insured respondents were satisfied or somewhat satisfied, while more than 78% of the uninsured group was either not satisfied or not all satisfied with the waiting time for out-patient services in central hospitals (see Table 6.2).The independent sample t-test found that the level of satisfaction with duration of waiting time in central hospitals among the insured and uninsured households using out-patient services was differed significant, t (135) = -4.48, p <0.00.

For the in-patient services, however, the group means examination illustrated that the level of satisfaction of the insured households (M = 3.56, SD = 0.99) was not so different from that the uninsured group (M = 3.56, SD = 0.83). The majority of both insured and uninsured groups were not satisfied with waiting time for admission services in central hospitals, accounting for 55.6% and 63.4%, respectively (see Table 6.2). The t-test found that the level of satisfaction with waiting time for admission services between the two groups did not differ significantly t (84) = 0.02, p = 0.97 (95% CI = - 0.40 to 0.39).

Table 6.2 Satisfaction of Xaythany district households with services in central hospitals

Health facilities/components/ insurance status	Very satisfied %	Satisfied %	Somewhat Satisfied %	Not satisfied %	Not at all satisfied %	P-Value	Mean	SD
OPD services in central hospitals								
1. Overall quality of services (95% CI= -1.77 to -1.34)						**<.001**		
Insured (N=73)	0	83.6	13.7	2.7	0		2.19	.054
Uninsured (N=65)	0	6.2	24.6	56.9	12.3		3.75	.093
2. Adequacy of drug supplies (95% CI= 1.04 to 1.55)						**<.001**		
Insured	0	12	16.4	61.6	9.6		3.68	.814
Uninsured	0	72.3	16.9	10.8	0		2.38	.678
3. Adequacy of equipment (95% CI= -0.38 to -0.09)						**.234**		
Insured	11	52.1	34.2	2.7	0		2.29	.697
Uninsured	1.5	64.6	23.1	10.8	0		2.43	.706
4. Staff's skills for your treatment (95% CI= -0.41 to 0.02)						**.079**		
Insured	5.5	79.5	15.1	0	0		2.10	.446
Uninsured	6.2	70.8	12.3	9.2	1.5		2.29	.785
5. Staff attitude toward out-patients (95% CI= -0.90 to -0.23)						**<.001**		
Insured	0	49.3	31.5	11	8.2		2.78	.946
Uninsured	0	27.7	23.1	35.4	13.8		3.35	1.037
6. Duration of waiting time (95% CI= -0.89 to -0.34)						**<.001**		
Insured	0	9.6	39.7	39.7	11		3.52	.818
Uninsured	0	1.6	20.3	40.6	37.5		4.14	.794
In-patient services in central hospital								
1. Overall quality of services (95% CI= -2.08 to -1.55)						**<.001**		
Insured (N=45)	0	88.9	6.7	4.4	0		2.16	.475
Uninsured (N=41)	0	7.3	7.3	65.9	19.5		3.98	.758
2. Adequacy of drug supplies (95% CI= -1.46 to -2.07)						**<.001**		
Insured	0	13.3	8.9	55.6	22.2		3.87	.919
Uninsured	0	95.1	0	4.9	0		2.10	.436
3. Adequacy of equipment (95% CI= -0.12 to -0.62)						**.186**		
Insured	0	40	26.7	33.3	0		2.93	.863
Uninsured	2.4	51.2	22	24.4	0		2.68	.879
4. Staff's skills for your treatment (95% CI= -0.13 to 0.33)						**.389**		
Insured	0	84.4	8.9	6.7	0		2.22	.560
Uninsured	2.4	87.8	4.9	4.9	0		2.12	0.510
5. Staff attitudes towards patients (95% CI= -0.47 to 0.35)						**.773**		
Insured	0	42.2	31.1	24.4	2.2		2.87	0.869
Uninsured	0	48.8	19.5	22	9.8		2.93	1.058
6. Duration of waiting time (95% CI= -0.40 to 0.39)						**.978**		
Insured	0	17.8	26.7	37.8	17.8		3.56	0.99
Uninsured	0	14.6	22	56.1	7.3		3.56	838

Source: Household survey data, July to August, 2015

6.3.3 Household satisfaction with healthcare services in Xaythany district hospital

The overall quality of care: the size of group means indicates that the insured households (M = 2.30, SD = 0.60) were more satisfied with the overall quality of out-patient services in the district hospital than the uninsured group (M = 3.75, SD = 0.77). The analysis showed that more than 92% of the insured respondents were satisfied, while more than 45% of the uninsured was not satisfied or not at all satisfied with the overall quality of out-patient services in Xaythany district hospital (see Table 3).The results of the t-test showed that the level of satisfaction with the overall quality of services in Xaythany district hospital between the insured and uninsured households using out-patient services over a period of twelve months prior to the survey differed significantly, t (97.32) = -7.9, p <0.001.

Concerning the in-patient services in this district hospital, the results of the group means examination showed that insured households (M = 2.46, SD = 0.77) were more satisfied than the uninsured group (M = 3.21, SD = 0.91). The analysis found that 84.6% of the insured households were satisfied or somewhat satisfied, while 52.6% of the uninsured group was not satisfied with the overall quality of admission services in the district hospital. The t-test also revealed that the levels of satisfaction with the overall quality of in-patient service among the insured and uninsured groups was statistically significant, t (30) = -2.40, p <0.02 (95% CI = -1.38 to - 0.11).

Drug supplies: by evaluating the group means, it is obvious that the level of satisfaction from drug supplies among the insured households (M = 3.65, SD = 0.80) was much lower than that of the uninsured group (M = 2.70, SD = 0.92). The analysis found that more than 70% of the insured respondents were not satisfied or not at all satisfied with the drug supplies in the district hospital. On the contrary, about 53.7% of the uninsured households were satisfied and almost 30% were somewhat satisfied with drug supplies in Xaythany district hospital. The t-test found that the difference in the level of satisfaction with

drug supplies in Xaythany district hospital between the insured and uninsured households using out-patient services was statistically significant, t (105) = 5.40, p <0.001 (95% CI = 0.60 to 1.05).

Similarly, the examination of the group means shows that the level of satisfaction with the drug supplies of the insured group (M = 3.77, SD = 0.72) was much lower than that of the uninsured group (M = 2.42, SD = 0.83). A detailed analysis showed that almost 70% of the insured respondents were not satisfied with the drug supplies, while nearly 80% of the uninsured group was satisfied. The test found that the level of satisfaction with the drug supplies in the district hospital between the insured and uninsured differed significantly t (30) = 4.71, p <0.001 (95% CI = 0.76 to 1.93).

Medical equipment: The group means showed that the insured (M = 2.53, SD = 0.67) and uninsured households (M = 2.70, SD = 0.75) had a similar level of satisfaction with medical equipment. More specifically, the analysis revealed that 90% of insured and about 82 % of the uninsured households using out-patient services in the district hospital were satisfied with medical equipment in this hospital. The results of the independent sample t-test showed that the difference in the level of satisfaction with medical equipment used in Xaythany district hospital between the insured and uninsured households using out-patient services was not significant, t (105) = -1.20, p= 0.22 (95% CI = - 0.46 to 0.11).

The group means also showed that the level of satisfaction with equipment between the insured and the uninsured households using admission services in the district hospital was not so different, with M = 3.31, SD = 0.75 and M = 2.84, SD = 0.83 respectively. The t-test found that the level of satisfaction with medical equipment in Xaythany district hospital between the insured and uninsured households using admission services was also not statistically significant, with t (30) = 1.61, p = 0.11 (95% CI = - 0.12 to 1.05).

Health staff skills: From the evaluation of the group means, it is clear that the insured and the uninsured households had a similar level of satisfaction with the skills of staff with M = 2.43, SD = 0.74 and M = 2.69, SD = 0.76. The detailed analysis found that about 70% of the insured were satisfied and 20% were somewhat satisfied with the skills of staff, and more than 82% of the uninsured group was satisfied or somewhat satisfied with the skills of health staff in the district hospital. The t-test showed that the level of satisfaction with the skills of the district health staff between the insured and uninsured households using out-patient services was not statistically significant, t (105) = - 1.72, p = 0.87 (95% CI = - 0.56 to 0.03).

An examination of the group means showed that the level of satisfaction with the skills of staff between the insured (M = 2.62, SD = 0.87) and the uninsured group (M = 2.68, SD = 0.88) was not so different. More than 60% of the insured and 57.8% of the insured households were satisfied with the skills of staff. The t-test also found that the level of satisfaction with the skills of district hospital staff between the insured and uninsured households using admission services in the district hospital did not differ significantly, t (30) = - 0.21, p = 0.82 (95% CI = - 0.71 to 0.57).

Staff attitudes towards patients: the examination of group means indicated that the level of satisfaction with the attitudes of staff towards patients among the insured households (M = 2.83, SD = 0.84) was similar to that of the uninsured group (M = 3.07, SD = 0.85). In fact, more than 77% of insured and 68% of the uninsured households using out-patient services in the district hospital were either satisfied or somewhat satisfied with the attitudes of staff towards patients. The test found that the level of satisfaction with the attitudes towards patients of district hospital staff between the insured and uninsured households using out-patient services was not significant, t (105) = -1.46, p <0.14.

Concerning the in-patient services, evaluation of the group means showed that the level of satisfaction with the attitudes of health staff towards patients between the insured

households (M = 3.23, SD = 0.92) and the uninsured group (M = 3.00, SD = 0.94) using in-patient services was very similar. More than 46% of the insured and almost 58% of the uninsured had positive views on the attitudes of district hospital staff towards patients. The t-test also found that the level of satisfaction with the attitudes of district health staff towards patients between the insured and uninsured households was not statistically significant t (30) = 0.68, p = 0.49 (95% CI = - 0.45 to 0.91).

Waiting time: The examination of the group means showed that the insured households (M = 3.00, SD = 1.08) had a similar level of satisfaction to that of the uninsured group (M = 3.25, SD = 0.99). In fact, the analysis showed that about 62.5% of the insured and almost 60% of the uninsured respondents were satisfied or somewhat satisfied with the waiting time for out-patient services in the district hospital (see Table 6.3). The independent sample t-test found that the level of satisfaction with waiting time in the district hospital between the insured and uninsured households using out-patient services did not differ significant, t (105) = - 1.23, p = 0.21.

Regarding the in-patient services, the group means also showed that the level of satisfaction with waiting time among the insured households (M = 3.00, SD = 1.08) was very close to that of the uninsured group (M = 3.16, SD = 0.95). The analysis showed that more than 60% of the insured and about 58% of the uninsured household surveyed were either satisfied or somewhat satisfied with the waiting time for admission services. The independent sample t-test found that the level of satisfaction with the waiting time among the two groups was not statistic significant, t (30) = -0.43, p = 0.66.

