

POLICY OPTIONS FOR HEALTH INSURANCE IN THAILAND

submitted by SONGPHAN SINGKAEW
as requirement for the degree
Doctor of Philosophy
for the

London School of Economics and Political Science
University of London, 1991.

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A B S T R A C T

This study explores the policy options for health insurance in Thailand, considering the present structure of the country and taking account of international experiences.

The development of health insurance in Thailand is analysed from the supply side i.e. health services. The problem of inefficiency and inequity in the health care system has led to the search for better alternatives for organizing and financing. This coincides with the overall growth in the country's socio-economic situation and the policy of health insurance laid down in the Sixth Five Year Health Development Plan (1987-1991). These factors provide positive conditions for establishing health insurance in Thailand.

The demand for health insurance from employers who are likely to join the scheme is investigated. A survey of 200 private establishments in Thailand was conducted. This investigation provides essential national baseline data for the organization of health insurance, particularly on the health care fringe benefits provided by employers, and the methods of paying health care providers.

Methods of organizing health insurance are formulated from international experience. The historical development of voluntary health insurance and its modified forms, as well as that of compulsory health insurance, are examined. The arguments for and against each form of health insurance are analysed. The study also highlights salient issues of health care reforms which attract the world's attention. International experience has shown that methods of paying providers is a major issue in providing viable health insurance. The study comprehensively analyses the advantages and disadvantages of each method of paying the doctor and the hospital under health insurance systems. Finally, it explores the policy options for the future development of national health insurance in Thailand.

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ACKNOWLEDGEMENTS

The author expresses her greatest gratitude to Professor Dr. Brian Abel-Smith for his continuous support, stimulated feedback, and determined guidance throughout the preparation of this thesis. Gratitude goes particularly towards Dr. Damrong Boonyoen for his valuable support from the beginning and throughout the study. The author is also grateful to Professor Dr. Thienchay Kiranandina of Chulalongkorn University for his thoughtful criticism on an early version of the survey results. Discussion with Dr. Supachai Kunaratanaapruk and his criticism on an early draft of a particular chapter, was also a great help. For the final revision of the thesis, the author gives her gratitude to Andrew Green and Dr. Anne Mills for their constructive criticism.

The Foreign and Commonwealth Office Section of the British Council is thanked for giving the author financial support throughout her time in England and for allowing a short study visit to The Netherlands. The World Health Organisation is acknowledged for financing the field research carried out in Thailand, in 1988. Thanks also go to the Health Planning Division of The Ministry of Public Health, Thailand, for giving study leave from 1987 to 1991 to pursue these studies at the London School of Economics. Appreciation also goes to Kobkul Lertkasat for retrieving data on industrial relations, and Lily Ingsrisawang and her friend for computing the survey data collected. For arranging meetings with establishment owners outside of Bangkok, thanks go to the provincial Health Planning Officers of the provinces surveyed.

Special word for thanks is owed to Dr. Suwit Wibulpolprasert for his support before and during the course of the field study. Friends in the Health Planning Division, to name a few; Nuananun Tantigate, Wanpen Sukhotanung, Ngamjit Jandarasatit, Sumaporn Saelim, Burarak Kaewnooch, and the interviewers, are thanked for their contributions in the field research.

The author is also indebted to Porntip Ngamkasem, Sukanya Pattarawimon, Orasa Kowinta, Pat Kasikam, Dr. Somsak Chunharas, Dr. Sanugan Nittayarampong, Dr. Petsri Sirinirund, Dr. Apinan Aramrat, Dr. Kamnuan Ungchusak, Dr. Porntep Sirivanarungsun, Krongkarn and Seksan Singkaew, Sangud Tansittipat and others who have not been specifically named for furnishing the author with valuable materials during the course of writing this document.

Michael Franks receives the author's special thanks for his invaluable help in computer technical matters and for enthusiastically reading and making grammatical corrections to the manuscript. Bernice Gummer also receives the author's thanks for her grammatical corrections to the manuscript. The author is indebted to Dr. Supasit Pannarunothai for his invaluable help with further statistical analysis for the final revision and printing of the thesis. Finally, the author alone is responsible for all remaining errors.

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LIST OF ABBREVIATIONS

BMA	Bangkok Metropolitan Administration
DHSS	Department of Health and Social Security
DRGs	Diagnosis Related Groups
FPCs	Family Practitioner Committees
GP	General Practitioner
GTZ	The German Agency for Technical Coorperation
HMOs	Health Maintenance Organizations
IPA	Individual Practice Association
IPD	In-patient Department
MOD	Ministry of Defence
MOI	Ministry of the Interior
MOPH	Ministry of Public Health
MOU	Ministry of University Affairs
NESDB	National Economic and Social Development Board
NHS	National Health Service
NICs	Newly Industrialized Countries
OECD	Organization for Economic Co-operation and Development
OPD	Out-patient Department
PAHO	Pan American Health Organization
PCMO	Provincial Chief Medical Officer
PGP	Prepaid Group Practice
PHC	Primary Health Care
PPOs	Preferred Provider Organization
RAWP	Resource Allocation Working Party
VHCs	Village Health Communicators
VHVs	Village Health Volunteers

INTRODUCTION

The health service system in Thailand has not previously been analysed in the context of the possibility of a statutory health insurance scheme. This thesis attempts to explore the policy options for organising a statutory health insurance for private employees. A situational analysis of the present health care system is presented as this is the context for any health insurance arrangements. Demand for health insurance is evident from political demonstrations, seminars, and articles in journals and newspapers. However, the extent to which employers are willing to join the scheme, has not previously been identified. Nor has the pattern and amount of health benefits which they already arrange for their employees.

OBJECTIVES.

The objectives of this thesis are to answer the following policy questions.

1. What is the pattern of the existing provision of health benefits in private establishments and how much does it cost ?
2. What is the opinion of employers towards compulsory health insurance ? At what level would they be prepared to make their contributions ?

3. What are the types, size and geographical locations of firms or establishments likely to join the scheme ?

4. Who should be the providers of health insurance?

5. What are the options for the form of health insurance, and particularly what should be the method of paying the providers of health services ?

APPROACHES.

In order to answer these fundamentally important policy questions for organising a statutory health insurance for employees in Thailand, this thesis combines two approaches; survey research, and documentary research. The survey of health benefits provided by employers, and their opinions on a statutory health insurance was designed to meet objectives 1 - 4 outlined above. However, policy questions on options for organising health insurance remain unanswered by the survey. Therefore, the second approach of documentary research is needed for a comparative study in order to fulfil objective 5. In analysing the survey data and making a comparative study, an inter-disciplinary perspective is used.

AUDIENCE.

The audience for this thesis includes those with policy-making responsibility who are seeking to find the best options for health insurance in the future. They are the health planners, health professionals, researchers, academics

and students in fields related to health insurance. Employers and employees who have some background and concern for these issues may also find it is not too difficult to follow. Those who are not familiar with Thailand should begin with part 1. For readers who are not acquainted with the concept and different forms of health insurance may start with part 2 and follow this by part 1 before reading the policy options. Specialist readers may prefer to begin with policy options for health insurance in Thailand and return to each chapter to explore the details of particular themes. This thesis is particularly useful for a country which is about to start or has just started a statutory health insurance system.

THE PLAN OF THE THESIS.

This thesis consists of two parts. The first part deals with the country's situation while the second part is based on international experience and concludes with policy options for health insurance in Thailand. It is organised as follows. Chapter 1 describes, in brief, how the country has developed somewhat towards industrialization and achieved economic growth but points out that the distribution of income is very unequal. Generally, the health status of the population has improved but the pattern of illness and death has changed into a combination of diseases of poverty and diseases of modernization. Key facts and figures of geographical data, socio-political data, economic data, demographic data, and health status data, are examined.

Chapter 2 provides information on the health care system in Thailand which is based on market competition. The chapter traces the historical development of the health service since the country had parliamentary democracy in 1932 and the establishment of the Ministry of Public Health in 1942. Particular attention is placed on its present structure resulting from reorganization in 1974. Details of health care resources, namely facilities and manpower, are also discussed.

In chapter 3 and 4, an analysis of the health care financing system in Thailand is made, classified by sources of health care expenditure. An emphasis is given to the problem of inequality of health care. Chapter 3 concentrates on public expenditure, foreign aid and direct private payment. In sum, total expenditure on health care has grown sharply. Public expenditure has tended to decrease while direct private payment has tended to increase. Foreign aid has a minor share.

Chapter 4 focuses on the existing health insurance system which consists of several schemes for different population groups with differing levels of benefits and limits. However, only 54.4 % of the population are protected by some form of health insurance, while the remaining 45.6% of the population are unprotected. The chapter analyses the problems and effects of the four types of health insurance in Thailand at the moment, namely; social assistance, statutory insurance, employers' liability and voluntary insurance.

The next two chapters investigate the employer's demand for health insurance. This is derived from the survey of health benefits conducted in 1988. Chapter 5 presents the finding that there are 32 types of welfare and health fringe benefits in Thailand. The type and coverage of health benefits is also included in the survey. Finally, fee-for-service is found as the predominant method of paying the doctor and itemized billing, the method for paying the hospital.

Chapter 6 examines the actual cost of health benefits compared with the cost derived from the willingness to pay approach. Accessibility and availability of medical care is identified, as well as the employees' patterns of illness. In addition, the employers' opinion about a compulsory health insurance is ascertained.

The second part of the thesis focuses on health insurance in the international context, both in principle and practice. Chapter 7 explores forms of health insurance. Arguments for and against each type of health insurance are analysed. The historical development of different types of health insurance in different political structures is also examined. It is concluded that internal politics play a primary role in the development of a statutory health insurance. Other factors such as economics, the political structure of the country, and the number of regular workers in the modern sector of the economy, are of secondary importance.

The following two chapters look at the method of paying providers of health insurance. Chapter 8 deals with paying the doctor and chapter 9, with paying the hospital. The operational experiences of several countries are presented. Strengths and weaknesses of each method are critically analysed.

Next, policy options for health insurance for private employees in Thailand, are discussed. There are nine possible options regarding paying health care providers. This chapter offers criteria to determine the most suitable option. Then, the advantages and disadvantages of each option are critically analysed, before a conclusion is reached on the recommended option for Thailand in 1991.

Finally, there are three appendices which provide additional background information. These are a map of Thailand, the research methodology and the questionnaires (numbers 1-3), used during the course of the survey.

PART ONE

A SITUATIONAL ANALYSIS OF THAILAND

CHAPTER 1

GENERAL COUNTRY INFORMATION

1. GEOGRAPHIC DATA.

Thailand, or Siam as it was previously known, is located in the centre of Southeast Asia between 5-21 degrees north and 97-106 degrees longitude. It has the shape of a profile axe. It is bordered by Cambodia in the southeast, Laos in the northeast, Burma in the north, northwest and west, and Malaysia in the south (as illustrated in Appendix 1). The area of the country is approximately 200,000 square miles (514,000 square kilometres) while the total population is about 54.5 million with a growth rate of 1.4 per cent per year. (Health Planning Division, 1990, p.43)

The country is divided by natural barriers into four regions. The central region is the most fertile, the fruit and rice-growing areas, being in the basin of the Chao Phraya River. Bangkok, the capital of Thailand, where the main industrial establishments are concentrated, is located in this region. The northern region is mountainous and forested. Most of the land is cultivated. The northeast region, a plateau sloping down to the Mekong River, is the least developed area. Agricultural production in this region is limited by low soil fertility and a lack of water supply for cultivation from its

semi-arid climate. However, it is where about one-third of Thailand's population lives. The southern region, a peninsula, is the only region which does not grow rice for export: rubber cultivation, tin mining and fishing are the major products instead.

The climate is usually warm and humid. The tropical monsoon climate produces a three-season cycle: summer from March to May; rainy from June to October; winter from November to February. The average temperature in Bangkok is about 27 degrees centigrade, ranging from 29 degrees centigrade in April to 25 degrees centigrade in December (Office of the Prime Minister, 1985, p.10)

2. SOCIO-POLITICAL DATA.

A) History.

The history of Thai society has been traced back to the Sukhothai period (1257-1438). Since then Thailand has been governed by a monarch for centuries; the Sukhothai dynasty was succeeded by the Ayutthaya (1350-1767), Taksin (1767-1782), and the present Chakri dynasty (1782-present). The long term successive absolute monarchy came to an end in a 1932 coup d'etat (Caldwell, M., 1976) by a mixed military-civilian group. It is noted that this coup and ones to follows are always referred to as revolutions, in Thailand. The post-1932 constitutional governments have usually been controlled by the

military. The monarch is under the constitution. The present King Bhumipol Adulyadej (Rama IX) acceded to the throne in 1946. Thailand has never been colonized but has maintained independence and a strong national identity through adroit diplomacy and the interplay of politics amongst the western countries for the checks and balances of power in this region.

Before the second world war Britain had the greatest influence on Thailand. Since the 1940s, the dominance of Britain over Thailand was substituted by that of the United States of America. The USA military intervention began in about 1947-8 by supporting the Phibun coup government. Since then, America has thrown massive technical and military help at Thailand. Not too long after that, Thailand became the first Asian nation to take part in supporting the USA in the Korean war. In 1954, Thailand joined the anti-communist military pact, the so-called SEATO, which subsequently transferred its headquarters to Bangkok. Later, USA air bases were built up in Thailand for the USA operation in the Indochina war. In addition, the Thai regime was fighting for the USA imperialists in Vietnam, Laos and Cambodia (Morrow, M., 1972). In 1958, Tanarat, S. seized power with a bloodless coup. The USA strongly supported the regime again. Tanarat was strengthening the role of the monarch, side by side with the military. Thus, Thailand since the Tanarat period has been controlled by the Tri-alliance power of the military, monarchy and religion.

B) Politics.

The political structure of the country, since the 1932 coup, is that of a multi-party system of "Thai style quasi-democracy" with military domination. The parliament has two houses; The Senate house with members of the military in it, and the House of Representatives, dominated by the capitalist class. Under the Constitution, the Prime Minister is appointed by the king, not necessarily by the electorate. However, at present, Mr. (Former General) Chatichai Choonhavan is the first elected Prime Minister in 12 years. The government is not very stable due to sporadic military coups. Thailand has had 16 attempted military coups in 58 years since the end of the absolute monarchy, the latest occurring in 1985 (Economist, 1990, p.78).

The administrative pattern of Thailand is divided into a strongly centralized administration and 72 provincial administrations. There are 14 functional ministries including the Office of the Prime Minister. The provincial administration is directly controlled by the Ministry of Interior which appoints a governor for each of Thailand's 73 Provinces. Each province is divided into districts and subdistricts (Tambons). The Tambon is further divided into villages. The number and average population size of each administrative level are presented in table 1.1.

Table 1.1 : The number and average population size of each administrative level in Thailand.

Level	Number⁽¹⁾	Average population size⁽²⁾
Central (Bangkok)	1	6,108,651
Provinces	72	634,550
Districts	735	64,897
Sub-districts (Tambons)	6,754	6,563
Villages	61,411	725

Sources : (1) Department of Local Administration,
Ministry of Interior, 1989.

(2) Department of Civil Registration,
Ministry of Interior, 1989.

There are a total of 124 municipalities and 219 sanitary districts in the urban areas of Thailand. The local self governments of municipalities and sanitary districts are elected by the local people. Similarly, in rural areas at Tambon and village levels, the Tambon chief and the village headman are also elected directly by the villagers. However, the local organization of Tambon councils and village committees is tied up with the National Rural Development Committee which is chaired by the Prime Minister. In addition, the budget to support Tambon and village activities is channelled through the ministries concerned with rural development.

C) Education.

The education system is based on the western style curriculum, compulsorily with six years of formal training in primary school and optionally, staying in school until the age of fifteen. Altogether, the standard curriculum is customarily comprised of six years of primary education and six years of secondary education, either in public or private schools. In 1987, there were 95 per cent of the eligible age group enrolled in primary education, compared with 78 per cent in 1965 (World Bank, 1990).

At secondary school, there are two education channels; the academic, preparing students for higher education at university level and the vocational, preparing children for the skilled labour market. However, emphasis is placed on entering university, rather than preparing a skilled labour force to suit the needs of the country through vocational education. Moreover, most families cannot afford to let their children go beyond the primary level, although the secondary school age-group enrolment has doubled from 14 to 28 per cent between 1965 and 1987 (World Bank, 1990). Nevertheless, the secondary enrolment rate in Thailand is amongst the lowest in Southeast Asia, and much lower than that of the Asian Newly Industrialized Countries (Sussangkarn, C. et al, 1988).

The literacy rate of the population aged 10 years and over, was 89.5 per cent in 1980 compared with 70.8 per cent in 1960 (National Statistical Office; 1960, 1980). As in most developing countries, the Thai female's illiteracy rate is higher than that of the national average. In 1985, the female 's illiteracy rate was 12 per cent while the total illiteracy rate was only 9 per cent (World Bank, 1990). In addition, in 1980, there were 3.5 million people of the age of 10 years and over who were illiterate, of whom 66.8 per cent were women (National Statistical Office, 1980).

D) Religion.

Theravada Buddhism is the predominant religion which has long been adhered to by 92.4 % of the Thai population. After the Indian emperor Asoka (267-227 B.C.) dispatched Buddhist monks as missionaries to Southeast Asia to propagate the newly established faith, Buddhism has had a profound influence over Thai culture, arts, tradition, and learning for centuries. The Buddhist way of life is an integral part of national life. The institution of Buddhist monks remains a major social institution in Thailand. Thai temples have traditionally served as village hostellries, village news centres, employment and information agencies, schools, hospitals, dispensaries, and community centres. The other religious groups are Muslim (3.8%), Christian (0.50%), Hindu, and Sikh with others (3.30%) being free to practice their respective faiths in the society.

E) Language.

Thai is the national and official language which has its own alphabet. English is the second language, which is taught in secondary school, and is used in urban, government and business circles.

3. ECONOMIC DATA.

Thailand was classified by the World Bank as a lower middle income developing country with a Gross National Product (GNP) per capita of 1,000 US Dollars in 1988 (World Bank, 1990). Basically, Thailand is an agricultural, developing country. Agriculture has long been the biggest earner for the Thai economy. However, the agricultural economy is declining and gradually being replaced by industry, especially in the late 1980s. In terms of employment, the agriculture sector has decreased from 78.9 per cent in 1971 to 66.7 per cent of the total work-force in 1986. In the same period, the share of GDP originating from the agricultural sector was reduced from 28.2 to 16.7 per cent. The result was that the GDP per capita of the non-agricultural sector was increasing in relation to that of the agricultural sector (Hutaserani, S. and Jitsuchon, S., 1988, p.21-22).

The country is also endowed with substantial natural resources, for instance; fluorite, wolfram and tungsten in the north; fluorite and gems in the west, sapphires from the

southeast, potash in the northeast, tin in the south and natural gas in the Gulf of Thailand. Recently, petroleum has been found in many provinces in the north (Ministry of Public Health, 1985, p.1-2). Mining and light industry have become increasingly important in their contribution to the Thai economy. Tin is the most significant mineral and is the largest foreign exchange earner.

Thailand's tourism is quite a well developed and fast growing sector of the economy. It became one of Thailand's major foreign exchange earners in 1983. And since then, there has been an increasing number of foreigners who come to enjoy their holidays in the mountains, beach resorts, and archaeological sites. In 1989, there were around 4.8 million tourists visiting Thailand, 13.6 per cent more than in 1988 (Tourism Authority of Thailand, 1990). In 1988, the income from tourism was 5.4 per cent of GDP, compared with 4.1 per cent in 1987 and 3.4 per cent in 1986.

The basic unit of Thai currency is the Baht, divided into 100 Stangs. The Baht is worth approximately 0.021 Pounds Sterling or 0.041 US Dollars (in early 1991). In 1983, there were 16 Thai commercial banks with 1,706 branches, and 14 foreign banks with 18 branches throughout Thailand. There are also several government banks operating, including the Bank of Thailand, the Government Savings Bank, the Bank for Agriculture and Agricultural Co-operatives and the Government Housing Bank. In most cases, mutually advantageous foreign

investment is welcomed in Thailand. The Board of Investment (BOI) provides guarantees, tax exemption, income tax relief and temporary tariff protection. As a rule, the projects which provide foreign exchange earnings or savings and generate local employment are eligible for investment incentives.

Thailand's economic strength is also complemented by regional alliances and relationships with neighbouring countries, the most important of which is the Association of Southeast Asian Nations (ASEAN). It is dedicated to economic and cultural development amongst the Philippines, Indonesia, Brunei, Singapore, Malaysia and Thailand.

The process of industrialization in Thailand began gradually after General Tanarat, S. seized power and created a national Economic Board in 1959, as recommended by the World Bank. Thailand has increased her real Gross Domestic Product (GDP) more than fivefold, and GDP per capita 2.6 times (Kiranandana, T. et al, 1989, pp.184-5). Particularly between 1979 and 1989, Thailand has doubled her real GDP from 277 Billion Baht (at 1972 prices) to 554 Billion Baht. Meanwhile, the GDP per capita has expanded 1.7 times from 5,956 Baht in 1979 (at 1972 prices) to 9,931 Baht in 1989. In addition, the growth rate of GDP was averaging about 6.8 per cent a year in real terms (or 12.8 per cent a year in current prices) with a rapid growth of 12 and 10 per cent in 1988 and 1989, respectively (see table 1.2).

Table 1.2 : Gross Domestic Product, GDP per capita and Growth rate of GDP, 1970-1989 (selected years).

Year	GDP (1)	GDP (2)	GDP per capita(3)	Growth Rate of GDP(4)	Growth Rate of GDP(5)
1979	277	556	5,956	6.1	18.4
1980	293	684	6,141	5.8	23.0
1981	311	786	6,366	6.1	14.9
1982	324	846	6,466	4.2	7.6
1983	343	910	6,679	5.9	9.9
1984	381	973	7,507	7.1	6.9
1985	394	1,014	7,626	3.5	4.2
1986	412	1,095	7,821	4.5	8.0
1987	446	1,234	8,327	8.4	12.7
1988	500	1,456	9,136	12.0	18.0
1989	554	1,703	9,931	10.8	17.0
Average				6.8	12.8

Notes : (1) Billion Baht at 1972 prices.
 (2) Billion Baht at current prices.
 (3) Baht at 1972 prices.
 (4) Per cent at 1972 prices.
 (5) Per cent at current price.
 48 Baht = 1 Pound in 1988-89.

Sources : National Accounts Division, NESDB, Thailand, 1990.

Department of Economic Research, Bank of Thailand,
 1990.

Although the average income level of the Thai population has risen considerably, the distribution of the benefits of economic growth became more unequal over the period between 1975/6 and 1985/6. The top quintile group of households accumulated wealth while the rest became poorer. Income of the top quintile group of households has risen from 49.26 per cent of the total household income in 1975/6 to 55.63 per cent in 1985/6. When the figure is broken down into percentile, the disposable income of the top percentile group has increased

considerably from 33.40 percent of total to 39.15 per cent. Table 1.3 compares the distribution of total disposable income accruing to quintile groups of household from 1975/6 to 1985/6.

Table 1.3 : The income distribution accruing to quintile groups of household ranked by total household income, 1975/6, 1980/1 and 1985/6.

Quintile group of household	Percentage share of household income		
	1975/6	1980/1	1985/6
Top	49.26	51.47	55.63
(Top 10 %	33.40	35.44	39.15)
(Second top 10%	15.86	16.04	16.48)
Fourth	20.96	20.64	19.86
Third	14.00	13.38	12.09
Second	9.73	9.10	7.87
Bottom	6.05	5.41	4.55
(Second bottom 10%	3.62	3.28	2.75)
(Bottom 10 %	2.43	2.13	1.80)
Total	100	100	100
Gini Coefficient	0.426	0.453	0.500
Variance of logarithm of income	0.530	0.602	0.737

Source : Socio-Economic Surveys 1975/6, 1980/1 and 1985/6,
National Statistical Office, Office of the
Prime Minister, Bangkok, Thailand.

In addition, income disparities have become larger amongst the different regions. The gaps between urban and rural areas have also been widening. Per capita income of those who live in the northeast which is the poorest region of the country, is about one-sixth of those who live in Bangkok (Royal Thai Government, 1988a, p.12). Moreover, in 1985/86 there were 29.51 per cent of the country's population still

remaining in absolute poverty, and 94.1 per cent of this population live in rural areas (National Statistical Office, 1985/86). Between 1975/6 and 1985/6, the population under the poverty line in the northeast region increased from 44.92 per cent of the total number of absolutely poor in the country to 48.17 per cent. By contrast, during the same period, the absolute poverty population in Bangkok and all municipal areas decreased by half from 7.75 to 3.89 per cent in Bangkok, and from 12.53 to 5.90 in all municipal areas (National Statistical Office; 1975/76, 1985/86). The problem of poverty and other social problems related to poverty, especially in rural areas, is largely a result of the past emphasis on economic growth and failure to recognize the close and complex links between economic and other aspects of development. (Royal Thai Government, 1988a, p.12-13). In addition, Sussangkarn, et al (1988) explained that the main causes of income inequality in Thailand are from the high share of agricultural employment and the low secondary education enrolment. An alternative explanation is that higher income households have the ability to save a larger proportion of their income than the smaller income household due to the regressive structure of the country's taxation (Krongkaew, M., 1979).

4. DEMOGRAPHIC DATA.

On 31 December 1987, the population of Thailand was 53.873 million (Division of Civil Registration, 1988). The

rate of growth is 1.4 % per year (Health Planning Division, 1990) and this rate is expected to decrease gradually. However, the growth rate of some minority groups such as hill tribes and Thai Muslims of the five southern provinces might remain higher than the national growth rate (Health Planning Division, 1987, p.1-2).

