Chapter 5

RESULTS AND DISCUSSIONS

According to the methodology outlined in the previous chapter, the utilization of health care services and the coverage of voluntary health insurance in Vietnam during 1993-1997 were assessed. This chapter provides the results of the analysis to identify the factors that influence the enrollment of voluntary health insurance.

5.1 The assessment of Voluntary Health Insurance Coverage.

By the end of 1997, members of health insurance reached almost 10 million, accounting for 12.62% of the population with the 1997's growth rate of 151% in comparison with that of 1993. This shows that there are more and more people participating in the health insurance system and getting welfare benefit from the health insurance. It also illustrates the health insurance system in this current phase. (see Table 5.1)

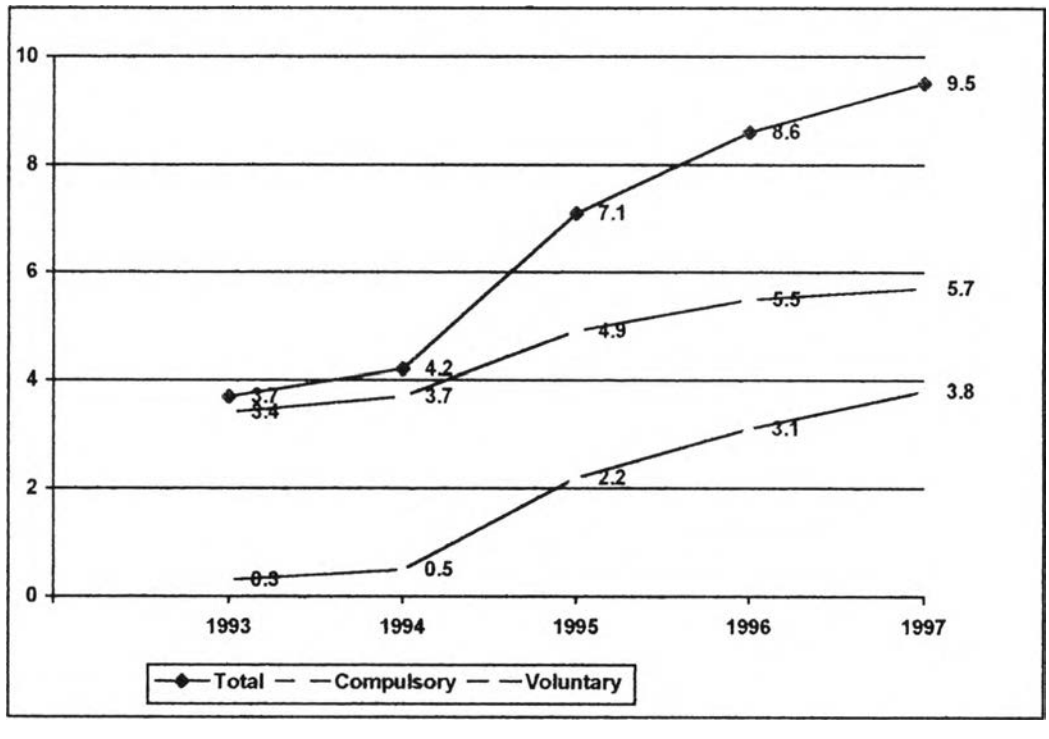
If making general calculation for all schemes of health insurance, the growth rate of 1997 reached 151%. However, if broken down into specific schemes of health insurance for assessment, it is observed that the number of members to the Compulsory Health Insurance scheme in recent years has been rather stable with a low growth rate. Meanwhile, the number of members to the Voluntary Health Insurance scheme has been increasing rapidly year by year. The number of members in 1997 reached 1071% compared with the growth rate of the base year of 1993. This figure shows that the expansion of voluntary health insurance coverage has done well. The system is dominated by the reatively easy to collect compulsory scheme. This has been helped by improvements in the tax and payroll deduction collection system.

