

CHAPTER I



INTRODUCTION

1.1 Health expenditure in Thailand

Throughout the 20th century, the world witnessed not only great strides in economic development but also much improvement of human health all over the world. Higher income levels for much of the globe contributed to trends in better nutrition and improvements in sanitation and water supply. As a result, life expectancy rates for most countries rose in the 20th century from the 40-50 year-old range to that of 70-80 years (WHO1999).

According to the constitution of the WHO adopted in 1946, “health” is defined as “a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity.” The constitution also posited that “the enjoyment of the highest attainable standard of health is one of the fundamental human rights of every human being without distinction for race, religion, political belief, economic or social condition” (WHO, the Constitution).

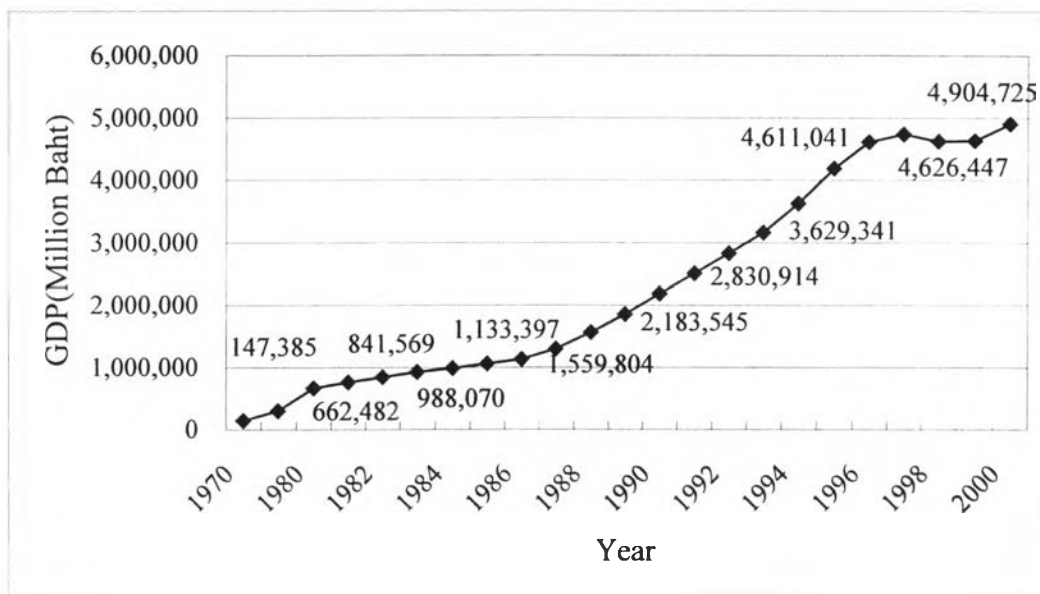
Although many programs were implemented worldwide to improve people’s health conditions, a health gap continued to exist between different socioeconomic classes worldwide. As a consequence, WHO and UNICEF reaffirmed that health is a fundamental human right and adopted the concept “Health for All” at the Alma Ata Conference in 1978. Simultaneously, many countries have experienced sharp rises in health expenditure. This additional problem sparked the interest of economists, healthcare workers, policy makers, and the public alike, and is still an important policy matter.

As a rapidly developing nation in the 1990s, Thailand followed this world trend. The Thai government developed people-centered policies and promised to offer a variety of services promoting good health. At the core of these services was the concept that “all Thai citizens, regardless of sex, age, occupation, religion, locality, race, education and economic status, are those who live a normally happy life, physically, mentally and socially” (Wibulpolprasert 2002). In addition, the 1997 constitution assured that people have the right to access to basic health

services¹. As a result of these efforts, the Thai people have enjoyed several decades of great improvements in health.

At the same time, Thailand attained rapid economic growth over the last several decades (Figure1-1). Gross Domestic Product (GDP) at current market prices was more than 4,732 billion Baht in 1997, up from 147.385 billion Baht in 1970.