The characteristics of the Thai population from 1947-80 which are shown in table 1.4, indicate that the percentage of children aged 0 - 5 years old decreased, resulting from the success of the family planning programme at a national level. The dependency ratio has also declined over the last two decades. By contrast, there is a tendency for an increasing population of the elderly, aged over 60 years old. Similarly, the percentage of the urban population is rising rapidly which is resulting from migration. Furthermore, it is estimated that about 25 per cent of the population will migrate from rural areas to industrial areas during the sixth development plan (1987-1991). In addition, youths and working people (aged between 15-45 years old) have tended to increase in proportion from 46.5% in 1980 to 56 % in 1991. Moreover, the number of women of reproductive age which declined in 1970 but increased in 1980, will continue to grow at a more rapid rate (Health Planning Division, 1987, p.7-8).

Table 1.4 : Characteristics of Thai population, 1947-80.

Characteristics	1947	1960	1970	1980	1990
Total population (In thousands)	17,433	26,260	34,397	44,825	56,340
Male	8,722	13,154	17,124	22,329	28,197
Female	8,721	13,104	17,274	22,496	28,143
Sex ratio	100.01	100.40	99.10	99.30	100.19
Dependency ratio	n.a.	92	85	75	59.5
Population aged 0-5 (%)	n.a.	16.2	16.4	12.1	11.1
Population aged 60 and over (%)	n.a.	4.5	5.1	5.3	6.1
Population aged 15-60 (%)	n.a.	52.2	49.8	56.4	60.5
Urban population (%)	n.a.	12.5	13.2	17.0	18.7
Population density (person per square kilometre)	34	51	70	87	109

Sources : (1) Population and Housing censuses 1960, 1970, 1980., National Statistical Office, Office of the Prime Minister, Bangkok, Thailand.

(2) Health In Thailand, Health Planning Division, Ministry of Public Health, Bangkok, 1990.

Some selected demographic information in 1988-89 (reported) are as follows;

Crude birth rate	:	16.0 per 1,000 population.
Crude death rate	:	4.2 per 1,000 population.
Growth rate	:	1.4 %
Infant mortality rate	:	35 per 1,000 livebirths
Maternal mortality rate	:	0.4 per 1,000 population.
Life expectancy at birth		
male	:	62.24 years.
female	:	66.19 years.

Source : Health In Thailand, Health Planning Division, Ministry of Public Health, Bangkok, 1990.

The rural population is 81.3 % of the whole population.

From the total of 60,169 villages, 17 % have a population of over 2,000, 62 % have between 500 and 2,000 inhabitants, while

the remaining 21 % have less than 500 villagers (Division of Civil Registration , 1988).

The urban population is about 18.7% of the whole country's population. The urban area includes areas which have a population of over 30,000 and a minimum density of 2,000 persons per square kilometre. The capital of Thailand, Bangkok, has about 5.6 million inhabitants whereas the second ranking municipal area of Nakornratchasima province has a population of only 276,184 persons or about 20 times less than that of the Bangkok metropolis. Similarly, the third rank municipal area of Chiangmai has merely 157,405 inhabitants, or 35 times less than that of Bangkok, whereas the smallest municipal area of Maehongson province has a population of only 6,752, which is 800 times smaller than that of Bangkok.

Ethnic minority groups consist of several hill tribes in the north and Muslims in the five provinces of the south, around the Malaysian border. A large number of Chinese immigrants, who have been assimilated into the Thai race, at present, are those who control the major businesses in Thailand.

By the end of 1989, the number of employed persons were 29.4 million out of the total labour force of 30.9 million (Bank of Thailand, 1990), representing 95.1 per cent of total employment. In 1989, data from the Labour Force Survey

(National Statistical Office, 1989) revealed that self-employed persons accounted for 71.6 per cent of the total employment or around 21 million. They were:- unpaid family workers (42.6% of the total employed persons), own-account workers (29.0%) and employers (1.2%). The number of unemployed persons was 3.1 per cent of the current labour force. Only about 26.4 % of the total unemployed were looking for work. The remaining 73.6% were not looking for work.

5. HEALTH STATUS DATA.

Food and nutrition have an influence on health status, especially for the low income population. The daily calorie supply per capita of the Thai population has increased slightly from 2,101 calories in 1965 to 2,331 calories in 1986 (World Bank, 1990, p.232). However, the increase in total food availability takes no account of other factors such as the pattern of food distribution. Thus, a birth weight of less than 2,500 grams, and the weight-for-age of young children were used as indicators of the health status. In 1985, the number of babies born weighing less than 2,500 grames was 120 per 1,000 live-births (World Bank, 1990, p.232). In 1988, there were 2.3 million infants and pre-school children aged 0-5 years old who were under nutritional surveillance. When taking weight-for-age into account; the first, second, and third degrees of malnutrition in children of all age groups are 19.69, 1.49, and 0.02 per cent respectively. (Health Planning Division, 1989a, p.19).

Since mortality is the main indicator to determine the health status of the population, in Thailand, the disease-specific mortality rates are compiled from death registration data and hospital records and classified according to the International Classification of Diseases (ICD) codes. There have been several changes in definition and coding of certain diseases. However, the ninth revision of the ICD has been used since 1979. In the last two decades, the pattern and magnitude of the leading causes of death has changed remarkably. In 1968, communicable diseases such as diarrhoeal diseases, respiratory infections especially tuberculosis and pneumonia ranked as the top causes of mortality, while the non-communicable diseases such as cardiovascular diseases, accidents, and cancer had the lower rank. By contrast, since 1983 the non-communicable diseases have become top rank as the leading cause of death while the communicable diseases have taken the lower rank (Institution for Population and Social Research, 1988, p.106). In broad agreement with these findings, the data from the Health Statistics Division, Ministry of Public Health indicates that between 1981-85 the death rate from non-communicable diseases has increased, but the death rate from communicable diseases has decreased. Table 1.5 below shows the number of deaths from non-communicable diseases and communicable diseases as a percentage of all deaths, and the death rate per 100,000 population from 1981-85.

Table 1.5 : Trend of death from non-communicable diseases and communicable diseases, 1981 - 85.

Cause of death	Year				
	1981	1982	1983	1984	1985
Non-communicable diseases					
Percentage of all deaths	17.98	18.37	18.81	20.86	21.22
Death rate per 100,000 population	30.20	31.20	32.00	31.10	30.80
Communicable diseases					
Percentage of all deaths	8.77	8.30	7.75	6.94	6.71
Death rate per 100,000 population	14.70	14.10	13.20	10.30	9.70
Total death rate ⁽¹⁾ (per 100,000 population)	504.20	510.20	510.70	447.00	435.50

Notes : Calculations are based on the ten major causes of death only.

(1) Includes other causes of death which do not appear in the table.

Source : Health Statistics Division, Ministry of Public Health, Bangkok.

In 1985 a mortality survey was undertaken by the Institute for Population and Social Research, Mahidol University, to measure the correct levels of current mortality rates and to estimate the degree of under-registration of deaths by making retrospective inquiries from household members. The survey found that the condition of "senility without psychosis" cause of death, came into the first rank, while this was previously classified under the title of "ill defined symptoms", or "unknown cause of death", or "others" in the data from death certificates. However, the survey confirmed that non-communicable diseases such as accident, suicide, homicide, malignancy, and heart disease are amongst the major leading causes of death. Similarly, the communicable diseases of pneumonia, conditions originating

during the perinatal period, pulmonary tuberculosis, and diarrhoeal diseases are ranked amongst the ten leading causes from both sources of data. It is interesting that, from the survey data, the other two non-communicable diseases namely; cardio vascular accidents (CVA), and cirrhosis of the liver or hepatitis, are amongst the ten leading causes of death instead of malaria and nutrition deficiencies as appeared in the registered data of the same year. Table 1.6, following, compares the ten leading causes of death in 1985 between the two sources of data.

Table 1.6 : Comparing the ten leading causes of death in 1985 between the two sources of data (rate per 100,000 population)

Rank	Reported death rate ⁽¹⁾	Survey death rate ⁽²⁾
1	Disease of the heart	36.4
2	Accident and poisoning	28.9
3	Malignant neoplasm	27.0
4	Tuberculosis	10.3
5	Pneumonia	7.4
6	Malaria	3.5
7	Diarrhoeal diseases	3.5
8	Diseases of the stomach and duodenum	2.9
9	Diseases of pregnancy, child-birth and puerperium	0.8
10	Nutritional deficiencies	0.7
		Senility without psychosis
		Accident, suicide, homicide
		Malignancy (all forms)
		Heart diseases
		Pneumonia, bronchitis, asthma
		CVA
		Conditions originating during perinatal period
		Tuberculosis
		(pulmonary)
		Cirrhosis of the liver, hepatitis
		Diarrhoeal diseases

Sources : (1) Health Statistics Division, Ministry of Public Health, Bangkok.

(2) The Morbidity and Mortality Differentials,
Institute for Population and Social Research, Mahidol University, Bangkok, 1988.

Moreover, the morbidity survey (1985) found the major causes of death between urban and rural populations had a slightly different pattern. In urban areas, heart diseases were a higher cause of death than in rural areas, while other causes of deaths such as accident, senility, malignancy, and pneumonia had a lower rate. In addition, cardio vascular accidents (CVA) were the major killer amongst the urban residents. By contrast, in rural areas the conditions originating during the perinatal period prevailed as the major cause of death amongst the rural poor. Table 1.7 compares the differences between major causes of death for urban and rural populations in 1985.

Table 1.7 : Major causes of death in urban and rural populations, 1985. (Rate per 100,000 population)

	Urban Rank Causes of deaths	Rate	Rural Causes of deaths	Rate
1	Accidents, suicide homicide	54.8	Senility without psychosis	98.0
2	Senility without psychosis	42.1	Accidents, suicide homicide	78.6
3	Heart diseases	40.7	Malignancy	52.4
4	Malignancy	36.0	Pneumonia	42.1
5	CVA	27.8	Heart diseases	37.3
6	Pneumonia, bronchitis	17.7	Conditions originating during perinatal period	35.2

Source : The Morbidity and Mortality Differentials, 1988, p.113.

In order to estimate the future mortality profile in Thai society up to the year 2000, the mortality pattern of the Thai

population during the past three decades has been analysed and projected by using econometric modelling and mathematical modelling techniques (Mortality Profile of the Thai Population, 1989). An econometric model is based on the mortality rate being a logistic function of real per capita income and a mathematical model is based on mortality rate being an approximate exponential function of time. Two data files were created, namely ; "Data base I" and the alternate "Data base II". Data base I was obtained by adjusting the Annual Health Statistic Report, using the method suggested by Prasithrathsint, S. and Boonpuang, C. (1987). Data base II was based on the exceptionally high infant mortality rate in 1985 as maintained by Mahidol University and the Health Statistics Division (1988). Both regression models provided consistent results. It is found that the change in real per capita income accounted for over 97 per cent of the variation in the mortality rate during 1960-86, while time change accounted for over 98 per cent of variation in mortality rate. The study assumes that the previous mortality pattern will continue to hold in the future and the real per capita income will grow at the rate of 4 per cent per year. Therefore, the mortality rates by sex, by age-group, by region and by certain causes of death are estimated up to the year 2000. The estimated crude death rate and infant mortality rate per 1,000 population are shown below in table 10. The study found that the decline in mortality rates is expected to continue. However, it revealed that concern should be centred on the south and the north regions of Thailand which expect the highest death rates by

the year 2000. A trend of a sharp increase in the cause-specific death rate also calls for special attention, especially in sickness and death due to neoplasms, diseases of the circulatory system and accidents, poisoning and violence (Mortality Profile of the Thai Population, 1989).

Table 1.8 : Estimated crude death rate and infant mortality rate (per 1,000 population).

Year	Crude death rate ⁽¹⁾		Infant mortality rate ⁽²⁾	
	EE	ME	EE	ME
1960	14.71	14.58	91.33	100.67
1965	10.96	12.00	72.83	82.26
1970	9.48	9.88	64.44	67.22
1975	8.54	8.13	58.62	54.92
1980	6.76	6.70	46.77	44.88
1985	5.58	5.51	38.00	36.67
1990	4.80	4.54	31.78	29.97
1995	4.18	3.74	26.43	24.49
2000	3.70	3.08	22.01	20.01

Notes : (1) Database I.

(2) Database II.

EE = Econometric estimation; ME=Mathematic estimation.

Source : Mortality Profile of the Thai Population, Country Report No. 24, Thailand, WHO Interregional Seminar on Financing Human Resources for Health, Bangkok, 6-10 March 1989, Table 1.

The mortality rate demonstrates some improvement in communicable disease control and envisages an increase in the death rate from non-communicable diseases, but it does not adequately measure the health status of the Thai population. Although out-patient reports (report no.504) compiled by Health Statistics Division are incomplete and of poor quality, an analysis of morbidity based on them reveals that a large number of the Thai population, including those in rural and in

Bangkok areas still suffer from a high rate of preventable diseases such as diseases of the respiratory system, the digestive system and from infectious diseases. There are no sharp regional differences in morbidity rates according to data obtained from out-patient reports. However, the Bangkokian has a slightly different morbidity rate from those living in the rest of Thailand. Having the highest morbidity rate of the respiratory system, with the lowest prevalence of infectious and parasitic diseases in Bangkok, results from the worse environment, but better sanitation, personal hygiene and coverage of health services than in the rest of the country. The following are morbidity rates per 1,000 population of the six leading groups of illnesses according to the out-patient reports (see table 1.9).

Table 1.9 : Morbidity rate of the six leading groups of illnesses in Thailand, according to out-patient reports, 1987 (per 1,000 population).

Rank	Cause of illness	Whole country	Bangkok	North	Northeast	Central ⁽¹⁾	South
1	Respiratory system	172.7	206.5	190.5	156.9	191.2	157.4
2	Digestive system	100.6	97.4	108.2	106.4	98.2	77.2
3	Infectious and parasitic diseases	77.4	59.1	79.5	82.2	68.5	76.4
4	Accident, poisoning, & violence	50.2	48.0	50.6	40.9	65.1	49.6
5	Skin and subcutaneous tissue	42.0	61.5	47.3	32.5	48.2	49.0
6	Musculo-skeletal system and connective tissue	33.9	54.1	47.2	29.3	32.1	29.1
Total ⁽²⁾		735.5	n.a.	838.0	684.7	766.5	665.3

Notes : (1) Excludes Bangkok.

(2) Includes other causes of illness which do not appear in the table.

Source : Health Statistics Division, Ministry of Public Health, Bangkok, 1988.

The morbidity rate calculated from out-patient reports does not reveal the burden of ill-health in the major hospitals. Thus, it is important to take the in-patient reports into account in order to provide the relevant magnitude of the disease incidence. According to the National Epidemiology Board of Thailand (1987), the mortality from leading diseases between 1983 and 1984 derived from the hospital in-patient reports (report no.505), are shown in table 1.10. From the table, enteritis and other diarrhoeal diseases, non-motor vehicle accidents, motor vehicle

accidents, and malaria are the four major causes of hospital admission.

Table 1.10 : Per cent and morbidity rate (per 1,000 population) of in-patients by ten major causes of disease, 1983-4.

Rank	Cause of disease	1983		1984	
		%	Rate	%	Rate
1	Enteritis and other diarrhoeal diseases	7.4	3.46	6.0	3.07
2	Other accidents	4.2	1.96	4.1	2.07
3	Motor vehicle accidents	3.5	1.66	3.5	1.78
4	Malaria	2.9	1.38	3.5	1.78
5	All other infective and parasitic diseases	3.4	1.59	2.9	1.50
6	Bronchitis, emphysema and asthma	2.5	1.18	2.5	1.29
7	Haemorrhagic fever	1.0	0.45	2.5	1.29
8	Peptic ulcers	2.4	1.12	2.3	1.19
9	Pneumonia	2.5	1.16	2.2	1.10
10	Abortions	2.0	0.93	2.1	1.04
Total ⁽¹⁾		100.0	47.11	100.0	51.01

Note : (1) Including other causes of illness which do not appear in the table.

Source : Review of the Health Situation in Thailand, Priority Ranking of Diseases, National Epidemiology Board of Thailand, Bangkok, 1987, Table 2.11.

The remaining problem of assessing the morbidity rate of Thai people by using the reported data, apart from the inaccuracy of diagnosis, is that the chronically sick may not visit health care facilities. The morbidity survey was conducted in parallel with the 1985 mortality survey by the same institute, in an attempt to understand better the morbidity pattern of the Thai population. The survey data was based on incidents during one month prior to the survey date.

The top leading causes of illness, from the survey findings, are infectious diseases, diseases of the respiratory system, ill-defined symptoms, diseases of the digestive system and other diseases (see table 1.11)

Table 1.11 : Incidence rate of the top ten leading causes of illness (per 1,000 population) per month⁽¹⁾, 1985.

Rank	Cause of illness	Whole country	Bangkok	North	Northeast	Central ⁽²⁾	South
1	Infectious diseases	41.5	25.5	30.9	53.2	46.5	35.8
2	Diseases of respiratory system	30.4	30.7	27.4	21.4	38.1	39.9
3	Ill-defined symptoms	21.6	9.7	21.0	20.6	21.6	30.1
4	Diseases of digestive system	20.9	20.7	18.6	19.6	29.2	13.6
5	Diseases of circulatory system	10.5	20.7	17.2	4.3	12.5	3.2
6	Diseases of skin and subcutaneous tissue	5.9	6.1	4.3	6.8	5.6	6.2
7	Diseases of eye and ear	5.5	3.2	6.8	4.4	8.9	2.8
8	Diseases of urinary tract and sex	5.1	2.6	5.2	6.0	5.7	4.4
9	Endocrine disturbance	5.0	9.2	10.6	2.1	4.6	1.9
10	Accidents / injuries / violence	4.9	3.7	5.0	2.4	9.8	3.6

Notes : (1) Incidence during one month prior to the survey date (April - May, 1985).
 (2) Excludes Bangkok.

Source : The Morbidity and Mortality Differentials, 1988, Table 3.15.

Focusing on the prevalent rate of illness or injury, and hospitalization, the morbidity survey found 156.4 cases per 1,000 population within one month. The prevalent rate of hospitalization, which refers only to in-patients, was 51.3 per 1,000 population per year (see table 1.12). It is worth noting that the Bangkokian has the lowest prevalent rate of illness or injury (139.5 per 1,000 population) but a very high rate of hospitalization (65.2 per 1,000 population). The very high prevalent rate of hospitalization in Bangkok is due to the best availability and accessibility of health services in the capital of Thailand, a case of supply creating demand.

Table 1.12 : Prevalent rate of illness or injury, and hospitalization per 1,000 population in Thailand, 1985.

Region	Illness or injury ⁽¹⁾	Hospitalization ⁽²⁾
Whole country	156.4	51.3
Bangkok	139.5	65.2
North	154.2	65.6
Northeast	144.6	38.9
Central ⁽³⁾	184.7	59.9
South	151.6	34.1

Notes : (1) Illness or injury occurring within one month prior to the survey date.
 (2) Hospitalization occurring within one year prior to the survey date.
 (3) Excludes Bangkok.

Source : The Morbidity and Mortality Differentials, 1988, Table 3.5.

Regarding episodes of illness, the morbidity survey (1985) discovered that on average the Thai population had 2.1 episodes per person per year, ranging from 1.9 in Bangkok to 2.6 in the central region (excluding Bangkok). In addition,

hospitalization per person per year also had a similar pattern to the hospitalization per 1,000 population as mentioned earlier in table 14. That is, the Bangkokian, with the lowest incidence of illness, had the highest rate of hospital admissions per year, at 0.07 (see table 1.13).

Table 1.13 : Episodes of illness and hospitalization per person per year by region of usual residence, 1985.

Residence	Illness	Hospitalization
Whole country	2.1	0.05
Bangkok	1.9	0.07
North	2.0	0.07
Northeast	1.9	0.04
Central ⁽¹⁾	2.6	0.06
South	2.0	0.04

Note : (1) Excludes Bangkok.

Source : The Morbidity and Mortality Differentials, 1988, Table 3.8.

Regarding age - sex differences in the episodes of illness or injury and episodes of hospital admission, the morbidity survey indicated that to some extent males had a lower incidence of illness or injury, and a lower incidence of hospital admissions than females. The one exception was males aged 1-14 years old who had the higher incidence of illness or injury. Similarly, males aged 4 years or less, and those aged 60 and over, had higher episodes of hospitalization than females (see table 1.14).

Table 1.14 : Age - sex differences in episodes of illness or injury, and episodes of hospital admission in Thailand, 1985.

Age group (year)	Illness or injury ⁽¹⁾		Hospitalization ⁽²⁾	
	Male	Female	Male	Female
Less than 1	3.7	4.0	42	38
1 - 4	3.9	3.2	5	4
5 - 9	1.8	1.6	3	3
10 - 14	1.2	1.1	2	2
15 - 24	1.0	1.1	4	8
25 - 49	1.9	2.2	5	6
50 - 59	2.8	3.8	5	6
60 and over	4.2	4.2	8	6
All age	2.0	2.2	5	6
Age-Standardized rates ⁽³⁾	2.0	2.1	5	6

Notes : (1) Rate per person per year.

(2) Rate per 100 persons per year.

(3) 1980 Population Census was adopted as base population for age-standardized rates.

Source : The Morbidity and Mortality Differentials, 1988, Tables 3.9, 3.10.

As far as occupational differences in prevalence of illness or injury are concerned, from the morbidity survey findings there is an inverse relationship between labour force participation and morbidity. Persons in work are likely to have a lower prevalent rate of illness or injury than those not in work (except for students). The student group, which was not classified under the labour force group, has the lowest prevalent rate of illness or injury. By contrast, the "no occupation" group including housewives and those looking for jobs had the highest prevalent rate in both sexes. Amongst those who are in work, the highest prevalent rate belonged to the male service worker, and female clerical and sales

workers. While the lowest prevalent rate was found in male professional and administrative workers, and female transport workers respectively. In some categories, such as professional and administrative workers, and service workers, female had a higher age-standardized prevalence rate, while in some other categories, such as transport workers, and farmers, male workers have a higher rate. However, there is no statistically significant difference between the sexes (see table 1.15).

Table 1.15 : The occupational differences in the prevalent rate of illness or injury per 1,000 population age 10 years and over, per month.

Occupation	Prevalence rate of persons age 10 years and over (per 1,000 population) per month ⁽¹⁾		Age-Standardized Prevalence rate ⁽²⁾	
	Male	Female	Male	Female
Professional and administrative workers	117	139	82	125
Clerical and sales workers	121	158	109	143
Service workers	173	156	108	205
Farmers	150	154	136	114
Transport workers	129	111	102	75
Manual labourers	123	137	111	145
Students	75	77	82	66
No occupation ⁽³⁾	274	228	225	184

Notes : (1) Prevalence rate during one month prior to the survey date.
 (2) 1980 Population Census was adopted as base population for age-standardized rates.
 (3) No occupation includes housewives and those looking for a job.

Source : The Morbidity and Mortality Differentials, 1988, Tables 3.13.

6. CONCLUSION.

In conclusion, Thailand has transformed from an agriculture based to an agro-industrial based economy. The industrialization process has been developed steadily in the period between 1960-87 with real growth rates of around 7.02 per cent a year, accelerating to around 10.0 per cent between 1988-89. There were high expectations that in the 1990s Thailand may repeat the Asian Newly Industrialized countries (NICs) rapid industrialization of the 1960s and 70s (Sussangkarn et al, 1988). There is also an influx of labour, mainly from the northeast region, coming to find jobs in Bangkok and five neighbouring provinces where the industrial factories are established.

However, the effect of economic growth over the past decade or two, was not in favour of the poor. The distribution of income after taxes and benefits became more unequal. The top percentile and top quintile groups of householders were the greatest beneficiaries of the economic growth of the country. By contrast, the poor became worse off. Similarly, the income disparity between urban and rural areas became wider during the same period.

In general, the level of education and health status of the Thai population has improved resulting from the change in overall lifestyle toward modernization, better housing, sanitation, and food. The pattern of illness and causes of

death have gradually changed from communicable diseases towards the diseases of modernization, namely cancer, heart diseases, accident, and so forth. At the same time some communicable diseases remain, such as; infectious diseases, diseases of the respiratory system, diseases of the digestive system.

In parallel with the economic development and the movement towards democracy, health service provision, in Thailand, has improved tremendously. Medical intervention under early capitalism was useful and played a major role in the improvement of the health status of the Thai population. The next chapter deals with the health care system in Thailand and its development.

CHAPTER 2

THE HEALTH CARE SYSTEM

1. INTRODUCTION.

Until Thailand signed the religious treaty with French missionaries in the 1660s, traditional medicine was the only means of health care in Thailand. It was not until King Rama V's period (1868-1910) when Thailand modernized its administration that western medicine increased its status in Thai society. Subsequently, the Thai medical school was set up and organized along a western standard model with help from the Rockefeller Foundation. Since then, Thailand's medical curriculum and technology have been transferred from the American system. The industrialization process, which began in 1962 when the first planned development period started, has helped the rapid transfer of medical technology. The increasing influence of the American health care system, with the declining role of traditional medicine, is still seen in Thai society.

2. DEVELOPMENT FROM 1932 TO 1941.

Since the country turned to Thai style democracy in 1932, a total of 10 Health Acts have been promulgated as follows;

1. The 1932 Act for the Control of Diseases and Toxins from Dangerous Animals
2. The 1934 Marijuana Act.
3. The 1934 Infectious Disease Act.

4. The 1936 Act for the Control of the Practice of the Art of Healing (substituted for the 1923 Medical Profession Act)
5. The 1937 Act for the Control of the Use of Human Excreta as Fertilizer.
6. The 1938 Act for the Control of Cemeteries and Crematoria.
7. The 1940 Act for the Standard Control of Biological Materials
8. The 1941 Medical Premises Act.
9. The 1941 Public Health Act.
10. The 1941 Drug Act.