Table 6. 3 Household satisfaction with health services in Xaythany district hospital

Health facilities/components/ insurance status	Very satisfied %	Satisfied %	Somewhat Satisfied %	Not satisfied %	Not satisfied at all %	P-Value	Mean	SD
OPD services in district hospital								
1. Overall quality of services (95% CI = - 1.34 to -0.80).						**<.001**		
Insured (N=40)	0	77.5	15	7.5	0		2.30	0.608
Uninsured (N=67)	0	13.4	40	41.8	4.5		3.37	0.775
2. Adequacy of drug supplies (95% CI = 0.60 to 1.05)						**<.001**		
Insured	0	12.5	17.5	62.5	7.5		3.65	0.802
Uninsured	0	53.7	29.9	9	7.5		2.70	0.921
3. Adequacy of equipment (95% CI = - 0.46 to 0.11)						**.229**		
Insured	0	57.5	32,5	10	0		2.53	0.679
Uninsured	0	47.8	34.3	17.9	0		2.70	0.759
4. Staff's skills for your treatment (95% CI = - 0.56 to 0.03)						**.087**		
Insured	0	70	20	7.5	2.5		2.43	0.747
Uninsured	0	49.3	32.8	17.9	0		2.69	0.763
5. Staff attitude and explained things clearly (95% CI = - 0.58 to - 0.08)						**.146**		
Insured	0	42.5	35	20	2.5		2.83	0.844
Uninsured	0	28.4	40	26.9	4.5		3.07	0.858
6. Duration of waiting time (95% CI = - 0.61 to - 0.15)						**.219**		
Insured	0	47.5	15	27.5	10		3.00	1.072
Uninsured	0	26.9	32.8	28.4	11.9		3.25	0.991
In-patient services in district hospital								
1. Overall quality of services (95% CI = - 1.38 to - 0.11)						**.022**		
Insured (N=13)	0	69.2	15.4	15.4	0		2.46	0.776
Uninsured (N=19)	0	31.1	15.8	52.6	0		3.21	0.918
2. Adequacy of drug supplies (95% CI = 0.76 to 1.93)						**<.001**		
Insured	0	7.7	15.4	69.2	7.7		3.77	0.725
Uninsured	0	78.9	0	21.1	0		2.42	0.838
3. Adequacy of equipment (95% CI = - 0.12 to 1.05)						**.117**		
Insured	0	15.4	38.5	46.2	0		3.31	0.751
Uninsured	0	42.1	31.6	26.3	0		2.84	0.834
4. Staffs' skills for your treatment (95% CI = - 0.71 to 0.57)						**.829**		
Insured	0	61.5	15.4	23.1	0		2.62	0.87
Uninsured	0	57.8	15.8	26.3	0		2.68	0.885
5. Staff attitude and explained things clearly (95% CI = - 0.45 to 0.91)						**.499**		
Insured	0	30.8	15.4	53.8	0		3.23	0.927
Uninsured	0	42.1	15.8	42.1	0		3.00	0.943
6. Duration of waiting time (95% CI = - 0.89 to 0.58)						**.667**		
Insured	0	46.2	15.4	30.8	7.7		3.00	1.080
Uninsured	0	31.6	26.3	36.8	5.3		3.16	0.958

Source: Household survey data, July to August, 2015

6.4 Discussion of Findings

The aim of this study was to assess the level of satisfaction with healthcare services in central hospitals and Xaythany district hospital between the insured and uninsured households. The results of the study showed that the age groups of insured household leaders were similar to that of the uninsured group, and most of the household leaders were males. The insured group had higher education levels than the uninsured group, and had better working status. The levels of incomes of the insured and uninsured groups were not very different. The utilization of health services was also similar between the two groups. More than half of the surveyed households utilized out-patient and in-patient services. The number of households with chronic diseases and difficulty to pay for healthcare was also similar.

In regard to satisfaction with healthcare services in central hospitals among households in Xaythany district, the study found that the insured households were more satisfied with the overall quality of both out-patient and in-patient services than the uninsured group. The insured households were also more satisfied with the attitudes of staff and waiting times for both out-patient and in-patient services than the uninsured group. However, the uninsured group had a higher level of satisfaction with drug supplies than the insured group. Both groups had similar levels of satisfaction with the medical equipment and skills of health staff. At the district level, the study found that the insured households were more satisfied with the overall quality of services than the uninsured group. On the other hand, the uninsured households were more satisfied with drug supplies. The levels of satisfaction with medical equipment, staff skills, staff attitudes toward patients and waiting time of both groups were very similar.

It was not surprising that most household leaders were more than 40 years old since most of new couples tend to stay with their parents for a certain period of time before they can have their own house. It was also not surprising that there were more male household leaders

than females because in Lao PDR a husband will automatically become a household leader. And, as expected the insured households had a higher education level than the uninsured groups since most of the insured household leaders work for the government offices and companies, which require a certain level of education, while most of the uninsured in Lao PDR were self-employed.

There was no significant difference in the utilization of health facilities by the insured and uninsured households, and the majority of them used healthcare services in central hospitals. This finding was supported in a study by the Ministry of Health which found that most people chose to use healthcare services in central hospitals because the quality of healthcare at the primary level did not meet their expectation (JICA and MOH, 2002 and MOH, 2016). This brings about an imbalanced utilization between the central and district health facilities.

In regard to satisfaction from healthcare services, the insured households were satisfied with the overall quality of healthcare services, medical equipment, skills of staff, staff attitudes and waiting time in contracted hospitals. This can imply that the healthcare benefits help to reduce their household expenditures and improve their access to healthcare. The findings are significant because they can wipe out the public negative stereotypes against health insurance benefits. The satisfaction with various aspects of health care services among the insured households could be utilized to encourage the public to join health insurance schemes, which would expand the coverage and contribute to the stabilizing financial situation of health insurance schemes.

It is understandable that the insured households were not satisfied with drug supplies in central hospitals and Xaythany district hospital. The finding was supported in the review conducted by Akkhavong and his colleagues (2014) which found that services, including drug supplies, for insured patients were limited. It was well known that the contracted healthcare

facilities received about 10 USD per person per year for services they provide for the insured patients. This was inadequate for hospitals to provide good quality drugs that were needed. On the other hand, hospitals in Lao PDR rely heavily on revenues from the Revolving Drug Fund, which sells drugs to patients at a higher price compared to the market. They may intentionally try to direct people to buy medicines from them, so that they can maintain or increase their revenues from selling medicine.

However, it was surprising that the majority of the uninsured households were not satisfied with the overall quality of healthcare services, the attitudes of staff and waiting time. The finding related to the overall quality of healthcare services was consistent with the study by International Health Policy Program and National Institute of Public Health conducted in Lao PDR (2007), and the study in Ghana by Fenny (2014). However, the findings were not consistent with the notion that the uninsured would be more satisfied with the services they paid for from their own pocket. This can be explained by the fact that central hospitals are over-utilized, the staff themselves may suffer from overwork providing services, and the expectations of the patients may be too high. They may expect the health staff to perform rapid treatment with good quality without considering the real situation in the country and specifically in the hospitals. The hospitals would never be able to meet such expectations in the foreseeable future. At the district hospital, it is understandable that the uninsured would be less satisfied with the overall quality of services due to the lack of modern facilities and limited services.

It was also remarkable that both the insured and uninsured households were satisfied with the medical equipment and skills of staff at central hospitals and Xaythany district hospital. The finding was inconsistent with the study by JICA and MOH published in 2002. The possible explanation for these differences is that this study solely focused on Xaythany

district hospital and central hospitals where good quality equipments are available, while the study by the Ministry of Health and JICA included many health facilities across the country.

It is important to note that this study had a relatively small sample size covering only ten villages in Xaythany district, and it assessed only six components related to health service satisfaction, so the results of the study should be interpreted cautiously. Future studies should cover more elements related to health service satisfaction such as cleanness of facilities, service fees and prices of medicines at healthcare facilities. However, the results of the study did contribute to a better understanding of differences in satisfaction with healthcare services between the insured and uninsured households in Xaythany district. The results of the study can be utilized by concerned authorities in formulating policies to improve the quality of healthcare as well as the health insurance expansion in Vientiane Capital. The findings may also serve as a basis for future studies in relation to health service satisfaction.

6.5 Summary

The analysis found that the utilization of healthcare services in central hospitals and Xaythany district hospital was very similar among the insured and uninsured households. Both groups preferred to seek healthcare services in central hospitals rather than the district hospital, though it is close to their home. Socio-demographic characteristics of the household leaders, especially in relation to education, seem to have an effect on insurance status of the household leaders because household leaders with a higher level of education would have a better chance to work in a government office where health insurance is provided for government employees.

However, from this study it may not be possible to conclude that the socio-demographic characteristics of the households have a significant effect on the level of satisfaction with the healthcare services at central hospitals and Xaythany district hospital. It

satisfaction in some aspects of healthcare services compared to the uninsured group. The only area that the insured group was not satisfied with is drug supplies in central hospitals and Xaythany district hospital. The uninsured group, however, was not satisfied with the overall quality of service, staff attitudes, and waiting time. For the insured group, the dissatisfaction might have come from low capitation given to the hospitals, and the demand for good quality drugs from the insured households. Meanwhile, dissatisfaction in the uninsured group might have arisen from the fact that they did not get the quality service as expected from direct payment for healthcare services. Both groups might not consider the hospitals limited capacity to provide better services. Central hospitals are over-utilized, while the district hospital lacks modern facilities, equipment, and expertise to provide equivalent levels of healthcare as the central hospitals.

In order to close the gaps of satisfaction, it is suggested that more investment on healthcare facilities, especially from the private sector should be encouraged so that the utilization of public hospitals would be reduced. For the public sector, the government should strive to improve the quality of healthcare in district hospitals by providing more modern facilities, equipment, and expertise in order to avoid over-utilization in central hospitals. The government also needs to improve working principles and ethics of staff in public health facilities at all levels in Lao PDR. With fair, rapid and good quality of care, both insured and uninsured groups will be more satisfied with healthcare services they receive from public health facilities in Lao PDR.

Chapter 7: Catastrophic health expenditures in Xaythany District, Vientiane, Lao PDR

7.1 Introduction

It is widely acknowledged that every health system seeks to protect and improve the health of the population. However, the adverse consequences of the system can bring about financial hardship for a household. For many health systems in many developing countries, people have to deal with out-of-pocket payment for health care service because appropriate health insurance and other protection systems are not in place. It exposes a household to a risk of experiencing catastrophic health expenditure and in some cases impoverishment. The proportion of catastrophic health expenditure varied widely from country to country. In general, developed countries with advanced social protection system or well-functioning tax funded health system are less likely to experience catastrophic health expenditure compared to developing countries (Xu, Evans, Kawabata, Zeramdini, Klavus, & Murray, 2003). Understanding the proportion of catastrophic health expenditure is necessary for any country to develop an effective socail protection mechanism.

In the case of Lao PDR, information on catastrophic health expenditure is extremely limited. As discussed in the previous chapters, Lao PDR introduced user fees for health care service in the mid-1980s. The adverse consequence of user fee is well known among health policy makers in Lao PDR. They have developed many policies and strategies to mitigate impact of user fee. One of the most important measures is the development of protection schemes. As a result, many health insurance schemes have been set up over the last fifteen years. However, the question raised is whether health insurances prevent the insured people from catastrophic health expenditure, or uninsured people experience higher catastrophic health expenditure compared to the insured group. This chapter explores the answers to these

7.2 Specific Research Design

7.2.1 Definition and Variable Construction

In general, the term 'catastrophic health expenditure' refers to a situation when out-of-pocket payment for health care service makes up of a large proportion a household's income and a household may become impoverished (Buigut, Ettarh, & Amendah, 2015). From this definition, it is debatable as to what proportion of income spent on health care service is regarded as catastrophic health expenditure. Researchers often set the catastrophic proportion according to their objectives. For the purpose of this study, catastrophic health expenditure refers to a situation "when a household's total out-of-pocket health payments equal or exceed 40% of household's capacity to pay or non-subsistence spending" (WHO, 2005.p4). The objectives of catastrophic health expenditure analysis are to "(i) to identify changes in levels of well-being, (ii) to assess the extent of poverty/low levels of living at the household level and (iii) to assess the performance of existing health insurance schemes (Naga & Lamiraud, 2011, p.2). The latter is the core objective for the analysis of catastrophic health expenditure in this chapter.

This study follows the World Health Organization methods for catastrophic health expenditure. A monthly figure is used for all variables related to expenditure. It means that all data in other units are changed to monthly figures (WHO, 2005). To calculate catastrophic health expenditure, variables need to include out-of-pocket payment (oop), household consumption expenditures (exp), food expenditure (food), poverty line (pl) and household subsistence spending (se). The household subsistence spending refers to necessity to sustain basic life. Poverty line is used in the analysis as subsistence spending. Since a food share based poverty line is used to assess household subsistence, "poverty line is defined as the food expenditure of the household whose food expenditure share of total household expenditure is at the 50^{th} percentile in the country" (WHO, 2005.p2). To minimize the measurement error,

the average food expenditures of households whose food expenditure share of total household expenditure is set within the 45th and 55th percentile of the total sample. Taking into account the economy scale of household consumption, the household equivalence scale is used instead of actual household size. The equivalence scale is:

$$\boldsymbol{eqsize}_{\boldsymbol{h}} = \boldsymbol{hhsize}_{\boldsymbol{h}}^{\ \boldsymbol{\beta}}$$

Subsistence spending is calculated as follows:

First, the food expenditure share ($\boldsymbol{foodexp}_{\boldsymbol{h}}$) for each household is generated by subtracting the household's food expenditure by its total expenditure. Therefore, the food expenditure share is:

$$\boldsymbol{foodexp}_{\boldsymbol{h}} = \frac{\boldsymbol{food}_{\boldsymbol{h}}}{\boldsymbol{exp}_{\boldsymbol{h}}}$$

Second, the equivalent household size ($\boldsymbol{eqsize}_{\boldsymbol{h}}$) for each household is generated by indicating equivalent size of household equal the actual household size. The value of β is 0.56. Thus, the equivalent household size is:

$$\boldsymbol{eqsize}_{\boldsymbol{h}} = \boldsymbol{hhsize}_{\boldsymbol{h}}^{\ \mathbf{0.56}}$$

Third, food expenditure of each household is divided by the equivalent household size to equalized food expenditures ($\boldsymbol{eqfood}_{\boldsymbol{h}}$).

$$\boldsymbol{eqfood}_{\boldsymbol{h}} = \frac{\boldsymbol{food}_{\boldsymbol{h}}}{\boldsymbol{eqsize}_{\boldsymbol{h}}}$$

Forth, the food expenditure share of total household expenditure is identified with the 45th and 55th percentile across the whole sample. These variables are ($\boldsymbol{food45}$) and ($\boldsymbol{food55}$).