Table 5.1 The Members to the Health Insurance System

	1993	1994	1995	1996	1997
Total number of HI members	**3,799,255**	**4,246,084**	**7,104,187**	**8,632,492**	**9,550,827**
% of members per population	5.35	5.86	9.61	11.46	12.62
% of growth rate in comparison with 93	-	16	87	127	151
Number of compulsory members	3,473,386	3,720,151	4,870,009	5,559,415	5,734,560
% of growth rate in comparison with 93	-	7	40	60	65
Number of Voluntary members	**325,569**	**543,933**	**2,234,178**	**3,073,077**	**3,816,267**
% of growth rate in comparison with 93	-	**67**	**585**	**843**	**1071**

Source: Vietnam Health Insurance, 1998

Figure 5.1 The Member to the Health Insurance System 1993-1997



General assessment shows (see Table 5.2) the ratio of compulsory participants gradually reduced (retirees, employees of state enterprises, administrative staff, people of meritocracy, employees in foreign invested companies and workers from private enterprises). Among the number of voluntary participants, the number of pupils and students with health insurance cards accounted for more than 90%.

Table 5.2 The Health Insurance Members by Categories

	1996		1997	
	Number	%	Number	%
Compulsory members	**5,559,415**	**100**	**5,734,560**	**100**
State administrations	1,200,910	22	1,259,352	22
State enterprises	1,412,697	25	1,504,936	26
Private enterprises	59,485	1	78,529	1
Foreign investment	109,216	2	114,469	2
Retirees and disabled	1,587,739	29	1,593,793	28
Social privileged	1,189,368	21	1,183,481	21
Voluntary members	**3,320,977**	**100**	**3,816,267**	**100**
Pupils and students	3,072,921	92	3,460,540	91
Citizen	116,884	4	146,926	4
Humantary and Charity	131,172	4	208,801	5

** % per total members.*

The number of members in the beginning years was mainly concentrated in big cities. In the following years, the number of participants in plain and mountainous provinces increased in absolute value, but was almost unchanged in relative figures. (see Table 5.3)

Table 5.3 The Health Insurance Members by Regions

	1993		1994		1995		1996		1997	
	Number	%	Number	%	Number	%	Number	%	Number	%
Big cities	1453618	38	1190147	28	2103820	30	2490593	29	2681285	28
Plain Provinces	1615514	43	2089400	49	3629889	51	4523815	52	5175646	54
Mountain Province	730123	19	966537	23	1370478	19	1618084	19	1693893	18

** % per total members.*

In recent years, the health insurance has unceasingly performing the task of socialization of health insurance activities, expanding the coverage of the health insurance both in terms of its forms and quality.

Among members in health insurance, a proportion of retirees and people enjoying social privileged is rather high, about 50% of the whole. This is a factor that also needs to be taken into account when assessing the use of health insurance funds, because they have a high risk of getting sick.

The number of compulsory participants, i.e. from state enterprises, foreign investment and private enterprises, were mainly gathered in big cities and plain areas. Their income was rather high. Nevertheless, in all areas, the ratios of retirees as well as social privileged people were also rather high. (see Table 5.4)

Pupils and students take a major proportion (more than 90%) of the whole categories of members in the Voluntary Health Insurance scheme, and this number is increasing yearly. However, by the year 1997 a number of pupils and students participating in Voluntary Health Insurance proximately was only 20% of the country's total number. This poses a responsibility on the Vietnam health insurance system to continuously seek means for expanding its coverage to this potential category.

This figure (Table 5.4) showed the number of VHI and CHI members in the four bigest cities were almost the same. This can explain that 90% VHI members are students and school children. For this group is concentrate in the big cities, where around 20-30 universities or more are located. On the other hand, the number of schools in the big city is also higher than plain provinces. These findings pose a responsibility to continuously expand the coverage of health insurance in plain areas where a large number of the population lives and in mountainous areas where the economic conditions are still low.