Figure1-1 GDP at current market prices (million baht)



Source: NESDB, Quarterly GDP Report in Wibulpolprasert(2002)

However, the 1997 economic crisis, which followed Thai Central Bank introduced the floating exchange policy, pushed GDP down to 4,626 billion Baht in 1998. This was a first time Thailand has experienced negative economic growth in 30 years.

The 1997 economic crisis began to cause economic devastation in Asian in July 1997, despite the fact that much of Asia, including Thailand. Thailand experienced unprecedented financial crisis and its financial sector collapsed as a result. Yoshitomi and ADBI staff (2003) called this a “capital account crisis” and

¹ Two articles relate to basic health services in the Thai constitution, Article 52 and Article 82. Article 52 states that “a person shall enjoy as equal right to receive standard public health services, and the indigent shall have the right to receive free medical treatment from public health facilities of the state, as provided by laws. The public health services by the state shall be provided thoroughly and efficiently and, for this purpose, participation by local government organizations and the private sector shall be promoted insofar as it is possible. The state shall prevent and eradicate harmful contagious disease for the public without charge, as provided by laws.” In addition, Article 82 states that “the state shall thoroughly provide and promote standard and efficient public health services.”(MoPH(2003a)).

explained it as being “180 degrees different from this conventional type of crisis” because they had “sound economic fundamentals” and driven by capital flows. More specifically, the crisis could be explained as follows: When an economic cycle is in an upturn, capital inflow becomes the engine of economic growth. In Asia, however, capital flows suddenly changed from inflow to outflow, with a downturn in business. This resulted from capital inflows formed by short term debts denominated in foreign currency. Subsequently, Asian economies experienced huge capital outflows and experienced a problem known as “double mismatch” in currency and maturity because past inflows invested in long-term projects or in non-productive sectors. This “double mismatch” triggered a “twin crisis,” meaning that an international liquidity crisis and a domestic banking crisis occurred simultaneously in Thailand and other Asian countries.

The impact of these crises was not limited to economic activity; its reach extended into the lives of the majority of the population, having deep effects on the health sector. According to Chayovan et al. (2000), the crisis affected the provision of reproductive health through lack of medical supply and delayed health sector budgets, although it had little effect on women’s utilization of these services.

With great economic success, Thailand experienced a higher rate of growth for national health spending than for GDP. In real terms, the national health spending increased 8.3% annually, while GDP grew about 5.81% per annum during the same time period. As a result, the proportion of national health expenditure to GDP expanded significantly from 3.82% in 1980 to 6.09% in 2000. According to Table1, the health expenditure in 2000 was 298,459 million Baht, compared to 25,315 million Baht in 1980. Thai national health expenditure was composed of three parts, public, private and international financial assistance.

As for public financing in health, the Thai Ministry of Public Health (MoPH) has taken the most important role among the governmental agencies. In the 1980’s, the proportion of the public source of health care financing declined to less than 20%, as a result of the global oil crisis. During 1990’s, however, the proportion of the public source for health expenditures started to rise again, reaching 37.1% in 1997. Since that period, the Thai government changed its development policies to be more human-centered. Therefore, the MoPH took on a greater portion of the national budget than in the past; its proportion of the national budget rose from 4.2 percent in 1989 to 7.7 in 1998. After the economic crisis, the Thai government reduced the budget for health sector, due to International