Fifth, the weighted average of food expenditure in the 45th and 55th percentile range is calculated. It gives the subsistence expenditure per (equivalent) capita or the poverty line (pl).

$$\boldsymbol{pl = \frac{\sum w_{h} * eqfood}{\sum w_h} \quad \text{where } food45 < foodexp_h < food45}$$

Finally, the subsistence expenditure for household ($\boldsymbol{se_h}$) is calculated as

$$\boldsymbol{se_h = pl * eqsize_h}$$

A household whose total household expenditure is smaller than its subsistence spending is considered as poor.

$$\boldsymbol{poor_h = 1 \text{ if } exp_h < se_h}$$

$$\boldsymbol{poor_h = 0 \text{ if } exp_h \geq se_h}$$

Catastrophic health expenditure

A dummy variable with a value of 1 is created to indicate a household that experiences catastrophic health expenditure, and with a value of 0 to indicate a household that has no catastrophic health expenditure.

$$\boldsymbol{cata_h = 1 \quad \text{if} \quad {oop}/{ctp} \geq 0.4}$$

$$\boldsymbol{cata_h = 0 \quad \text{if} \quad {oop}/{ctp} < 0.4}$$

Before running data set in STATA version 12.0, we need input and output datasets to estimate capacity to pay and household catastrophic expenditure. All variables described above were generated in do-file based on variable name in the set of data as the following step:

- **Estimate capacity to pay**

1.Food consumption

```
use" c:\users\sony\destop\data.dta", clear
gen nfoodc1=nfoodc/12
gen exp1=fcon+nfoodc1
gen fcony=fcon*12
```

2.Food expenditure

```
gen expy=nfoodc+fcony
drop of fcon= = 0
drop if exp1 = = 0
```

3. Food share of total expenditure

```
gen foodexp = fcon/exp1
gen oopexp = opdexpen/exp1
```

4. Generate equivalize household size

```
gen eqsize = hnumb^0.56
```

5. Equivalize expenditure variable

```
gen eqfood = fcon/eqsize
gen eqexp = exp1/eqsize
```

6. Identify 45^{th} and 55^{th} percentile of the food share of total expenditure

```
_pctile foodexp, p(45, 55)
return list
gen food45=r(r1)
gen food55=r(r2)
```

7. Calculating the poverty line

```
sum eqfood if foodexp<food55 & foodexp>food45
gen pl=r(mean)
```

8. Household subsistence expenditure

```
gen se=pl*eqsize
```

9. Generate capacity to pay

```
gen ctp = exp1-se
replace ctp =exp1-fcon if se > fcon
```

- **Estimate household catastrophic expenditure**

1. Household financial contribution through OOP (ohfc)

```
gen ohfc = opdexpen/ctp
replace ohlc=o if ctp = = 0 & opdexp = = 0
replace ohfc = 1 if ctp = = 0 & opdexpen > 0
```

2. Distribution of ohfc

```
egen gohfc = cut(ohfc), at (0.1, 0.2, 0.4, 1.01)
gen cata = cond(ohfc>=0.4, 1, 0)
```

3. Generate expenditure quintile

```
Xtile quintile = eqexp, nq(5)
Tab cata
Tab quintile
Tab insuran1 cata, row
```

7.3 Findings

7.3.1 Health Expenditure Compared to Food and Non-food Expenditures

The table 7.1 below shows that the monthly average health expenditure was not much different from expenditures on food, but very different from non-food items. Health expenditures, including for out-patient service, in-patient service, and chronic disease services, accounted for 1,745,350 kip per month, while food and non-food expenditures accounted for 1,801,390 and 42,600,000 kip respectively. The average amount of health

the average expenditure on in-patient service accounted for 1,424,200 kip, while the average expenditures on chronic diseases and out-patient service made up of only 216,245 kip and 104,905 kip respectively. It is important to note that some households had to pay 100,000,000 kip for admission service, 6,000,000 kip for chronic disease service, and 5,600,000 kip for out-patient service.

Table 7. 1 Health expenditure compared with food and non-food expenditures

Variables	p50	Mean	SD	Min	Max
Non-food expenditure	20,400,000	42,600,000	78,500,000	625,000	711,000,000
Food expenditure	1,540,000	1,801,390	1,105,575	565,000	14,700,000
OPD expenditure	0	104,905	434,179	0	5,600,000
IPD expenditure	0	1,424,200	6,140,845	0	100,000,000
Chronic diseases expenditure	0	216,245	673,643	0	6,000,000

Source: Household survey data, July to August, 2015

7.3.2 Catastrophic Health Expenditures

The analysis found that 29.75% of the total households surveyed experienced catastrophic health expenditure over the year prior to the survey (see Table 7.2). The specific analysis of each sup-group showed that uninsured households experienced high proportion of catastrophic health expenditure, which accounted for 34% or 68 out of 200 uninsured households surveyed. Similarly, 51 or 25.5% of insured households surveyed faced catastrophic health expenditure over the year.

Table 7.2 Catastrophic health expenditures among insured and uninsured households

catastrophic	Insured		Uninsured		Total	
	Freq.	%	Freq.	%	Freq.	%
No	149	74.5	132	66	281	70.25%
Yes	51	25.5	68	34	119	29.75%
Total	200	100%	200	100%	400	100%

Catastrophic health expenditure mainly came from in-patient (IPD) service, followed by chronic disease and out-patient (OPD) service. As illustrated in table 7.3 below, 39 or 19.5% of the uninsured, and 28 or 14% of the insured households surveyed experienced catastrophic health from IPD services. This means that catastrophic health expenditure from IPD makes up of 16.75% of the total proportion of catastrophic health expenditure, which accounted 29.75% of the 400 households surveyed. By comparing the two groups of households, it is clear that uninsured households faced much higher proportion of catastrophic health expenditure from IPD service compared to the insured households.

Another type of service that brought about considerable proportion of catastrophic health expenditure is chronic disease services. Both insured and uninsured households experienced similar proportion of catastrophic health expenditure from chronic disease services, which accounted for 8.5% and 9% of each group of households surveyed. Concerning OPD service, only 3% of the insured, and 5.5% of the uninsured households surveyed experienced catastrophic health expenditure. It can be argued that the proportion of catastrophic health expenditure derived from OPD service of the households surveyed is relatively low compared to IPD and chronic disease services.

Table 7.3 Catastrophic health expenditures by types of health service

Health services	insured versus uninsured	Catastrophic		Total
		No	Yes	
OPD	Insured	194	6	200
		97%	3%	100%
	Uninsured	189	11	200
		94.5%	5.5%	100%
IPD	Insured	172	28	200
		86%	14%	100%
	Uninsured	161	39	200
		80.5%	19.5%	100%
Chronic disease service	Insured	183	17	200
		91.5%	8.5%	100%
	Uninsured	182	18	200
		91%	9%	100%

Source: Household survey data, July to August, 2015

7.3.3 Coping with the costs of treatment

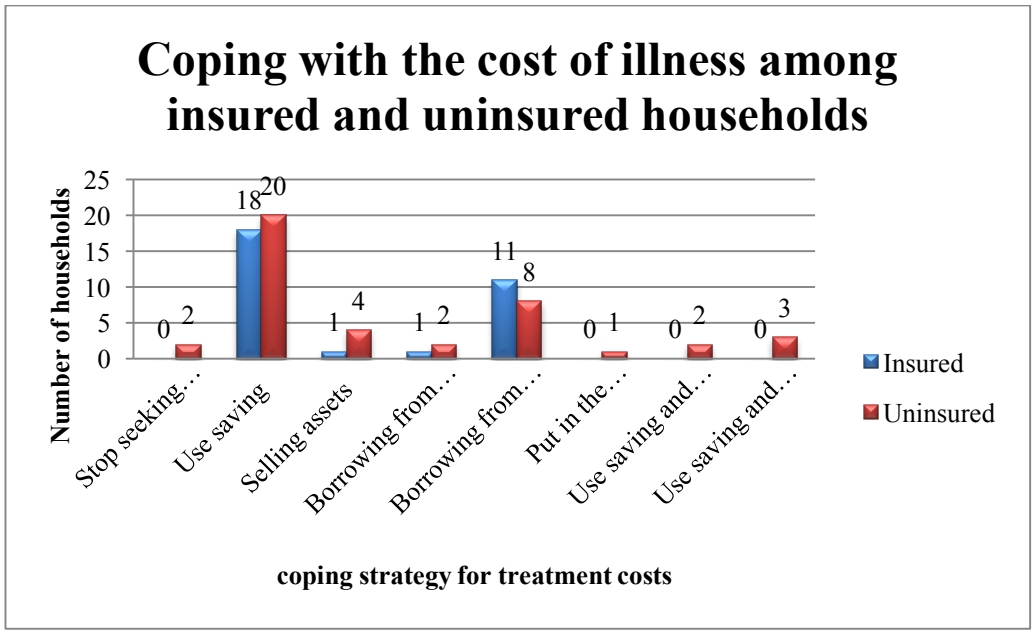
23.5% of heads of households reported having difficulties to pay for seeking medical care, including medical bills, transportation, food and lodging in the year proceeding the interview (see Table 7.4). The average amount of such problematic costs was 1.8 million LAK and constituted 2.6% of annual household consumption and expenditure. The result showed that 18 insured households and 20 uninsured households coped with this situation by using their household savings (see Figure 7.1). The study also found that 11 insured households borrowed money from creditor to pay for their treatment costs. The reason is that health insurance does not provide sufficient coverage for drugs and treatments. Often essential drugs are not available in hospital revolving drug funds (many expensive drugs are not included in the essential drug lists in the public hospitals).

Table 7.4 Household with difficulty paying for healthcare costs in the last 12 months

Ever had difficulty paying	Insured household (percentage)	Uninsured household (percentage)	Total household (percentage)
Yes	38 (19%)	56 (28%)	94 (23.5%)
No	162 (81%)	144 (72%)	306 (76.5%
Total	200 (100%)	200 (100%)	400 (100%)

Source: Household survey data, July to August, 2015

Figure 7. 1 Ever had difficulty paying for medical costs in last 12 month



Source: Household survey data, July to August, 2015

7.4 Summary

The analysis found that an average household's expenditure on health care was very closed to that of food expenditure. It is surprising that a household's expenditure on health care was almost the same as the expenditure on food they consumed daily. More importantly, the study found that both insured (25.5%) and uninsured (34%) groups experienced catastrophic health expenditure, though the proportion was higher among the uninsured

households. The finding was supported by the study by Patcharanarumol and her colleagues conducted in 2009. It found that 64 households out of 172 faced treatment cost, and of that figure 12 households or 6.9 % of the household surveyed faced catastrophic health expenditure (Patcharanarumol, Mills, & Tangcharoensthien, 2009). The finding was also consistent with the finding of the study by Asian Development Bank in 2012, which found that 3.6% of the households spent more than 40% of their non-food expenditure on health care service. It is acknowledged that the proportion of catastrophic health expenditures found by the two previous studies were much lower than what the current study found. Such differences may come from the fact that the studies took place in different locations of the Lao PDR at different time. Pacharanarumol and her colleagues conducted a study in four villages of Savannakhet province in 2009, and Asian Development Bank conducted a study by using Lao Expenditure Consumption Survey 2007-2008.

However, it is important to note that the current study found that catastrophic health expenditure mainly derived from out-of-pocket payment for in-patient service and chronic disease service, while the study by Pacharanarumol found that most catastrophic expenditure came from out-patient service. Theses difference may be explained by the different health seeking behaviors of the people in four villages of Savannakhet province and people from 10 villages of Xaythany district, Vientiane Capital. As discussed in the previous chapter that people in Xaythany district usually sought care in the district or central hospitals where they could be admitted if their sickness was serious enough. In contrast, people in remote villages in Savannakhet province might have difficulty in accessing the district and provincial hospitals where they could be admitted when they had serious illness.