Moreover, in 1937 the Division of Pharmaceuticals was founded under the Department of Science, Ministry of Economics. During one decade under the new regime, several new hospitals were constructed in the provinces while health centres were created in rural areas as part of the plan for modernization. These health care facilities were financed mainly by local donations and topped up from the government budget (Jansom, V., 1988, p.12).

3. THE ESTABLISHMENT OF THE MINISTRY OF PUBLIC HEALTH.

Since the Public Health Act of 1941 was promulgated, there was increasing concern for the importance of a unified health service. Thus, on 10th March 1942 the Ministry of Public Health (MOPH) was established. All of the health services previously administered by the Ministry of the Interior, Ministry of Education, Ministry of Economics including 15 provincial hospitals and 343 health centres were transferred to the new Ministry. In addition, the Ministry of Public Health was responsible for providing public welfare

services and controlling the Red Cross services. Since the duties were numerous, there were some problems which emerged, especially for the integration of welfare services and public health services. Therefore, some adjustments were made in the early stages of development of the MOPH, as follows;

1944: The Department of Public welfare was transferred back to the Ministry of Interior.

1956: There was one provincial hospital operating in every province.

1959: The Department of Medical Schools was transferred to be administered under the Office of the Prime Minister.

1966: Concerning drug supply, the Government Pharmaceutical Organization was created to integrate the pharmaceutical services of the Pharmaceutical Factory and the Department of Medical Sciences. It is still the only state enterprise under the MOPH. Its responsibility is the provision and distribution of pharmaceutical and biological products, to the MOPH's hospitals and health centres in particular.

1972: The government announced a new role for the Ministry of Public Health which is still current;

" The function of the Ministry of Public Health is to provide the services of and the services related to, medical care, public health, food and drugs including toxic and narcotic substance control, and control of the Red Cross. "

(The Announcement of the Revolutionary Party, Number 216, Section 11, Item 25, Dated 29 September 1972.)

In the same year, the Department of Medical Sciences and the Department of Health were merged into one large

organization, and renamed the Department of Medical Sciences and Health. The main reason was to integrate the curative and preventive services and administer them under a single administration.

4. THE REORGANIZATION OF THE MINISTRY OF PUBLIC HEALTH.

There were some problems resulting from the merged organization partly from the highly centralized system and partly from the dominant role of the curative service. The integration of curative and preventive services failed to come into practice at the central administrative level. Thus, in 1974 - two years after Thailand had her first experience of the health planning technique called "the project system analysis" introduced by WHO - the Ministry of Public Health had a major reorganization in order to put the integration of promotive, preventive, curative and rehabilitative care into practice. The office of the Permanent Secretary and the Health Planning Division were set up, in an attempt to integrate and coordinate health services. At this time it was thought that the provincial level was the best place for integrating health and health-related activities. Therefore, for the first time, the Provincial Chief Medical Officers (PCMOs) had more responsibilities for their own provincial health services with technical support at the central level.

5. THE ORGANIZATIONAL STRUCTURE OF THE MINISTRY OF PUBLIC HEALTH.

The organizational structure of the Ministry of Public Health from 1974 up until now is divided into six major departments.

At the provincial level, the Provincial Chief Medical Officer (PCMO) is appointed by the Permanent Secretary of State for Public Health. Finance is provided by the same Office. Obviously, he reports to this office and receives technical support from the other MOPH departments. But in fact, under the Thai public administrative structure, the PCMO firstly reports to the governor who coordinates the multidisciplinary activities in the province and later conveys the message to the MOPH. The main duty of the PCMO is planning and management of provincial health services which must match with both the department's plan and the provincial plan. Moreover, the PCMO is responsible for supervising and supporting the regional, provincial, and district hospitals. In practice, because of the long history of medical autonomy in the regional and provincial hospitals, the PCMO does not usually come to supervise the hospital in detail but leaves the day to day management of the hospital entirely in the hands of its director. Generally, the provincial hospital has 150-500 beds, but some provinces contain a regional hospital with 501 to 1000 beds which provide training for medical and paramedical professionals as well as providing health

services. The district hospitals have four sizes; 10, 30, 60, and 90 beds, depending on the size of population they serve. Attached to the provincial health office, there is the Office of the Technical and Health Promotion (OTHP) which sometimes works as the deputy of the PCMO. Its main duty is to support and supervise health care facilities on a technical basis.

Alongside the provincial health office, there are regional specialized institutions of departments or divisions (from central level) situated in some provinces. In this case, the specialized institutions do not report to the governor. Rather, they are administered and controlled directly by central departments in Bangkok. These institutions not only give specialized services but also support and supervise the local staff technically as well as conduct their own research and development activities. In addition, some of them provide pre-service training for nurses, midwives, sanitarian and PHC workers as well as conduct in-service training for public health staff. These institutions are the Malaria, T.B., Leprosy, Health Promotion (including family planning, school health, dental health, nutrition and MCH), Environmental Health, Maintenance and Repair Regional Centres, Nurse Colleges, Public Health Colleges, PHC Training and Development Centres, and many more.

Beneath the provincial level, there is the District Health Office operating at the district level. The public administrative structure of the district health office is a

replica of that at the provincial level. They report to the District Chief Officer, who is the Ministry of the Interior's staff, but receive funding and technical support from the provincial health office. Their main job is to administer, supervise and support the health centres and village health posts.

The Health Centre is the lowest tier of the service operated by the public health officers. It is sited at Sub-district (Tambon) level. But in some special areas such as hill tribe villages, self defence villages, and villages along the border of the country, there is a community health sub-centre set up in a cluster of two or three villages. Each health centre is normally staffed by one midwife and one sanitarian who has had two years training from the MOPH's training institution while the health sub-centre is staffed by a community health worker who has a special MOPH's six month training course after grade 10. Recently, only in some health centres, there is also a technical nurse and/or a family planning junior worker. Moreover, some health centres which are located in districts with no community hospital, also serve as the extended OPD of the provincial hospital, which sends a medical team to provide the daily service there. In theory, health centres provide a limited treatment for emergencies and minor illnesses and then refer the serious cases to the district or provincial hospitals. In practice, all of the health services from the six departments are integrated into the tasks of the two health workers. Moreover,

they are responsible for supporting the primary health care workers including the provision of home visits as well as doing their routine administrative work. Their tasks are enormous and the problem of understaffing results in the health service which they provide having no appeal for the villagers. Kiranandana, T. (1988, p.16) pointed out that a large number of the rural population tend to bypass the health centre and district hospital and go directly to the provincial hospitals, even with minor illnesses. His view is that there is an improper utilization of resources. Furthermore, the under-utilization of health centres creates another problem of over-utilization at the provincial and regional hospitals.

The village health post is in fact the primary health care station. It is usually located in the house of a village health volunteer. The health post provides some essential drugs and basic primary health care services. The drugs sold here are supplied by the Government Pharmaceutical Organization so that the cost of drugs are kept below market price. Generally, a small percentage of the drug's profit is given to the village health volunteer and the rest goes to the village drug cooperative fund which is supposed to exist for every health post. At the moment, however, the drug cooperatives are only to be found in around 60% of all health posts. At the village health post, there are two types of village health worker. They comprise the village health communicators (VHCs) and the village health volunteers (VHVs) who have additional duties for the curative aspects. The

former, receive a five day orientation course from Tambon health personnel and receive continuing education through the 46 self-learning modules. Their functions are focused on health education and dissemination of health information in the village. The latter are chosen from the VHCs who have already worked about 6 months, receiving an additional five days training and 21 more self learning packages than the former. Although the village health volunteer works on a voluntary basis and receives no remuneration from the government, he receives incentives in cash from the profit of selling essential drugs and incentives in kind from the free medical care services as well as receiving social recognition from the government and fellow villagers (Office of the Primary Health Care, 1985, pp. 32-40).

6. HEALTH CARE RESOURCES.

A). Health care facilities.

This section deals only with the western medical care facilities. The health care delivery system in Thailand is comprised of two parts; the public providers and private providers. The public providers play the major role in providing health care services. The major source of health care facilities for the entire nation is the Ministry of Public Health (MOPH). In 1990, the MOPH had the biggest share of hospitals (61.1%) while private hospitals had the second rank share of 31.2%, and the non-MOPH hospitals had a share of

5.6%, coming third in rank. In the case of beds, however, the largest ownership remains the MOPH's which had a total of 58,897 beds or 65.2% of the total number of beds in Thailand, in 1989. The non-MOPH public hospitals including the university hospitals, the Ministry of Defence's hospitals, and the others constitute 17.4%, while the private hospitals have 14.2% of the total beds in Thailand. Service in western clinics is rendered by doctors. The private clinics represent 96.0% of the total, and are the most common service providers in this category. Most of them are run by solo-practice doctors who are at the same time working as salaried doctors for the government during office hours, and providing their private practices in their own premises in non-official hours. Most of the clinics of municipalities, which are 2.3% of the total clinics, are run by part-time doctors. The MOPH's clinics, namely the extended OPD, shared only 1.1% of the total clinics in 1989. At the Tambon and village levels, all health centres and community health sub-centres belong to the MOPH. It is noted here that the health centres in the municipal areas are classified as clinics because part-time doctors work there, while the MOPH's health centres are basically run by para-professional health workers (see table 2.1).

Table 2.1: Health care facilities in Thailand, 1989-90.

Facility	MOPH	Non-MOPH	State Enterprise	Municipalities	private	total
Hospitals	692 (61.1)	63 (5.6)	18 (1.6)	6 (0.5)	354 (31.2)	1,133 (100.0)
Beds	58,897 (65.2)	15,681 (17.4)	951 (1.1)	1,867 (2.1)	12,777 (14.2)	90,173 (100.0)
clinics	89 ⁽¹⁾ (1.1)	-	53 (0.6)	187 ⁽²⁾ (2.3)	7,880 ⁽³⁾ (96.0)	8,209 (100.0)
Health centres	7,764 (100.0)	-	-	-	-	7,764 (100.0)
Com. hlth subcenters	478 (100.0)	-	-	-	-	478 (100.0)

Notes: (1) Extended OPD of MOPH.

(2) Including health centres of municipalities which provide services by part-time doctors.

(3) Most of the private clinics are run by part-time doctors who are officially government employees.

Sources: Public Health Diary 1990, Health Association of Thailand, Bangkok, 1990.
Basic Health Statistics 1987-89, Health Statistics Division, Bangkok, 1989.
Health in Thailand, Health Panning Division, Bangkok, 1990.
Medical Registration Division, MOPH.

Focusing on the facilities for health services which are classified at administrative level, it is found in Bangkok that several public organizations are complementarily responsible for providing health care services. The majority of public providers in Bangkok are the university hospitals and the Ministry of Defence's hospitals with 8,138 (42.9%) of Bangkok's beds which provide training for medical professionals and para-professionals. They are well staffed and well equipped, provide sophisticated services and attract most of the people who can afford to pay for the services

without referral being necessary. These hospitals are over-utilized and have long waiting times. However, they are still popular because of the better quality of service and the relatively low charges as described in the next chapter. The MOPH, with 4 general hospitals, 16 specialized hospitals, and 4 specialized institutions, has the second largest number of beds in Bangkok. They take account of 4,562 beds or 24.0% of the total of Bangkok's beds. The total number of 110 private hospitals in Bangkok provide 3,889 beds or 20.5% of the total beds in Bangkok. The Bangkok Metropolitan Administration (BMA) - the local authority - with 4 general hospitals and 2 community hospitals of 30 beds, had a total of 1,837 beds or 9.7% of the total of Bangkok's beds for its own inhabitants. The four state enterprise hospitals with 548 beds (2.9% of the available beds in Bangkok in 1989) not only provide health care services for their own employees but also provide health care for the general public (see table 2.2 and 2.3).

Table 2.2: Health care facilities in Thailand, classified by administrative level, 1989.

Administrative level	Type of facility	Number	Responsible agencies
Bangkok	Teaching hospitals	7	
	MOD	2	Army, Air Force
	General hospitals	13	
	BMA	4	Local Authority
	MOPH	4	Dpt. of Medical services, MOPH.
	State enterprise	4	The State Railways, Port Authorities, Tobacco Monopoly, Metropolitan Electricity.

Table 2.2 - Continued.

Administrative level	Type of facility	Number	Responsible agencies
Bangkok	MOI	1	Police
	Specialized hospitals	16	MOPH
	Specialized institutions	4	MOPH
	Private hospitals	110	Private
	Community hospitals	2	BMA
	General clinics	57	BMA
	Specialized clinics	17	MOPH
	Private clinics	3,339	Private
	Teaching hospitals	3	Universities, MOU.
	Regional hospitals	17	MOPH
4 Regions	Specialized hospitals	16	MOPH
	Specialized institutions ⁽¹⁾	537	MOPH
72 Provinces	General hospitals	74	Office of the Permanent Secretary
	MOPH	72	
735 Districts	MOD	2	MOD
	Military regiment hospitals	32	MOD
	Private hospitals	220	Private
	Private clinics	4,541	Private
	Community hospitals	603	MOPH
	Clinics	129	Municipalities
	Extended OPD	89	MOPH
	Health centres	7,764	MOPH
	(Sub-district)		
	61,411 Villages		
6,754 Tambon	Community health sub-centres	478	MOPH
	Village health posts	64,182	Community ⁽²⁾
	Drug co-operatives	38,744	Community ⁽²⁾
	Nutrition funds	25,450	Community ⁽²⁾
	Sanitation funds	20,643	Community ⁽²⁾
	Health card funds	19,030	Community ⁽²⁾

Notes : (1) Excludes training institutions.
 (2) Supported by the MOPH.
 BMA = Bangkok Metropolitan Administration
 MOD = Ministry of Defence,
 MOI = Ministry of the Interior,
 MOPH = Ministry of Public Health,
 MOU = Ministry of University Affairs,

Sources : Basic Health Statistics 1987-89, 1989

Health in Thailand, 1990

Public Health Diary 1990, 1990.

Table 2.3: The number of total beds in Thailand, 1987.

Facility	Bangkok		Other provinces	
	No. of beds	%	No. of beds	%
MOPH hospitals	4,562	24.0	53,188	81.4
Non-MOPH hospitals	8,138	42.9	7,543	11.5
State enterprise hospitals	54	2.9	403	0.6
BMA and other municipal hospitals	1,837	9.7	30	0.1
Private hospitals	3,889	20.5	4,215	6.4
Total	18,974	100.0	65,379	100.0

Source : Proceedings of the First Thai Health Assembly, Royal Thai Government, Bangkok, 1988b, tables 4.20.

Considering the distribution of the total beds in different regions of Thailand, both public and private, Bangkok and the central region has a higher ratio of beds to population than the other regions. In 1987, there were only 343 persons per bed in Bangkok, and 446 persons per bed in the central region (this excludes Bangkok). The worst bed distributed area is the northeastern region, where there are 1,148 people per one available hospital bed (see table 2.4).

Table 2.4: The population per bed by region, 1987.

Region	No. of beds	%	Population per bed
Bangkok	19,059	22.6	343
Central ⁽¹⁾	23,978	28.4	446
South	11,003	13.0	557
North	14,168	16.8	770
Northeast	16,230	19.2	1,148
Total	84,438	100.0	629

Note : (1) Excludes Bangkok.

Source : Proceedings of the First Thai Health Assembly, 1988a, table 4.2.

Outside Bangkok, the MOPH facilities including Regional hospitals, general (provincial) hospitals, specialized hospitals, community (district) hospitals, health centres, community health sub-centres and the PHC network at the village level, play the major role in providing health services throughout the country. The total number of beds in the MOPH hospitals outside Bangkok is 53,188 beds - 81.4% of all non-BMA beds (see table 2.3). In parallel with the MOPH's hospitals, there are 3 university hospitals located in Chiangmai, Khonkean and Songkhla provinces. A total of 2 general hospitals and 32 military hospitals of the Ministry of Defence, situated in some provinces, also serve the general public. These non-MOPH hospitals have 7,543 beds or 11.5% of the total beds outside Bangkok. The private hospitals in non-Bangkok provinces have a total of 4,215 beds (or of 52.0% of private beds), while there were 48.0% of private beds in Bangkok in 1987 .

Around two-thirds of private hospitals are small, with only 25 beds or less. In 1986, there were only 18 hospitals, or 6.8% of the total private hospitals, which had more than 100 beds. Moreover, most of the large private hospitals are located in Bangkok. The majority of private hospitals are owned by a doctor or a group of doctors. Since 1974, the Thailand Board of Investment - a government body - has a policy of private investment promotion. It has expanded its activities to cover hospital investment, as if medical care is an ordinary commodity in the market place, by giving a

privilege of tax exemption on imported medical appliances. One result was a rapid expansion of private hospitals from 171 hospitals in 1977 to 330 hospitals in 1990, with a growth rate of 8.4 per cent a year in the last five years. Another reason for the rapid growth is the profit potential. However, at present, the policy of promoting private hospital investment is confined to outside of Bangkok only.

The drug store is one of the major sources of private health care in Thailand. There are 2 types of drug store; the western drug store and the traditional drug store. In 1987, the number of western drug stores was 8,835 or 57.19% of the total number of drug stores. The rest of the drug stores were those of traditional medicine. The distribution of drug stores in Thailand is in favour of Bangkok, where 53% of western drug stores are to be found, serving only about 10% of the entire population. Only 7.8% of drug stores are scattered in the poor northeastern region which has one-third of the total population of Thailand. Recently, the government regulated that every western medicine dispensary must have a qualified pharmacist working in it. This is because Thailand has no existing prescription system to restrict the purchase of dangerous drugs. Although previously the selling of dangerous drugs must be registered by a licensed pharmacist, in practice, the selling of any drugs in Thailand is like the selling of any ordinary commodity and is bought according to income, price and taste. There were 25,483 types of drugs available in the market, 46% of them are combination drugs

(Jaidee, S. et al, 1986). Unfortunately, in 1989, there were only 3,551 (or 39.4%) of western drug stores with pharmacists, while there were 5,451 of them without (Health Planning Division, 1990).

Parallel to the western health care system, the traditional system of medicine plays a subordinate role in providing health care services in Thailand. All of the traditional medicine facilities are privately owned. They consist of general clinics and a minority of MCH clinics. In 1989, the proportion of general clinics to MCH clinics was 31.8:1. In addition, most of them provide only out-patient care. Only a few provide in-patient care. The proportion of OPD and IPD clinics was 23.4:1 in 1989. Amongst them, the majority, 64.9% of the total facilities, were located in Bangkok, resulting in a large number of general OPD clinics being situated there. However, the majority of the traditional MCH clinics of both IPD and OPD types were serving the Non-Bangkok population (see table 2.5).

Table 2.5: Number of traditional medicine facilities in Thailand, 1989.

Facility	Bangkok		Other provinces		total	
	Number	%	Number	%	Number	%
General clinics	615	66.5	310	33.5	925	100.0
IPD	8	40.0	9	60.0	15	100.0
OPD	607	66.9	301	33.1	908	100.0
MCH clinics	4	13.8	25	86.2	29	100.0
IPD	2	8.3	22	91.7	24	100.0
OPD	2	40.0	3	60.0	5	100.0
Total	619	64.9	335	35.1	954	100.0

Source : Medical Registration Division, MOPH.

B). Health manpower.

In the health sector, it is very important to consider health manpower resources because health care is a labour intensive industry. Hospitals and health centres can be built in months or a few years but training of a general practitioner and a specialist to work in them takes between six to ten years. Some countries have already faced the problem of overproduction of doctors because of the popularity of medicine, with its high income and higher social status, attracting students to study in this field. By contrast, there is frequently found a shortage of trained nurses and paramedics. Thus, the matching of the future supply and effective demand must be considered both for the needs of the country and for the availability of resources to support them (Abel-Smith, B., 1986a).

In Thailand, there are three types of health personnel. The first group are the western health personnel who graduate from the modern universities and colleges with a specific curriculum. These personnel include the doctor, dentist, pharmacist, nurse and many more. The second group are traditional medicine health personnel who are registered with the government, although there is no formal education for them. Only recently, a school of applied traditional medicine was set up to teach the applied scientific knowledge of modern (western) medicine to traditional medicine practitioners. The third group are the trained primary health care workers and

the folk health personnel at the local level who are at present looking after themselves and their neighbourhood along the lines of the WHO health for all by the year 2000 (Royal Thai Government, 1988b, pp. 23-24).

The first group of health personnel are the group which should be taken note of because they dominate and control the present health care system. They not only are large in number but they are also costly to society. These western types of health personnel can be further divided into 3 subgroups. They are;

1) professional health workers who have at least 4 years of training from educational institutions, for example; the doctor, dentist, pharmacist, professional nurse and so on;

2) assistant health workers, who receive two years of formal education. Amongst them are the practical nurse, laboratory technician, x-ray technician, midwife, and sanitarian, for instance;

3) aide health workers who have six months to one year of training. This subgroup comprises the laboratory assistant, dental aide, community health worker and so on.

Training for all types of western health personnel, nurses excepted, are a matter of public responsibility. Until recently, because of a lack of nurses, and for political reasons, a total of 6 private nursing schools were established. The Ministry of University Affairs is the major training institution for the professional health personnel

while the Ministry of Public Health is responsible for training the professional nurses, assistants and aide health workers. The number of health personnel completing training by educational institutions in 1988 is presented in table 2.6.

Table 2.6: The number of health personnel completing training, by educational institution, 1988.

Type of health personnel	Total per year	Educational institution	No. of completing training
M.D. (specialist)	490	Medical council ⁽¹⁾	490
Doctor (GP)	698		
		MOU	665
		MOD	33
Dentist	187	MOU	187
Pharmacist	407	MOU	407
Professional nurse	3,155		
		MOPH	1,500
		MOU	780
		MOD	185
		MOI	250
		Private	290
		Red cross	150
Practical nurse	1,115		
		MOPH	940
		MOD	175
Midwife	400	MOPH	400
Sanitarian	800	MOPH	800

Note: (1) Licensing institution.

MOD = Ministry of Defence,

MOI = Ministry of Interior,

MOPH = Ministry of Public Health.

MOU = Ministry of University Affairs,

Source : Proceedings of the First Thai Health Assembly, 1988a, table 2.7.

Concerning the amount of health manpower in Thailand, the MOPH has the most health personnel working in it. The second largest employer of large numbers of all types of health personnel are the non-MOPH public hospitals. In 1986, the

majority (50.3%) of the total doctors were MOPH employees, and 33.5% of them were employees of non-MOPH public agencies (see table 2.7). Most of them have their own private clinics or private hospitals. So far, only around 10 per cent of doctors work wholly in private practice (Health Planning Division, 1990, p.29). Besides, 39.8% of dentists, 65.6% of nurses and 93.3% of midwives in 1986 worked for the MOPH. However, the biggest group of pharmacists (48.9% of them) worked wholly in the private sector which includes retailers for the drug companies.

Table 2.7: Number and percentage of health manpower in Thailand, 1986. (Selected categories.)

Health personnel	MOPH	Non-MOPH	State Enterprise	Municipalities	private	total
Doctor	4,757 (50.3)	3,172 (33.5)	235 (2.5)	408 (4.3)	892 (9.4)	9,464 (100.0)
Dentist	555 (38.9)	481 (34.5)	73 (5.2)	137 (9.8)	149 (10.4)	1,395 (100.0)
Pharmacist	1,064 (31.7)	373 (11.1)	213 (6.4)	64 (1.9)	1,642 (48.9)	3,356 (100.0)
Nurse	26,846 (65.6)	7,989 (19.5)	936 (2.3)	2,286 (5.6)	2,895 (7.1)	40,952 (100.0)
Midwife	5,943 (93.3)	47 (0.7)	54 (0.8)	158 (2.5)	171 (2.7)	6,373 (100.0)

Source : Health Statistics Division, Bangkok, 1988.

Focusing on the regional distribution of health personnel, 43.8% of doctors, 63.3% of dentists and 82.3% of pharmacists work in Bangkok. The population per doctor in Bangkok is 8.6 times less than the proportion in the north-

eastern region of Thailand, which had a population per doctor of 13,564, in 1986. Moreover, the northeastern region has the poorest ratio of health personnel in most categories (see tables 2.8 and 2.9).

To cope with the maldistribution of health personnel, the government regulates that all newly graduated doctors from 1972 must compulsorily work for the government for at least three years. Similarly, the same rule will be applied to dentists and pharmacists from 1989 onwards.

Table 2.8: Regional distribution of health personnel in Thailand, 1986.

Health personnel	Region					Total
	Bangkok	Central ⁽¹⁾	North	South	Northeast	
Doctor	4,142 (43.8)	1,670 (17.6)	1,321 (14.0)	920 (9.7)	1,411 (14.9)	9,464 (100.0)
Dentist	883 (63.3)	227 (16.3)	126 (9.0)	62 (4.4)	97 (7.0)	1,395 (100.0)
Pharmacist	2,763 (82.3)	208 (6.2)	158 (4.7)	100 (3.0)	127 (3.8)	3,356 (100.0)
Nurse	13,151 (32.1)	9,213 (22.5)	6,338 (15.5)	5,042 (12.3)	7,208 (17.6)	40,952 (100.0)
Midwife	388 (6.1)	1,604 (25.2)	1,128 (17.7)	1,271 (19.9)	1,982 (31.1)	6,373 (100.0)

Note : (1) Excludes Bangkok.

Sources : Health Statistic Division, Bangkok, 1988.

Table 2.9: Population per one health personnel by region, 1986.

Health personnel	Region					Total
	Bangkok	Central ⁽¹⁾	North	South	Northeast	
Doctor	1,577	6,444	9,227	7,080	13,564	5,739
Dentist	7,399	47,154	86,556	102,435	192,000	37,745
Pharmacist	2,144	48,663	65,253	62,270	140,268	15,828
Nurse	450	1,099	1,627	1,235	2,471	1,297
Midwife	15,265	6,310	9,140	4,899	8,988	8,335

Note : (1) Excludes Bangkok.

Source : Proceedings of the First Thai Health Assembly, 1988a, tables 4.1, 4.8.