Table 5.4 The Health Insurance Members by Categories and Regions 1997

	Big city (4 cities)		**Plain Provinces (38 provinces)**		**Mountain Provinces(19)**	
	Number	%	Number	%	Number	%
Compulsory members	**1,340,993**	**23**	**3,246,134**	**57**	**1,147,433**	**20**
	(50.01%)		***(62.72%)***		***(67.74%)***	
State administrations	224,500	4	738,755	13	296,097	5
	(8.37%)		(14.27%)		(17.48%)	
State enterprises	553,333	9	706,301	12	245,302	4
	(20.63%)		(13.65%)		(14.48%)	
Private enterprises	56,600	1	20,735	1	1,194	0
	(2.11%)		(0.4%)		(0.07%)	
Foreign investment	48,600	1	63,033	1	2,836	0
	(1.81%)		(1.22%)		(0.17%)	
Retirees and disabled	362,660	6	811,508	14	419,625	8
	(13.52%)		(15.68%)		(24.77%)	
Social privileged	95,300	2	905,802	16	182,349	3
	(3.55%)		(17.50%)		(10.76%)	
Voluntary members	**1,340,292**	**35**	**1,929,512**	**51**	**546,463**	**14**
	(49.99%)		***(37.28%)***		***(32.26%)***	
Pupils and students	1,140,794	30	1,794,216	47	525,530	14
	(42.54%)		(34.67%)		(31.02%)	
Citizen	61,500	2	69,642	2	15,784	0
	(2.29%)		(1.34%)		(0.93%)	
Humantary and Charity	137,998	3	65,654	2	5,149	0
	(5.15%)		(1.27%)		(0.30%)	
Total	**2,681,285**		**5,175,646**		**1,693,896**	
	(100%)		***(100%)***		***(100%)***	

Source: Vietnam Health Insurance, 1998 ** % per total members.*

5.2 Health Insurance Premium

Premium of buying health insurance (called as premium) established for the compulsory participants is 3% of their income, salary, or stipends, in which employees pay 1% and an employer pay 2%. People enjoying subsidy from the government, health insurance, i.e. labour, war invalids and society branches, have to contribute this 3%.

With regard to voluntary health insurance members, the premium is established according to different categories based on the local socio- economic situation and the assurance of ability for health insurance fund balance. A Voluntary

health insurance fund is kept separate from compulsory health insurance fund interms of cost accouting.

Table 5.5 shows that an average premium by year of both compulsory and voluntary members is not stable, value at highest contributed year is 56,500VND and at lowest contributed year is 29,200VND. Reasons for the fluctvation in the premium are due to:

- Influence of policy on salary and minimum wages: In 1993 the unit wage has changed from 120,000 to144,000VND(basic wage).
- Influence of regulations/identification on salary, incomes that are the basis for premium calculations.
- Changing structure of categories participating in health insurance schemes.

Table 5.5 Average Premium on Health Insurance

Unit Price: Dong

	1993	1994	1995	1996	1997
Average for both compulsory and voluntary participant	29,200	60,300	56,300	60,200	56,500
Average for compulsory participant	31,100	67,500	77,800	87,200	86,500

Source: Vietnam Health Insurance, 1998

Although the number of pupils and students participating VHI takes a proportion of over 90%, they have only to pay a lowest premium against their certain lower interest in compared with other voluntary members (see Table 5.6).

Table 5.6 Average VHI Premium by Categories of Member

Unit Price: Dong

Category	1996	1997
Average premium	11,400	11,500
Premium of pupils and students	13,200	13,900
Citizens	30,600	32,300

Source: Vietnam Health Insurance, 1998

Compelling employers to meet their obligations with regard to their health insurance contributions is vital in order to ensure the stability of health insurance fund, to ensure a gradual growth of health insurance fund in suitable with socio-

economic development, and to avoid the influence of inflation. Adjusting the level of the premium over the years will contribute an active effect when financial conditions for health care and uses of health care service have a tendency to increase.

The management and use of Health insurance funds

Health Insurance Funds are established with the aim to secure finance for members when they face illness or other problems that need treatment in the health insurance system. Health Insurance Funds are made available from the following main financing contribution sources:

- Direct payments from health insurance members;
- Counter-part payments from employers;
- Subsidy from the government for people enjoying social privileges through health insurance institutions, and labor, war-invalids and society branches;
- Contributions from different levels of authorities (province, city, and sector) for people who don't have the ability to cover health insurance cost, such as poor people.
- Contributions from organizations, generous individuals, and NGOs for people who are target of social humanity programs.
- Income generated from safe and development investment activities, such as deposits in the bank, government bonds, etc.