From the findings of the current analysis, it can be argued that the existing health insurance schemes do not protect insured households enough from catastrophic health expenditure. The explanation for this is that insurance schemes could not afford to cover the

cost of treatment of all common diseases due to the low capitation. It also implies that it may be difficult for a volunteer health insurance scheme to persuade target population to join the scheme, because they may not be interested in since being insured does not mean they would not risk having financial hardship from health expenditure.

The findings of this chapter should be interpreted with caution because of its small sample size. The study took place in 10 villages covering 400 households, half of which were uninsured, in Xaythany district in Vientiane Capital. Therefore, the findings should not be over-generalized as catastrophic health expenditure at the provincial or national level. And it should be noted that the current study did not seek to understand the catastrophic health expenditure by quintiles, which might be regarded as another limitation of the study. However, the findings of this study can be used as a basis for the future studies related to catastrophic health expenditure in Lao PDR. It is suggested that the future studies include the analysis of catastrophic health expenditure by quintiles so that better understanding on this issue can be obtained.

Chapter 8: Conclusion and Recommendations

8.1 Introduction

This chapter summarizes the results and the analytic discussion that followed in this thesis. It covers a reflection on the study's objectives with a summary of methodology along with limitations and strength, a summary of findings including country situation analysis, the identified constraints to health insurance expansion, level of satisfaction from health services among the insured and uninsured households, and household catastrophic health expenditures from qualitative and quantitative studies. It also provides practical and policy recommendations for the expansion of health insurance in Lao in the future.

The ultimate objective of this study was to assess the current level of success in providing insurance coverage and challenges to the expansion of health insurance schemes in Lao PDR, as well as to assess the promotion of equity access to health care services in Lao PDR (the area chosen as field of data collection was Xaythany district, Vientiane capital, Lao PDR). The study also attempted to assess the potential to achieve universal health coverage in Lao PDR by 2025, to understand insured and uninsured household satisfaction regarding the quality of healthcare services, and to explore the level of health expenditures and level of catastrophic costs of insured and uninsured households. All of the objectives have been fulfilled by the results of the analyses which were presented in chapter 4, 5, 6, and 7. The summary of these findings will be presented in section 8.2 and 8.3 of this chapter.

The thesis aimed at assessing potentials to achieve universal health care coverage by 2025 and the promotion of equity access to health care services by studying a large sample of households (400) in Xaythany district Vientiane Capital, Lao PDR. To achieve these goals, the current health protection and health insurance coverage, household access to health care services, health seeking behaviors, satisfaction with health insurance schemes and healthcare

services, existing policies and measures were examined to explore the potential constraints and thus a possible path to universal coverage and health equity in the selected sample.

A conceptual framework based on the World Health Organization concept of three universal health coverage dimensions (population coverage, health services coverage, and reduced out-of-pocket payments) was developed along with economic theory regarding the demand and supply of health insurance to guide the methodology and help with the analysis.

This thesis applied both qualitative and quantitative methods. For qualitative methods, the existing relevant literatures including policies and legal documents were reviewed and a qualitative research method was applied by interviewing 15 key informants involved directly in the expansion of health insurance schemes in Lao. The key informants were authorities from the Ministry of Health, four central hospitals, one district hospital, four health insurance schemes, Ministry of Labor and Social Welfare, Ministry of Finance, Vientiane Capital Health Department, Xaythany Governor Office, and District Health Office.

For quantitative methods, the study applied a cross-sectional household survey with cluster sampling technique. The objectives of this study were to assess the promotion of equity access to health care services in Xaythany district, Vientiane capital, Lao PDR, to understand insured and uninsured households' satisfaction regarding quality of healthcare services, and to explore level of health expenditures and level of catastrophic costs of insured and uninsured households.

Information was collected through extensive in-depth interviews conducted during March 2015 based on a semi-structured questionnaire, and also information was collected through structured pre-coded questionnaires from the selected villages of Xaythany district. During interview with key informants, consent form for the interview was provided and the purpose of the interview was explained to all informants. The interviews focused on factors impeding the expansion of health insurance and the perception of health service providers in

providing healthcare for insured people. Data was also collected by using survey questionnaires. With great cooperation of the village chiefs, the researcher was able to collect information from 400 houses of 10 villages.

Information collected by each method was analysed separately. From the qualitative methods, data was analysed and interpreted accordingly, using a thematic analysis of the in-depth interviews. The evidence from each source was summarized and analyzed based on variables set, then it was compared and interpreted accordingly. The analysis focused on similarities and differences from the perspectives of concerned authorities in the expansion of health insurance coverage in Lao PDR. For the quantitative methods, at the end of the interview, questionnaires were thoroughly checked whether or not they were fully completed. Then, the obtained data was coded, cleaned, and entered into SPSS program, version 20.0. The data was analyzed by using independent sample T-test in SPSS program in order to find out whether the insured and uninsured households have the same level of satisfaction with the provision of health care service at central and district hospitals. In addition, STATA version 12 was used to analyze catastrophic health expenditures among insured and uninsured households.

This study has its own limitations. First, information on health care financing of Lao PDR is limited and difficult to access because some of information needed might be regarded as sensitive for some officials. Second, this study is based on a large sample from one district, which may affect the validity and generalization of the study. It is difficult to find a standard model for qualitative data analysis in Universal Coverage and health equity in access to health services. Regarding household survey, the research method developed by the World Health Organization is not widely used in academic institutions. To fully understand this method, it requires a lot of time and effort. The cross-sectional household survey with small sample would not represent the large population in the whole capital city, and may have some

sampling errors. Therefore, the study was done with the limitations in time and financial resources of the researcher.

The findings from this study provide evidence about the constraints and challenges hindering the expansion of health insurance coverage towards universal health coverage in Lao PDR. This study contributes to the areas of healthcare financing system, focusing on sustainable healthcare financing through universal health coverage goal.

8.2 Conclusions of the Qualitative Study

Although Lao economy has continuously grown over the past few decades, it is still listed as one of the least developed countries. Its GDP was only about US$ 1,725 in fiscal year 2014 – 2015. This low economic development inevitably affects health development and health financing system in the country. From 1975, when Lao PDR was founded, to the mid-1990s, the government was trying to provide free health care for all, but the health service was too basic and limited. The government realized that it could not afford to provide free health care for its citizens any longer because of the financial constraints (Lee Kuan Yew School of Public Policy, 2013; Akkhavong et al., 2014). The government could not increase government funding from general tax revenues to solve this constraint.

The health sector is financed by three major sources for health service delivery in Lao PDR. It is largely financed by household OOP payments, official development assistance and the share of the government budget is around 20% through supply-side budget allocation from the Ministry of Finance. Currently, there is no proper health financing policy or strategy in place. The government is in the process of drafting a health financing strategy with the aim of achieving universal health coverage by 2025. The government has recognized the importance of health insurance in order to minimize the negative effect of user fees and to achieve universal coverage. The government established pre-payment health insurance schemes in

order to alleviate the burden of financial cost of health care services for government employees and their family members since 1995. Currently, there are two compulsory social health insurance schemes, the State Authority for Social Security (SASS) for government employees, and the Social Security Organization (SSO) for private employees). In addition, there are two voluntarily health insurance schemes (Community-based Health Insurance (CBHI) for non-poor and informal labour worker, and Health Equity Fund (HEF) for the poor), and free delivery and free healthcare for children under five years.

It was estimated that the coverage of all schemes was only 29 percent of total population or 1,890,247 people in 2015. The data on social protection coverage by each scheme in 2015 indicated that only SASS was able to cover 100 percent of their target population but SSO. CBHI achieved only 4 percent of its target. Therefore, the majority of population has no health insurance and they are directly faced with user fees at point of services (National Health Insurance Bureau, 2015).

There are several factors that constrain the expansion of health insurance coverage in Lao PDR. First, the analysis found that a weak institutional capacity including the lack of resources, unclear roles and mandates, and weak administrative system of institutions responsible for health insurance are critical factors impeding the expansion of health coverage in Lao PDR. Most institutions responsible for health coverage expansion have limited resources, particularly financial resources to perform their duty effectively. They faced budget deficits, unclear roles and mandates of institutions responsible for universal health coverage, poor administrative system, poor contribution collection. Second factor was the weak law enforcement. The expansion of SSO failed to achieve its target simply because private enterprises ignored the law and regulations and state authorities seem to do nothing about it.

Another factor is low capitation. The concerned authorities believed that low capitation fees and high utilization rates have had a significant negative impact on the

expansion of healthcare coverage. In general, contracted hospitals would receive a capitation of around 85,000 LAK per person per year ($10.62 USD/person/year); the current capitation rate can cover only one OPD and about 0.2 to 0.4 IPD per year per person. With small capitation, hospitals are facing significant losses annually. This finding indicates the limitation of capitation payment method to health providers. Low capitation payment partly resulted in hospital financial deficit, limited of health insurance benefit package and drug supplies, and low incentive to provide high quality of the services by physicians.

Perceptions on the issue of copayment were widely divided among the concerned staff in Lao PDR. From the health provider perspective, co-payment should be introduced for two main reasons. First, copayments would help to reduce budget deficit. Second, copayments would help to change the behavior of insured people to reduce unnecessary utilization of health services, and improve reasonable treatment for patients because NHIB can monitor expenditures based on copayments collected in hospital. The literature review revealed that co-payment is one approach to counter consumer moral hazard in health insurance system; co-payment will help to change insured patient behavior on over utilization of the services (Donaldson & Gerard, 2005). On the contrary, most of Lao health policymakers and health insurance implementers are reluctant to introduce copayments. They believe that it will affect health insurance scheme expansion negatively because the public is not ready for copayment.

8.3 Conclusions of the Quantitative Study

8.3.1 Satisfaction with Healthcare Services among Insured and Uninsured Groups

Regarding satisfaction with health services, the study found that the utilization of healthcare services in central hospitals and Xaythany district hospital was very similar between the insured and uninsured households. Both groups preferred to seek healthcare services in central hospitals rather than the district hospital, though it is close to their home.

education, seem to have an effect on insurance status of the household leaders because household leaders with a higher level of education would have a better chance to work in a government office where health insurance is provided for government employees.

However, from this study it may not be possible to conclude that the socio-demographic characteristics of the households have a significant effect on the level of satisfaction with the healthcare services at central hospitals and Xaythany district hospital. It rather suggests that household leaders with health insurance had different levels of satisfaction in some aspects of healthcare services compared to the uninsured group. The only area that the insured group was not satisfied with is drug supplies in central hospitals and Xaythany district hospital. The uninsured group, however, was not satisfied with the overall quality of service, staff attitudes, and waiting time. For the insured group, the dissatisfaction might have come from low capitation given to the hospitals, and the demand for good quality drugs from the insured households. Meanwhile, dissatisfaction in the uninsured group might have arisen from the fact that they get the quality service as expected from direct payment for healthcare services. Both groups might not consider that the hospitals have limited capacity to provide better services. Central hospitals are over-utilized, while the district hospital lacks modern facilities, equipments, and expertise to provide equivalent levels of healthcare as the central hospitals.

8.3.2 Catastrophic Health Expenditure among Insured and Uninsured Households

For catastrophic health expenditure, the analysis found that almost 30 % of the total households surveyed experienced catastrophic health expenditure over the year prior to the survey. The specific analysis of each sup-group showed that uninsured households experienced high proportion of catastrophic health expenditure, which accounted for 34% of the uninsured households surveyed. Similarly, 25.5% of insured households surveyed faced

catastrophic health expenditure over the year. Catastrophic health expenditure mainly came from in-patient (IPD) service, followed by chronic disease and out-patient (OPD) service.

From the findings of the current study, it can be argued that the existing health insurance schemes do not protect insured households enough from catastrophic health expenditure. The explanation for this is that insurance schemes could not afford to cover the cost of treatment of all common diseases due to the low capitation. It also implies that it may be difficult for a volunteer health insurance scheme to persuade target population to join the scheme, because they may not be interested in since being insured does not mean they would not risk having financial hardship from health expenditure.

From the findings of this research, it can be argued that Lao PDR may not be able to achieve universal health coverage and equity access to health care services in the foreseeable future due to two main reasons. First, the government lacks financial resources. It pledged to allocate 9 % of its general expenditures to the health sector in 2012, but it could not be implemented due to scarce financial resources available as discussed in section 4.4.2. Second, the coverage of social protection and health insurance also comprised only 29% of the total population. And the expansion of volunteer health insurance schemes has been facing a number of constraints from institutional to low capitation problems. With limited financial contribution by the government and weak social protection schemes, as discussed in detail in section 4.5, it will be unlikely that Lao PDR will achieve universal health coverage and equity access to health care services in the near future, assuming that the current policies continue.