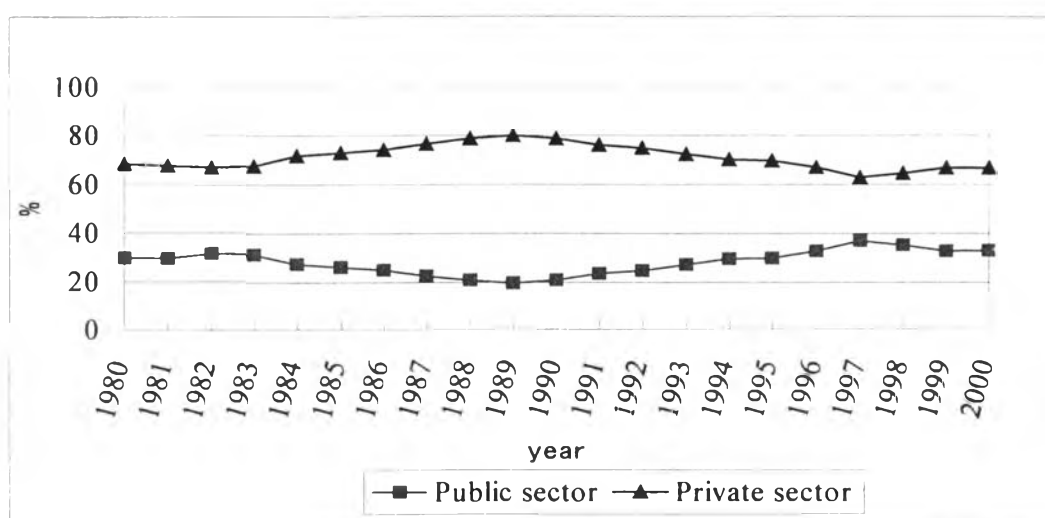
Monetary Fund (IMF) guidelines. As a result, the ratio of MoPH's budget to national budget reduced to 6.7% in 2001.

The Civil Service Benefit Scheme (CSBS) is the second largest spending category in public sector. CSBS, which is one of health insurance schemes² covering civil servants, spent more than 17 billion Baht in 2000. Social Insurance, other Ministries, Enterprise Benefit Scheme and Compensation fund for workers were the next highest categories of public health spending.

As for the private sector, household income is the major source of health care spending because public health insurance schemes do not fully cover all of the population. According to Pramualratana and Wibulpolprasert (2002), 30 percent of total population was uninsured. Therefore, the uninsured are left with the following costly options: buy private health insurance, pay for medical treatment out-of-pocket, chose self-medication, or seek no treatment at all.

In response to the reduced government budget for the health sector, households had to increase their health expenditure even more in 1980's. In 1980, household spending was 68.6 percent and rose to 80.1 percent in 1989. After 1990, the share of public sector spending increases gradually, while the private sector spending declined to less than 70 percent. As of 2000, the ratio between public sector and private sector in national health expenditure is about 33:67(Figure 1-2).

Figure 1-2 The proportion of health care expenditure(1980-2000)



Source: Wibulpolprasert(2002)

² As of 2000, there were six health insurance schemes in Thailand, that is, Medical Welfare Scheme (MWS), Civil Servant Medical Benefit Scheme (CSMBS), Social Security Scheme (SSS), Workmen Compensation Scheme (WCS), Health Card Scheme (HCS), Private Insurance (PI). The coverage rate of each scheme in 1999 were: MWS 32.1%, CSMBS 8.9%, SSS (same as WCS) 7.1%, HCS 18.6%, PI 1.1%.

Table1-1 Health Expenditure at the Current Value, 1980-2000. (Million baht)