The second group of health personnel are the licensed traditional healers who are registered with the MOPH. In 1990, the total number of registered traditional healers was 29,724 (Thailand Public Health Association, 1991). They comprise:-

Traditional doctors	13,347 persons.
Traditional pharmacists	14,233 persons.
Traditional midwives	2,093 persons.
Modified traditional doctors	51 persons.
(general practices)	

However, the actual number of licensed traditional healers who are still in practice is probably less than these figures. The licensing agency of the MOPH lacks an adequate mechanism for removing those who stop practising as a result of migration, retirement or death.

Information on the third group of health personnel who work at the PHC level is kept only on the trained PHC workers. There were 63,060 village health volunteers and 599,070

village health communicators throughout the country in 1989 (Health Statistic Division, 1989). However, the estimated figure of non-licensed traditional healers, calculated from the survey in Nakornratchasima province, found that the average number of non-registered traditional healers was 3.85 persons per village or about two million of them for the whole country. (Royal Thai Government, 1988b).

7. CONCLUSION.

Since Thailand moved towards modernisation with planned development in 1962, the country started on the path towards industrialization. The American influence on the health care system has extended not only to medical education, but also to the system of health care provision which is based on market competition between health care providers which is in favour of the rich who have a greater ability to pay. The public health service system tends to protect the poor and the people living outside Bangkok, while private provision benefits the better off. The people in Bangkok have more choice of health service systems from the university hospitals to the small, cozy private hospitals and clinics. The next chapter deals with the financing of the health care system in Thailand which also reflects, in part, the American style of services based to a considerable extent on the patient's ability to pay with some protection for the poor.

CHAPTER 3

HEALTH CARE FINANCING

1. INTRODUCTION.

In the previous chapter, the character of health care delivery systems in Thailand, based on the American system of market competition, was described. The situation results in the number and distribution of health care facilities and health manpower being skewed towards the rich and urban populations. Health care financing, described in this chapter also reflects the same trend. This chapter gives the picture of overall health care financing in Thailand with a special emphasis placed on public expenditure, foreign aid and direct private payment. However, health insurance as a major source of finance will be described in detail in the next chapter.

2. GENERAL CHARACTER.

The financing of the health care system in Thailand has a pluralistic character. Direct private payment is the major source of health care expenditure. Private consumption expenditure on health care expenses is estimated to have increased 5.9 times, from 2,020 million Baht in 1960 to 11,927 million Baht in 1986, while the real GDP increased only 5.2

times. Meanwhile, real public expenditure on health has increased elevenfold from 183 to 2,020 million Baht, while total public expenditure was increased only sevenfold (Kiranandana, T. et al, 1989). During the same period, the cost of imported drugs have risen 2.5 times in real terms (1960 prices), from 286 million Baht to 706 millions Baht (see table 3.1).

Table 3.1 : Expenditure on health expenses and health services. (Million Baht at 1960 prices)

Year	Private consumption on health	% of total private consumption	Public expenditure on health	% of total public expenditure	Imported Drugs expenditure
1960	2,020	5.85	183	3.90	286
1965	2,655	4.59	260	3.70	346
1970	3,680	5.63	398	3.64	519
1975	4,502	5.70	498	4.08	472
1980	6,406	5.83	1,019	5.07	522
1981	6,937	5.88	1,201	5.61	532
1982	8,064	6.35	1,345	5.47	554
1983	8,955	6.48	1,439	5.49	606
1984	10,189	6.78	1,768	6.04	613
1985	11,261	7.07	1,957	6.11	689
1986	11,927	7.16	2,020	6.06	706

Source: Kiranandana, T. et al, Morbidity and Mortality Patterns of Thai Population, 1989, table 6.3

From 1978 to 1987, total health care expenditure in Thailand increased sharply from 30,174 million Baht to 67,771 million Baht, in 1978 prices. The increase from 3.43 per cent of GDP in 1978 to 5.65 per cent in 1987, or 680 Baht per capita to 1,282 Baht per capita shows the rate of increase per capita to be around 7-8 % per year (see table 3.2). This rate of increase in health expenditure per capita is higher than

the average of industrialized countries (Myers et al, 1985, p.10) and higher than the rate of increase in GNP per capita (Royal Thai Government, 1988b, p.221). Myers et al (1985, p.10) estimated that, if this trend continues, by 1991 total health care expenditure would reach between 6.4 to 7.9 per cent of GNP or around 1,660 Baht per capita (at 1983 prices). Table 3.2 also shows total expenditure on health as an increasing proportion of total public expenditure from 21.35 to 29.79 per cent, between 1978 and 1987.

Table 3.2 : Total public expenditure and total expenditure on health (Baht at 1987 prices).

Year (Billion)	<u>Total public expenditure</u>		<u>Total expenditure on health</u>		Per capita (Billion)	Per capita GDP	% of public expenditure
	Amount	% of GDP	Amount	% of GDP			
1978	141.3	17.36	3,185	30.2	3.43	680	21.35
1980	144.6	16.25	64.89	34.3	3.85	738	23.69
1982	180.1	19.68	77.40	41.9	4.58	864	23.26
1984	205.2	20.05	82.32	53.0	5.18	1,052	25.85
1986	216.1	19.85	87.34	62.1	5.70	1,192	28.73
1987	227.5	18.87	89.66	67.8	5.62	1,282	29.79

Sources : Proceedings of the First Thai Health Assembly, 1988b, Table 6.1.

Health Planning Division, Ministry of Public Health, Bangkok.

3. SOURCES OF HEALTH CARE EXPENDITURE.

The most important sources of expenditure in Thai health care are; direct private payment, the Ministry of Public Health, other ministries, and the medical scheme for government employees. The trend from 1978 to 1987 shows that direct private payment has been increasing while public

expenditure has been a slightly declining proportion of total health care expenditure. However, it is interesting that, within the public sources the medical schemes for government employees and state enterprise employees has been growing rapidly. The other sources of expenditure such as the workmen's compensation fund have been expanding gradually, while private insurance and foreign aid have been declining slightly (see table 3.3).

Table 3.3 : Percentage of health service expenditure in Thailand by sources of finance.

Source	1978	1980	1982	1984	1986	1987
1. <u>Public</u>						
(a).MOPH	19.86	16.78	16.78	16.06	14.11	13.02
(b).Other ministries	8.47	8.50	7.72	6.93	6.47	5.96
2. <u>Foreign aid</u>	0.98	1.40	1.03	0.79	0.83	0.74
3. <u>Direct private payment</u>	66.69	68.96	67.63	69.23	71.23	73.22
4. <u>Health insurance</u> ⁽¹⁾						
(a) Social assistance ⁽²⁾		1.29	1.33	1.21	1.04	
(b) Statutory insurance	2.40	3.13	4.15	4.35	5.09	4.96
(c) Employers liability	0.36	0.37	0.41	0.50	0.36	0.40
(d) Voluntary insurance	1.24	0.86	0.99	0.81	0.70	0.66
Total⁽³⁾	30,174	34,263	41,890	53,033	62,100	67,771
(= 100 %)						

Notes: (1) See detail in chapter 4.
 (2) Included in the MOPH expenditure.
 (3) Million Baht, at 1987 prices.

Sources: Proceedings of the First Thai Health Assembly, 1988b, Table 6.3.

Kiranandana,S., Health insurance and medical schemes for civil servants and state enterprise employees, 1988, tables 1 and 6.

A. PUBLIC SOURCES.

As mentioned earlier (table 2.1), publicly owned facilities accounted for 66.8% of the total hospitals and 85.8% of total beds in 1990. This large proportion of public ownership would contribute to some extent to make the Thai health system emulate efficiency and equity. When considering sources of public revenue, around 65-70% of the total revenue comes from general taxation. Unfortunately most of this is from indirect taxation on consumer goods which has a regressive nature. Direct taxes which have a progressive nature, account for only around 16-17% of the total (see table 3.4). In general, the regressive structure of taxation in Thailand (Chayapong, D. 1975; Krongkaew, M., 1979) is not different from that of many other developing countries which heavily tax the poor. Between 1983 and 1986, total tax revenue was around 13 per cent of GDP while all government revenue was around 14-18 per cent of GDP. These figures are quite low by international standards.

**Table 3.4 : Sources of government revenue,
fiscal year 1983-6.**

Sources	Percent of government revenue			
	1983	1984	1985	1986
Taxes and duties	69.55	69.76	65.64	68.18
Direct taxes	15.66	16.87	16.18	16.89
Business taxes and stamp duties	14.91	16.33	14.55	13.71
Specific sales taxes	19.02	18.54	19.03	20.60
Import-export duties	16.34	17.61	15.08	14.44
Other taxes and duties	3.62	0.41	0.80	2.54
Sales of assets and services	2.39	2.26	2.18	2.30
State enterprise charges	3.66	3.39	4.27	3.99
Other services	4.43	8.50	5.64	4.03
Deficit financing	19.97	16.09	22.27	21.50
Total (= 100%)	183,893	147,907	220,172	218,427
(Million Baht at 1987 prices.)				

Source : The Comptroller - General's Department, Ministry of Finance.

The proportion of public expenditure for health in Thailand is also low by international standards. The World Bank (1984, p.268) indicated that Thailand spent 45% below what would be expected. In fact, public spending for health has gradually risen from 6.56 to 7.44 per cent of total public spending from 1978 to 1987. In the same period, total public expenditure on health per capita in 1978 was 208 Baht compared to 320 Baht in 1987 (in 1987 prices). However, the share of public expenditure on health to total health expenditure has declined steadily from 30.73% to 24.98% due to the structural adjustment reforms with the slow down of public spending and rapid expansion of the private sector (see table 3.5).

Table 3.5 : Public expenditure⁽¹⁾ on health, 1978-87 selected years (Baht at 1987 prices).

Year	Total (Millions)	% of health expenditure	% of public expenditure	% of GNP	Per capita
1978	9,273	30.73	6.56	1.14	208
1980	9,978	28.41	6.90	1.12	215
1982	12,539	29.94	6.96	1.37	258
1984	15,202	28.67	7.63	1.49	301
1986	16,700	26.88	7.65	1.53	320
1987	16,927	24.98	7.44	1.40	320

Source : Proceedings of the First Thai Health Assembly, 1988b, Table 6.3.

Note : (1) Includes recurrent and capital/development expenditures.

a). The Ministry of Public Health (MOPH).

The Ministry of Public Health has the biggest share in total public spending on health. Although this proportion has declined from 64.64% in 1978 to 56.28% in 1987, in real terms the total MOPH expenditure has increased from 5,949 million Baht to 9,525 millions. The MOPH expenditure per capita has also risen from 135 Baht to 180 Baht in the same period. However, the proportion of MOPH expenditure to total public expenditure as well as the proportion to GNP has changed minimally (see table 3.6).

Table 3.6: MOPH expenditure⁽¹⁾ as a percentage of total public expenditure, public expenditure on health, GNP and MOPH expenditure per capita (at 1987 prices).

Year	Total (Million Baht)	% of public expenditure	% of public expenditure on health	% of GNP	Per capita (Baht)
1978	5,994	4.20	64.64	0.73	135
1980	5,892	4.12	59.06	0.67	127
1982	7,570	4.13	60.37	0.81	156
1984	9,220	4.49	60.65	0.90	183
1986	9,515	4.38	57.00	0.87	183
1987	9,525	4.19	56.28	0.79	180

Source : Health Planning Division, MOPH.

Note : (1) Includes recurrent and capital/development expenditures.

In this section, the social inequalities in health from the distribution of MOPH expenditure is outlined. It looks in turn at the distribution of the MOPH budget by geographical area, level of service, activity, type of budget, and MOPH programme. There is evidence that over the past decade, the inequality in health from the distribution of the MOPH budget remains urban biased and curative based. The programme budgeting shows a trend of increasing its expenditure towards technological development, environmental health and non-communicable disease control. However, data is not available to analyse further which groups of clients, or which social class groups benefit most from the MOPH expenditure.

MOPH expenditure by geographical distribution.

The inequality between urban and rural, in terms of opportunity to receive health care from the MOPH is presented. Although 79.2% of the 1989 budget was spent outside Bangkok, 20.8% was spent inside (Sirivanarungsun, P. et al, 1989, p.4). When taking the urban (Municipal areas) and rural distribution into consideration, the MOPH expenditure per capita for the urban population was 4.43 times higher than that for the rural population. Table 3.7 shows the per capita MOPH expenditure between 1978 to 1989. For urban areas, it ranged from 379 to 582 Baht while in rural areas the range was between 71.5 to 132 Baht.

Table 3.7 : Distribution of MOPH expenditure, 1978-89.
(Baht per capita, at 1987 constant prices).

Year	Urban	Rural	Total	Proportion
1978	392	78.7	134.9	4.98 : 1
1980	379	71.5	126.7	5.29 : 1
1982	445	89.8	156.0	4.96 : 1
1984	481	117.6	182.9	4.09 : 1
1985	483	118.1	180.5	4.08 : 1
1986	474	117.6	182.9	4.02 : 1
1987	496	111.8	180.5	4.43 : 1
1988	527	118.6	191.0	4.45 : 1
1989	582	132.0	212.2	4.41 : 1

Source : Health Planning Division, MOPH.

In addition, a study by the Office of the Permanent Secretary for Public Health, which spent 72% of the total MOPH budget in 1982, revealed a geographical pattern of inequitable distribution (Health Planning Division, MOPH, 1985). The per capita health expenditure allocated by the Office was in

favour of the southern and the eastern regions which are known as rich regions with a low population. By contrast, the northeast region with the highest number of people and ranked as the poorest region in the country received the lowest amount of health expenditure per capita (see figure 3.1). This study also indicated that while the government advocated a policy towards " poverty alleviation " (began in 1982), the Office of the Permanent Secretary for Public Health, as the functionary organization of the government, spent its 1982 budget inconsistently with this policy direction. Rather, the Office spent an average of 140.48 Baht per capita in the non-poverty provinces but spent only 95.62 Baht per capita in the so-called " poverty stricken area " provinces. The reason for this was because the criteria for budget allocation was always based on the existing number of facilities in the province without taking the population criteria into consideration. Therefore, the poorest area of the northeastern region with the lowest number of health care facilities but more population has the lowest health expenditure per capita. It is clear that in order to obtain a more efficient and equitable distribution, more resources should be spent on the northeast region, taking account of the population criteria as well.

However, the effective distribution of MOPH resources in favour of those who live outside Bangkok and of the rural population was argued for by Myers, C. et al (1985) when they looked specifically at the major programmes; medical care, disease control and health promotion between 1981-5. The MOPH

expenditures for these programmes were actually increased in rural areas and decreased in urban areas in accordance with the policy direction of the Fifth Plan (1982-86).

MOPH expenditure by level of service.

Focusing on the MOPH expenditure by level of service, during the Fourth Plan (1977-81), priority was given to secondary medical care and primary medical care. Primary health care services became the focus of attention during the Fifth Plan (1982-86). Table 3.8 shows that PHC expenditure which includes health services at village and Tambon levels has increased sharply between 1980 to 1986 but declined slightly at the beginning of the Sixth Plan (1987-91). Expenditure on primary medical care which consists mainly of services at community (District) hospitals, has steadily risen between 1982 and 1986 and has decreased slightly since 1987. By contrast, expenditure on secondary medical care and tertiary medical care including services at general (Provincial) and specialized (Regional) hospitals, which declined during the Fifth Plan, has been increasing from the beginning of the Sixth Plan. This reflects the shift of emphasis of policy direction towards the improvement in the quality of hospital services particularly by increasing the amount of high technology equipment to cope with the increasing diseases of modernization, for example; cancers, heart diseases and accidents.

**Table 3.8 : MOPH expenditure by level of service,
1977-89. (Million Baht at 1987 prices.)**

Year	PHC	PMC	SMC	TMC	Non-allocated	Total
	(%)	(%)	(%)	(%)	(%)	(=100%)
1977	21.69	29.61	30.19	12.33	6.18	6,603
1978	21.74	27.44	30.22	13.58	7.02	5,995
1979	21.87	27.62	29.74	13.34	7.33	6,595
1980	20.17	28.02	30.47	13.57	7.77	5,894
1981	20.41	28.10	30.39	13.72	7.38	6,734
1982	23.04	28.77	29.53	12.50	6.16	7,570
1983	23.48	29.53	28.47	11.07	7.43	8,672
1984	24.88	29.46	27.49	10.36	7.81	9,220
1985	25.28	30.24	26.95	10.18	7.35	9,391
1986	25.31	30.59	26.85	10.11	7.14	9,420
1987	24.94	29.79	27.92	10.57	6.78	9,525
1988	24.74	29.77	27.94	10.71	6.84	10,214
1989	25.13	29.69	27.75	10.79	6.64	11,403

Notes: (1) Includes general administration and consumer protection.

(2) Million Baht at 1987 prices.

PHC = Primary health care.

PMC = Primary medical care.

SMC = Secondary medical care,

TMC = Tertiary medical care.

Source : Health Planning Division, MOPH.

MOPH expenditure by activity.

Turning to MOPH expenditure by activity, there has long been a heavy emphasis on curative services. This accounted for 60.67% of expenditure in 1977 with a slightly lower proportion of 57.13%, in 1989. Expenditure on disease control and preventive care increased slightly between 1977-79 and remained constant at around 12%, in 1980-89. Health promotion expenditure with an 8-9% share in the Fourth Plan (1977-81) rose to 11.21% at the beginning of the Fifth Plan (1982-86) and remains unchanged, now. Training and manpower development

has also received more attention from the MOPH. Its funding has steadily increased from 5.16% in 1977 to 7.33% in 1984 and then declined gradually to 6.64% in 1989. Expenditure on research and laboratory development, general administration and supplementary programmes, and consumer protection remains stable (see table 3.9).

Table 3.9 : Percentage of total MOPH expenditure by activity, 1977-89.

Year	Cura- -tive	Promo- -tive	Preven- -tive	Train- ing	Consume- r protec- tion	Re- search	Admini- stration
1977	60.67	9.23	13.65	5.16	1.78	4.45	5.02
1978	58.75	9.72	14.40	5.54	1.80	4.63	5.24
1979	58.61	9.62	14.14	5.41	1.90	4.77	5.51
1980	59.77	8.97	12.92	5.36	2.03	5.11	5.81
1981	60.02	8.89	12.65	5.36	2.11	4.92	6.01
1982	57.99	11.21	12.65	5.88	1.94	4.44	5.86
1983	59.10	10.87	12.32	6.91	2.00	4.51	5.78
1984	56.16	11.69	12.58	7.33	1.99	4.56	5.68
1985	56.25	11.90	12.72	7.03	2.01	4.56	5.50
1986	56.20	12.07	12.82	6.86	2.00	4.55	5.46
1987	57.08	11.23	12.48	6.75	1.98	4.73	5.72
1988	57.25	11.04	12.56	6.77	1.96	4.74	5.63
1989	57.13	11.40	12.87	6.64	1.84	4.81	5.30

Source : Health planning Division, MOPH.

MOPH expenditure by type of budget.

Over the same period, the MOPH had an increasing share of personnel expenditure which rose sharply, by around threefold in real terms from 1,750 million Baht in 1976 to 5,753 million Baht in 1989. This represents an increase from 31.70% of the total MOPH expenditure in 1976 to 50.55% in 1989 (see table 3.10). The cause of the increased personnel expenditure in

1987 was the implementation of the first three-year health manpower plan (1987-89) which in fact was mainly a career ladder improvement which coincided with the overall civil servant pay structure review. Meanwhile, capital expenditure increased from 19.80% in 1976 to 29.26% in 1977 because of the massive expansion of community hospitals but it has declined gradually to 11.30% in 1987. In 1988-89, the improvement in hospital quality, with high medical technology in provincial and regional hospitals, signals a high proportion of capital expenditure which will need more recurrent costs in the future. Other recurrent expenditure, apart from personnel costs, was high in 1976 because of the first implementation of the Free Medical Care Project. (This project will be described in the next chapter.) In future, the MOPH has to examine alternative methods of financing its services if standards are to be maintained.

Table 3.10 : MOPH capital and recurrent expenditures, 1976-89, (at 1987 prices).

Year	Capital expenditure (%)	Recurrent expenditure Personnel (%)	Recurrent expenditure Other recurrent (%)	Total (= 100%) (Million Baht)
1976	19.80	31.70	48.50	5,521
1977	29.26	32.16	38.58	6,603
1979	22.61	38.05	39.34	6,595
1981	21.09	46.16	32.75	6,734
1983	18.70	44.83	36.47	8,672
1985	16.33	45.33	38.34	9,391
1987	11.30	52.50	36.20	9,525
1988	11.67	52.17	36.16	10,214
1989	14.19	50.55	35.26	11,403

Source : Health planning Division, MOPH.

MOPH expenditure by programmes.

With the restriction of potential spending for major change, inevitably the MOPH had to spend its 1990 budget by improving its efficiency. This is done by reducing its administrative cost and cutting back from large programmes such as Health Services, Health Manpower Production and Development, and Communicable Diseases Control in order to support the new policy changes towards technological development. These priority Programmes namely, Laboratory Development, Sanitation and Environmental Health, and Non-Communicable Diseases Control, received a noticeable budget increase. Table 3.11 compares the 1989 with 1990 MOPH expenditures by sub-sector and programme under the programme structure of the Sixth Five-Year Development Plan (1987-91).

Table 3.11 : Comparing the 1989 with 1990 MOPH expenditures by sub-sector and programme.

Sub-sector	Programme	1989 (%)	1990 (%)
I. Health Administration		2.2	1.9
	1. Health Administration	2.2	1.9
II. Health Services		80.6	80.2
	2. Health Services	76.9	76.6
	3. Health Manpower Production and Development	3.3	3.1
	4. Laboratory Development	0.3	0.4
	5. Drugs and Biological Products	0.1	0.1
III. Community Participation in PHC		1.0	1.0
	6. Primary Health Care	0.8	0.8
	7. Health Education	0.2	0.2

Table 3.11 - Continued.

Sub-sector	Programme	1989 (%)	1990 (%)
IV. Technology Development for Diseases Control and Health Promotion		15.6	16.2
8. Family Health		4.3	4.0
9. Nutrition		0.5	0.5
10. Dental Health		0.2	0.2
11. Sanitation and Environmental Health		2.4	3.7
12. Occupational Health		0.1	0.1
13. Communicable Diseases Control		7.8	7.3
14. Non-communicable Diseases Control		0.1	0.2
15. Health System Research		0.2	0.2
V. Health Consumer Protection		0.6	0.6
16. Health Consumer Protection		0.6	0.6

Source : Health planning Division, MOPH.

b). Other Ministries.

The other ministries provide health and health-related activities. These include services provided by the Ministry of University Affairs, the Ministry of Interior, the Ministry of Defence, the Ministry of Agriculture and Cooperatives, the Ministry of Communications and the Ministry of Justice.

The other ministries have a similar expenditure pattern to the MOPH's. Their total spending has risen in real terms, from 2,554 million Baht in 1978, to 4,036 million in 1987. However, their share of all health care expenditure decreased from 8.47% in 1978 to 5.96% in 1987 (see table 3.3). Amongst them, the Ministry of University Affairs was a major spender.

Its largest responsibility is for the training of doctors and other health personnel. The total expenditure of the Ministry of University Affairs has grown sharply, in real terms, from 1,989 million in 1978 to 3,210 million Baht in 1986 (see table 3.12). There are five university hospitals in Bangkok and three hospitals in the region. The high spending came from the sophisticated services they provided for the training of doctors and other health personnel.

The Ministry of the Interior is the second largest spender amongst other ministries. It is responsible for some health services in Bangkok and in the municipalities. Its expenditure was roughly constant at around 17% of the total of other ministries expenditure from 1980 onwards, although the real expenditure has increased only slightly. The Ministry of the Interior allocated about 15% of the total of other ministries' expenditure, to the Bangkok Metropolitan Administration which provides health services through its 6 general hospitals and 58 clinics. Only 2% of the total of other ministries' expenditure went to support the police hospital in Bangkok and general health services (mainly school health and preventive care) in 129 Municipalities outside Bangkok.

The Ministry of Defence is responsible for providing health services to military personnel, veterans and their families. It has its own medical school and training centre for para-professionals. Their two training hospitals in

Bangkok also provide health services to the general public. There is no clear trend in the spending pattern. In 1986 it had 1.56% of the share of the other ministries expenditure. Similarly, the rest of the other ministries had a total share of less than one percent, with no clear change in the pattern of spending over time (see table 3.12). It is worth noting that the figures for the Ministry of Defence's spending on health were likely to be underestimated because of the confidentiality of the information, for reasons pertinent to national security.

Table 3.12 : Health expenditure of other ministries.
(Million Baht at 1987 prices).

Ministry	1978	1980	1982	1984	1986
University Affairs	1,989 (77.88)	2,405 (80.53)	2,604 (80.50)	2,948 (80.21)	3,210 (79.84)
Interior	496 (19.40)	507 (16.96)	566 (17.50)	649 (17.65)	720 (17.90)
Defence	52.1 (2.04)	65.4 (2.19)	41.4 (1.28)	50.7 (1.38)	62.7 (1.56)
Agriculture and Cooperatives	9.2 (0.36)	4.9 (0.16)	9.7 (0.30)	11.0 (0.30)	10.9 (0.27)
Communication	8.2 (0.32)	4.7 (0.16)	8.4 (0.26)	11.4 (0.31)	11.7 (0.29)
Justice	-	-	5.2 (0.16)	5.5 (0.15)	5.6 (0.14)
Total = 100 %	2,554	2,986	3,234	3,675	4,021

Source : Health Planning Division, MOPH.