8.4 Recommendations

The results from this study have important recommendations and policy implications as described below:

It may be suggested based on limited government finance that *more investment on healthcare facilities from the private sector*[20] should be encouraged so that the dependency on public hospitals would be reduced. For the public sector, the government should strive to *improve the quality of healthcare in district hospitals* by providing more modern facilities, equipment, and expertise in order to avoid over-utilization in central hospitals. The government also needs to *improve working principles and ethics of staff in public health facilities* at all levels in Lao PDR. With fair, rapid and good quality of care, both insured and uninsured groups will be more satisfied with healthcare services they receive from public health facilities in Lao PDR.

The quality of healthcare services is very important for the supply of healthcare and health insurance. Poor quality of care in public health facilities (as a main contractor of social health insurance and health insurance scheme in Laos) discourage people to be a member of health insurance. Consequently, the quality of healthcare service from supply for healthcare affects the demand for healthcare and health insurance. The result from this study reveals that the uninsured group was not satisfied with the overall quality of service, staff attitudes, and waiting time, while the insured group was not satisfied with the quality of drugs provided when they use health insurance.

In order to protect both insured and uninsured people from catastrophic healthcare payments, the health insurance managers at both National Health Insurance Bureau and National Social Security Fund should consider revising the payment mechanism to healthcare providers and the cost of healthcare benefit package for insured members. The current costing for capitation limited the capacity to provide a good quality of healthcare services and drugs for insured members. The healthcare services coverage need to be expanded to a more in-depth of services and more service coverage in health insurance so that it can prevent people

from catastrophic high costs of treatment. Furthermore, the provider payment mechanism should be mixed between capitation and case-based payment to increase incentives and the efficiency of providing healthcare services to insured members.

Although, the government approved the Prime Minister's Decree 407 on the National Health Agency, there are two separate institutions to pool funding from different systems. The contribution fund of the formal system was a pool in the Ministry of Labour and Social Welfare as the National Social Security Fund; this fund was allocated with only 2 percent of the total collected fund from the insured to contracted hospital with low capitation payment per insured per year; the rest of the fund goes to the welfare fund. For the contribution fund of informal workers, the fund was pooled in the National Health Insurance Bureau in the Ministry of Health. At the same time, the system still has different benefit package design which cannot implement cross-subsidization between formal and informal workers. There are no clear role and responsibility about how to harmonize the system. *The government should evaluate and take lead to make the two separate systems work together* in order to achieve universal health coverage goal by 2025.

One of the important issues is to improve regulation and law enforcement; both social health protection and health insurance bureaus fail to reach their target population coverage goal due to lack of regulation to deal with companies which do not enroll to social health protection system as mentioned in the prime minister decree number 207 in 2000, especially small companies that have less than 20 employees. As an example of Japan health system, all citizens have to enroll in National Health Insurance system and the government strictly enforced people to follow the law. *Developing the conditions for a well-designed National Health Insurance System requires the participation of the Government and various ministries and state entities.* The Government has to engage in the conceptualization of a health

law based on international models; the Ministry of Health (and other ministries such as Ministry of Planning and Investment, Ministry of Justice and Ministry of Finance) has to work with the NHIB in creating the institutional capacities and professional competences to perform as a health insurance financial institution; the MOLSW and SASS and SSO have to work together with the MOH and the NHIB to develop the financial management capacities for the eventual transfers of the social security health benefits, and for standardizing the benefit packages and their full and also standardized costs; the tax authority has to enforce payment of health insurance contributions by enterprises, public and private; the Ministry of Finance, most importantly, has to secure that the State budget contributions to health insurance to cover the contributions of those with no capacity to pay would be substantial, and that these budgetary contributions have to be sustainable and paid on time and in full.

In the past five years, Lao government has made serous attempts to reach universal health coverage goal by 2025. The health financing strategy 2011-2015 was approved by the National Assembly. The current Health Sector Reform Strategy phase II (2015-2025) was approved by the government. The universal health coverage goal was included in the eighth five-year plan of health sector development and the National Social-Economic Development. However, lack of practical guidelines to implement strategy, weak collaboration from ministry of finance, donors, and political will stop effective implementation. The experience from Thailand shows that universal coverage policy has been continued by 10 prime ministers and 13 ministers of health, they also reform public administration system to have sufficient capacity to implement the universal coverage schemes and enforce firms and informal workers to register in their health insurance system. Therefore, strong political will from government can contribute to achievement of universal health coverage in the country.

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APPENDICES

Appendix 1. List of In-depth Interviewees

Participants	Organization
1. Key Informant 1	- Deputy Director of Department of Finance, Ministry of Health
2. Key Informant 2	- Deputy Director of the National Health Insurance Bureau, Ministry of Health.
3. Key Informant 3	- Head of Health Equity Division, NHIB.
4. Key Informant 4	- Director of National Social Security Bureau, Ministry of Labour and Social Welfare.
5. Key Informant 5	- Head of Administration Division, Department of Budgeting, Ministry of Finance.
6. Key Informant 6	- Head of Health Insurance Division, Vientiane Capital Health Department. - Director of Xaythay District Health Office and Hospital.
7. Key Informant 7	- Deputy Chief of Health Insurance Division, Setthathirath Hospital.
8. Key Informant 8	- Acting Chief of Health Insurance Division, Mahosot hospital.
9. Key Informant 9	- Deputy Chief of Health Insurance Division, Mittaphab Hospital.
10. Key Informant 10	- Head of Health Insurance Accountant, Xaythay District Hospital.
11. Key Informant 11	- Technical Officer of Health Insurance Section, Xaythany District Governor Office.
12. Key Informant 12	- Deputy Chief of Lao Trade Union, Xaythany District Governor Office. - Chief of Registration Division, National Social Security Fund, MOLSW.
13. Key Informant 13	- Chief of Administration Division, National Social Security Fund, MOLSW
14. Key Informant 14	- Technical staff, CBHI Section, Xaythany District Governor Office.
15. Key Informant 15	

Appendix 2. Questionnaires for extensive qualitative interview

The Management of Health Insurance Schemes

First of all, I would like to express my sincere thanks to…… for taking the time to meet with us today. My name is Viengmany Bounkham, a PhD student from Ritsumeikan Asia Pacific University in Japan and I would like to ask you about your organization and its involvement in pursuance of universal health coverage and health equity in Lao PDR, in particular in Xaythany district. This interview is part of the field work of my PhD dissertation which explores the prospects towards universal health coverage in Lao PDR, a case of Xaythany district.

The interview should take less than an hour. And, if possible, I will record it because I don't want to miss any of your comments. However, this is only for research purpose and the information you provide will be kept anonymous. Do you have any questions or comments about what I have just explained?

1. Could you please describe your organization and its functioning?
2. Could you please introduce your job and responsibilities!
3. How does your organization determine the health insurance fee?
4. How is the capitation determined? How is it calculated?
5. What is the process of contracting with health service providers? Please explain!
6. What proportion of total health insurance revenue is given to the health service provider?
7. How does your organization monitor and evaluate the quality of services provided to your customers by the contracted health service provider?
8. How would you describe your organization performance?
9. What are major challenges confronting your organization? Please elaborate (in terms of policy, legislation, public participation and finance)
10. How can the challenges be overcome?
11. What do you think about a co-payment policy for health care? Should it be introduced? If so, what percentage should it be?

Health service Providers

First of all, I would like to express my sincere thanks to…… for taking the time to meet with us today. My name is Viengmany Bounkham, a PhD student from Ritsumeikan Asia Pacific University in Japan and I would like to ask you about your organization and its involvement in pursuance of universal health coverage and health equity in Lao PDR, in particular in Xaythany district. This interview is part of the field work of my PhD dissertation which explores the prospects towards universal health coverage in Lao PDR, a case of Xaythany district.

The interview should take less than an hour. And, if possible, I will record it because I don't want to miss any of your comments. However, this is only for research purpose and the information you provide will be kept anonymous. Do you have any questions or comments about what I have just explained?

Could you please introduce your job and responsibilities!

1. Could you please describe your organization and its functioning?
2. How would you explain the relations between your organization and the health insurance schemes?
3. How does your organization determine the capitation for each insured patient?
4. How does your organization provide health care services to the insured patients? Is there any specific mechanism or system in place?
5. Does your organization provide the same treatment to insured and uninsured people?
6. How would you describe your services in your organization provides to the insured patients? In terms of quality, variety of services and timeliness.
7. What are the major challenges confronting your organization in providing service to insured patients? Overutilization? Inadequate funding?....
8. What does your organization do to improve the quality of service for the insured patients? And what should be done to improve the quality of service for the insured patients?
9. What do you think about co-payment policy for health care service? Should it be introduced? What percentage should it be?

Concerned parties at Ministry of Health

First of all, I would like to express my sincere thanks to…… for taking the time to meet with us today. My name is Viengmany Bounkham, a PhD student from Ritsumeikan Asia Pacific University and I would like to ask you about your organization and its involvement in pursuance of universal health coverage and health equity in Lao PDR, in particular in Xaythany district. This interview is part of the field work of my PhD dissertation which explores the prospects towards universal health coverage in Lao PDR, a case of Xaythany district.

The interview should take less than an hour. And, if possible, I will record it because I don't want to miss any of your comments. However, this is only for research purpose and the information you provide will be kept anonymous. Do you have any questions or comments about what I have just explained?

1. Could you please introduce yourself! Including your job and responsibilities!
2. Could you please describe your organization and its functioning?
3. How would you explain the relations between your organization and the health insurance schemes and health care service providers?
4. How would you describe the government's endeavor to achieve universal health coverage and to promote health equity in Lao PDR?
5. Could you please describe policy, strategies and legislations relevant to universal health coverage andhealth equity?
6. What are the major challenges facing the Lao government to achieve universal health coverage and health equity?
7. What do you think about health insurance schemes in Lao PDR? Are these schemes functioning effectively? What would you like to see change in health insurance schemes?
8. Please describe the sources of funding for universal health coverage and health equity promotion. How significant the role of foreign assistance?
9. What do you think about coordination and cooperation among relevant parties? Between health insurance schemes and health service providers, Ministry of Health and Ministry of Labor and Social Welfare?
10. What do you think about quality of service provided to insured people?
11. In your view, which organization should monitor and supervise the functioning of health insurance schemes and health service providers in providing services to insured people?
12. What do you think about co-payment for health care service? Should it be introduced? and how many percentages should it be?

Vientiane Capital Health Department/Xaythany District Health Office

First of all, I would like to express my sincere thanks to…… for taking the time to meet with us today. My name is Viengmany Bounkham, a PhD student from Ritsumeikan Asia Pacific University and I would like to ask you about your organization and its involvement in pursuance of universal health coverage and health equity in Lao PDR, in particular in Xaythany district. This interview is part of the field work of my PhD dissertation which explores the prospects towards universal health coverage in Lao PDR, a case of Xaythany district.

The interview should take less than an hour. And, if it is possible, I will be recording because I don't want to miss any of your comments. Are there any comments about what I have just explained?

1. Could you please introduce yourself! Including your job and responsibilities!
2. Could you please describe your organization and its functioning?
3. How would you explain the relations between your organization and the health insurance schemes and health care service providers?
4. What does your organization do to achieve universal health coverage health in Xaythany district?
5. What do you think about health seeking behaviors of the people in Xaythany district?
6. What are the major challenges facing your organization to achieve universal health coverage and health equity? Social health protection coverage? Challenges to the expansion of health insurance schemes? Insured people's satisfaction?
7. How can these challenges be overcome?
8. What do you think about health care utilization of insured people in your district?
9. What do you think about co-payment for health care service? Should it be introduced? and how many percentages should it be?

Appendix 3. Information Sheet for Households

Dear participant,

Your household was selected to be sampled household for study on prospects towards universal coverage and equity access to health services in Lao PDR: a case of Xaythany district. We would like interview you and your adult household members. This survey is conducted by researcher from Ritsumeikan Asia Pacific University under Asia Pacific Studies Doctoral Program.