Year	Public sector								Private sector				International financial aids		Grand total health expenditure	Health expenditure per capita	Percentage of GDP
	MOPH	Other ministries	Civil service benefit scheme	State Enterprise benefit scheme	Compensation fund for workers	Social insurance	Total	%	Private health insurance	Households & employers	Total	%	Total	%			
													Total	%			
1980	4,495	2,210	660	111	100	-	7,576	29.93	224	17,150	17,374	68.63	365	1.44	25,315	544.94	3.82
1981	5,572	2,535	995	167	149	-	9,418	29.66	284	21,229	21,513	67.75	824	2.59	31,755	668.7	4.18
1982	6,652	2,838	1,219	204	153	-	11,066	31.73	318	23,109	23,427	67.18	380	1.09	34,873	719.16	4.14
1983	7,902	3,134	1,482	248	205	-	12,971	31.5	350	27,469	27,819	67.55	391	0.95	41,181	832.63	4.47
1984	8,618	3,467	1,791	300	250	-	14,426	27.61	469	36,951	37,420	71.63	395	0.76	52,241	1,036.61	5.29
1985	9,044	3,716	2,157	362	236	-	15,515	26.18	547	42,751	43,298	73.06	452	0.76	59,265	1,146.75	5.61
1986	9,275	3,965	2,594	435	221	-	16,490	24.96	630	48,432	49,062	74.27	508	0.77	66,060	1,254.78	5.83
1987	9,525	4,082	2,828	474	274	-	17,183	22.7	756	57,258	58,014	76.63	507	0.67	75,704	1,439.10	5.82
1988	10,373	4,338	3,156	529	347	-	18,743	20.83	951	69,955	70,906	78.81	319	0.35	89,968	1,649.70	5.77
1989	11,733	4,448	3,521	590	397	-	20,689	19.69	1,162	82,988	84,150	80.07	252	0.24	105,091	1,895.31	5.66
1990	16,225	4,558	4,316	723	443	-	26,265	20.96	1,403	97,450	98,853	78.89	184	0.15	125,302	2,224.04	5.74
1991	20,569	4,699	5,127	859	624	778	32,656	23.52	1,544	104,348	105,892	76.28	270	0.19	138,818	2,449.93	5.54
1992	24,604	4,840	5,854	981	753	2,057	39,089	24.75	1,775	116,745	118,520	75.03	356	0.23	157,965	2,753.20	5.58
1993	32,898	4,928	7,906	1,291	927	2,473	50,423	27.39	2,061	131,297	133,358	72.45	281	0.15	184,062	3,141.85	5.81
1994	39,319	5,558	9,954	1,668	1,169	3,773	61,441	29.76	2,307	142,535	144,842	70.15	206	0.1	206,489	3,516.76	5.69
1995	45,833	6,677	11,156	1,869	1,370	3,991	70,896	30.05	4,984	159,858	164,842	69.88	151	0.06	235,889	3,979.38	5.63
1996	55,861	7,768	13,587	2,418	1,610	6,239	87,483	32.95	6,296	171,596	177,892	67.01	111	0.04	265,486	4,440.44	5.77
1997	68,934	7,182	15,503	2,756	1,987	10,245	106,607	37.09	7,518	173,210	180,728	62.87	122	0.04	287,457	4,754.01	6.15
1998	65,065	5,740	16,440	2,817	1,630	7,637	99,329	35.41	7,803	173,215	181,018	64.53	183	0.07	280,530	4,587.13	6.14
1999	62,787	6,087	15,174	2,539	1,404	7,676	95,667	32.99	8,171	185,894	194,065	66.92	275	0.09	290,007	4,709.60	6.28
2000	63,001	6,195	17,062	1,622	1,257	9,623	98,760	33.09	7,291	191,995	199,286	66.77	413	0.14	298,459	4,831.76	6.09

Source: Wibulpolprasert(2002)

According to National Statistical Office(NSO)'s surveys³, the household health spending between 1981-2000 increased from 3.6 percent to 3.9 percent. During the same period, the average household size became smaller from 4.5 to 3.6 members. The spending on self- prescribed drugs dropped from 31.9 percent in 1981 to 11.9 percent in 1996. The expenditure for health facilities increased for 20 years from 77 Baht per month to 302 Baht in 1996. The economic crisis in 1997, however, affected the spending pattern by increasing spending on self- medication and decreased spending in institutional care.

As the ratio of health care spending for private facilities has been rising, health spending for public facilities has been declining. After the economic crisis, however, people did return to public health facilities to seek medical treatment. Other health-related services spending, for example, dental and eyesight care, also increased the ratio from 8% to 10% during this time.

International financial assistance⁴ is also a financing source to health sector but had little share in health expenditure in Thailand. It recorded the highest amount in 1981, which was 824 million Baht or 2.59% of total health expenditure, and then, reduced to less than 1%.