B. FOREIGN AID.

Foreign assistance for health in Thailand is one source of health care expenditure about which it is difficult to obtain information because several agencies are involved. For

receipt of the assistance, the Department of Technical and Economic Co-operation under the Office of the Prime Minister is responsible for coordinating general loans or grants, part of which go to the health sector. However, foreign aid may be channelled directly to the ministries, institutions, or operating agencies. On the donor side, external aid agencies can be classified into official and non-official agencies. Amongst the official health donors are multilateral agencies such as UNICEF, WHO, UNFPA, FAO, EEC, etc. and bilateral agencies such as the government of Japan, Canada, the U.K., France and so on. The non-official agencies include private organizations, foundations, institutions, medical associations, etc. for instance; the Leprosy Relief Association, the Save the Children Fund, the Sasakawa Memorial Health Foundation, the Association for International Cancer Research, and so on.

The amount of foreign aid for the health sector is more or less one percent of total health expenditure, or about three percent of public expenditure on health, and approximately 0.2-0.3% of total public expenditure (see table 3.13).

Table 3.13 : Foreign aid to the health sector.
 (At 1987 prices.)

Year	Total aid (Million Baht)	% of total health expenditure	% of total public expenditure	% of public health expenditure
1978	294.6	0.98	0.21	3.18
1980	492.8	1.40	0.34	4.94
1982	433.5	1.03	0.24	3.46
1984	417.1	0.79	0.20	2.74
1986	513.0	0.83	0.27	3.07
1987	500.0	0.73	0.22	2.95

Source : Proceedings of the First Thai Health Assembly, 1988b, Table 6.3.

C. DIRECT PRIVATE PAYMENT

Direct household payment for health care is a major component of health sector expenditure. Direct private payment constituted 66.69 per cent of total health expenditure in 1978 and increased to 73.22 per cent in 1987 (see table 3). In Thailand, direct household payments are paid for health services received from traditional healers, drug stores, private and public clinics, health centres and hospitals.

The relationships between patients and providers of health services through direct purchase, are close. By direct payment the provider's responsibility is direct to his patient. In addition, direct personal payment supports traditional healers throughout the developing world because their fees are typically low (Roemer, M.I. 1976, pp.15- 20).

However, direct payment at the point of consumption is a financial burden on the poor who cannot afford to purchase the services. In Thailand, although it is not very well documented, it is believed that some families are forced to sell farmland in order to pay for medical bills. Direct private payments to health services in Thailand are operated to support the private market mechanism. It encourages people to purchase the service like ordinary commodities. In fact, the patient knows very little about his need for health care, nor does he know about the conditions and prices of health services. It is left to the providers to control the market. In general, the failure of the private market in health care being due to the uncertainty of demand, asymmetric information, and imperfect competition, are well documented by several authors such as Abel-Smith, B. (1976), Le Grand, J. and Robinson, R. (1984) and Barr, N. (1987).

In Thailand, in fact, it is extremely difficult to find reliable data for private expenditure on health care. During the course of the WHO consultancy by Prof. Abel-Smith, B. in 1985, after interviewing several authorities, he concludes:

" no reasonably reliable data is available on private expenditure on health care. The Ministry of Public Health needs more reliable information broken down into its component parts for planning the future development of the health sector as a whole..."

(Abel-Smith, B., 1985a, p.20.)

Based on the limited information, however, the utilization pattern of health services at the household level is ascertained from three sets of data: the 1970, and 1979 community household surveys and a 1985 morbidity and mortality survey. The three surveys asked respondents the same question; whether anyone in the household had been sick in the month prior to the survey date. If so, respondents were asked what was done and what types of service providers they visited. The 1970 and 1979 surveys asked them further to quantify the expenditure on health services they used. One problem with these two surveys was that only cash spent on health care was reported. They omitted payments in kind, and the cost of travel time and waiting time. However, the under-estimated costs from the surveys are probably not very large because of relatively low opportunity cost due to the high rate of unemployment and under-employment in Thailand, as in other developing countries. Table 3.14 compares the utilization of health services by household, amongst the three sets of data. A difficulty of comparison occurs when the classification of types of service are not the same but in broad terms, they are comparable.

Table 3.14: Percentage of utilization of health services by household, 1970, 1979 and 1985.

Type of health services	1970	1979	1985
Self treatment	51.4	44.2	28.6
Traditional healers	10.4	6.5	2.4
Health centres	4.4	16.9	14.7
Public hospitals	11.1	11.1	32.5
Private hospitals and clinics	22.7	21.3	21.8
Total	100.0	100.0	100.0

Sources: Community Household Survey 1970, 1979, MOPH.

The Morbidity and Mortality Differentials, 1987.

From table 3.14, it can be seen that the number of people opting for self-treatment, in other words to buy drugs from drug-stores, reduced from 51.4% in 1970 to 28.6% in 1985. By contrast, there are growing drug supplies in the market from 185 local pharmaceutical manufacturers and 2 state-owned manufacturers accounting for 3,000 million Baht per year in addition to the imported drugs costing around 800 million Baht yearly. This falling of self-treatment but rise in expenditure on drugs can be explained by most of the drugs used being under prescription or being used heavily in hospitals and clinics. In Thailand, the misuse and overuse of drugs is well reported in Jaidee, S. et al. (1986, pp.71-89). They estimated that total drug consumption expenditure increased from 2,662 million Baht in 1970 to 25,119 million in 1984. In fact, the rural poor population still rely on self-treatment while the urban population visit clinics or hospitals. Visits to traditional healers and totally unqualified injection doctors have fallen, from 10.4% in 1970 to 2.4% in 1985, due to the

availability of health centres and hospitals. The 1985 survey found a decline in the use of health centres, from 16.9% in 1979 to 14.7% in 1985, and an increase in visits to clinics or hospitals staffed by doctors. Visits to government hospitals, from the 1970 and 1979 surveys, remained unchanged at 11.1%, but rapidly increased to 32.5% in 1985. The 1979 survey breaks down the data by visit to private hospitals and to private clinics. It is interesting to note that visits to private clinics constituted 19.72% while visits to private hospitals were only 1.62% of total visits.

The pattern of visits to health care providers is not as simple as seen by the results of the three surveys. Health care seeking behaviour of patients in the Khun Han District, Sisaket Province reveals that patients, in fact, consult more than one provider for advice or treatment. A large number of the patients in the study (50.5%) have two stages of treatment. During the first attempt to cure illness, patients rely on self-treatment and/or visits to health centres. The second attempt involves visits to health centres or hospitals (Khumthong, N. et al, 1989). Another important finding of this study is that distance, price and quality of care are the most important determinants of health seeking behaviour.

Distance is regarded as one of the most important factors influencing health care utilization in Thailand. The availability of drug-stores, which sell western drugs without prescription on every street corner in urban Thailand attract

people to make a "quick" visit. Similarly, the rural poor population can buy drugs from their local stores and from village drug co-operatives. Travelling cost and opportunity costs from travelling time and waiting time are factors to determine the place of visits to drug-stores, health centres, clinics and hospitals. The relatively low travel costs make rural people visit health centres. Government hospitals are the most expensive places to visit in terms of waiting time. This is the main reason for the unchanged percentages of visits to government hospitals from the 1970 and 1979 surveys. By contrast, patients wait shorter times in a solo private clinic operated by a doctor who works as a salaried doctor during government office hours. Thus, the importance of opportunity costs for health care utilization should not be undervalued. Subsequently, the large rise of visits to government hospitals by 1985 was due to the major expansion of District hospitals resulting from the Fifth Plan (1982-86) for hospitals to be available and accessible in the whole of the country.

The prices of health services are a key determinant of health care utilization. Thai people have long been paying for health services under the fee-for-service method of payment for every type and every level of service, even in public providers. However, payment to traditional healers may be in cash or in kind but no study has been made to quantify the price of services. Presumably, it is quite low but the availability of drugs at the price patients can afford results in declining services. From Khumthong, N. et al. (1989, p.16),

the average cost of self-treatment is 15-17 Baht. The cost incurred when visiting the health centre is 20-25 Baht per visit, compared with the cash paid to private clinics of 50-60 Baht per visit. A study of Pichaisanit, P. et al. (1984) gave the medical care cost patients met when visiting government hospitals. For IPD visits, patients paid 15.59 Baht, 59.62 Baht, 138.78 Baht, and 126.99 Baht in district, provincial, regional and university hospitals. Average daily charges, if the patient was admitted to the hospital, were 63.90, 72.92, 144.54, and 249.74 Baht respectively. Overall, the average cost to a patient visiting a government hospital was 153.6 Baht while he/she paid 1,183.5 Baht to visit a private hospital. Moreover, this study revealed that private hospitals kept patients one day longer than the public ones.

On the supply side, the cost per OPD visit falling on a district hospital is 68.25 Baht and 121.75 Baht in a provincial hospital. The cost per day of IPD visits to district and provincial hospitals are 507.25 Baht and 387.25 Baht respectively. The cost per IPD case are 1,203.25 Baht at the district hospital and 2,295.25 Baht at the provincial hospital. Cost recovery in the district hospital amounts to 36.39% of total cost (or 76.18% of operating cost) compared with 39.79% of total cost (or 84.99% of operating cost) in the provincial hospital (Health Planning Division, 1989b). These percentages of cost recovery in the MOPH hospitals in Thailand are very high when compared to those of other developing countries, as presented in table 3.15. In addition, Griffin,

C. C. (1988, table 1) presented cost recovery in public health facilities in 23 selected developing countries which was generally less than 15 percent of total recurrent government expenditure. At present, the relatively high cost recovery of hospitals in Thailand as presented in Health Planning Division (1989b) and Myers, C. et al (1985), was not able to reflect a true figure of direct private payment. This was because these studies had included the transfer payment from other government budgets in their charges such as from the medical care scheme of government employees, and other reimbursement schemes. Thus, at this point, there is no reliable information of direct private payment to public hospitals.

Table 3.15: Percentage of cost recovery by user charges in public health services in developing countries.

Country	Level of Services	Percentage Recovered
Hong Kong	Hospital	1.8 % of total cost
India	Hospital	5 to 10 % of total cost
Korea	Hospital	37 % of total cost
Malaysia	Hospital	5 % of operating cost
Papua New Guinea	Hospital	2.5 % of operating cost
Phillippines	Hospital	6 to 10 % of total cost
Thailand	District Hospital	36.39 % of total cost
	Provincial Hospital	39.79 % of total cost
Ethiopia	Regional Hospital	18 % of total cost
	Rural Hospital	21 % of total cost
Togo	University Hospital	24 % of total cost
Zimbabwe	Parirenyatwa Hospital	28 % of total cost
China	County Hospital (Yexian County)	74 % of total cost

Sources: " Report of Group II - User Charges ", Regional Seminar on Health Care Financing, Manila, 1987.

Griffin, C.C. User Charges for Health Care in Principle and Practice, World Bank, 1988, table 2.

Development of Financial and Managerial Information System by the Supplementary Cost-Accounting System, Health Planning Division, MOPH, 1989b.

How user charges in Thailand are set varies according to the level and type of health service. Fees for services in private hospitals are higher than public ones. University hospitals have detailed fee schedules which are easy to follow with relative value scales attached to them. In 1988 the MOPH issued a revision of an official fee schedule for its hospitals and health centres with a flexible range of prices. The following are the examples of fee structures in different types of hospitals (see table 3.16).

Table 3.16: Fee structures in different types of hospitals.
(Baht)

	MOPH hospital	University hospital (Chiangmai)	Private hospital (Phyathai)
Accommodation			
3 or more beds	175	275	n/a
1 bed			675
Special room		500-600	1,640
VIP room		1,100	3,000
I.C.U. room		700	700
Meal	Subject to local conditions	80-120	included in the room prices
Operating room	not specified	500/1st hour 250 for subsequent hours	600/1st hour 200 for subsequent hours
Anaesthetic	not specified	20-30 % of surgical fee	20-25 % of surgical fee
Hysterectomy	1,000-4,000	3,000	3,000-6,000
Hemorrhoidectomy	500-1,500	2,000	1,800-3,000
Thyroidectomy	1,000-4,000	3,000	3,000-5,400
Tonsillectomy	1,000-4,000	1,000	900-1,800

Sources: Fee Schedules in MOPH Hospitals and Health Centres, MOPH, 1988.

Fee Schedules in Changmai University Hospital, Changmai University, 1989.

"Private Hospital Charges", Group Insurance Dpt., AIA Co., Ltd., Bangkok, November 1984.

The quality of services and the perceived efficacy of care are important determining factors in selecting a health care provider. In principle, patients are encouraged to visit health centres and be referred to district and provincial hospitals if needed. In practice, many patients in Thailand tend to bypass health centres to visit hospitals even with minor illnesses because their perception of the quality of care there, is that it is poor. They prefer to visit hospitals because of the better treatment and better drugs provided. In a similar pattern to rural behaviour, the urban middle class prefer to visit university hospitals. They are prepared to travel a long distance to university hospitals - bypassing the BMA health clinics or general hospitals because the quality of care provided in university hospitals is better. The utilization of university hospitals is influenced by the quality of care, especially when one considers that the prices at university hospitals are not prohibitively expensive.

There is an "income effect" for the poor who cannot obtain any type of assistance from the state and cannot afford to pay for the institutionalized health services. The system of user-charges reduces the number of visits to health centres and hospitals. The poor rely on self-treatment or buy drugs from local shops or drugstores which are plentifully available, as are food stores. They visit hospitals when their conditions are severe or when an accident occurs. There are no free services for emergencies and accidents which require expensive treatment. The patient has to pay for the services

from his personal income. This is a great financial burden on the poor. It is clear that those most affected from the user-charged health service system in Thailand are the poorer amongst the population. However, there is a free medical care scheme which has reduced the impact of fees on the poor (to be referred to in the next chapter).

4. CONCLUSION.

In conclusion, information on the financing of the health care system in Thailand needs to be further developed. But it is clear that total expenditure for health care has grown rapidly in recent years with a trend for public sources of finance to decline and private sources to grow. The inequality in health care expenditure from the distribution of public expenditure on health, needs to be corrected. At the same time, alternative sources of finance for the health sector need to be developed. To mobilize and organize direct individual private payment through a collective insurance scheme supported by the state is the most equitable alternative. It would help the redistribution of income from the well to the sick and probably from the rich to the poor. A detailed analysis of the present health insurance system in Thailand is presented in the next chapter.

CHAPTER 4
HEALTH INSURANCE SYSTEM

1. INTRODUCTION.

The Thai health insurance system consists of various schemes for different groups of the population with differing conditions and benefits. User charges have long been implemented in every type and level of health care facility, both public and private. The growth of user charges can lead to financial burdens or even catastrophe, especially in the case of the poor. The MOPH and GTZ (1989, p.2) gave an example of a man who began to borrow money amounting to 1,500 Baht to pay for his sickness, but ended up with a debt of 20,000 Baht in the fifth year and had to sell farmland at the end. However, there can be special arrangements which insure individuals against sickness or loss of income because of invalidity. The costs of such arrangements may be borne by the government, the employer, the persons covered or a combination of them. To define simply their existence in Thailand, there are four elements of health insurance in the context of social insurance, namely; social assistance, statutory insurance, employers liability, and voluntary insurance.

2. SOCIAL ASSISTANCE.

A) Free Medical Care Project

Publicly operated health care systems are not only financed from general government revenues, but also impose modest user charges with slightly different fee schedules between the MOPH and other ministries. Around 30 per cent of total health costs are collected through user charges in MOPH hospitals (Myers et al, 1985). Historically, the rich bought themselves out of illness but the poor who could not afford to pay may have been exempt from paying fees arbitrarily at the discretion of the hospital director or other responsible person. The director of the hospital, therefore, had to mobilize local resources mainly from donations to cover budget deficits. In-kind payments in the form of voluntary labour for the hospital from time to time after the patient was discharged was also encouraged, but this work was limited to that which unskilled labour could do.

At the early stage of hospital development, the problem of underfunding was not very severe, because hospitals were not very popular. Only relatively few Thais could afford to pay to make use of the available western medical facilities. Boesch, E.E. (1972, pp.24-33), who studied the relationship between doctors and patients in Thailand between 1970-71, found that there was a social distance between the doctor and

patient, and that a hospital induced several forms of anxiety, so that the patient tended to avoid contact with the hospital for as long as he could. After the reorganization of the MOPH in 1974 along with the improvement in general hospitals, the financial burden has been increasing. In 1975, the civilian government advocated a policy of free medical care to the indigent at the same time as free public transport and rural job creation projects. Many directors of public hospitals were not very pleased with a free medical care project as its allocative budget might not be sufficient and create more financial burdens for the hospital. Some of them worried about the future consequences in terms of the overutilization of free care.

The first Free Medical Care budget for the poor was made in 1976. It was channelled through the MOPH which then reallocated it to several providers including other Ministries and the BMA. But the major project spending is administered by the Office of the Permanent Secretary for Public Health which holds around 75 % of the total project's budget each year for spending in areas outside Bangkok. The project has three components; free medical care , mobile health units and radio communications. It finances the cost of drugs and medical supplies, laboratory tests, operations, deliveries, family planning, and food, etc. The main objectives of the project were to create equity as well as to improve the health status of the poor. However, in practice, the mechanism to identify eligible persons has been problematic since the beginning of

the project. It was arbitrarily decided by the director of the hospital or officer in charge at the health centre at the point of service who could receive this benefit, from the patient's appearance. Only in Bangkok, in 1976, was a free medical care card issued with loose criteria to define poverty. Later on, the eligibility cards in Bangkok proved to be impracticable and were no longer used. However, Tansiriratanakul, C. (1978) found that the judgement of the director of the hospital as the final deciding factor for receiving care was not appropriate and the free care card should be re-introduced. Meanwhile, criteria to define poverty was systematically developed. As a result, income level was used as the means-test for eligibility. From 1978, a single person aged 20 or over with a monthly income of 1,000 Baht or less and a family with a monthly income of 2,000 Baht or below were entitled to receive the free medical care benefit. Furthermore, Mills, A. (1980) - a WHO short-term consultant, found that the poverty criteria of 1,000 Baht and 2,000 Baht across the board was unfair and geographical distribution of the project's expenditure was inequitable. The northeastern region of high social need and deprivation was in receipt of the lowest level of the project's benefit.

In September 1981, however, free-medical care cards were re-introduced nationwide. They were valid for three years (1982-84). The means-tested income level was changed to 1,500 Baht for individuals but the household income level has remained unchanged at 2,000 Baht across the board, while

inflation between 1976 and 1981 was around 22%, leading to worse maldistribution of the benefit. This time the Ministry of the Interior chief-officers at the district level were responsible for issuing the certificates to the medically indigent with screening from the village headman and Tambon headman. The mechanism of issuing the free-care card failed to guarantee that only needy persons could obtain the benefit. By contrast, some of the real indigents did not receive the card (Wibulpolprasert, S. et al, 1987, p. 53). During the first phase (1982-84), there was no restriction attached to the card. The card holder could visit any public service provider as many times as they wanted. As a result, the referral system collapsed and the total cost was very high because of over utilization.

During the second phase of implementing the card (1985-87), the poverty criteria of the project were not changed but the process of issuing the card was reviewed. Local committee and community leaders i.e. Buddhist monks, teachers and village health volunteers were recruited to take part in the process. In addition, a limitation for using the card was imposed to reduce the excessive demand for free care. However, it was a very loose restriction. It specified the nearest two health service providers (one health centre and one district hospital) as the first point to be contacted. But this time, the card holder was limited to visit either a health centre or a district hospital only once a day (to prevent the problem of moral hazard) with the exception of an accident or emergency

care (Office of Permanent Secretary for Public Health, 1984). Usually, the card holder would prefer to visit the district hospital rather than the health centre. This brought about a still greater financial burden for the district hospital than in the previous period.

When the third stage (1988-90) came into operation, the level of income for means-testing remained at 1,500 and 2,000 Baht regardless of inflation of 40.8 % between 1981 and 1989. A slight change was that only one nearest health centre was specified as the first point of contact. In practice, health centres are not very well accepted by the villagers. A recent study in Sisaket province (Khumthong, N. et al, 1989, p.13.) gives the reasons as being that villagers do not trust the knowledge of the health personnel, nor the quality of the drugs they prescribe, rather than for social distance reasons as found in hospitals in the previous study of Boesch, E.E.(1972). Another study in Chiangmai province by the MOPH and the German Agency for Technical Cooperation (1989, p.13) confirms the unpopularity of health centres staffed by persons with low qualifications and reveals that, under Thai culture, health centre officers are unable to refuse to write a referral letter for the patient. Nowadays, it is quite common to find the card holder walking into a health centre mainly to collect a referral letter to the district hospital, even with a minor illness. Thus, for the success of the Free Medical Care project in the future what is urgently needed is

an improvement in the quality and quantity of staff at the health centres.

The distribution of service benefit under the free medical care project is indicated by its per capita expenditure. The inequitable and inefficient distribution of the project's expenditure has changed slightly. For decades, the northeastern region with the highest social deprivation received the lowest per capita expenditure. But in 1988, the lowest per capita expenditure went to the central region while the northeastern region ranked as the second lowest (see table 4.1).

Table 4.1 : Geographical distribution of Free Medical care expenditure, 1982-88 selected years, (at 1987 prices).

Region	Per capita (Baht)				
	1982	1984	1986	1987	1988
Central	12.31	15.20	14.48	11.88	11.70
Northeast	7.20	12.37	11.38	11.80	12.37
North	9.87	12.96	12.53	13.30	13.47
South	9.57	14.23	13.24	13.89	13.26
Kingdom	9.73	13.85	12.83	13.10	13.03

Source : Rural Health Division, MOPH.

However, the criterion of per capita expenditure does not really give an accurate picture when compared to the criterion of the expenditure per poor person in each region. However, the criterion used to define who is poor are problematical and need to be reviewed. At this stage, assume the beneficiaries of the project are used as a proxy indicator of the poor in

the region, the expenditure per beneficiary can display a better picture of the regional distribution. As a result, the northeastern region still receives the lowest expenditure every year. The expenditure per beneficiary has always been allocated in favour of the central region with an exception of the year 1989 when the project released funds to help the flood victims in the south (see table 4.2). However, below the regional level, the provincial inequity of distribution has remained unchanged because of the criteria for budget allocations relying mainly on the previous utilization records or workload. Clearly, to improve the equitable effect of the project, at least two criteria for budget allocation need to be reviewed and adjusted accordingly, by using data from the recent socio-economic survey and other sources. These criteria are; 1. a "population basis", for budget allocations (for example; the number of the poor, the age and sex structure, mortality, morbidity, fertility rate of the poor, etc.) and 2. the income level as determined by means-testing with its regional variations.

Table 4.2 : Expenditure per beneficiary in 1982-89, selected years (at 1987 prices).

Region	Per capita (Baht)					
	1982	1984	1986	1987	1988	1989
Central	57.50	92.81	107.67	94.44	90.21	90.21
Northeast	24.59	48.34	59.80	57.45	60.07	70.81
North	33.26	49.13	71.07	63.97	62.04	72.75
South	53.41	72.94	88.28	77.59	72.87	119.31
Kingdom	38.12	58.81	74.31	67.89	65.00	88.27

Note : Represents only the figures of the Office of the Permanent Secretary for Public Health.

Source : Rural Health Division, MOPH.

Regarding the utilization of this project by eligible persons, in 1987 the utilization rate from the northeastern beneficiaries was 68.27% accounting for 2,388,225 visits. The North, in contrast, has the highest utilization rate of 125.68% of the total beneficiaries. The central and the south has a similar utilization rate of 96.73% and 95.63% respectively making the national average of 90.55% of the total card holders (see table 4.3). However, these statistics cannot reveal precisely how many eligible persons used the services. The 125.68% of utilization rate in the North does not mean that the take up rate in that region was 100% because each patient may have 2 visits per year, making a take up rate of only 62.84%. But it is explicit that all other regions of the country have a take up rate of less than 100%. The lowest utilization rate in the North-Eastern Region can be explained because of stigma or the lowest opportunity for access (see the highest population per bed and per health personnel in chapter 2, tables 2.4 and 2.9). By contrast, table 4.3 reveals the number of free care visits from non-card holders which includes the poor who cannot afford to pay the fees and the privileged group of the population (referred to on page 117 in this chapter). It is interesting to note that the northeastern region has the highest proportion of free-care visits without cards in the country and accounts for 66.50% of the total free care visits in the region. This utilization behaviour of the northeastern patients suggests two possible explanations. Firstly, the beneficiary may feel stigmatized by receiving the poverty-related card, therefore reducing its utility.

Secondly, this project has a gap because it fails to cover all of the sick poor who are really in need and have to visit the public facilities without money and without any card. The MOPH expenditure on free care for people without cards in 1984 was 533.18 million Baht (at 1987 prices) for their 625,986 in-patient visits and 6,121,741 out-patient visits (Health Card Centre, 1986, p.1/10), compared with the spending of 799.14 million Baht for a total of 9,205,197 visits in 1987 (Rural Health Division, 1988). Obviously, the user charges and donations play a great role, again, in this situation.

Table 4.3 : Utilization rate of the Free Medical Care Project, 1987.

Region	Total Free Cards by card holders (thousands)	Free care visits (thousands)	Visit as Beneficiaries (%)	Non-card holder free care visits (thousands) (1)(2)
Central	1,293	1,251 (34.25%)	96.73	2,402 (65.75%)
Northeast	3,498	2,389 (33.50%)	68.27	4,741 (66.50%)
North	1,849	2,324 (47.08%)	125.68	2,613 (52.92%)
South	977	935 (39.42%)	95.63	1,436 (60.58%)
Kingdom	7,617	6,899 (38.13%)	90.55	11,192 (61.87%)

Notes : (1) Includes in-patient and out-patient visits.
 (2) Includes visits from eligible persons under medical care for the privileged groups of the population and visits from the poor without cards.

Source : Rural Health Division, MOPH.