The interview will take approximately 45 minutes. I will ask you questions about:

- Detail about members of your households,
- expenditures and assets,
- Insurance and satisfaction on insurance,
- Health utilization
- Health problems and health care seeking experience,

The information you provide will only be used to understand the satisfaction of beneficiaries of different insurance schemes and equity access to health care services. The information you provide is totally confidential and will not be disclosed to anyone. It will only be used for research purposes. Your name, address, and other personal information will be removed from the questionnaire, and only a code will be used to connect your name and your answers without identifying you. The Survey Team may contact you again only if it is necessary to complete the information on the survey or to collect additional information at a later point in time.

Your participation is voluntary and you can withdraw from the survey after having agreed to participate. You are free to refuse to answer any question that is asked in the questionnaire. If you have any questions about his survey you may ask me directly.

Appendix 4. Consent Forms for Households Consent Forms for Households

1. Do you confirm that you have been informed of this study and what will be required of you if you choose to participate?
   ☐Yes ⟶ move to next question

   ☐No ⟶ go through consent process again and clarify procedures/questions

2. Have your questions concerning this study been answered by the interviewer?
   ☐Yes ⟶ move to next question

   ☐No ⟶ answer any questions that the prospective interviewee may have

3. I understand that at any time I may withdraw from this study without giving reason and without being penalized.
   ☐Yes ⟶ move to next question.

   ☐No ⟶ explain procedures again.

4. I agree to take part in this study.
   ☐ Yes ⟶ begin interview.

   ☐No ⟶ do not proceed with interview.

Thank participant for their time and leave household.

Interviewer: Please confirm that you have followed the consent procedures by Signing this consent indicates that you understand what will be expected of you and are willing to participate in this survey.

Name of Participant Signature of participant	_____ _____
Name of interviewer Signature of interviewver	---------- _____Date: ___(dd)/ __(mm)/ ____(y)

5. Do you confirm that you have been informed of this study and what will be required of you if you choose to participate?

   ☐Yes ⟶ move to next question

   ☐No ⟶ go through consent process again and clarify procedures/questions

6. Have your questions concerning this study been answered by the interviewer?

   ☐Yes ⟶ move to next question

   ☐No ⟶ answer any questions that the prospective interviewee may have

7. I understand that at any time I may withdraw from this study without giving reason and without being penalized.

   ☐Yes ⟶ move to next question.

   ☐No ⟶ explain procedures again.

8. I agree to take part in this study.

   ☐ Yes ⟶ begin interview.

   ☐No ⟶ do not proceed with interview.

Thank participant for their time and leave household.

Interviewer: Please confirm that you have followed the consent procedures by Signing this consent indicates that you understand what will be expected of you and are willing to participate in this survey.

Name of Participant Signature of participant	_____ _____
Name of interviewer Signature of interviewer	---------- _____Date: ___(dd)/ __(mm)/ ____(y)

Appendix 5. Ethical Approval Notice and Permission letters for data collection

Lao People's Democratic Republic
Peace Independence Democracy Unity Prosperity
===== 000 =====

Ministry of Health
National Institute of Public Health
National Ethics Committee
For Health Research (NECHR)

No. 076 NIOPH/NECHR

Approval Notice

Viengmany BOUNKHAM
Email : ktbounkham@gmail.com
Phone: +85620 55614916

RE: " Prospects Towards Universal Health Coverage and Equity Access to Healthcare Services in Lao PDR: a case of Xaythany district, Vientiane Capital "

Dear Dr. Viengmany BOUNKHAM,
Members of the Ethics Committee of the Lao People's Democratic Republic (PDR) have reviewed and approved your research.

Please note the following information about your approved research protocol:

Approval period: Jan 2016 – Jan 2017
Approved Subject Enrollment: All sample size available
Sponsor: Ritsumeikan Asi Pacific University

Implementing Panel/Project Investigator: Dr. Viengmany BOUNKHAM

Please note that the Ethics Committee reserves the right to ask for further questions, seek additional or monitor the conduct of your research and consent process.

Vientiane Capital 13 JAN 2016
Director General
National Institute of Public Health

ຮອງສາດສະດາຈານ ດຣ ກອງສັບ ອັກຄະວົງ
Assoc Prof Dr Kongsap AKKHAVONG

ສາທາລະນະລັດ ປະຊາທິປະໄຕ ປະຊາຊົນລາວ

ສັນຕິພາບ ເອກະລາດ ປະຊາທິປະໄຕ ເອກະພາບ ວັດທະນະຖາວອນ

ກະຊວງສາທາລະນະສຸກ
ຫ້ອງການ

2037
ເລກທີ...../ສທ.ຫກ

ນະຄອນຫຼວງວຽງຈັນ, ວັນທີ....24 DEC 2015

ໜັງສືສະເໜີ

ຮຽນ: ທ່ານ ຫົວໜ້າກົມງົບປະມານ ກະຊວງການເງິນ
ເລື່ອງ: ຂໍຂໍ້ມູນກ່ຽວກັບງົບປະມານພາກລັດຕໍ່ຂະແໜງການສາທາລະນະສຸກ

ຫ້ອງການ ກະຊວງສາທາລະນະສຸກ ເຫັນດີໃຫ້ທ່ານ ດຣ .ນ. ວຽງມະນີ ບຸນຄໍ້ , ຮອງຫົວໜ້າພະແນກ ຮ່ວມມືສາກົນ, ກົນແຜນການ ແລະ ການຮ່ວມມືສາກົນ , ກະຊວງສາທາລະນະສຸກ ດຳເນີນການເກັບກຳຂໍ້ມູນງົບປະມານພາກລັດຕໍ່ຂະແໜງການສາທາລະນະສຸກແຕ່ລະສົກປີງົບປະມານເພື່ອນຳໃຊ້ເຂົ້າໃນການສຶກສາຄົ້ນຄວ້າ ແລະ ວິໄຈໃນລະດັບປະລິນຍາເອກ ທີ່ປະເທດຍີ່ປຸ່ນ ໃນຫົວຂໍ້ **'Prospects Towards Universal Health Coverage and Equity Access to Health Services in Lao PDR: a case of Xaythany district'** ເຊິ່ງຜົນການຄົ້ນຄວ້າດັ່ງກ່າວ ຈະເປັນປະໂຫຍດໃຫ້ແກ່ລັດຖະບານໃນການວາງແຜນນະໂຍບາຍການລ້ຽງຕ້ຳລະບົບປະກັນສຸຂະພາບແຫ່ງຊາດ ແລະ ການເຂົ້າເຖິງການບໍລິການສຸຂະພາບທີ່ເປັນທຳ; ພ້ອມກັນນັ້ນ, ຜົນຂອງການຄົ້ນຄວ້ານີ້ຍັງເປັນປະໂຫຍດໃນການວາງແນວທາງ ແລະ ປັບປຸງລະບົບບໍລິການສາທາລະນະສຸກ ເພື່ອກ້າວໄປສູ່ລະບົບປະກັນສຸຂະພາບຖ້ວນໜ້າຕາມແຜນການ 5 ປີຄັ້ງທີ 7 ຂອງຂະແໜງການສາທາທີ່ໄດ້ວາງອອກ.

ສະນັ້ນ, ຈຶ່ງສະເໜີມາຍັງທ່ານພິຈາລະນາອະນຸຍາດໃຫ້ຜູ້ກ່ຽວເກັບກຳຂໍ້ມູນຕາມທາງຄວນດ້ວຍ.

ຫວັງຢ່າງຍິ່ງວ່າຄົງຈະໄດ້ຮັບຄວາມຮ່ວມມືຈາກທ່ານ.
ດ້ວຍຄວາມນັບຖືຢ່າງສູງ.

ຫົວໜ້າຫ້ອງການ

ດຣ.ບຸນແຝງ ພູມມະໄລສິ

ສາທາລະນະລັດ ປະຊາທິປະໄຕ ປະຊາຊົນລາວ

ສັນຕິພາບ ເອກະລາດ ປະຊາທິປະໄຕ ເອກະພາບ ວັດທະນະຖາວອນ

ກະຊວງສາທາລະນະສຸກ
ຫ້ອງການ

ເລກທີ 2037 /ສທ.ຫກ

ນະຄອນຫຼວງວຽງຈັນ, ວັນທີ 24 DEC 2015

ໜັງສືສະເໜີ

ຮຽນ: ທ່ານ ຫົວໜ້າຫ້ອງການສູນປະກັນສຸຂະພາບແຫ່ງຊາດ ກະຊວງແຮງງານ ແລະ ສະຫວັດດີການສັງຄົມ

ເລື່ອງ: ຂໍຂໍ້ມູນກ່ຽວກັບຈຳນວນຜູ້ປະກັນຕົນຂອງປະກັນສຸຂະພາບ

ຫ້ອງການ ກະຊວງສາທາລະນະສຸກ ເຫັນດີໃຫ້ ທ່ານ ດຣ .ນ. ວຽງມະນີ ບຸນຄ້ຳ , ຮອງຫົວໜ້າພະແນກຮ່ວມມືສາກົນ, ກົນແຜນການ ແລະ ການຮ່ວມມືສາກົນ, ກະຊວງສາທາລະນະສຸກ ດຳເນີນການເກັບກຳຂໍ້ມູນຈຳນວນຜູ້ປະກັນຕົນຂອງປະກັນສຸຂະພາບເພື່ອນຳໃຊ້ເຂົ້າໃນການສຶກສາຄົ້ນຄວ້າ ແລະ ວິໄຈໃນລະດັບປະລິນຍາເອກ ທີ່ປະເທດຍີ່ປຸ່ນ ໃນຫົວຂໍ້ **'Prospects Towards Universal Health Coverage and Equity Access to Health Services in Lao PDR: a case of Xaythany district'** ເຊິ່ງຜົນການຄົ້ນຄວ້າດັ່ງກ່າວ ຈະເປັນປະໂຫຍດໃຫ້ແກ່ລັດຖະບານໃນການວາງແຜນນະໂຍບາຍການສ້າງຕັ້ງລະບົບປະກັນສຸຂະພາບແຫ່ງຊາດ ແລະ ການເຂົ້າເຖິງການບໍລິການສຸຂະພາບທີ່ເປັນທຳ ; ພ້ອມກັນນັ້ນ, ຜົນຂອງການຕົ້ນຄວ້ານີ້ຍັງເປັນປະໂຫຍດໃນການວາງແນວທາງ ແລະ ປັບປຸງລະບົບບໍລິການສາທາລະນະສຸກ ເພື່ອກ້າວໄປສູ່ລະບົບປະກັນສຸຂະພາບຖ້ວນໜ້າຕາມແຜນການ 5 ປີຄັ້ງທີ 7 ຂອງຂະແໜງການສາທາທີ່ໄດ້ວາງອອກ.

ສະນັ້ນ, ຈຶ່ງສະເໜີມາຍັງທ່ານພິຈາລະນາອະນຸຍາດໃຫ້ຜູ້ກ່ຽວເກັບກຳຂໍ້ມູນຕາມທາງຄວນດ້ວຍ.

ຫວັງຢ່າງຍິ່ງວ່າຄົງຈະໄດ້ຮັບຄວາມຮ່ວມມືຈາກທ່ານ.

ດ້ວຍຄວາມນັບຖືຢ່າງສູງ.

ຫົວໜ້າຫ້ອງການ

ດຣ.ບຸນແຜ ພູມມະໄລສິດ

Appendix 6. Household survey questionnaires

I. Coversheet

A	Household ID:	(data analyst)
A00	Health insurance (1= CSS, 2= SHI, 3= CBHI, 4= HEF, 5= private insurance, 6= others/aboard, 7 = uninsured	
A01	household leader's name	
A02	Household number	
A03	Village code (1=Thangon, 2=Ban Na, 3= Phoukham, 4= Hadkieng, Thasommor, 6= Nasala, 7=Dongbang, 8= Ladkhouay, 9= Vernkham, 10= Nongseum)	
A04	District (1=Chanthabouly, 2=Sikhodtabong, 3=Saysettha, 4=Sisattanak, 5=Nasaithong, 6=Xaythany, 7=Hadsaifong, 8=Sangthong, 9=Pakngum)	
A05	Province (Vientiane capital)	
A06	Name of interviewer	
A07	ID of interviewer	
A08	Date of interview	__ (dd) / __ (mm) / 2015
A09	questionnaire result code (1= good, 2= need revision)	(supervisor)
	Signature of supervisor	(supervisor)
A10	Date of editing	__ (dd) / __ (mm) / 2007 (supervisor)
	Date entry	
A 11	1st data entry:	__ (dd) / __ (mm) / 2007 (Researcher)
A 12	2nd data entry:	__ (dd) / __ (mm) / 2007 (Researcher)

Notes:

- If the respondent cannot provide information or "don't know" record "99".
- If the value = 0 such as no expense, record "00".
- The money value should be recorded in x, 000,000 format.