As mentioned above, Thailand has experienced high growth of health care expenditure with economic growth. In 2000, health care expenditure per capita is 4,831.76 Baht and share of GDP is 6.09%. With regard to source of health expenditure, public sector contributes only 33.09%, while private sector has big share of 66.77%, especially, household & employers spent 64.3% of total health expenditure. In addition, provincial data of health care spending of household indicates that difference of health expenditure among provinces reach 14.18 times in 2000. This is much bigger than the difference of income which is 5.57 times (see section 5-1 Discussion for details). This suggests the analysis of health care expenditure is important and that's why we will analyze the determinants of health care expenditure by using aggregated data of household survey at provincial level.

³ NSO has conducted household income and expenditure surveys in 1976, 1981 and 1986, and every two years between 1988 and 2000.

⁴ During the past several decades, WHO, UNICEF, UNFPA, UNDP and USAID has been having important role in international assistance to Thailand.

1.2 General Information

1.2.1 Country profile

Thailand is located in the center of Southeast Asia and shares borders with Cambodia, Laos, Myanmar and Malaysia. The territory is approximately 514,000 square kilometers. Thailand has three different climate systems, tropical rain climate, tropical monsoon climate, and seasonal tropical grassland or savannah climate.

As of 2003, Thailand's population was 63,079,765 and annual growth rate was 0.4%.

1.2.2 The health status of Thai people

The people of Thailand have had significant improvement in their health status for several decades. The life expectancy rates at birth are 70 years (male) and 75 years (female) in 2000, rising from 60 and 66 years respectively in 1980. At the same time, the infant mortality rate has decreased dramatically from 84.3 per 1000 live birth in 1960 to 22 per 1000 live birth in 2000, thanks to immunization programs and maternal and child health care services.

In 2000, accident was the major cause of death among Thai people, followed by Neoplasms (or cancers), diseases of circulatory system, certain infectious and parasitic diseases, and diseases of respiratory system. This indicates that Thailand has already experienced a "health transition" as part of a global trend of the major causes of death changing from acute to chronic disease (Ministry of Public Health.(2003b)).

1.2.3 Health systems in Thailand

Both the public and private sector contribute to the health system in Thailand. In 2000, 1,293 hospitals offered medical services in the country. There are 962 public hospitals and 331 private hospitals. Bangkok has the biggest share of hospitals, which occupies 10.9% of the total number of hospitals in the country. Further, 29.6% of private hospitals are located in Bangkok.

Table1-2 The Number of Hospital by region in 2000

	Bangkok	Central	North	South	Northeast	Total
Public	43	248	203	166	302	962
Private	98	111	51	34	37	331
Total	141	359	254	200	339	1,293

Source: MoPH(2003)

Overall, the number of hospital beds in Thailand, has been rising over the past two decades, from 61,274 beds in 1979 to 136,201 in 2000 (Table 1-3). The difference among provinces, however, is very large. Bangkok, for example, has largest number of patient beds, 28,094 beds, or 20.6% of total number of beds. On the other hand, Satun province, which has least number of patient beds in Thailand, has only 296 beds, or 0.22% of total beds. In 2000, top 10 provinces with most patient beds have 46.0% share of patient beds in country and top 10 provinces with least patient beds have only 3.44% share of it. These indicate that health facilities are placed in certain provinces (Table 1-4, 1-5).

Table1-3 Number of beds by region(1979-2000)

	Bangkok	Central	North	South	Northeast	Total
1979	14,585	17,481	9,917	8,515	10,776	61,274
1981	17,661	20,246	12,503	8,521	13,437	72,368
1983	18,486	21,954	12,751	10,258	14,989	78,438
1985	19,376	32,018	12,650	10,334	15,294	89,672
1987	24,376	24,628	14,252	11,153	15,887	90,296
1989	20,337	24,156	17,520	11,394	16,575	89,982
1991	21,704	25,519	16,181	11,888	18,560	93,852
1993	24,351	27,658	17,502	12,936	18,719	101,166
1995	25,236	34,248	20,943	14,449	23,541	118,417
1997	27,327	37,386	25,874	16,016	25,802	132,405
1999	28,454	38,103	25,426	15,944	27,376	135,303
2000	28,094	39,045	24,579	16,553	27,930	136,201