The main sources for health insurance funds are from contributions by employees and employers. However, in some institutions, mainly non-state businesses, non-payment of health insurance employees is still frequently happening.

5.3 Revenues of Health Insurance Scheme

In the first year of the health insurance in Vietnam was implemented, the health insurance revenue was only VND 111 billion, accounting for 8% of the state budget for the health sector. By 1997, the revenue was 540 billion Dong, which increased by 321% from the value of 1993.(see Table 5.7)

Table 5.7 Health Insurance Revenue

	1993	1994	1995	1996	1997
Compulsory	108	251	379	485	496
Voluntary	3	5	21	35	44
Total revenues of HI (billions Dong)	111	256	400	520	540
Growth rate in comparison with 1993(%)	-	201	267	330	321

** Growth rate is calculated in exclusion of price-slipped influence, with price-slipped rate in 1993 (0,8749); 1994 (1,0); 1995 (1,1768); 1996 (1,2403); 1997 (1,3284)*

Source: Vietnam Health Insurance, 1998

In 1997, the revenue almost reached 25% of the state budget (see Table 5.8). With revenue coming from providing health care services for health insurance members, the health sector has generated a considerable financial source every year to directly serve health care activities. Health insurance revenues have contributed a considerable part in improving the quality of care and upgrading health care establishments, particularly those at the district level.

Table 5.8 Comparison between Health Insurance Funds and Health Budget

	1993	1994	1995	1996	1997
Revenues of Health Insurance (billions Dong)	111	256	400	520	540
Comparison with Health Budget (%)	8	15	20	25	25

Source: Vietnam Health Insurance, 1998

Revenues from the health insurance are divided into the following funds: a fund for health care and treatment, a fund for health insurance management and a reserve fund for health care and treatment. Types of revenue were divided depending on the particular form of the health insurance. For example, for the school health insurance scheme 35% of revenue was used for carrying out primary health care in schools, 60% for inpatient care, 4% for the local management fund and 1% for the central management fund. The use of funds follows the following regulations:

- The fund for health care and treatment is used to cover health care expenditures for health insurers.
- The fund for management is used for running the Vietnamese health insurance system.
- The reserve fund for health care and treatment is used to cover any shortage in health care expenditures.

In addition to differencences in types of revenue, there are also notable differences in types of expenditure in each scheme. On average, members of the voluntary system use facilities far less than members of the compulsory scheme. This ensures that, despite low revenues, both schemes appear to be more of less in balance.

In common with voluntary schemes in other countries based on community rated premiums, the scheme has experienced the fundamental problem of adverse selection. Low risk individuals who require little treatment and are needed to subsidise those who area high risk, are unwilling to contribute to this voluntary subsidy. Not withstanding the delay in the card becoming effective, Insurance Offices report that it is the sick, often chronically sick, that predominantly join the scheme.

There are notable differences in the use of revenue and expenditure in the two schemes (Table 5.9). The average premium collected from the progressive and compulsory payroll tax for the compulsory scheme was around 86,000 VND in 1997. The flat rate premium for the voluntary scheme averaged less than 11,000 VND, although different premiums are collected from different groups. General geographic and group targeting is used so, for example, those attending tertiary education pay more than those that attend secondary or primary school. On average, members of the voluntary system use facilities far less than do members of the compulsory scheme. This ensures that despite low revenues, both schemes appear to be more or less in balance.

Table 5.9 Members, Revenues and Expenditures of Health Insurance scheme, 1997

	Compulsory	**Voluntary**	**Total**
Members	5,734,560	3,816,267	9,550,827
Inpatients(1000s)	1,000	200	1,200
Inpatients per 1000	174	52	126
Outpatients(1000s)	120,000	800	120,800
Outpatients per 1000	2,009	210	1,340
Revenues(million VND)	496,000	44,000	540,000
Revenues per member	86,493	11,529	56,539
Expenditures(million VND)	460,000	40,000	500,000
Expenditures per member	80,215	10,481	52,351

Source: Vietnam Health Insurance, 1998.