The total cost of the project has increased remarkably, in real terms, from 475.2 million Baht in 1982 to 706.1

million Baht in 1987. In the same period, the expenditure per card holder has risen from 154.8 Baht to 406.5 Baht and the expenditure per beneficiary has grown to more than double from 43.6 Baht to 92.7 Baht (see table 4.4). Moreover, every three years there is an administrative cost for issuing and renewing cards which accounts for around 1 -2 % of the total project expenditure, regardless of the social cost of identifying the eligible persons. Since 1985, the local committee and a number of local leaders have participated in the process without any compensation from the project. Their tasks are complicated and time-consuming especially, in measuring the level of income of their fellow villagers. This complex process needs to be paid for to prevent the leakages of the benefit going to those who do not really need them. Evidence from a study by Adeyi, O.O. (1988, pp.42-4) showed that 23.1% of low income cards went to those with the "average" income and 17.3% of them belonged to the "wealthy". Clearly, this made the project even more costly. In 1987 the total expenditure for issuing cards, without taking the social cost into account, was 7.2 million Baht with an addition of 6.7 million Baht in 1988 - at 1987 prices. (Rural Health Division, 1989, table 2). Overall, the project's expenditure gets higher and higher but the benefit of the project is going in the opposite direction. Table 4.4 illustrates how 3,069,000 cards were issued in 1982 compared with 1,737,000 cards in 1987. Similarly, the number of beneficiaries was also reduced from 10.8 million persons to 7.6 million persons during the same period. The coverage in the project of the total population was reduced sharply from

22.47% to 14.41% because of unchanged income limits in a period of inflation and economic growth. This phenomenon demonstrates that rising health care expenditure does not guarantee an increasing number of beneficiaries of the health services.

Table 4.4 : Free Medical Care expenditure per card holder and per beneficiary. (at 1987 prices).

	1982	1984	1987
Free medical care expenditure (Million Baht)	542.5	705.8	706.1
No. of cards issued (Thousands)	3,069	2,300	1,737
No. of persons per card	3.5	4.4	4.4
No. of beneficiaries (Thousands)	10,892	10,122	7,617
Total population coverage (%)	22.47	20.08	14.41
Expenditure per card holder (Baht)	176.8	306.9	406.5
Expenditure per beneficiary (Baht)	49.8	69.7	92.7
Expenditure per visit	n/a	n/a	102.4

Source : Rural Health Division, MOPH.

Note : Excludes free care visits from non-card holders.

3. STATUTORY INSURANCE.

A) Medical care for the privileged groups of the population.

The Ministry of Public Health has a responsibility to provide health care to special groups of the population. There

are 4 privileged groups who are eligible for free medical care or for cost-sharing at some percentage of the MOPH's fees under the 1982 MOPH Regulation for Medical Assistance. The level of benefit differs according to which group they belong to, ranging from free medical care to 75% cost-sharing. The family of the privileged person (their spouse, children and parents) are usually protected by the same level of benefit , unless otherwise stated. Details of the 4 groups are as follow; (Thailand Public Health Association, 1991, pp.200-203).

Group I. There are 14 types of person who belong to this group, for example; the veterans type 1, Islamic Provincial Committee members, Buddhist monks, village health volunteers, village health communicators, malaria health volunteers, etc. Only 5 types have their families covered by the same level of the benefit. The benefits include free drugs, doctor's fee, diagnostic tests and food and hotel costs. The beneficiaries have to pay 50 % of the cost for a private room.

Group II. There are 5 types of privileged people in this group. They are; The Tambon headman, Deputy Tambon headman, Village headman, Deputy Village headman and Tambon doctor who is working under the control of the Ministry of Interior. Their families are entitled to the same level of benefits. The beneficiaries of this group must pay 50 % of all hospital user fees, including a private room. The remainder is subsidised by the MOPH. Recently, the government considered

upgrading Tambon headmen and Village headmen into the beneficiary group I to obtain the same level of benefits as village health volunteers.

Group III. There are altogether 18 types of people who are entitled to receive these benefits. These include civil servants, government pensioners, members of Parliament, members of the Senate, members of local government, members of the Red-Cross Society, veterans type 2, and so on. In only two of these types are the families not protected. The beneficiary receives the option of using a private room at 50 % of the user charge. They have to pay all of the other fees in full. However, Some of them for example, civil servants and private school teachers, are protected by their own schemes. If that is the case, the hospital will send the bills to their funds, but the beneficiaries are responsible for the payment of 50 % of the charge for a private room.

Group IV. The members of this group number only four types of privileged persons. They are; members of the teacher's council, veterans types 3 and 4, and the folk boy scout. The families of the teacher and the veterans are entitled to receive the benefit but those of the folk boy scouts are not. The benefit provides only 25% of the charge for a private room.

In addition, since 1985, the MOPH has encouraged donations from the rich by giving the same benefit as the

beneficiary group I, to those who donated land or medical equipment worth more than one million Baht. For the donation of more than two million Baht, their family is also protected.

The total number of beneficiaries under all these arrangements number around 2 million people. In 1987, they made nearly 2 million visits to the hospitals and health centres under the Office of the Permanent Secretary for Public Health. The figure increased to 2,432,134 visits in 1988. The expenditure per visit has decreased in real terms from 96.87 Baht in 1987 to 85.05 Baht in 1988. By contrast, the expenditure per beneficiary has risen from 96.16 Baht to 103.42 Baht (see table 4.5).

Table 4.5 : MOPH expenditure⁽¹⁾under the scheme for the privileged groups of the population, 1987-88 (at 1987 prices).

	1987	1988
No. of beneficiaries (Thousands)	2,000	2,000
No. of visits (Thousands)	1,985	2,432
Total expenditure (Million Baht)	192.48	206.88
Expenditure per visit (Baht)	96.87	85.05
Expenditure per beneficiary (Baht)	96.16	103.42

Notes : (1) Represents only the figures of the Office of Permanent Secretary for Public Health, financed from the regular MOPH budget.

Source : Rural Health Division, MOPH.

B) Medical scheme for government employees and state pensioners.

The Thai government provides a non-contributory medical benefit for its employees as a fringe benefit. The beneficiaries include military personnel, policemen, civil servants, and state pensioners. Their families including the spouse, children and parents are also covered. The total number of beneficiaries in 1987 were 6.08 million people. This scheme is financed from general taxation and is controlled by the Ministry of Finance. The beneficiaries receive free comprehensive medical care when in a public hospital. When visiting out-patient departments, the beneficiaries have to go only to public providers. For their in-patient visit, they can go to private hospitals but a cost-sharing of 50% is required with a maximum of 3,000 Baht for a hospital stay of up to 30 days. These service benefits are provided through the reimbursement system. The beneficiary has to pay for the itemized fees for services for an out-patient visit to the public hospital or for in-patient care in a private hospital, and send the bills to the Ministry of Finance which will reimburse according to the rules. For in-patient stays in public hospital, the hospital will send the bills directly to the Ministry of Finance.

Measures to control the cost of this scheme have been introduced. Only three children per family can obtain the benefit. The maximum rates for appliances, prostheses, and the

daily rate for food and private room are standardized and applied in both public and private hospitals. In addition, in private hospitals, patients must pay 50% in cost-sharing for their itemized charges for services with an upper limit of 3,000 Baht for the first 30 days of hospitalization. For private hospital stays exceeding 30 days, a maximum rate of 100 Baht per day is payable in addition to the standard daily charge. If the beneficiary stays in a public hospital, there is no cost-sharing and no ceiling for itemized charges for services.

However, there is a trend of rapidly increasing medical expenditure for government employees and state pensioners. The total expenditure in 1978 was 595.20 million Baht (at 1987 prices) compared with 2,801.10 million Baht in 1987. The share of total health expenditure has risen by more than double, from 1.97% of the total in 1978 to 4.13% in 1987. Likewise, it was only 0.42% of total public expenditure in 1978 but it had increased to 1.23% in 1987. When compared with government payroll, a slightly different trend is found. In 1978 medical expenditure for government employees and pensioners was 3.10% of government payroll. It had decreased to 2.27% in 1980 but gradually increased to 4.00% in 1987 (see table 4.6).

Table 4.6 : Medical expenditures for government employees and state pensioners in 1980-87.

Year	Total (Million Baht at 1987 prices)	% of total health expenditure	% of total public expenditure	% of government expenditure	% of pay-roll
1978	595.20	1.97	0.42	3.10	
1980	856.75	2.50	0.57	2.27	
1981	1,176.19	n.a.	0.71	2.33	
1982	1,380.39	3.30	0.77	2.35	
1983	1,629.21	n.a.	0.87	2.61	
1984	1,899.15	3.58	1.00	2.90	
1985	2,182.99	n.a.	1.03	3.35	
1986	2,630.82	4.24	1.23	3.91	
1987	2,801.10	4.13	1.23	4.00	

Sources : Computed from Kiranandana, S." Health Insurance and Medical Schemes for Civil Servants and State Enterprise Employees", 1988, table 1 and 1a.

Proceedings of the First Thai Health Assembly, 1988b, Table 6.3 and 6.7.

Major reasons for the high cost of medical care in this scheme were due to false claims, excessive claims and unnecessary services provided by the private sector (Abel-Smith, B., 1985a). The abuses were often found in private providers while they were rarely found in public providers because of tight control and the non-profit nature of public provision (Kiranandana, S., 1988). Because cost-sharing for 50% of the charge is regulated for in-patient care in private hospitals, double billing was the most common abuse to compensate for half payment by the user.

Table 4.7 illustrates the medical expenditure of this scheme, excluding policemen and military officers for whom data is not obtainable because of security reasons. The total medical expenditure per person (government employees and

pensioners) was 1,157.3 Baht in real terms in 1982, increasing sharply to 2,051.0 Baht in 1987. Medical expenditure per beneficiary (state employees) rose from 251.5 Baht to 445.9 Baht. Similarly, the pensioners spent 408.5 Baht per beneficiary in 1982, increasing sharply to 850.1 Baht in 1987. Overall, the national average of medical expenditure per beneficiary of this scheme was 256.3 Baht in 1982 and 460.8 Baht in 1987. From the cost escalation of this scheme, therefore, special attention should be paid to financing with reference to efficiency and equity. In the future, the method of paying private providers should be reviewed as well as introducing contributions or cost-sharing from the beneficiaries of this scheme. However, the very low salary of public servants may be a prohibiting factor in doing this, unless the government is prepared to increase the government pay scale.

Table 4.7 : Medical expenditure for government employees and state pensioners₍₁₎. (Baht at 1987 prices).

	1982	1983	1984	1985	1986	1987
Government employees.						
Total medical expenditure (millions)	1,314	1,547	1,800	2,087	2,477	2,613
Total number of employees (thousands)	1,086	1,130	1,160	1,181	1,201	1,218
Total number of beneficiaries (thousands) ⁽²⁾	5,222	5,431	5,577	5,679	5,773	5,856
Expenditure per employee	1,211	1,369	1,552	1,768	2,064	2,146
Expenditure per beneficiary	251	285	323	368	429	445
State's pensioners.						
Total medical expenditure (millions)	65.8	80.2	99.4	121.9	153.1	188.6
Total number of pensioners (thousands)	107.3	117.4	125.6	134.0	142.0	148.0
Total number of beneficiaries (thousands) ⁽³⁾	161.0	176.1	188.4	201.0	213.0	222.0
Expenditure per pensioner	613	683	792	910	1,078	1,275
Expenditure per beneficiary	409	360	528	607	719	850
Total						
Expenditure per person	1,157	1,305	1,477	1,681	1,959	2,051
Expenditure per beneficiary	256	290	329	380	439	461

Notes :

- (1) Excludes policemen and military officers.
- (2) Includes their spouse, children, and parents. Calculation based on the National Socioeconomic Survey data that 68.7% of employees are married.
- (3) Includes their spouse and assumes that 50% of pensioners live with their spouse.

Source : Kiranandana, S., 1988, table 2.

C) State enterprise employees scheme.

Employees of state enterprises are one of the privileged group who are given non-contributory medical benefits. Most of the state enterprise revenue comes from user charges and is partly subsidized by the government. The reimbursement system and regulations are similar to the scheme for state employees. The standard daily rate is higher than in the government employees scheme but it differs from one enterprise to another. The number of children protected also varies; most of them have no limit to the number of children protected and some of them give the benefit to adopted children as well. The major difference from the government employees' scheme, with the exception of four enterprises, is that most of them do not provide medical benefits to their retired employees.

The expenditure on this scheme has been estimated by Kiranandana, S. (1988) using figures from 19 enterprises. It was found that the total medical expenditure in real terms was 354.7 million Baht in 1982 and had risen to 564.0 million Baht in 1987. The medical expenditure per employee increased steadily from 1,482.2 Baht in 1982 to 2,190.2 Baht in 1987. When taking the employees' dependents into account, the medical expenditure per beneficiary was 308.2 in 1982 compared to 455.5 Baht in 1987 (see table 4.8).

Table 4.8 : Medical benefits for state enterprise employees. (Baht at 1987 prices).

	1982	1983	1984	1985	1986	1987
Total medical expenditure (Millions) ⁽¹⁾	354.7	381.1	407.0	499.2	527.0	564.0
Total number of employees (thousands)	239.3	240.6	246.3	252.7	251.8	257.5
Total number of beneficiaries (thousands) ⁽²⁾	1,151	1,158	1,185	1,216	1,211	1,239
Expenditure per employee	1,482.2	1,584.0	1,652.2	1,975.7	2,092.8	2,190.2
Expenditure per beneficiary ⁽¹⁾	308.2	329.3	343.7	410.9	435.4	455.5

Notes : (1) Estimated figures.

(2) Includes their spouse, children, and parents.
Calculation based on the National Socioeconomic Survey data that 68.7% of them are married.

Source : Kiranandana, S., 1988, table 6.

The problem with this scheme is its highly curative nature. Preventive and promotive care, for example; immunization and regular medical check-ups, are not included. Measures to contain the cost and to raise cost-consciousness need to be introduced. Finally, similar to the government employees scheme, the enterprises should be well aware of the inequity of the benefits as well.

4. EMPLOYERS LIABILITY.

A) Workmen's Compensation Fund.

This is a scheme for employees of industrial and commercial firms with 20 or more workers throughout the whole country. This scheme is required by the Announcement of the Revolutionary Party, Number 103, dated 16 March 1972 that the employer must pay compensation for work-connected injuries and occupational illnesses. To avoid the problem of employers not being able to meet the costs of compensation or avoiding payment of it, the Thai government requires employers to insure themselves with a public carrier. A central public fund, namely the "Workmen's Compensation Fund" has operated since 1974. All employers excluding those in agriculture, fisheries, public services, state enterprise services, domestic services and private schools are required by law to pay regular contributions to the Fund. The basic rates of employer's contributions vary from 0.2% to 4.5% of the payroll, according to the risk of the industry. In practice, the annual rates of contribution of each firm are adjusted annually according to the past three years experience of claims. (Workmen's Compensation Fund Office, 1985). It is a non-contributory benefit from the employees' side because this scheme is based on the employer's liability approach, enacted upon the principle that the cost of compensating work-connected injuries and occupational illnesses should be borne totally by employers. Although government employees are not protected

by the scheme, the government pays an annual subsidy to this fund. The governmental subsidy is an arrangement to support the fund from the beginning, and it has continued paying to the fund although the fund is now self-sustaining with substantial reserves. In real terms, the government subsidized the fund by 1.78 million Baht in 1986 and 1.74 million Baht in 1987 while the total unused reserved fund was 1,464.5 million Baht in 1986, increasing to 1,654.6 million Baht in 1987 (Workmen's Compensation Fund Office, 1986 and 1987). Because it is a public carrier, in addition to an annual subsidy, the government is paying the administrative costs of the Workmen's Compensation Fund Office and the Ministry of the Interior network, at the provincial level .

The scheme provides both benefits in kind and cash. Benefits are provided in the case of occupational accidents and illnesses, invalidity and death. The benefit in kind consists of medical and hospital services, including rehabilitation services. The service benefits are provided through the retrospective reimbursement mechanism. The beneficiary is entitled to go to contracted hospitals (public and private) and clinics which send the bills directly to the fund. The beneficiary or his employer must pay the cost of hospitalization if using the non-contracted hospitals or clinics and must send his receipts to collect his money from the fund within 90 days. There is no cost-sharing from the patient if the cost of hospitalization is lower than 30,000 Baht. If the cost is beyond the maximum limit of 30,000 Baht, the patient must pay

the rest. The standard daily charge for food and private room is imposed at 250 Baht per day.

For rehabilitation, employees who are entitled to receive rehabilitation care can obtain the full cost of rehabilitation medical benefit up to a maximum amount of 20,000 Baht. In 1985, the Japan International Co-operation Agency donated some money and technical assistance to help in the establishment of the Rehabilitation Centre in Pathumthani Province (Department of Labour, 1988a). Although there is a large amount in the reserves, rehabilitation services are still minimal. Thailand, as in most developing countries, values labour forces and rehabilitation services less than those of developed countries because there is an excess of unskilled labour in the society. Also, most of the jobs are for unskilled workers. Therefore, in the past, there was no policy towards rehabilitation services. But in the future, the more the country develops, the more rehabilitation services are needed.

The cash benefits are divided into three types; temporary disability, permanent disability, and death benefits. Cash benefits usually pay 60% of the average monthly income ranging from 1,000 Baht to 6,000 Baht, payable after a waiting period of three days and continuing for a certain period. "Temporary" disability benefit is payable up to 52 weeks, "permanent" disability benefits are payable for up to 10 years according to the type and degree of invalidity, and survivor pension is

payable to eligible survivors for up to 5 years. In addition to the survivor pension, a funeral grant is payable as a lump sum of 3 months' average income between a minimum of 5,000 Baht and a maximum of 10,000 Baht. For the permanent disability benefit and survivor pension, the beneficiary can choose to receive either a lump sum payment or monthly payments (Department of Labour, 1988b).

This scheme has its fundamental problems. Firstly, there are gaps in the benefit. This comes from the eligibility rules which exclude all employees in agriculture, fishery and domestic services, and employees in industrial and commercial firms with less than 20 employees. Moreover, the legislation fails to cover all firms with 20 or more employees (Petprasert, N., 1986, p.97 ; Boonyoen, D., 1988, p.11). In these circumstances, the employer is supposed to provide compensation directly to the employee according to the Thai Labour Acts but in fact the majority of them are not doing so. Moreover, not all of those eligible for benefits claim them (Petprasert, N., 1986, pp.97-99). Table 4.9 shows the number and rate of those who claim the benefits from the Workmen's Compensation Fund 1986-87. Non-take-up of this benefit arises partly from the beneficiary's lack of information and partly from the incentive attached to the "experience rate" setting which induces employers to prevent employees from claiming, for example; by finding a healthy, replacement employee from the excessively cheap labourer available in the market, to substitute for an unhealthy one. Moreover, the difficulty in

administrative arrangements and the time consumed deters employees from claiming their benefits..

Table 4.9 : Reported occupational accidents, illnesses and death, 1986-87.

	1986 Number	1986 Rate ⁽¹⁾	1987 Number	1987 Rate ⁽¹⁾
Sickness for 3 days or less	19,739	16.73	23,146	18.78
Sickness for more than 3 days	17,066	14.47	18,182	14.75
Temporary disablement	1,206	1.02	1,158	1.94
Permanent disablement	36	0.03	10	0.01
Death	363	0.31	315	0.26
Total	38,410	32.56	42,811	34.73

Note : (1) Per 1,000 employees covered.

Source : Annual Report 1986, 1987., Workmen's Compensation Fund Office, The Ministry of Interior.

Secondly, the level of cash benefits of 60% of the average monthly earnings are too low and not enough to enable the purchase of consumption goods for a standard family with two children, especially for employees of small firms because their earnings are already lower than subsistence level (Petprasert, N., 1986, p.99). In urban areas, when using a

poverty line of 5,834 Baht per person per year in 1986, (Hutaserani, S. and Jitsuchon, S., 1988), to define subsistence level, the national minimum wage standard was only 1,800 Baht a month per employee. Thus, per capita income in a family of four was 434 Baht below the poverty line.

Thirdly, the benefit once paid is not increased with inflation so after five years the real level of benefit can become lower still.

Fourthly, there are no strict referral rules built into this scheme, and the beneficiary tends to use designated private providers up to the maximum limits and use the public provider later (Schwefel, D., 1988, p.32). This contributes to a high total cost of medical care. Table 4.10 illustrates the cost per protected employee and cost per case from 1981-87 (at 1987 prices).

**Table 4.10 : Contribution and expenditure of The Workmen's Compensation Fund, 1981-87.
(Baht at 1987 prices.)**

	1981	1982	1983	1984	1985	1986	1987
Employer's contribution (millions)	225.6	231.8	250.1	266.4	278.4	289.4	303.8
No. of firms	8,465	9,286	10,047	11,133	10,421	11,004	11,760
No. of Provinces	30	33	33	36	56	66	70
No. of employees (thousands)	798	825	874	995	1,092	1,180	1,233
No. of cases (injured, death) (thousands)	28.4	30.0	34.3	39.8	39.6	39.4	43.4
Compensation from WCF ⁽¹⁾ (millions)	179.0	172.3	225.6	264.5	241.4	221.8	267.8
Cost per protected employee	224.6	208.8	258.2	265.9	221.3	188.2	217.4
Cost per case	6,312	5,750	6,586	6,648	6,106	5,626	6,178

Note : (1) Includes benefits in cash and in kind.

Source : Annual Report 1987., Workmen's Compensation Fund Office, The Ministry of Interior, Table 1.

In addition, there is a scheme for private school teachers which is also subsidized by the government. Employers and employees pay 3% of the payroll each, while the government subsidizes at 6% of payroll. This scheme is the combination of a sickness and a provident fund because the employees' contribution can be refunded on retirement. However, there is no available data for further analysis of this scheme. There are about 0.5 million protected persons under this scheme.

Recently, there is a scheme for students in primary education which is mainly for preventive and promotive services in the rural areas. In 1990, the budget for the student scheme was 72 million Baht to protect 6.7 million students in primary schools in rural areas.

5. VOLUNTARY HEALTH INSURANCE

There are two types of voluntary health insurance in Thai society. First, private (commercial) health insurance deals with the urban self-employed individuals or groups with middle or high incomes and the employees of some private firms. Second, the community (and development) health insurance; namely the "Health Card Scheme"; protecting mainly rural self-employed individuals or families. The MOPH is subsidizing the cost of health cards so that the poor can afford to buy them.

A) Private (Commercial) Health Insurance

Private health insurance evolved in Thai society as part of life-insurance or general insurance policies. The first five private health insurance companies were registered in 1979, followed by the sixth insurance company for cancer, registered in 1983 (Kritayakirana, K. et al, 1986, p.149). At present, there are 31 commercial health insurance carriers in Thailand (Kolakul, J., 1988). They are as follows;

1. There are 12 out of 67 life insurance companies which offer health insurance policies as a supplementary contract to life insurance policies to their customers. In this category, only three major companies have the biggest share in terms of the number of people covered.

2. There are only 6 health insurance companies which are registered to offer only policies against sicknesses and accidents (as earlier mentioned). However, they are categorized by the Thai Trade law as general insurance companies. Between 1984 and 1986, there were in total, 7,080 contracts for sickness and accident insurance.

3. There are thirteen general insurance companies out of 57 companies of this type which offer a health insurance policy as an option amongst 17 options to be chosen from. There is no information available about the total number of people covered or the number of contracts. Only information from a new company shows that it had only 100 subscribers in 1987.

Generally, there are three basic types of subscriber to private health insurance; the individual, occupational, and group (Maynard, A., 1982, p.137). It is estimated that 50 % to 80 % of the well-to-do self-employed persons who buy individual subscriptions for life insurance are paying for their health insurance too. This accounts for around 170,000 persons in 1985. The occupational subscribers are groups of professionals, associations or companies (for example; journalists, solicitors, etc.) who pay their own premium. It

is not possible to obtain information on the number of insured persons in this category: presumably they are few. Finally, the group subscriber means a group of individuals whose premium is paid for partly or totally by their employers. In Thailand, some foreign and large local companies such as financial institutions and large manufacturers have this kind of arrangement for their employees (Kritayakirana, K. et al, 1986, p.187). The estimated figure for the number of insured persons belonging to this group from Kolakul, J. (1988) was about 70,000 persons (excluding their dependents), making the total estimated number of those privately insured in 1985 about 236,100 persons (excluding their dependents).

There are two main approaches for calculating premiums, risk-rating and pooling. Risk-rating means the insurer will charge different premiums on the basis of differing risks. In Thailand, there are four discriminating factors for low-risk and high risk; age, sex, occupation and health status. A younger individual pays a lower premium than an older person. Women at the same age as men pay a higher premium. The occupation type 3 (those whose working conditions put them at high risk, for example; mechanical workers, builders, lorry drivers, etc.) pay about 30 % higher rates than type 1 (office workers) and type 2 (business persons, journalists, solicitors and so on). Persons whose health statuses are classified as substandard, for instance; diabetics, and the obese, are subject to pay premiums at a higher rate. Lastly, the "bad-

risks" - those with chronic illnesses and the elderly (aged 60 years and over) - are excluded.

In contrast, the pooling approach charges the insured person at a standard rate across the board based on average experience. This method enables individuals to pool risks. Thus, positive redistribution (from the healthy members to the sick members) is possible: the bad-risk can be treated like anybody else. In group insurance and occupational insurance, individuals pay the flat rate average premium into a pool, agreeing that each will receive benefits from the insurer. In practice, insurance companies are interested in the working population more than the non-working population because they have already excluded the bad-risks. In addition, two more contributory factors for premium setting in Thailand are, experience rating and taxation. Experience rates adjusts the premium charged by taking into account the past claim experiences of insured persons. If the insured person has had a high claim in the previous year, inevitably his premium for the next year will go up to more than the standard rate. Regarding taxation in Thailand, those who buy only a health insurance policy as a major policy from a general insurance company have to pay tax and duties at 3.70% of the premium, while those who buy health insurance as a supplement to life insurance, are exempt from tax. Therefore, premiums paid to the latter are cheaper from the consumer's point of view.