Source: Alpha Research Co.(2003)

Table1-4 Top 10 provinces with most patient beds in 2000

		Government Hospital	Private Hospital	Total	%
1	Bangkok	16,260	11,834	28,094	20.6
2	Chaing Mai	4,499	1,677	6,176	4.5
3	Nonthaburi	4,270	893	5,163	3.8
4	Chon Buri	2,924	815	3,739	2.7
5	Songkhla	2,947	539	3,486	2.6
6	Khon Kaen	3,371	80	3,451	2.5
7	Nakhon Ratchasima	2,957	463	3,420	2.5
8	Samut Prakan	1,973	1,325	3,298	2.4
9	Ubon Ratchathani	2,699	242	2,941	2.2
10	Ratchaburi	2,495	399	2,894	2.1
	Others	62,445	11,094	75,539	54.0

Source: Alpha Research Co.(2003)

Table1-5 Top 10 provinces with least patient beds in 2000

		Government Hospital	Private Hospital	Total	%
1	Satun	296	0	296	0.22
2	Ranong	338	33	371	0.27
3	Amnat Charoen	388	0	388	0.28
4	Mukdahan	464	0	464	0.34
5	Mae Hong Son	455	20	475	0.35
6	Krabi	494	0	494	0.36
7	Sa Kaeo	539	0	539	0.40
8	Samut Songkhram	496	46	542	0.40
9	Nakhon Nayok	556	0	556	0.41
10	Phang-nga	567	0	567	0.42
	Others	102,247	29,262	131,509	96.56

Source: Alpha Research Co.(2003)

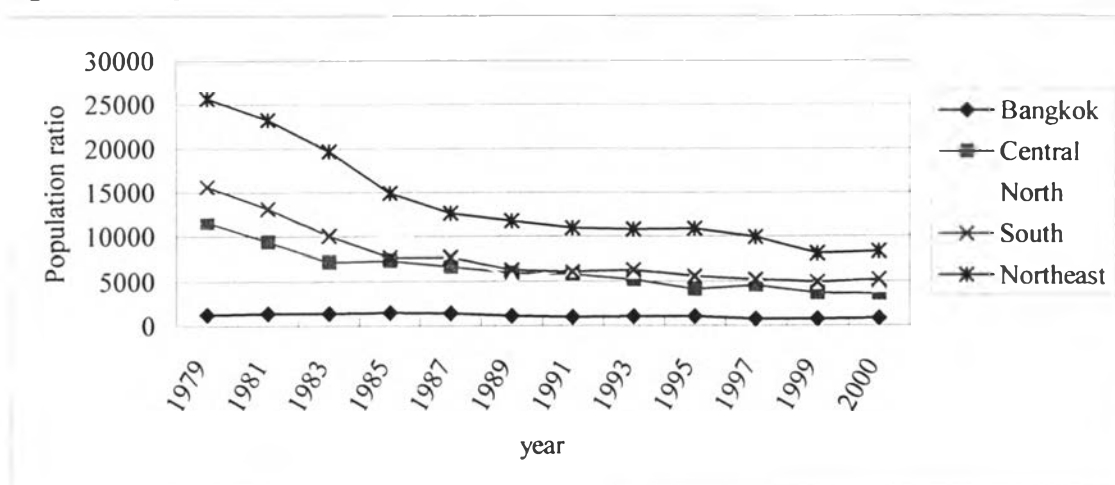
A similar trend is found in the distribution of human resources in health sector. The number of doctors has been increasing from 6,619 in 1979 to 18,025 in 2000. Bangkok has the largest number of doctors, followed by Central region, North region, Northeast region and South region (Table 1-6).