5.4 Health Care Services Utilization under Voluntary Health Insurance Scheme.

For voluntary members, depending on certain forms of the health insurance, the welfare benefits are inpatient treatment as well as outpatient consultation plus inpatient treatment. Of which, pupils are given inpatient care from health care establishments and primary health care from their school's health unit.

Use of facilities by the insurers has increased over five years. Since the start of the programme, use of inpatient facilities has been consistent with that for the rest of the population. In 1997, for example, the rate per thousand populations was 126 compared to 69 for the whole population (Vietnam Health Insurance Profile, 1998). Outpatient trends are less clear. Although use of outpatient facilities increased to above the general rate in the first few years of the scheme, this flattened off and was overtaken by general use of outpatient facilities across the country. Although more analysis is required, one explanation would appear to be the influx of school children into the scheme. This group is predominantly between the ages of 5 and 14 and tend to have relatively low use of services. That is, they have left the dangerous childhood period but are mostly before the increased need experienced by women during the fertile period of life. Another explanation is that members of the voluntary scheme, although mostly from villages, are not yet able to obtain insurance funded outpatient care from the commune health facilities. Instead they must travel to the district hospital to obtain treatment. It is likely, therefore, that many patients do not bother to trek to the hospital for ambulatory services, and so only claim when they require hospitalization.

Data in Table 5.10 shows that the utilization rates of health insurance members had increased year by year and, if compared the utilization rates of health insurance members with those of the population in general, it is noticed that the awareness of people in general for health care as well as that of health insurers in particular is greater. However, the higher utilization rates of health insurers compared with the utilization rates of people in general may also be explained by the argument

that, because the health insurance covers health care costs for health insurers, they may be inconsiderate in consuming health care services.

Table 5.10 Utilization of Health Care by Health Insurance Members

	1993	1994	1995	1996	1997
Number of OP visits by HI members (mills time)	2,000	5,300	9,000	10,000	12,800
Average times of seeing doctor/year of a member	0.53	1.24	1.26	1.16	1.34
Average times of seeing doctor /year of a citizen	0.67	0.76	0.92	1.17	1.21
Number of IP treatment for HI member(mills time)	200	500	1,000	1,000	1,200
Average times of IP treatment /year/100 member	5.26	11.73	14.08	11.58	12.56

Source: Vietnam Health Insurance, 1998

The category of pupils and students accounts for 90% of the total voluntary members. Table 5.11 only focuses on analyzing the average inpatient treatment because the main benefit of this category is to receive primary health care in schools and inpatient treatment and only a few provinces implement both inpatient and OP care.

Table 5.11 Utilization of Health Care by VHI Members.

	1996	1997
Average number of in-patient treatment (millions time)	111	162
Average number of in-patient treatment/voluntary member/year	0.036	0.043

Source: Vietnam Health Insurance, 1998

One reason for the substantially lower per member expenditure of the voluntary scheme is probably associated, like the trends over time in utilisation rates, with the substantial school children membership of this scheme. In order to simulate the impact of increasing membership of these schemes it is important to estimate the age-gender profile of each sub-group and their relative use of services. For some groups the age profile of members is straightforward. School children are divided between the under 14 (around 90 percent) and over 14 groups. The retired predominantly fall into the over 55 group. For other groups, the analysis assumes that

the distribution of employees insured under the compulsory scheme follows the general distribution of the economically active population in Vietnam (table 5.12). Since those working outside the formal sector are likely to start work earlier, continue longer, and include non-working, we can assume that the distribution of this group follows that for the above 14 general population.

Utilisation tends to be higher than average among the under-fives, falls to below average among children and teenagers and then rises gradually until old age. Thus, utilisation then rises substantially. The point at which utilisation tends to rise varies according to the average life expectancy of a country. The increase in higher income countries tends to be less than for lower income countries. Illness among the elderly, for example, is likely to be more severe than among the young. To illustrate the impact of expanding the insurance schemes the extrapolations of the VHI from 1993 to 1997 were taken.

Table 5.12 Summary Age-Gender distribution of the economically active

Age	Male	Female	Total	Percent
15 - 44	14,498,039	14,606,119	29,104,158	**80.2%**
45 - 55	2,350,955	2,406,784	4,757,739	**13.1%**
55 +	1,294,866	1,140,179	2,435,045	**6.7%**
Total	18,143,860	18,153,082	36,296,942	100.0%
	49.99%	**50.01%**	100.00%	

Source: Vietnam statistics yearbook, 1998.