The money in Baht will be calculated in Kip using the market rate of exchange of June 2007. If the question was skipped, leave the space for answer blank.

II. Household members, socio-economic and consumption profiles (99= don't know)

2.1 Demographic information How many members are there in your household? *Circle the number around the corresponding number.*

	Q1	**Q2**	**Q3**	**Q4**		**Q5**	**Q6**
number	Household member First and last name, start with household head	What is your relationship with head of household?	What gender you are?	How old are you?		What is your marital status?	What is your ethnic?
		1 = head of household, 2 = spouse of head household, 3 = parents, parents in law, 4 =son /daughter and in-law, 5 =brother/sister and in-law, 6 =grandson/daughter 7 =others	1 male 2 female	**Q5.1** Age Record in unit of year, If less than 1 year, record as "00	**Q5.2** Age Record in unit of month, If younger than 1 month, record as "00"	1 = never married, 2 = married, 3= separated, 4 = divorced, 5 = widowed, 6= other (please specify) (for those younger than 9 years old, record "1")	1=Lao 2= Phouthai 3= Tai 4=Leu 5=Yuan 8=Thaineua 9=Kuammu 41=Akha 47=Hor 48=Hmong 50=others
1							
2							
3							
4							
5							
6							
7							
8							
9							

2.2 Education and occupation *(99= don't know)*

Q1	**Q7**	**Q8**	**Q9**	**Q10**	**Q11**	**Q12**
number	What is the highest level of education that you have completed?	Are you still a full-time student?	During last 7 days what is your main job?	What type of business?	Income per month?	For did not work, what did you do?
	1 = no formal school (go to **Q9**), 2 = kindergarten 3 =primary school but not completed, 4 = primary school completed, 5 = secondary school completed, 6 = high school (or equivalent) completed, 7 = college/pre-university completed 8 = university completed, 9 = post graduate completed,	1 = yes, 2 = no,	1 = government employee, 2 = state enterprise employee, 3 = private employee 4 = employer, 5 = temporary employee 6 = self-employed, (choose 1-6 go to **Q10**-**Q13**) 7 = non-paid work (go to **Q10**, **Q13**) 8= did not work (go to **Q12**, **Q13**)	1= Trade 2= Production 3=Common work 4=Services 5=Others	_____ kip (record net income i.e. income minus expenditure of running the business) If **Q9** answer "7" record the household net income in head of household's row	1 = studies/training 2 = homemaker/ care for family/ children, 3 = retired/ too old to work, 4 = disability, 5 = ill health, 6 = waiting for employer, 7 = looked but can't find a job 8 = others (please specify)
1						
2						
3						
4						
5						
6						
7						
8						

2.3 consumption and expenditure

2.3.1 Food consumption [this includes food consumption from own produced and purchase from outside]

	Kilogram /week	Price (kip per kilogram)
Q13. Normally, how many kilogram of rice your household eat per week?	**Q13.1**	**Q13.2**
Q14. Normally, how many kilogram of sticky rice your household eat per week?	**Q14.1**	**Q14.2**
Q15. Normally, how many kilogram of meat (all kinds of animal meat except fish) your household eat per week?	**Q15.1**	**Q15.2**
Q16. Normally, how many kilogram of fish your household eat per week?	**Q16.1**	**Q16.2**
Q17. Normally, how many kilogram of vegetable your household eat per week?	**Q17.1**	**Q17.2**
Q18. Normally, how many kilogram of fruit your household eat per week?	**Q18.1**	**Q18.2**

Q19 Yesterday, how much you paid for eating out? _____Kip

number	**Q19.1** For breakfast	**Q19.2** For lunch	**Q19.3** For dinner
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

2.3.2 Expenditure on following items:

Q20 In last 12 month, Did your household buy, or spending on repairing following item? (ask all items if answer "yes", record number and average price/piece or time of reparing, if answer "no" ask next item)

code	item	1= yes 2= no **Q20**	Number of piece or time **Q20.1**	Value __Kip/piece or time **Q20.2**	code	item	1= yes 2= no **Q20**	Number of piece or time **Q20.1**	Value __Kip/piece or time **Q20.2**
	Furniture				s.	Other (please specify)			
a.	Bed				t.	Repairing household appliance			
b.	Table and chair				u.	Repairing or expanding house (include labor cost and material cost)			
c.	Closet								
D	Dinner table and chair (set)					**Vehicles**			
e.	Living room suite				v.	Large vehicles (car, van, pickup truck)			
f.	Cupboard				w.	Motorcycle			
g.	Bench				x.	Bicycle			
H	Printing cloth				y.	Other (please specify)			
i.	Light bulb, table sheet, mat, picture					**Watch, and ornaments**			
J	Other (please specify)				z.	Watch			

K	Repairing furniture				aa.	Ornament (jewelry, ring, gold necklace, bracelet)			
.	**Household appliances**				ab.	Repairing watch and ornaments			
l.	Electric stove with oven								
m.	Refrigerator					**Air ticket**			
n.	Electric iron				ac.	Domestic air ticket			
o.	Air conditioner				ad	International air ticket			
p.	Electric fan				ae	**Expense in staying abroad**			
q.	Sewing machine								
r.	Washing machine								

2.3.2 Expenditure on following items:

Q20 In last 12 month, Did your household buy, or spending on repairing following item? (ask all items if answer "yes", record number and average price/piece or time of reparing, if answer "no" ask next item)

code	Item	1= yes 2= no **Q20**	Number of piece or time **Q20.1**	Value __Kip/piece or time **Q20.2**
	Radio, television, camera and others			
af.	Radio/tape player			
ag.	Television			
ah.	Antenna			
ai.	VDO/VCD, DVD player			
aj.	Camera			
ak.	Musical instruments			
al.	Computer and relevant equipments/accessories			
am.	Telephone/ mobile telephone			
an.	Other (please specify)			
ao.	Repairing these items			
ap.				

Q21. **In last one month, how much your household had spent on follwoing items? _____ Kip**

Q	number	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Item														
Q21.1	Transportation (exclude by air), petrol, fare of public transport														
Q21.2	Communication including telephone bill														
	Public utility, fuel (cooking gas, charcoal, firewood)	**Q21.3** water _____				**Q21.4** electricity _____				**Q21.5** fuel _____					
Q21.6	Other expense such as land rent for housing section, education expense, personal expense, donation, contribution to funeral fund (not health fund), self-help fund, others please specify Kip														

2.4 Asset, saving, debtor, and debt:

2.4.1 Ownership of durables (ask all items if answer "yes", record number and average price Kip/piece, if answer "no" ask next item)

Q22 Does your household have following items? If household doesn't have, ask next item. If household does not own that item, it does not need to ask for value.				If you would sell this item, how much money you will get?	**Q22** Does your household have following items? If household doesn't have, ask next item. If household does not own that item, it does not need to ask for value.				If you would sell this item, how much money you will get?
id	item	1=have, 2=not have **Q22**	Number of self own, **Q22.1**	Selling value ____Kip Or buying value (Kip)/ year **Q22.2**	id	item	1=have, 2=not have **Q22**	Number of self own, **Q22.1**	Selling value ____Kip Or buying value (Kip)/ year **Q22.2**
a.	Land		m^2		q.	Agriculture equipments			
b.	Business building				r	hammer large/small			
c.	Agriculture building				s.	boat			
	Transportation vehicles				t	Fishing net/			
d.	Vehicle (e.g. car)				u	cart			
e.	Motorcycle					Television, radio, telephone			
f.	Bicycle				v.	telephone			
g.	tricycle				w.	radio			
	Household utensils				x.	Fix line telephone			
h.	Refrigerator				y.	Mobile telephone			
i.	Sewing machine					others			
j.	Washing machine				z.	Satellite receptor			
k.	Vacuum				aa.	Computer			

	machine								
l.	Rice cooker				ab.	Air conditioner			
m.	Rice streamer				ac.	Electric fan			
n.	Other kitchen utensils				ad	Ornament such as watch, jewelry			
	Equipments for business and agriculture activities				ae	Bed net			
o.	Two-wheeled tractor				af	Others such as cattle (please specify)			
p.	Four-wheeled tractor								

2.4.2 Housing materials

Q23	**Q24**	**Q25**	**Q26**	**Q27**	**Q28**	**Q29**	
What is type of ownership with your house? 1 = I own this house, 2= I own this house, but I rent the land. 3 = I rent this house , (go to **Q29**) 4 = I stay without rent. (go to **Q29**) 5 = others please specify	What is wall of your house made of ? 1 = brick, 2 = concrete, 3 = clay without being baked, 4 = wood, 5 = bamboo 6 = galvanized sheet, 7 = plywood 8 = grass, leaf 9. other, specify ……	What is roof of your house made of ? 1 = concrete, 2 = wood, 3 = galvanized iron, 4 = cement tile/ CPAC, 5 = grass, leaves, 7 = other please specify ……	What is floor of your house made of ? 1 = stone/ marble, 2 = cement/ 3 = concrete/ baked clay, 4 = wood, 5 = bamboo/ 6 = soil/ clay, 7 = other please specify ……	How long have you stayed in this house? If longer than 3 years, do not need to specify months.	How much is area of your house? Include only housing part, Exclude kitchen, toilet, land for agriculture, business, land for renting, non-use land _____ square meter	How much it costs, if someone wish to rent your house? (kip)	
						Q29.1 rent of the house	**Q29.2** rent of the land

2.4.3 Saving

Q30 Does your household have any saving? 1= yes, 2= no (go to Q32)	
Q31 what type of saving and how much is it? Please specify	

2.4.4 Debtor

Q32 Does your household have any debtor? 1= yes, 2= no (go to Q34)	
Q33 what type of debtor and how much is it? Please specify	

2.4.5 Debt/loan

Q34 Does your household have any debt? 1= yes, 2= no (go to next section)	
Q35 what type of debt and how much is it? Please specify	
Q36 Reason for having debt was to pay for medical care and relevant expenses? 1= yes, 2= no (please specify)	

III. Health insurance coverage and satisfactions

3.1 Current insurance *"99" = don't know*

1	**Q2**	**Q3**		**Q4**		**Q5**				
number	Are you covered by any health insurance? 1 = yes, 2 = no (go to **Q6**)	What scheme it is? 1 = CSS, 2 = SHI, 3 = CBHI, 4 = HEF, 5 = Private insurance company, please specify (AGL,…….) 6 = other such as self help fund please specify (Aboard,……..) 7= Uninsured		How much is contribution rate (salary) of your insurance scheme? = ___ % of salary = ____ Kip per month "99"= don't know		How much are you satisfied with your current insurance scheme? (ask all issues) 1 = very satisfied, 4 = not satisfied, 2 = satisfied, 5 = very not satisfied 3 = no different,				
						Overall **Q5**	contribution rate **Q5.1**	benefit package **Q5.2**	Claim processing **Q5.3**	Choice of healthcare providers **Q5.4**
		1st	2nd	**Q4.1** __%	**Q4.2** __kip	__/__	___/___	___/___	___/___	___/___
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										

3.2 Ex-member of insurance schemes? 99" = don't know

1	**Q6**	**Q7**	**Q8**						
Number	Are you ex-member of any health insurance? 1 = yes, 2 = no (go to **Q9**)	What insurance it is? 1 = CSS, 2 = SHI, 3 = CBHI, 4 = HEF, 5 = Private insurance company, please specify (AGL,……..) 6 = other such as self help fund please specify (Aboard,……) 7= Uninsured.	Why did you quit the scheme? (do not read the issues below, summarize from the respondent's answer)						
			a. I resigned/ quitted from my job 1 = yes, 2 = no **Q8.1**	b. premium was too high, 1 = yes, 2 = no **Q8.2**	c. financial liquidity problem 1 = yes, 2 = no **Q8.3**	d. small benefit package 1 = yes, 2 = no **Q8.4**	e. limited choice of provider 1 = yes, 2 = no **Q8.5**	f. did not use the health care facility 1 = yes, 2 = no **Q8.6**	g. others please specify **Q8.7**
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									

3.3 Attitude towards Community Based Health Insurance [interview only the head of household]

Q9 Have you ever heard of CBHI? 1 = yes, 2 = no	
Q10 Are you interested to listen to information about CBHI? 1 = yes (read following information, 2 = no go to **Q11**)	

Q11	**Q12**		**Q13**				
Are you interested to join CBHI? 1 = yes, 2 = no, (go to **Q13**)	a. How much contribution per year do you afford to pay for CBHI membership to cover all members of households (yourself, your spouse and your children under 18)? _____ Kip per year **Q12.1**	b. preferable time period to pay contribution, 1 = every month, 2 = every 2 months, 3 = every 3 months, 4 = every 4 months, 5 = every 6 months, 6 = once a year, **Q12.2**	Why you are not interested to be CBHI member?				
			a. not afford to pay for premium 1 = yes, 2 = no **Q13.1**	b. I am healthy, less likely to use health services 1 = yes, 2 = no **Q13.2**	c. poor quality of health services 1 = yes, 2 = no **Q13.3**	d. the limited choices of health care provider 1 = yes, 2 = no **Q13.4**	e. please specify **Q13.5**

IV. Illness of household members and satisfaction with health services:

4.1 Out patient services:

1	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**
number	In the <u>last 1 month</u>, did you get ill? 1 = yes, 2 = no, (go to <u>section 4.2</u>)	How many times did you get ill? ____ illnesses	Did the last illness affect your working or daily life activity? 1 = yes, 2 = no, (go to **Q6**)	If yes, how many day did your work or daily life activity be affected by the illness? _____ days	Did you seek care for the last illness? 1 = yes, (go to **Q8**) 2 = no	Why you did not seek care? 1 = mild illness, 2 = difficulty in seeking care (no transportation), 3 = expensive transportation cost, 4 = expensive health-care cost, 5 = poor quality of health care service, 6 = did not know where to go, 7 = others (please specify) (All choices go to <u>section 4.2</u>)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

4.1 outpatient services (continued): Respondent can answer up to three choices in seeking care for last illness.