In general, the commercial private health insurance companies in Thailand do not provide cash benefits. They provide only medical benefits. The type and level of benefits differ in detail, according to the arrangements which the insured person chooses and is willing to pay for. However, the general benefit offered in the market is for in-patient care. The benefit options to be chosen break down into 8 basic items. Each item has a ceiling attached to it. If the insured person wants to add benefits for in-patient visits or wants his dependents to be protected he can, but must pay accordingly. Usually, the benefits do not provide for preventive and promotive care, including maternity care, family planning and immunization. The benefits are provided through reimbursement with cost containment measures attached to them, for example; a limit of duration of stay in hospital for 30-31 days, a limit on the number of out-patient visits per year, a maximum limit per item, a standard daily charge, a maximum limit per case, a maximum limit per year, and so on. Under the reimbursement mechanism, patients must pay medical bills in full and send their receipts to the private insurers. After checking conditions of benefits and limits of an individual beneficiary, the insurer sends a cheque to the insured person accordingly. The cash reimbursement, therefore, may be less than the total medical bills.

The private insurance industry in Thailand, in general, has not been very successful in terms of its share of the market. It has decreased from 1.24 % of total health

expenditure in 1978 to 0.66 % in 1987 (see table 3.3, chapter 3). Health insurance in the six insurance companies which offered only health policies ran deficits of 12, 30, 11, 10 and 7 million Baht in the years from 1982 to 1986 (Kolakul, J., 1988, p.24). This may be due to the high transaction cost resulting from two main factors. First, individual insured persons have to pay 3.70 % tax and duties on their premiums. Second, health insurance companies are small and their administrative costs are quite high at around 20-30% of the total expenditure. In the first year of business it is as high as 40-50% but it reduces gradually by 10% and 5% in the second and third years, respectively. Only companies which sell health insurance combined with life insurance can survive, partly, because their operating costs are relatively low because of the joint use of resources with the non-health section and partly because of the exemption from tax and duties which attracts more customers. At this point the principles of economies of scale can be applied. Also, they can transfer some costs to the non-health section.

The two major problems of private health insurance are adverse selection and moral hazard (Barr, N., 1987, pp.108-123). Adverse selection occurs when the insurer can distinguish good-risk and bad-risk customers and then reject the bad-risk ones. As mentioned earlier, the chronically ill and the aged are examples of this problem. Therefore, private insurance leads to inequitable coverage. Moral hazard can arise in two ways; insured persons may be able to influence

either the probability of requiring medical treatment, or its cost. Therefore, some of the insurance companies in Thailand have a limitation on the number of out-patient visits per year and exclude the cost of normal child delivery in their policies because both conditions are controlled by individual choice. The second type of moral hazard, namely the third party payment problem, occurs when the insured person and the doctor are not concerned about the cost when health care is free at the point of consumption. The result is over consumption because both the insured person and his doctor have no financial incentive to constrain consumption. This may provide some explanation why commercial health insurance in Thailand is not a profitable business. However, they continue to offer policies because they hope to get more subscribers and run more cheaply in the future.

B) The Health Card Scheme

The Health Card Project in Thailand developed from the community financing activities of Primary Health Care. In 1979, revolving drug funds were initiated and supported by the MOPH in parallel with the training of Village Health Volunteers. Subsequently, village funds for nutrition, sanitation and multi-purpose village development followed. In 1983, the health card project started in 18 rural villages with a particular emphasis on maternal and child health (MCH) and family planning (FP) services. The prime objectives of the

project were as follows; (Ministry Of Public Health, 1985, p.44 ; Boonyoen, D., 1988, p.12)

1. To develop the basic services of MCH/FP immunization and general medical treatment for health card holders.
2. To reorient the role of the people and health personnel to be in line with PHC strategy.
3. To improve the standard and quality of health services with a referral system to reduce OPD cases at provincial hospitals or at large hospitals.
4. To develop a new process of financial management by mobilizing the money from healthy people to help the sick.
5. To raise capital by loans or other income generation to finance health services and other community development efforts.

At present, the project is subject to debate to try to shift the emphasis towards health insurance, rather than a community development which was its original concept. There were 3 phases of development of the project;

Phase 1. (June 1983 - June 1984). The project of the health card fund with special emphasis on MCH, was set up as an experiment by the Department of Health of pre-paid health insurance. A total of 18 villages in 7 provinces were covered by the project as a pilot study.

Phase 2. (1984 - 1985). It was renamed the "Health Card Project, MOPH" and expanded to cover every province. Each

province selected at least two villages located in the same Tambon for the project to be implemented as an experiment. One of the main criteria to choose the village was that at least 70 % of the people wanted to "voluntarily" buy the card. Later on, this criterion faded out.

Phase 3. (1985 - 1987). Study and adjust the prices and conditions of utilising the card. The project was aimed at setting up the funds in every Tambon in 1987.

However, the rapid expansion of the project proved to be impracticable. Thus, from 1988 to 1991 the project reduced its target to 8 Tambons in one province. Each Tambon tried to set up at least 3 village health card funds. Since 1988, the project was accepted as a part of the Sixth Five Year National Health Development Plan (1987-1991). The Health Card Centre of the MOPH was established to administer the project. The MOPH allocates its budget of around 5 million Baht annually to support the administrative costs of this centre.

There are three types of health cards for different risks and different benefits. They are the family card, individual card and MCH card. The prices of the cards are kept below the real cost so that poor people can afford to purchase them. Their prices are 300, 200 and 100 Baht respectively (Health Card Centre, 1985, p.34). However, the card prices are viewed as too low relative to the benefits provided and relative to the actual household direct payment for health services.

Therefore, the cards are affordable by most households (Myers, C. et al, 1985). Although the price of cards was adjusted once at phase 3 of the project, it is a standard price for the whole country. A WHO short-term consultant, Abel-Smith, B. (1985a, pp.9-11) suggested that the price of the card should vary according to the geographical area, because some regions are much poorer than others.

After the cards are sold, the premia collected are kept in the village health card fund in order to raise capital or to develop the community for one year. Next year, 15% of the premiums are kept in the village health card fund but the remaining 85% is sent to the MOPH providers. The allocative formula has been developed and adjusted from time to time. At the moment, it allocates 75% of the premium from the previous year's collection to the MOPH facilities - 30% to provincial level, 30% to district level and 15% to the health centre level. The remaining 10% is sent to compensate the government health personnel - 2% at provincial, 3% at district and 5% at Tambon level (Health Card Centre, 1985, p.37). Hongvivatana, T. et al (1986, p.69) argued that this allocation was unfair for district hospitals because the highest work-load fell on district hospitals due to the improper referral of cases from health centres. They suggested more money should be given to district hospitals.

Variations in the coverage and benefits amongst the funds are found in different provinces. Since 1988, each province

has its own regulations for benefits and restrictions. Previously, there were standard coverage, benefits, and limitations nation-wide. For instance; the family card protected up to 5 family members. The maximum utilization was up to 6 episodes of illness per year for a family card holder and 4 illness episodes for an individual card holder etc. However, the maximum limit of 2,000 Baht per episode of illness is still imposed everywhere. Also, there is a 10% discount on user charges for health card holders if MOPH facilities are used beyond this limit. This is the case all over Thailand.

To strengthen the referral system, only one health centre is designated as the first point of contact. The card holder must get a referral letter from the health centre for hospital visits except in an emergency. Once referred to the hospital, the card holder is entitled to use a "green channel" or "express way". The reduction of waiting time is reported to be an important incentive to purchase the card but keeping this benefit will have cost and cost recovery implications (Myers, C. et al, 1985, p.125). In practice, the referral system fails to fulfil its objectives. The card holders go to the health centre specified as the first point of contact, not for treatment but to demand a referral letter to district hospitals. A study of MOPH and GTZ (1989, p.13) found only 15% of the referred patients with health cards visit hospitals with medical relevance, compared with 20% of non-card holders. There is evidence that health card holders have over-utilized

medical services. In addition, Kitprapaiampon T., (1988, p.122) found the health card holders have shifted their medical care utilization from private health care providers to the MOPH providers specified in the card and over-utilized the services. To reduce unnecessary visits, charging the card holders who live near the hospital for their OPD visits (as suggested by Abel-Smith, 1985a, p.10) and imposition of cost-sharing measures (as recommended by Hongvivatana, T. et al., 1986, p.66) are technically correct and should be implemented accordingly. In fact, Abel-Smith emphasized the inequity of prices and utilization between those who live near the hospital and the poor who live in the remote villages.

The card is valid for one year with a start time varying according to the administrative and managerial conditions of each fund. Most of them start after the harvest season when the full cost of the card can be paid, while the other funds may allow instalments. At the beginning stages of the project's development, unused cards could be renewed without new payment but this condition has now been withdrawn. As a result, health card holders over-utilize medical services shortly before the card expires (Kitprapaiampon, T., 1988, p.122).

An adverse selection problem of this scheme is envisaged. During the first and second phases of the project, it was said that the chronically ill were excluded. However, in practice, there was no physical check-up required before buying the card

as in private commercial insurance. Some of the bad-risks can buy the card easily while others cannot. The result was that some funds were faced with financial losses as only those with bad-health risks bought the cards. Taking the equity principle into consideration, this precondition has been withdrawn since the beginning of the third phase. At the moment, they are the major client groups who make use of the services. At the same time, the funds failed to expand to protect the majority of the healthy population but reduced the target members from 70% of the total villagers to somewhere between 35% to 50%. Inevitably, the service providers for health card holders faced the problem of financial loss everywhere. This is responsible for the unpopularity of the project. To prevent these problems, the number of insured persons must be large enough to share the risk. Hence the decision that whole villages should join or no residents of it.

At present, the number of health card holders is around 2.5 million people, or 22.6 % of the population in project-implemented areas (Schwefel, D., 1988, p.36). By the end of 1991, the health card scheme is targeted to cover around 35% of all rural villages.

The scheme is viewed as innovative and conceptually correct (Myers, C. et al, 1985, p. 130). The most challenging idea is that it links prepaid and self-administered voluntary health insurance with local development efforts (Schwefel, D., 1988, p.47). The insurance principle of this scheme can

eliminate the financial burden of the card holder when sick. The positive redistribution (from the well to the sick) needs to be emphasized.

However, the disadvantages of this scheme are the over-utilization of the medical services and adverse selection. At the initial stage of development, under-use was a problem because of incentive attached to the renewal card, but once the incentive was removed over-use became a problem instead. For further development of this scheme, the use of preventive health care rather than curative care should be encouraged. The cost recovery and the allocative proportion to health service providers, should be analysed and adjusted (as suggested by Hongvivatana, T. et al, 1986). The relationship between health cards and low income cards should also be studied. Moreover, the understanding of the health personnel and the villagers supporting this project, is a most critical issue. In addition, several measures for financial incentives must be built in to promote the sale of the card (as suggested by Abel-Smith, 1985a). Finally, international experiences from the historical development of both developed and developing countries are well worth examining.

Overall, the problem of health insurance in Thailand is about who gets what benefits and at what cost. The effect of the insurance arrangements at present, which rely on the market mechanism of competition amongst health care providers, are to favour the financially and politically stronger groups

in the society. The highest income group of the country may not bother to buy any type of insurance or may purchase commercial private insurance at the premium of around 1,855 Baht per person a year. However, the private insurers exclude the poorer and the chronically ill population because these group can bring financial loss to their business from the uncontrollable fee-for-service medical bills. Thus, a public insurer would be in a better position to protect the higher risk groups of the population.

However, when comparing different schemes, the results of public arrangement schemes in Thailand are still far from being either equitable or efficient. The comparison of costs per beneficiary in different schemes is shown in table 4.11. It is noted that these costs were only part of operating costs which were directly channelled through each scheme. They are not total costs due to the exclusion of the other operating costs: investment costs and labour costs which are carried by the regular budget of the public sector. As a result, as in most developing countries, government employees are the most favoured group. In Thailand, on a non-contributory basis, government employees receive the highest health benefit at a cost of 460.8 Baht per beneficiary in 1987. Likewise, public enterprise employees, the spearhead of the labour movement which every military and civilian Thai government needs for their political support, received a non-contributory health benefit of 455.5 Baht per beneficiary. In addition, the Workmen's Compensation Fund beneficiary received 217.4 Baht

by his/her employer's contribution only. Next, the beneficiary of the Free Medical Care Project obtained free care at 92.7 Baht per person out of the money collected from tax payers. However, there is no reliable information about the cost of the Health Card Project. The figures which show that beneficiaries of the Health Card Project had to pay 73.2 Baht per person per year were based on the cost of cards sold (Tantisserani, P. and Prompakdee, S., 1989, p.93). Finally, a primary school pupil received care from the government budget, at the lowest cost of only 11.7 Baht per person.

Table 4.11 : Summary of health insurance system in Thailand, and cost per beneficiary.
(Baht at 1987 prices.)

Scheme	Population coverage	Number (Million)	Cost per beneficiary
1. Free Medical Care	The Poor	8.5	92.7
2. Privileged Group	Privileged groups	2.0	103.2
3. Government Employees	Government employees, pensioners, and their families	6.0	460.8
4. State Enterprise Employees	State enterprise employees and their families	1.2	455.5
5. Workmen's Compensation Fund	Employees	1.2	217.4
6. Private Insurance	Self-employed (urban)	0.2	1,855.0
7. Health Card	Self-employed (rural)	2.5	73.2

Table 4.11 - Continued.

Scheme	Population coverage	Number (Million)	Cost per beneficiary
8.Pupils	Primary school pupils(rural)	6.7	11.7
9.Others	Military personnel and their families, Policemen, Private school teachers	1.0	n.a.
	Total (% of population	29.3 54.4)	

Sources : Proceedings of the First Thai Health Assembly, 1988b.

Annual Report 1987, Workmen's Compensation Fund Office, Ministry of Interior.

Health Planning Division, MOPH.

Rural Health Division, MOPH.

Kiranandana, S., 1988.

6. CONCLUSION.

In conclusion, health insurance in Thailand has developed on different principles for different groups of the population. A solution is needed to make it more equitable and efficient. The conditions of use and the limits of each scheme, including the cost per beneficiary, need to be standardized. Moving further towards the social assistance concept by expanding the free medical care project is ideologically attractive and could gain political support.

Regardless of the inequity impact, however, it has a limited

and inadequate amount of financial backing. Thus, to extend the social assistance scheme for the entire population is not financially feasible. However, to review the means-tested criteria as well as set the standard of a minimum of care seems to be the right policy direction for this project.

Another possibility of health development is to introduce, organize and expand statutory health insurance schemes. These would increase health expenditure on the organized health care system and could create greater efficiency and equity than leaving it to the private market. The existing schemes for various groups of privileged persons need to be provided efficiently with a decline in support from the government by making the beneficiary pay contributions. At the same time, a scheme for regularly employed personnel in private firms urgently needs to be implemented. The most important issue for a statutory scheme is the potential for expansion in the future. Therefore, government needs to coordinate all of the parties concerned and set the standards. A benefit which allows the use of the government facilities but offers also a choice of private hospitals/doctors seems to fit the existing situation, but is rather expensive. However, a serious review of payment methods (with substantial co-payment) is urgently needed. Lastly, voluntary health insurance in the framework of primary health care and community development needs to be kept alive with strong support from the government. In the future, this would allow for the

health card scheme and the statutory scheme to be standardised and/or unified.

While this study was being made, the House of Representatives agreed to pass a bill in July 1989 to extend health insurance to private employees in firms with 20 or more employees. This bill was rejected by the Senate on 6 July 1990, but under the Thai Constitution became law when it was agreed by the House of Representatives on 11 July 1990. It is to be implemented in March 1991.

CHAPTER 5

THE SURVEY OF HEALTH BENEFITS

1. INTRODUCTION

The demand for health insurance amongst employees is not known to any great extent, nor is the extent to which employers would want to join such a scheme. This chapter describes a survey carried out in 1988 on the existing provision of private employers' health care fringe benefits, their costs, and the methods of paying the providers. The focus was on the attitude of employers towards compulsory health insurance, which has now become law. It provides valuable information on how far health insurance will increase or decrease the costs falling on employers. It also ascertains to what extent employers already paid for the employee's health and welfare provision.

The most important questions are concerned with the structure of the existing health care fringe benefits - what they cost, and the method of paying providers. All of these are important policy questions which need to be answered before introducing a statutory health insurance scheme. This study does not include employees as they will gain from this policy. They will receive benefits, and pay contributions at

only part of the total cost, while the other parts are paid by their employers and by the state, as well.

Thus, it was decided in 1988 to conduct a social survey to answer these policy questions. The reason for applying the social survey method instead of conducting a written census was because of its lower cost and its ability to provide information in greater depth from the interviews and provide relevant, reliable and up-to-date information. It was thought that the results of the survey would help to ascertain the various options for organizing health insurance in Thailand.

2. OBJECTIVES

1. To ascertain the existing employers' arrangements for medical and sickness fringe benefits for employees.
2. To analyse the existing costs of health fringe benefits to compare with the costs derived from what employers say they are willing to pay for a potential statutory health insurance.
3. To investigate the characteristics of employers, types of business, attitude and their preparedness to pay for statutory health insurance.
4. To find out the methods of paying the doctor and the hospital.

5. To examine accessibility to health services and the causes of illness of employees.

3. THE SURVEY DESIGN

With the general aim of finding the cost of the existing provision of health care fringe benefits and employers opinion on statutory health insurance, the sampling adopted was **quota sampling**. This technique is well accepted by the marketing business sector and widely used by the groups who conduct political opinion polls, such as Lou Harris, Associates, and the Gallup Poll. Other reasons for the choice of quota sampling are its ease of use, its reliability, and its lower cost (Moser, C.A., 1952; Moser, C.A. and Stuart, A., 1953; Sudman, S., 1966; Stuart, A., 1968; Kidder, L.H. and Judd. C.M., 1986). The sampling frame was the **census of employment** obtained from the Ministry of the Interior. The targeted quota, classified by type, size and geographical location are presented in **Table A 1-3 of Appendix 2**.

The survey was designed to have four key features:

- a) The unit of analysis was at the establishment level.
- b) The interviews were conducted with the employer himself or with a senior representative. In some cases, several respondents from one establishment were interviewed together in order to provide full information for the detailed questions.

c) The coverage of the survey was nationwide. The sample consists of establishments of every type and size from the four regions of the country, Bangkok and the five surrounding provinces of Bangkok.

d) The survey content was designed to be more comprehensive than that of any previous survey on health benefits for private employees of the country. The survey covered the method of providing health benefits, coverage, constraints and the cost of providing the health benefits.

4. THE SURVEY FINDINGS AND ANALYSIS

This survey is comprised of six parts. Part one deals with the general characteristics of the establishment or workplace. Part two is about the details of health fringe benefits for private employees in Thailand. Part three presents the cost of the health fringe benefits. Part four focuses on the accessibility and availability of the existing health services for employees in so far as this was known by employers. Part five reveals the common causes of illnesses of employees. Finally, it examines the attitude of employers and their preparedness to pay contributions to a statutory health insurance scheme. Also, the relationship between the cost of the existing health care fringe benefit provision and employers' opinions have been explored.

A. General characteristics of establishments.

1). General character.

The sample of study establishments was located in 10 provinces of Thailand, with the largest percentage of 31.5, 16.5, and 14.0 in Bangkok, Ubonratchathani, and Chiangmai, respectively (see table 5.1).

Table 5.1: Location of establishment classified by province.

Province	number	%
Bangkok	63	31.5
Samutprakan	14	7.0
Phathumthani	8	4.0
Chonburi	24	12.0
Nakornpathom	1	0.5
Chachaengsao	2	1.0
Chiangmai	28	14.0
Ubonratchathani	33	16.5
Khonkaen	1	0.5
Songkhla	26	13.0
Total	200	100.0

On the formal status of the establishment, it was found that 98.5 % of the sample were private businesses while only 1.5 % were private non-profit organizations (see table 5.2).

Table 5.2: Formal status of establishment.

Type	Number	%
Private business	197	98.5
Non-profit organization	3	1.5
Total	200	100.0

Most of the sample (71.2%) were single independent organizations. There were 15.2 % headquarters with branches and 12.1 of branches of national companies (see table 5.3).

Table 5.3: Characteristic of establishments.

Characteristic	Number	%
Headquarter with branches	30	15.2
Single independent organization	141	70.2
Branch of multinational company	3	1.5
Branch of national company	24	12.1
Total	198	100.0

Most of the establishment owners (88.5%) in the sample are Thai. Of these, most are of Chinese parentage. The next largest group (7%) in the sample are 51% Thai and 49% foreign owned. Only 4.5% in the sample are totally foreign-owned (see table 5.4). Amongst the foreign investors, most of them are Japanese, with Americans ranking second.

Table 5.4: Owner of the establishment.

Owner	Number	%
Thai owned	177	88.5
Owned by foreigners	9	4.5
51% Thai, 49 % foreigners	14	7.0
Total	200	100.0

The main activities of the establishments were classified according to 15 types. Amongst them, distribution, wholesale,

and retail trades, accounted for 24.5 % of the sample, miscellaneous services for 13.5 %, and Food, drink and tobacco for 8.5 % (see table 5.5).

Table 5.5: Main activities of the establishment.

Main activities	Number	%
Manufacturing sector		
Food, drink and tobacco	17	8.5
Textiles, clothing and leather	16	8.0
Woodworking and construction	9	4.5
Paper, printing and publishing	6	3.0
Chemical and allied industries	6	3.0
Metals and non-metals manufacture	15	7.5
Mining and quarrying	6	3.0
Miscellaneous manufacturing	10	5.0
Service sector		
Transport and communication	5	2.5
Energy and water supply	7	3.5
Business, finance and banking	7	3.5
Professional and scientific services	6	3.0
Tourist services and hotels	14	7.0
Distribution trades, wholesale and retail	49	24.5
Miscellaneous services	27	13.5
Total	200	100.0

The working practices in establishments were:- full-time working (68%), day-working (21%), and piece-working (5%). More detail is shown in table 5.6.

Table 5.6: Nature of working practices in establishments.

Working practices	Number	%
Pieceworking	10	5.0
Hourworking	7	3.5
Shiftworking	3	1.5
Daily working	42	21.0
Full-time working	136	68.0
Contracting	2	1.0
Total	200	100.0

Wage or salary payments were paid monthly (47.5%), every 2 weeks or 15 days (35.0%), and weekly (8.0%). - see table 5.7.

Table 5.7: Frequency of wage or salary payment.

Frequency of payment	Number	%
Weekly	16	8.0
Every 15 days or 2 weeks	70	35.0
Monthly	95	47.5
Daily	5	2.5
Every 10 days	6	3.0
Irregular	8	4.0
Total	200	100.0

2). Welfare fringe benefits provision.

Some employers have been providing some types of fringe benefits to their employees since they were relatively low paid and employers would like to keep good employees working for them. These welfare fringe benefits were largely voluntarily provided for employees without tax privileges or compulsion from the state. Only the occupational illness and

industrial injury benefits were a compulsory provision. There were a total of 32 types of welfare fringe benefits provided for employees (see table 5.8), with as many as 10 kinds of fringe benefit found in more than half of the establishment sample. The most widely provided fringe benefit (80.5 %) was bonus, which was paid once a year at the new year or the Chinese new year, since many employers were of Chinese origin.

A proportion of employers offer medical care fringe benefits by way of reimbursement for the use of public hospitals (80% of employers), private hospitals (69%), and private clinics (67.5%). Only 65.0 % of employers provided industrial injuries benefit. For the death of an employee or a member of his family, 59.5 % of employers paid a lump sum amount. This payment is made partly from Thai culture and partly from legislation in the case of death caused by occupational illness or accident related to work.

A few of the big companies arranged and paid for social activities and recreational facilities such as sport facilities, new year dinner parties, week-end holidays and religious/day-out festivals. These provisions reflect Thai culture and, in some cases, adopted western values. The arrangements vary according to the size and owner of the establishment. For the small establishments belonging to Thai nationals (where most are of Chinese origin), a Chinese new year dinner along with an annual bonus and a holiday were customarily provided. Those establishments having Thai and/or

Japanese owners, such as textile factories, were likely to organize and pay for a New Year or a cultural day out festival. The big establishments, such as finance and banking businesses, and those totally or partially belonging to western investors such as hotel, oil and drinking companies, may combine a New year and a Christmas dinner party. Other big organizations were likely to provide a week-end holiday which may or may not have cultural origins but may arise from modern management of team spirit and education. These arrangements for cultural day-out festivals or week-end holidays were separate from paid holiday for regular employees.

Accommodation and meal benefits were found at 54.0 % and 51.0 % of establishments, respectively. Many employees did not have their own home in the same province as their workplace as most of them migrate from other provinces or from rural areas. The accommodation benefit was useful for reducing rent and transportation cost, as the accommodation would be attached to or be close to the place of work. The accommodation provision was found mostly in textile and clothing factories with a large number of employees. However, the standards were not high, usually with over-crowding. The meal benefit provision varied. Some establishments provided food vouchers or subsidized employees' canteens. The most common practice was to provide free boiled rice leaving employees to buy their own meal at a low cost. In a very small establishment, employees may have to stay in their place of work. If this was the case,

the employer had to pay for the accommodation and food, while employees received relatively low pay.

There was a cheap loan provided in 50.5 % of the establishment sample. Some establishments provided an emergency loan with free interest of not more than one month of the employee's salary and to be returned within the next few months. This interest free or cheap loan was of great help, particularly in the case of the employee or a member of his family having an accident, or being ill, and for children's education. In some cases, employees in a small establishment which runs on a family basis may have work without pay for a period of time. This was because the first six months or the first year's income was drawn by the employee's parents. This was the case with female employees who had to work to support the whole family.