5.5 The Factors influencing the enrollment of Voluntary Health Insurance, relationship between VHI patients and Health Care Services Utilization

Data from eight provinces were analysed. The provinces represented the North, Central and South Vietnam.

The data were collected were the population, VHI members, and user fees members, as well as total revenues of user fees, health care expenditures for user fees patients, VHI premium, GDP per capita, total health care expenditures and provincial products. Those data were computed into the ratio of each parameters (following the

formula presented in the methodology section). The 40 observations of 8 provinces over 5 years was then tested by the OLS model.

5.5.1 The probability of people who buy VHI depend on pay ***Out of pocket*** (total revenues of user fees / health expenditures for user fees patients), ***Premi*** (VHI premium / GDP capita), and ***Quality*** (total health expenditures / provincial products).

From function {1 } and result of OLS, get model estimate for:

Prob(VHIjoin) = 0.3351 - 0.4758***Out of pocket*** - 9.8971***Premi*** - 7.8483***Quality***
(0.871) (- 0.497) (- 2.003) (- 2.346)

R-squared = 0.20424 S.D dependent var = 0.0692
F-statistics = 3.079 Number of observations : 40

The explaination of results is as follows:

1. Effect of total revenue of user fees per health expenditures for user fees patients (***Out of pocket***).

Results of the OLS model showed that Pvalue = 0.6223. Thus, Ho is not rejected. It also means the total revenue of user fees per health expenditures for user fee patients does not significantly ($\alpha = 0.05$) effect the decision to join VHI. This result can be explained by the fact that, the user charge of health care services is almost subsidized by the government (about 60%), the costs of health services computed exclude depreciation allowances for equipment and infrastructure. So whether the level of user fees increases or not, most people of middle and upper income group had the ability to pay when they get sick. Also, they can avoid Moral-harzad and other inconveniences of the VHI scheme. On the other hand, it does not reflect the reality of health expenditures (such as drugs and supplies); infact, the hospital then only provided essential drugs. Other medicine and supplies had to be purcharsed by the patient himself usually at retail pharmacies. There might also be many other confounding factors which were not considered in this study.

2. Effect of VHI premium per GDP capita (***Premi***)

Results of the OLS model showed that Pvalue = 0.0528. Thus Ho is not rejected, even though it is not so different at $\alpha = 0.05$. The mean premium per GDP capita does not significantly effect the decision to join a VHI at $\alpha = 0.05$. This can be explained by the fact that that the premium of VHI is not so high compared with the GDP capita, and it has not changed much over five years. On the other hand, 90% of VHI members are pupils, students, who are willing to buy a VHI card at the school as a part of a semi-compulsory scheme. Even though the premium variable does not significantly effect the voluntary health insurance members, we can not ignore it because Pvalue (0.0528) is too close to α=0.05. The behaviors of consumers very sensitive to the premium, but did not significantly effect this study. It is true, of course, that voluntary health insurance status is not the only determinant of fee levels. Other variables such as the age group, sex, education, income and the diagnosis group may be relevant.

3. Effect of total health expenditures per provincial products (***Quality***).

Results of the OLS model showed that Pvalue = 0.0246. Thus Ho is not accepted. This means total health expenditures per provincial products has a significant effect on the decision to join a VHI at $\alpha = 0.05$. This can be explained by the fact that percentage of health expenditures per provincial products of provinces/country increased and the other factors remained the same. This shown that, if total expenditure per provincial products increases, the probability of VHI will decrease. There is an unexpected outcome that should answer the questions "Are sufficient resources raised?" and "Is there much waste and inefficiency?" As Chapter 2 states, approximately 60% of capital costs have been covered by government contributions. Other support has made up the rest. This achievement, to cover such as high percentage of recurrent expenditure , is remarkable and extremely unusual. There are a number of features specific to the health care sector and the community which have allowed this to be possible. Firstly, careful financial planning and accounting has meant that realistic prices could be charged which were high enough

to cover costs, but which were still affordable by most people in the community. All prices were reviewed monthly in an effort to keep them in line with rising costs. Secondly, the quality of service provided has been high enough for people to be willing to use the services and pay for their treatment. Thirdly, and importantly, the salaries paid to health staff are relatively low, which has kept overall costs down. There are some aspects which have been lacking in the health sector because of their high cost. To give one example, supervision of health workers has not been as regular as desired, since the cost of frequent transportation around the area is very high. Insufficient resources were being raised to cover this expense. Poor management, and severe devaluation continue to be a threat to the health care sector.