	Q8	**Q9**			**Q10**			**Q11**			**Q12**	**Q13**		**Q14**
No	For your last illness, what kind of illness it was?	Where did you seek care? 1 = central hospital, 2 = provincial hospital 3 = district hospital, 4 = health center, 5 = private clinic, 6 = clinic or hospital abroad, 7 = private doctor or private nurse 8 = private pharmacy, 9 = midwife, 10 = Village Health Volunteer, 11 = traditional healer, 12 = traditional birth assistance 13 = drug from relatives, 14 = grocery 15 = others (please specify)…….			Who paid for the curative cost of your last illness? 1 = out of household's pocket, 2 = CSS, 3 = SHI, 4 = CBHI, 5 = private insurance, 6 = employer provided benefit 7 = other please specify,			How much you pay for the last illness? ____ Kip (record the net amount i.e. the amount paid minus the amount reimbursable),			How much you paid for the transportation for seeking care of the last illness, include transportation cost of accompanies? ____ Kip	How many person-days who accompanied you in the last illness? ____person-day		How much did you pay for other cost such as food and lodging during seeking care for the last illness? ___ Kip
		1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd		Person **Q13.1**	Day **Q13.2**	

4.1 outpatient services (continued): Respondent can answer up to three choices in seeking care for last illness.

	Q8	**Q9**			**Q10**			**Q11**			**Q12**	**Q13**		**Q14**
Number	For your last illness, what kind of illness it was?	Where did you seek care?			Who paid for the curative cost of your last illness?			How much you pay for the last illness? ____ Kip (record the net amount i.e. the amount paid minus the amount reimbursable),			How much you paid for the transportation for seeking care of the last illness, include transportation cost of accompanies? ____ Kip	How many person-days who accompanied you in the last illness? ____person-day		How much did you pay for other cost such as food and lodging during seeking care for the last illness? __ Kip
		1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd		Person **Q13.1**	Day **Q13.2**	
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														

4.2 Inpatients in the last 12 month:

1	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**		**Q9**	**Q10**		**Q11**
number	During <u>last 12 months</u>, have you been admitted to hospitals? 1 = yes, 2 = no (go to <u>section 4.3</u>)	How many admissions? ____ admissions	For the last admission where were you admitted? 1 = central hospital, 2 = provincial hospital 3 = district hospital, 4 =health center, 5 = private clinic, 6 = clinic / hospital abroad 7 = others (please specify)…….	What type of illness it was?	For last admission, how long were you admitted in the hospital? (days)	Who paid for the curative cost of your last admission? 1 = out of household's pocket, 2 = CSS, 3 = SHI, 4 = CBHI, 5 = private insurance, 6 = employer provided benefit 7 = other please specify, (maximum two answers)	How much you paid for the last admission? _____ Kip (record the net amount i.e. the amount paid minus the amount reimbursable)		How much you pay for the transportation for seeking care of the last admission? ___Kip	How many person-days who accompanied you in the last admission? (person-day)		How much other costs did you pay during seeking care for the last admission? ___ Kip (such as food, lodging)
							Hospital bill **Q8.1**	Informal payment **Q8.2**		Person **Q10.1**	Day **Q10.2**	

4.2 Inpatients in the last 12 month (continued):

1	Q2	Q3	Q4	Q5	Q6	Q7		Q8		Q9	Q10		Q11
number	During last 12 months, have you been admitted to hospitals? 1 = yes, 2 = no (go to section 4.3)	How many admissions? ____ admissions	For the last admission where were you admitted?	What type of illness it was?	For last admission, how long were you admitted in the hospital? (days)	Who paid for the curative cost of your last admission? (2 maximum answer)		How much you paid for the last admission? _____ Kip (record the net amount i.e. the amount paid minus the amount reimbursable)		How much you pay for the transportation for seeking care of the last admission? ___Kip	How many person-days who accompanied you in the last admission? (person-day)		How much other costs did you pay during seeking care for the last admission ? ___ Kip (such as food, lodging)
						1st	2nd	Hospital bill	Informal payment		person	day	
1													
2													
3													
4													
5													
6													
7													
8													

4.3. Long-term Illness

1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
No.	Do you have any long-term illness, disability or have permanent mark from an accident? Yes=1 No=2 (if no go to Q5)	Does this affect your ability to work/go to school or conduct other daily activities Yes=1 No=2	During the past 4 weeks how many days with your primary daily activities were missed due to poor health? …….Days	Where did you seek care? 1=Central hospital, 2=Provincial hospital, 3=District hospital, 4=Health center, 5=Private clinic, 6 = clinic / hospital abroad 7 = others (please specify)…….	Who paid for the curative cost of your last admission? 1 = out of household's pocket, 2 = CSS, 3 = SHI, 4 = CBHI, 5 = private insurance, 6 = employer provided benefit 7 = other please specify, (maximum two answers)	How much you pay for the last illness? ……..Kip (record the net amount)	How much you pay for transportation? ……Kip	How namy person-days who go to health facilities with you? …… Person-day	How much did you pay for food or other costs? ……Kip
1									
2									
3									
4									
5									
6									
7									
8									
9									

4.4 Satisfaction with health care facilities [interview with the head of household only]

		Q1	**Q2**					
	In the last 12 months, did you ever use out-patient service in	1 = yes 2 = no (go to next level of care)	In the _____ hospital, how did you rate 1 = very satisfied, 2 = satisfied, 3 = somewhat satisfied, 4 = not satisfied, 5 = not satisfied at all					
			Overall quality of service **Q2.1**	Staffs' skill for your treatment? **Q2.2**	Adequacy of equipments **Q2.3**	Adequacy of drug supplies **Q 2.4**	Staff courtesy, treated with respect, explained thing clearly **Q2.5**	Duration of waiting time **Q2.6**
a	University hospital	**Q1A**						
b	Provincial hospital	**Q1B**						
c	District hospital	**Q1C**						
d	Health centre	**Q1D**						

If the household did not admit in last 12 months go to Q5

		Q3	**Q4**					
	In the last 12 months, did you ever use in-patient service in	1 = yes 2 = no (go to next level of care)	In the _____ hospital, how did you rate 1 = very satisfied, 2 = satisfied, 3 = somewhat satisfied, 4 = not satisfied, 5 = not satisfied at all					
			Overall quality of service **Q4.1**	Staffs' skill for your treatment? **Q4.2**	Adequacy of equipments **Q4.3**	Adequacy of drug supplies **Q 4.4**	Staff courtesy, treated with respect, explained thing clearly **Q4.5**	Duration of waiting time **Q4.6**
a	University hospital	**Q3A**						
b	Provincial hospital	**Q3B**						
c	District hospital	**Q3C**						
d	Health centre	**Q3D**						

4. Reason for treating worse, interview with the head of household only:

If your household did not seek health services during last 12 months, go to section 5.2 Q4.

Q5 In the last 12 months, did you were treated worse by health staffs during seeking care? 1 = yes, 2 = no (go to section 5) _____

Q6 In the last 12 months, you or your household members were treated worse by health care providers because of your/their *(do not read the issues below, summarize from the respondent's answer)*							
Sex 1 = Yes, 2 = no **Q6.1**	Age 1 = Yes, 2 = no **Q6.2**	Lack of money 1 = Yes, 2 = no **Q6.3**	Insurance scheme 1=yes, 2 = no **Q6.4**	Social class 1 = Yes, 2 = no **Q6.5**	Type of illness 1 = Yes, 2 = no **Q6.6**	Ethnic group 1 = Yes, 2 = no **Q6.7**	Other Please specify **Q6.8**
			Please specify Q6.4.1 _____ _____				

V. Coping with illness cost and welfare loss in family

5.1 Coping with high cost of health expenditure [interview with the head of household only] *If your household did not seek health services during last 12 months, go to Q4.*

Q1 In the last 12 months, did you or your family members have difficulty to pay for medical care, including transportation, food and lodging? 1 = Yes, 2 = no (go to **Q4**)	**Q2** How much is that cost? Approximate ___Kip	**Q3** What did you do in order to cope with this difficulty? *(do not read the issues below, summarize from the respondent's answer)*							
		Stop seeking further care 1 = yes, 2 = no **Q3.1**	Use saving to pay for the cost 1 = yes, 2 = no **Q3.2**	Selling assets such as animals, jewelry to pay for the cost 1 = yes, 2 = no **Q3.3**	Borrowing from family and relatives 1 = yes, 2 = no **Q3.4**	Borrowing from informal Loan with interest 1 = yes, 2 = no **Q3.5**	Put in the hospital's debt list and pay later 1 = yes, 2 = no **Q3.6**	Reduce food or other household expenditure 1 = yes, 2 = no **Q3.7**	Other (please specify) …… …….. such as seek additional work, withdraw from school, etc **Q3.8**

5.2 Profile of welfare loss due to in-access to care among family members [interview with the head of household only]

Q	Questions	Interview results
Q4	In last 5 years, was there any deaths or disability in your household? 1 = yes, 2 = no (go to **Q8**)	
Q5	Did that member seek care before pass away or before being disables? 1=yes (go to **Q8**), 2=no *If the patient was not sent to next referral health services it indicated inadequate health care.*	
	please provide detail of that member and illness [not more than 2 cases]	

5.2 Profile of welfare loss due to in-access to care among family members [interview with the head of household only]

	1st case	
Q6.1	Age	**Q6.11**_____year, or **Q6.12**_____months (for member below one year old)
Q6.2	Gender (1 = male, 2 = female)	
Q6.3	Chronic condition (1 = yes provide detail, 2 = no)	
Q6.4	What kind of sickness? 1 = fever, 6. burn 2 = diarrhea, 7. bleeding, 3 = cough, 8. fracture, , 4 = relating to pregnancy, 9. chest pain 5 = relating to laboring, 10.,others please provide detail,	
Q6.5	Why he/she did not seek care? [more than one answer] 1 = no transportation, 2 = high transport cost 3 = high medical cost, 4 = no companions 5 = not willing to go due to poor quality of care, 6 = other (please specify)	
Q6.6	Outcome: 1 = death, 2 = totally bed ridden, 3 = loss of limb or cannot walk, 4 = blindness, 5 = deafness, 6 = other disability (please specify)	
Q6.7	What might be outcome if he/she was able to get care? 1 = no difference between treat and not treat 2 = would be slightly better if treated 3 = would be much better if treated 4 = don't know, cannot estimate	

VI. General opinion

Q8 Do you have any suggestion on how to improve health insurance and health care providers?

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Thank you for your time

Photos of field Research
Extensive in-depth interview

Field research at 10 villages in Xaythany district (Cross sectional household survey)

1. Xaythany district hospital

2. Thangon and Dongmakkhai villages

3. Thasawavg village

4. Phoukham village

4. Vernkham village

5. Na and Nasal villages

6. Dongbang village

7. Ladkhouay village

8. Hai village