Table1-6 Number of Doctors by region(1979-2000)

	Bangkok	Central	North	South	Northeast	Total
1979	4,069	814	741	362	633	6,619
1981	3,927	1,019	815	447	723	6,931
1983	4,084	1,387	934	608	889	7,902
1985	3,966	1,521	935	865	1,209	8,496
1987	4,211	1,730	1,264	908	1,467	9,580
1989	5,888	2,008	2,021	1,165	1,631	12,713
1991	5,832	2,227	1,747	1,179	1,818	12,803
1993	6,191	2,490	1,822	1,274	1,848	13,625
1995	5,582	3,309	2,037	1,369	1,884	14,181
1997	7,771	3,100	2,079	1,510	2,109	16,569
1999	7,438	3,917	2,494	1,659	2,632	18,140
2000	7,155	4,029	2,691	1,576	2,574	18,025

Source: Alpha Research Co.(2003)

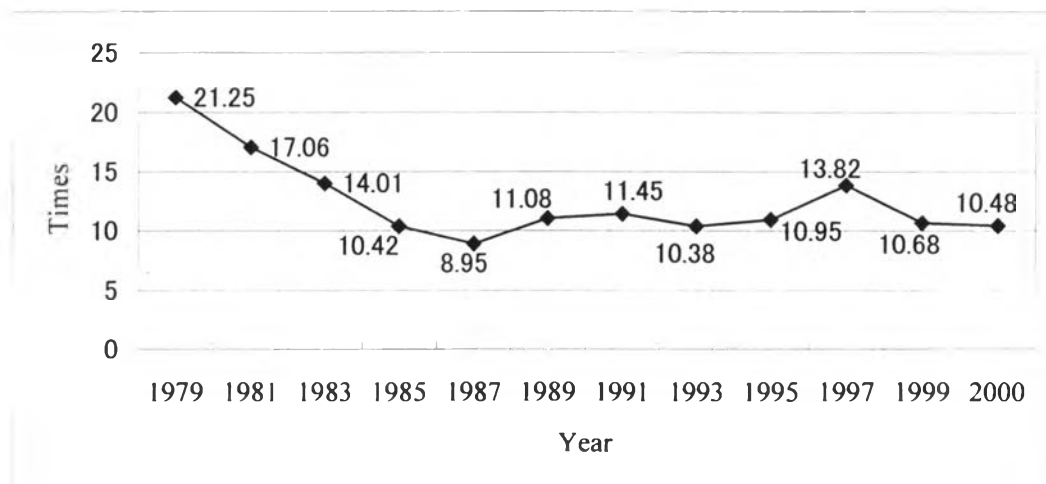
In the sight of population to doctor ratio, Bangkok and other regions have the big difference clearly, especially Bangkok and Northeast. For the country, the population to doctor ratio has a declining trend in all regions, while Bangkok is stable at this low level during the past 20 years. Four regions, excluding Bangkok, have recorded great improvement in this ratio during the 1980's, but the Northeast region and three other regions still have a significant difference (Figure1-3).

Figure1-3 Population to doctor ratio in 1979 to 2000

Source: Wibulpolprasert(2002)

Figure 1-4 shows the difference of population to doctor ratio between Bangkok and the Northeast. It indicates the difference became smaller until 1987 and, then changed to increase to 13.82 times in 1997. In the year of 1999 and 2000, the difference decreased to 10.68 times and 10.48 times, respectively.

Figure1-4 The difference of population to doctor ratio between Bangkok and Northeast



Source: Wibulpolprasert(2002)

Table 1-7 summarizes the distribution of health resources from another point of view. The average number of doctors per hospital in Thailand is 13.94 in 2000. Bangkok has most doctors, average is 50.74 at each hospital, followed Central, North, South and Northeast, at 11.22, 10.59, 7.88, 7.59 average numbers of doctors per hospital, respectively. It means a hospital in Bangkok has 4.52 to 6.69 times as many doctors as other regions. With respect to quality of hospital facilities, Bangkok is superior than the others. The average number of beds to hospitals in Bangkok is 199.25 and much surpasses the number in other regions.