An important method of trying to reduce waste and inefficiency in the system is to monitor the accounts regularly. In this way it is possible to have an idea of which areas are over-spending and to investigate them further, with the intention of taking action. Annual evaluations also provide helpful information on this aspect of health care management.

In general the outcome should positive effect to probability of the VHI scheme. In theory and from this point of view, only systems based on health expenditures compared with provincial products for care provided encourage quality of care. Health expenditure is a general term which refers to the resources used to provide health care. While it most often refers to money, it also includes other resources that are used. The issue of health expenditure relates to many aspects of health care provision. While its prime concerns are how much money is used, how it is raised, how it is spent, the impact of these questions goes beyond, meaning by which a health service is financed will have significant implications for the way it is run and the care it provides. Quality of care is a significant factor determining levels of utilization-particularly the quality as perceived by the user. In other words, the users' willingness to pay is in part dependent on the perceived quality of care delivered.When raising money for health care from the government (or local government), there is a trade-off between making service accessible to people (charging money at a level they can afford) and raising enough money to provide

services. Quality improvements can be one-off actions (such as providing shelter for people to wait in), but most often they require follow-up. For example, the staff might be re-trained in the use of standard treatment guidelinesa, skills, and the modern equipment. These are expected signs of health expenditures compared with provincial product (such as quality of health care aspect). This leads more people to buy VHI cards. When the government investments more for the health care sector to improve the quality, more people will use health care services.

The probability of people who join user fees scheme was effected by "pay out of pocket" (total revenues of user fees / health expenditures for user fees patients), Premium (VHI premium per GDP capita), and Quality (total health expenditures per provincial products). In this study, for the User Fees scheme, the factors used in the model are total revenues of user fees per health expenditures, VHI premium per GDP capita and total health expenditures per provincial products. The results show that all of them do not significantly effect to the user fees scheme at $\alpha = 0.05$. This might be because the data used in this study are at provicial level, not at the individual level. This is weakness of the study. The probability of people who join user fees scheme or utilization of health care services related individual, and other thing is that limitation of the data collection only in 8 provinces were selected refer to the whole country.

5.5.2 The health care services utilization rate this study has calculated as fomular {2}:

$$\text{Utilization} = h\frac{\text{VHIpatients}}{\text{Pop}} + k\frac{\text{Out of pocketpatients}}{\text{Pop}} \quad \{2\}$$

$$\text{VHIvisits} = h.\ \text{VHI pop}$$

h - Average number of visits made by people with VHI

Ratio = VHIvisits / population

Ufvisits = *k*. Uf pop

k - Average number of visits made by people with user charge.

Ratio=Ufvisits/ population

In this study *h(0.017539)* is less than *k(0.073679)*. This means that VHI members went to visit hospital less than people who paid out of their pocket compared with the same total population. Its represents the ratio of VHI and population. Utilization of health care by VHI members is not much as who pay out of their pocket. This is a weakness of the VHI scheme. It does not cover as much of population in the whole country. Most (90%) Voluntary Health Insurance members, are pupils and students. This group is predominantly between the ages of 5 – 14 and 15 – 23 who tend to have relatively low use of services. They have left the dangerous childhood period, but are mostly before the increased need experienced by women during the fertile period of life. Another explanation is that members of the voluntary scheme, although mostly from villages, are not yet able to obtain insurance funded outpatient care from the commune health facilities. Instead, they must travel to the district hospital to obtain treatment. It is likely, therefore, that many patients do not bother to trek to the hospital for ambulatory services, and so only claim when they require hospitalization. It also has been found that utilization rate in general for all schemes is 2.13159 per person/year, seems a similarly to utilization rate of the whole country nowadays.

Table 5.13 Utilization of Health Care under VHI and User fees schemes of 8 provinces selected for 5 years

Obs	Population	UTL	VHIvisits	Ufvisits	UTLR	VHIR	UFR
1993.01	618756	3321578	00735	27750	5.368155	0.001188	0.044848
1993.02	922996	1768430	00097	45398	1.915967	0.000105	0.049185
1993.03	1781910	3195556	00355	101353	1.793332	0.000199	0.056879
1993.04	4537232	10752350	01950	478857	2.369804	0.00043	0.105539
1993.05	672059	850786	00725	39780	1.265939	0.001079	0.059191
1993.06	1587850	2135670	55567	154371	1.345007	0.034995	0.09722
1993.07	2265900	11560540	47910	75133	5.101964	0.021144	0.033158
1993.08	1377000	1453354	07800	73477	1.05545	0.005664	0.05336
1994.01	633128	3156620	01250	28357	4.985753	0.001974	0.044789
1994.02	943532	1894461	00275	59938	2.00784	0.000291	0.063525
1994.03	1818652	3309695	00457	119453	1.819862	0.000251	0.065682
1994.04	4649387	11982515	00379	490817	2.577225	8.15E-05	0.105566
1994.05	687489	924145	01655	42771	1.344232	0.002407	0.062213
1994.06	1615300	2455006	65790	165312	1.519845	0.040729	0.102341
1994.07	2335400	1970348	63550	76737	0.843688	0.027212	0.032858
1994.08	1407000	1563577	12895	77747	1.111284	0.009165	0.055257
1995.01	648077	3406244	01020	28860	5.255925	0.001574	0.044532
1995.02	963368	1945209	00375	67896	2.019175	0.000389	0.070478
1995.03	1855830	3645320	07320	122480	1.964253	0.003944	0.065997
1995.04	4764671	12194242	11300	522025	2.559304	0.002372	0.109562
1995.05	702052	840187	06300	57551	1.196759	0.008974	0.081975
1995.06	1643200	3114025	90350	175780	1.895098	0.054984	0.106974
1995.07	2395900	1119488	72130	112758	0.467252	0.030106	0.047063
1995.08	1440000	1611401	35160	76780	1.119028	0.024417	0.053319
1996.01	663271	2965695	05498	21530	4.471317	0.008289	0.03246
1996.02	985640	2035505	06710	69032	2.065161	0.006808	0.070038
1996.03	1892027	4300308	07850	144502	2.272858	0.004149	0.076374
1996.04	4804350	14403708	193500	554447	2.998056	0.040276	0.115405
1996.05	719003	1038770	19210	62232	1.444737	0.026718	0.086553
1996.06	1670400	3482502	112310	208863	2.084831	0.067235	0.125038
1996.07	2467200	2134123	80500	119370	0.864998	0.032628	0.048383
1996.08	1471000	1889020	42170	85407	1.284174	0.028668	0.058061
1997.01	667200	1146223	15530	81496	1.71796	0.023276	0.122146
1997.02	1007033	2214260	10213	77132	2.198796	0.010142	0.076593
1997.03	1928706	4313683	07130	149832	2.236568	0.003697	0.077685
1997.04	4989703	16051687	200231	586992	3.216962	0.040129	0.117641
1997.05	735377	911129	14200	69328	1.238996	0.01931	0.094275
1997.06	1695200	3300906	95300	209895	1.947207	0.056218	0.123817
1997.07	2539400	2197236	79355	119691	0.865258	0.03125	0.047134
1997.08	1498000	2177490	43570	95923	1.453598	0.029085	0.064034
Total		154732992	1418622	5877053			
Average number of visit					**2.13159**	**0.017539**	**0.073679**
Number of visit						24880.92	433014.2
Standard Deviation						**0.018275**	**0.027837**

Obs : Observations ; **UTL** : Utilization ; **VHIR** : Health care utilization of VHI ;
UFR: Health care utilization of user pay out of pocket. **UTLR** : Health care utilization in general.