Table1-7 The number of Doctors, Beds to hospitals in 2000

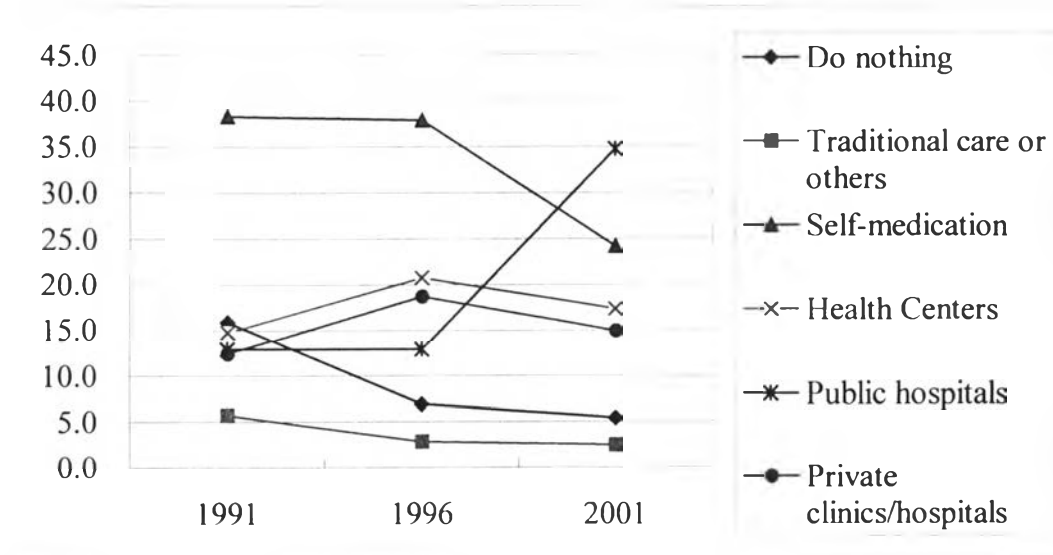
	Bangkok	Central	North	South	Northeast	Total
Doctors to hospitals	50.74	11.22	10.59	7.88	7.59	13.94
Beds to hospitals	199.25	108.76	96.77	82.77	82.39	105.34

Source: Calculated from data in MoPH(2003b)

1.2.4 Health care seeking behavior

Health care seeking behavior among Thai people changed during the 1990's. According to Figure 5, the Health and Welfare Survey found that people began to choose less "self-medication," "do nothing" and "traditional care or others" for health seeking behavior. In particular, "self medication" demonstrated a large decline in the latter half of the decade from 37.9% to 24.2%. This means that people use health facilities more when they feel sick. At the same time, The percent of the population that reported to tend to go to the "public hospital" has increased dramatically from 12.9% to 34.8% during the same period. "Health centers" and "private clinics/hospitals" show different trends, increasing by 5% approximately between 1991 and 1996, and then, decreasing during the next five years. This indicates that the 1997s economic and financial crisis, which caused considerable damage in Thailand, corresponded to a decline in use of private health facilities and an increase in use of public facilities.

Figure1-5 Pattern of health care seeking behaviours



Source: The Health and Welfare Survey, NSO in Wibulpolprasert(2002)

1.3 Research Question

What are the determinants of average household health care expenditure in Thailand?

1.4 Objectives of the Study

1.4.1 General Objective

To investigate the relationship between a variety of socio-economic factors and household health care expenditure.

1.4.2 Specific Objectives

- 1) To identify factors that determine household health care expenditure.
- 2) To estimate the income elasticity of health care.
- 3) To compare and analyze the results of the year 1998 and 2000.

1.5 Expected Benefit

This study will offer some information, such as the income elasticity of health care. If income elasticity is elastic, then this suggests that health care is “luxury goods” and there might exist the problem of access to health care in low income group. Moreover, the results are useful when we discuss the difference of health care expenditure among people.