Table 5.8: Fringe benefits in the establishments

Fringes	Yes		No		Total	
	Number	%	Number	%	Number	%
1 Meal benefits	102	51.0	98	49.0	200	100
2 Clothing	97	48.5	103	51.5	200	100
3 Accommodation	108	54.0	92	46.0	200	100
4 Social and recreational facilities	131	65.5	69	34.5	200	100
5 Transportation	44	22.0	156	78.0	200	100
6 Bonus	161	80.5	39	19.5	200	100
7 Productivity bonus	74	37.0	126	63.0	200	100
8 Cheap loans	101	50.5	99	49.5	200	100
9 Pension	23	11.5	177	88.5	200	100
10 Provident	41	20.5	159	79.5	200	100
11 Funeral benefit	119	59.5	81	40.5	200	100
12 Children's education support	24	12.0	176	88.0	200	100
13 Child benefit	6	3.0	194	97.0	200	100

Table 5.8 - Continued.

Fringes	Yes Number	%	No Number	%	Total	
					Number	%
14 Wedding gift	90	45.0	110	55.0	200	100
15 Religious support	73	36.5	127	63.5	200	100
16 Industrial injuries benefit	130	65.0	70	35.0	200	100
17 Maternity benefits	24	12.0	176	88.0	200	100
18 Routine physical check-up	58	29.0	142	71.0	200	100
19 Physical check-up for new employee	44	22.1	155	77.9	199	100
20 Life assurance and accident insurance	55	27.5	145	72.5	200	100
21 Medical insurance	18	9.0	182	91.0	200	100
22 Contracted doctor	35	17.5	165	82.5	200	100
23 Contracted hospital	42	21.0	158	79.0	200	100
24 Reimbursement if use public hospital	160	80.0	40	20.0	200	100
25 Reimbursement if use private hospital	138	69.0	62	31.0	200	100
26 Reimbursement if use private clinic	135	67.5	65	32.5	200	100
27 Full-time doctor services	7	3.5	193	96.5	200	100
28 Part-time (public) doctor services	10	5.0	190	95.0	200	100
29 Part-time (private) doctor services	13	6.5	187	93.5	200	100
30 Sick room with full-time nurse	30	15.0	170	85.0	200	100
31 Sick room with part-time nurse	14	7.0	186	93.0	200	100
32 Hospital in the business premises	5	2.5	195	97.5	200	100

3). The employers' perception of fringe benefits.

Employers considered that the most popular benefits amongst employees were cash benefits, such as annual bonus, productivity bonus, sick pay, maternity pay, provident, pension and so on. There were, however, apart from an annual

bonus (provided by 80.5% of employers - see table 5.8), sick pay (78.0%, see table 5.33), and maternity pay (64.5 %, see table 5.35), only a small number of establishments providing a wide variety of cash benefits. This was because it increased operating and production costs. There were 34.5 % of employers who thought that employees preferred benefit in kind to benefit in cash. A total of 20.5 % of employers specified that, in their opinion, health benefits were the most popular amongst the employees. Nevertheless, there were 8.5% of employers who observed that employees would be satisfied with anything available, benefits in cash and/or in kind, as compared with receiving nothing (see table 5.9).

Table 5.9: The employers perception of the most popular benefit as seen by employees.

Fringes	Number	%
Cash benefits	107	53.5
Health benefit	41	20.5
Meal benefit	7	3.5
Accommodation	14	7.0
Recreation	4	2.0
Other benefits in kind (clothing, tools, transportation)	3	1.5
Everything available	17	8.5
No answer	7	3.5
Total	200	100

The employer's perception of the employee's reasons for being satisfied with a particular benefit was because it helped income support (55.7 % of those who answered the question). The evidence of relatively low paid employees in Thailand is noticeable, especially when compared to

neighbouring countries like Malaysia and Indonesia. There were 20.0 % of employers who answered the question and thought that fringe benefit provision encouraged people to work. Where the health benefits were concerned, some employers felt that the employees enjoyed the security of being provided for (16.2 %). For other benefits in kind such as transportation, clothing and tools, the employers viewed them as a convenience for working (5.4%). Finally, when recreational and social activities were arranged, the employers noticed that the employees expressed pleasure and enjoyed sociability (2.7%) (see table 5.10).

Table 5.10: The employer's perception of satisfying such benefit.

Reasons	Number	%
Income support	103	55.7
Security to be healthy	30	16.2
Encouraging to work	37	20.0
Convenience to work	10	5.4
Pleasure, sociability	5	2.7
Total	185	100

4). Trade unions.

Trade unions in private establishments, in Thailand, as found in this survey, were very small in number but had considerable bargaining power. However, it is noted that, most of the large and more active trade unions were organized in the public enterprises which are not within the scope of this

survey. The number of employers in the sample whose work force were members of trade unions was as low as 4.0%. The majority, or 96.0 %, of the sample did not have a union (see table 5.11).

Table 5.11: Members of trade unions in the establishment.

Member of trade union	Number	%
Yes	8	4.0
No members of trade unions	192	96.0
Total	200	100

Among 8 establishments which had trade union membership in their workforce, the trade union density was sought. The union density is a key feature in determining the employer-employee relationship in modern industrial relation terms. It is classified according to the proportion of full-time employees who are members of a union. Trade union density is **low** when one third of the total workforce or less, are members; **medium** when between one third and two thirds are members; and **high** when there are two-thirds or more members of the workforce in a union. From the survey, the employers reported that the trade union density was low in 2 establishments, medium in 1 establishment and high in 3 establishments. There were 2 employers that did not answer this question (see table 5.12).

Table 5.12: Proportion of full-time employees who were members of a union .

Union density	Number	%
Low (less than 1/3 of the total)	2	25.0
Medium (1/3 to 2/3 of the total)	1	12.5
High (2/3 of the total or more)	3	37.5
No answer	2	25.0
Total	8	100.0

Where there were trade unions in the establishment, their role for negotiating pay and conditions of work (including health benefits) was questioned. The recognition by employers of the role of trade unions is a key indicator of how much the employer is willing to allow them to represent the views of all employees. It was found in this survey that the trade unions were recognized in 6 establishments out of a total of 8 establishments (see table 5.13).

Table 5.13: Trade union recognition by management for negotiating pay and conditions of work.

Trade union recognition	Number	%
Trade union recognized	6	75.0
Trade union not recognized	1	12.5
Don't know	1	12.5
Total	8	100.0

In some cases, where there were no trade union representatives, there was a joint committee between employer and employee to consider pay and conditions of work (including health benefits). The employee representatives on the committee may be elected by their colleagues or appointed by

the manager. However, this survey found that only 3.5 % of the establishments had a joint committee (see table 5.14).

Table 5.14: The joint committee between employer/manager and employees to consider pay and conditions of work.

Joint committee	Number	%
Yes	7	3.5
No	193	96.5
Total	200	100

In the situation of there being a joint committee in the establishment, the description of the joint committee was asked for. All in all, the employers were able to describe the composition of the committee although only 5 out of 7 employers could specify the official name of the committee (see table 5.15).

Table 5.15: Description of the joint committee.

Description	Number	%
Give the name of the committee	5	71.4
Give the composition of the committee	7	100.0
Total	7	100.0

5. Employees.

Three Employee aspects of the establishments were examined; sex, type of working practice, and type of employee. There were 55.5 % of establishments which employed more male

workers than female, or entirely male workers. The proportion of workplaces where females dominated, or were employed only, was 39.0% compared with 2.5% of establishments that employed the sexes in equal number (see table 5.16).

Table 5.16: Distribution of sex in the work force.

Proportion of employees	Number	%
Female more than male	78	39.0
Male more than female	111	55.5
Equal	11	5.5
Total	200	100.0

Regarding working practice, part-time employees were classed as those who work less than a customary standard number of working hours. Full-time employees were protected by an industrial relation law giving a maximum number of hours that could be worked. For example employees in transportation services had a maximum of 8 hours per day. Mine workers, industrial workers, and construction workers had a maximum of 48 hours per week, while commercial employees worked as long as a maximum of 54 hours per week. In practice, most employees worked as long as the maximum number of hours determined by the law. Some of them worked longer hours in order to obtain overtime payment to support their family since their wages were relatively low. However, this study was not concerned with this topic in detail. It did find that 81.0% of establishments employed mostly full-time employees. Those who employed mostly part-time employees were 16.5 % of the total. Finally, the employment of equal numbers of full-time and

part-time employees accounted for 2.5 % of the sample establishments (see table 5.17).

Table 5.17: Proportion of employees, classified by type of working practice.

Proportion of employees	Number	%
Mostly full-time employees	162	81.0
Mostly part-time employees	33	16.5
Equal	5	2.5
Total	200	100.0

With regard to manual and non-manual employees, amongst 198 employers who answered this question, there were 56.6% of them employing mostly manual employees, 40.9% with mostly non-manual employees, and 2.5% with equal numbers of each (see table 5.18).

Table 5.18: Proportion of employees, classified by type of employees.

Proportion of employees	Number	%
Mostly manual employees	112	56.6
Mostly non-manual employees	81	40.9
Equal numbers	5	2.5
Total	198	100.0

The average (median) monthly income of employees, according to this survey, was 3,000 Baht for non-manual employees and 1,800 Baht for manual employees. This analysis was based on the median rather than the mean because the distribution of the data was highly skewed (see table 5.19).

During the course of the survey, the national daily minimum wage was 78 Baht in Bangkok and 5 surrounding provinces of Bangkok. It was 75 Baht in Ranong, Phangnga, and Phuket compared with 70 Baht in Chonburi, Saraburi, Korat and Chiangmai. Finally, the minimum wages in the rest of the country was 65 Baht. When multiplying the minimum wage (using the lowest figure of 65 Baht) by the number of working days per month, say 28 days, the monthly income from the minimum wage is calculated to be 1,820 Baht. Comparing this figure to the median monthly income derived from the survey, half of the manual employees receive monthly income below the national minimum wage.

Table 5.19 : Average monthly income of employees.

Type of employee	Median (Baht)	Mean (Baht)	Mode (Baht)	Skewness	Kurtosis	S.D. (Baht)	Range (Baht)
Non-manual	3,000	4,393	3,000	8		84	7,173
Manual	1,800	1,932	1,000	3		12	1,293

B. Health benefits provision for employees.

1). Type of health benefits.

There were 15 types of health benefit which employers arranged for employees (see table 5.20). The most widely provided health benefit was industrial injury benefit. It was found in 92.0% of the establishments. The second largest provision was occupational illness benefit (89.0%), and

thirdly, ordinary sickness benefit (80.5%). According to the Announcement of the Revolutionary Party Number 103, 1972, (6), employers must pay industrial injury benefit which includes accidents from work and occupational illnesses. A total of 92.0 % of employers provided the benefit for accidents related to work while the remaining 8% of establishments did not. Furthermore, when the benefit provision for occupational illness was looked at closely, it was three percent lower than that for industrial injury benefit, albeit not so obvious and more difficult to determine with accuracy.

Ordinary sickness benefit, although not compulsory, came third in rank. Three explanations can be given for this; firstly, the development of welfare provision around family values has become the norms of society. Some employers may adopt the view that their employees were part of their family, therefore they voluntarily provided care when the employees were sick. Secondly, some employers had already employed nurses or contracted doctors for accident and occupational illness, but, in practice care for ordinary sickness was also provided. Thirdly, even when the employer did not want to pay for ordinary sickness, it might be rather difficult for the employer to distinguish between occupational illness and ordinary sickness. This situation was likely to happen all the more when a doctor felt sympathy with an employee and provided a certificate specifying occupational illness rather than ordinary sickness.

By contrast, the least provision in health benefits was for family planning (5.5%), perinatal care (6.5%), complicated delivery (12.5%) and normal delivery (13.0%). This was because the employer perceived that family planning and maternity care were a personal issue. However, there was a case of family planning benefit provided for female sterilisation only, after a second child's delivery (see table 5.20).

Table 5.20: Frequency of health benefits, classified by rank.

Rank	Health benefits	Yes		No		Total	
		Number	%	Number	%	Number	%
1.	Industrial injury	184	92.0	16	8.0	200	100
2.	Occupational illness	178	89.0	22	11.0	200	100
3.	Ordinary sickness	161	80.5	39	19.5	200	100
4.	Drug, medical supply	152	76.0	48	24.0	200	100
5.	Rehabilitation related to work	125	62.5	75	37.5	200	100
6.	Accident not related to work	80	40.0	120	60.0	200	100
7.	Medical check-up	76	38.0	124	62.0	200	100
8.	Eye test	73	36.5	127	63.5	200	100
9.	Rehabilitation not related to work	52	26.0	148	74.0	200	100
10.	Dental care	50	25.0	150	75.0	200	100
11.	Mental care	44	22.0	156	78.0	200	100
12.	Normal delivery	26	13.0	174	87.0	200	100
13.	Complicated delivery	25	12.5	175	87.5	200	100
14.	Perinatal care	13	6.5	187	93.5	200	100
15.	Family planning	11	5.5	189	94.5	200	100

a). Occupational illness and industrial injury.

The survey asked employers for reasons as to why employees should receive industrial injury and occupational illness benefit. There were 44.9 % of employers who answered this question, stating that it was compelled by law. Provision made for humanitarian reasons accounted for 36.9 % of all

answers, for employees' morale and security, 11.8%, and finally, to encourage employees to work better, leading to higher productivity, accounted for 6.4% of all answers (see table 5.21).

Table 5.21: Reasons why employees should receive industrial injury benefit.

Reasons	Number	%
Humanitarian reasons	69	36.9
It is compulsory by law	84	44.9
For employees' morale and security	22	11.8
Encourage employee to work, leading to company's higher productivity	12	6.4
Total	187	100.0

Limits on industrial injury benefit were found in 29.2% of the total of 178 establishments whose employers answered this question. The majority of 70.8% of the participating employers perceived that there were no limits (see table 5.22).

Table 5.22: Limitation on industrial injury benefits.

Limitation	Number	%
There is a limit	52	29.2
No limits	126	70.8
Total	178	100.0

Of those 52 establishments where there were limits on industrial injury benefit, six types of limit were identified. These were a limit on the type of illness in 25 cases, or

48.1% of the 52 establishments, an upper limit per case or episode of illness in 15 establishments (28.9%), and an upper limit per case per year in 4 establishments (7.7%). There were 4 employers who did not specify the limits but understood that it was based on the limits of the Workmen's Compensation Fund. A limit on the duration of sickness and on the type of facilities on offer was also specified (see table 5.23).

Table 5.23: Type of limitation on industrial injury benefits.

Type of limitation	Number	%
An upper limit per case	15	28.9
An upper limit per year	4	7.7
Limit of duration of sickness	2	3.8
Limit on type of facilities	2	3.8
Based on the limitation of Workmen's Compensation Fund	4	7.7
Limit on type of illness	25	48.1
Total	52	100.0

In 1987, accidents and the poisoning of employees, including accidents and poisonings not related to work, as reported by employers, were known of in only 33.5% of the total number of establishments. The remaining majority of 66.5%, as stated by employers, had neither accidents related to work nor accidents not-related to work (see table 5.24).

Table 5.24: Total accidents and poisonings⁽¹⁾ of employees in 1987.

Accident and/or poisoning	Number	%
Yes	67	33.5
No	133	66.5
Total	200	100.0

Note : (1) Including accident and poisoning not related to work.

The reason for industrial accidents that had occurred in 1987, as perceived by 140 employers who answered this question, was because of employees' carelessness (82.9%). There were 12.9 % of employers who thought that the accidents happened because of the employee's bad luck or by chance. A total of 2.8% of employers were of the opinion that the accidents took place because the employee was drunk or unhealthy. Lastly, only 2 employers or 1.4% of them acknowledged that there were machinery failures. These were the cases where there was a written report of the accidents sent to the Ministry of Interior (see table 5.25).

Table 5.25: Employers' perception of the reasons for industrial accidents in 1987.

Reason for industrial accidents	Number	%
Employee's carelessness	116	82.9
Machinery failure	2	1.4
Drinking alcohol, unhealthy	4	2.8
Bad luck	18	12.9
Total	140	100.0

b). Ordinary sickness.

The reasons given to explain why employees should receive ordinary sickness benefits are presented in table 5.26. Amongst 114 employers who answered this question, 33.3% of them said it was for humanitarian reasons that this benefit was provided. Some 28.1% of them perceived that the benefit would give the employees job security and encourage them to stay working with the same employer. There were 19.3% of employers who thought that to provide ordinary sickness benefit was inevitable and unavoidable. Lastly, 6.1% of the participating employers said that it was a duty to provide ordinary sickness benefit.

Table 5.26: Reasons why employees should receive ordinary sickness benefit.

Reasons	Number	%
For employees' job security	32	28.1
Increase work efficiency	15	13.2
Humanitarian reasons	38	33.3
The ordinary sickness benefit will be provided in some circumstances	22	19.3
It is their duty	7	6.1
Total	114	100.0

The survey went on to explore the conditions of use and limitations of ordinary sickness benefits, if provided. There were 40.6% of 160 establishments where employees can be reimbursed if they use public hospitals, compared to 38.8% of establishments if private hospitals are used, and 31.9% of

establishments, if a "positive list" of hospitals is used. An upper limit per employee per year was applied in 40.3% of the 159 establishments that answered this question. An upper limit was also applicable per OPD visit (28.1% of establishments) and per case (26.3%). For in-patient care, there were 28.7% of 160 establishments controlling the cost by paying a fixed daily rate. Finally, there were 20.5% of 161 establishments where the employees could be reimbursed if they went to G.P. clinics on the "positive list" (see table 5.27).

Table 5.27: Limitations on ordinary sickness benefits.

Limitation	Yes		No		Total	
	Number	%	Number	%	Number	%
An upper limit per year	64	40.3	95	59.7	159	100
An upper limit per OPD visit	45	28.1	115	71.9	160	100
An upper limit per case	42	26.3	118	73.7	160	100
A fixed daily rate	46	28.7	114	71.3	160	100
Reimbursement for using public hospitals	65	40.6	95	59.4	160	100
Reimbursement for using private hospitals	62	38.8	98	61.2	160	100
Reimbursement for using positive list hospitals	51	31.9	109	68.1	160	100
Reimbursement for using positive list clinics	33	20.5	128	79.5	161	100

Table 5.28 illustrates the frequency of provision of particular items of ordinary sickness benefit. The survey found that the most widely provided were drugs (51.0% of establishments). The second and third widest provisions were out-patient care (49.5%) and in-patient care (46.0%). By contrast, the lowest and the second lowest provisions were family planning (5.5%) and maternity care (11.0%).

Table 5.28: Frequency of provision of particular health benefits, classified by rank.

Rank	Item/activity	Yes		No		Total	
		Number	%	Number	%	Number	%
1.	Drugs	102	51.0	98	49.0	200	100
2.	Out-patient care	99	49.5	101	50.5	200	100
3.	In-patient care	92	46.0	108	54.0	200	100
4.	Laboratory test	81	40.5	119	59.5	200	100
5.	Doctor's fees	78	39.0	122	61.0	200	100
6.	Room	78	39.0	122	61.0	200	100
7.	Meals	78	39.0	122	61.0	200	100
8.	Physical check-ups	57	28.5	143	71.5	200	100
9.	Appliances	50	25.0	150	75.0	200	100
10.	Eye-tests	49	24.5	151	75.5	200	100
11.	Specialist's fees	45	22.5	155	77.5	200	100
12.	Dental care	34	17.0	166	83.0	200	100
13.	Prostheses	26	13.0	174	87.0	200	100
14.	Transportation	24	12.0	176	88.0	200	100
15.	Maternity care	22	11.0	178	89.0	200	100
16.	Family planning	11	5.5	189	94.5	200	100

c). Accidents not related to work.

The Employers' perception of the reasons for accidents not related to work in 1987 were that they were due to the employee's carelessness (73.0% of 115 employers). The major type of accident, according to the employer, were road accidents. There were 12.2 % of employers who perceived that these accidents were because of the employee's bad luck. Next, at 7.8% are employers who perceive, quarrels between employees to be the cause of accidents. Lastly, 7.0% of the 115 employers thought that the accidents were due to employees drinking alcohol or being unhealthy (see table 5.29).

Table 5.29: Employers' perception of the reason for accidents not related to work in 1987.

Reason for accidents	Number	%
Employee's carelessness	84	73.0
Drinking alcohol, unhealthy	8	7.0
Bad luck	14	12.2
Quarrel between employees	9	7.8
Total	115	100.0

Table 5.30 presents the type of health care facilities which employees are entitled to receive for ordinary sickness. Employees in 29.8% of 198 establishments were entitled to visit public hospitals, private hospitals and private clinics for both in-patient and out-patient care. Employees in 9.1%, 4.0% and 3.0% of establishments were entitled to use only public hospitals, private hospitals and private clinics respectively. Only 6.6% of establishments permitted employees to visit public and private hospitals. Those who permitted visits to both public hospitals and private clinics were 1.5% and to both private hospitals and private clinics were very small in number at 0.5%

Table 5.30: Type of health care facilities from which employees are entitled to receive medical benefits.

Type of facilities	Number	%
This benefit is not provided	90	45.5
Public hospitals only	18	9.1
Private hospitals only	8	4.0
Private clinics only	6	3.0
Public and private hospitals	13	6.6
Public hospitals and clinics	3	1.5
Private hospitals and clinics	1	0.5
Public hospitals, private hospitals and clinics	59	29.8
Total	198	100.0

Limitations on in-patient care in the event of accidents not related to work are illustrated in table 5.31. Amongst 80 establishments which provide benefit for hospitalization, the most popular measure to control cost was a limit on the type of service (21.2% of the 80 establishments). There were 11.3% of the 80 which reimbursed only a certain percentage of the total cost and 10.0% of them which had a maximum cost limit per episode of illness.

Table 5.31: Limitations on in-patient care because of accidents not related to work.

Limitations	Number	%
An upper limit per year	7	8.7
An upper limit per case	5	6.2
A certain per cent of total cost	9	11.3
Limit on type of service	17	21.2
Limit on kind of facilities (public hospitals only)	6	7.5
Limit on duration of stay	1	1.3
Limit on level of employee	3	3.8
An upper limit per episode of illness	8	10.0
No answer	24	30.0
Total	80	100.0

d). Private insurance.

Group insurance with a commercial insurance company was a method which had been arranged and paid for by the employers. The advantage of this arrangement was that the employer knew the exact amount of money he/she had to pay each year without worrying about overspending of the budget. Nor did they need to bother about the administrative procedure and its reimbursement of individual employees because these things were done by the insurer.

This survey found that only 18 of the big establishments or 9.0% of the total establishments bought medical insurance for their employees (see table 5.8). The cost of the premium per capita, per year ranged from 200 Baht to 12,000 Baht. The average (median) cost of the premium was 1,000 Baht per employee per year. When comparing this figure (1,000 Baht) to the average annual income of manual employees ($12 \times 1,800$ baht), as calculated from table 5.19 of this survey, the average premium was equal to 4.63 % of their average income or 4.58% of the annual income calculated from the national minimum wage.

When dependents of employees were protected by the private insurance provided by employers, the average premium per family per year was 2,470 Baht. The dependents included the employees' spouse and their children. Although it was

customary not to limit the number of their children, their ages had not to be more than 20-25 years.

Considering the frequency of premium payment to the insurance company, 14 out of 18 establishments paid annually. One establishment paid every six months and two establishments paid quarterly (see table 5.32).

Table 5.32: Frequency of premium payment to the insurance company.

Frequency	Number	%
Every 3 months	2	11.1
Every 6 months	1	5.6
Every 12 months	14	77.7
No answer	1	5.6
Total	18	100.0

e). Cash sickness benefits.

In general, cash sickness benefit is paid to employees who had to stop working in the short-term because of illness. This cash benefit, therefore, prevented employees from losing income while not being able to go to work. This survey examined the cash sickness benefit period for which a medical certificate was required, as presented in table 5.33. In most cases, accounting for 56.0% of the total, a medical certificate was required to be presented to the employer in order to receive the benefit. As specified in the Thai industrial relations law, if the employees were off sick for 3 consecutive days or more, they had to justify their cause

of illness and may have had to present a medical certificate as well. The survey found that 45.5% of the total establishments requested a medical certificate for a cash sickness benefit period of 3 consecutive days or more. There were 10.5% of establishments for which a medical certificate was needed for sick pay of one day or two consecutive days. Those establishments without cash sickness benefit provision were 21.0% of the total. There were 22.0% of establishments with no specific regulation.

Table 5.33: Cash sickness benefit period for which a medical certificate is required.

Cash sickness benefit period	Number	%
This benefit is not provided	42	21.0
1 - 2 Consecutive days	21	10.5
3 Consecutive days or more	91	45.5
No regulation	44	22.0
No answer	2	1.0
Total	200	100.0

With or without a requirement for a medical certificate, the total number of cash sickness benefit days were 30 per year, as defined by the Thai industrial relations law. This survey found that there were 49.5% of establishments which provided the total cash sickness benefit period of 30 days per year, per employee. Employees in 16.0% of establishments received cash sickness benefit for more than 30 days per year. There were 13.0% of establishments providing less than 30 days of cash sickness benefit per year. Finally, there were 21.0%

of establishments not providing this benefit to their employees at all (see table 5.34).

Table 5.34: The total cash sickness benefit period per year.

Number of days per year	Number	%
This benefit is not provided	42	21.0
Less than 30 days	26	13.0
30 Days	99	49.5
More than 30 days	32	16.0
No answer	1	0.5
Total	200	100.0

f). Cash maternity benefits.

Similar to cash sickness benefit, some establishments provide cash maternity benefit for their employees for a period before and after the confinement. This survey found that 52.0% and 10.0% of establishments provided cash maternity benefit for a period of 30 days and for more than 30 days, respectively (see table 5.35). According to Thai Law, cash maternity benefit was provided to ensure that a working mother has a substantial income for herself and her baby for a period of 30 days. From table 5.35, it can be seen that the provision of cash maternity benefit for a period of 30 days or more, was made by 62.0% of establishments. There were 2.5% of establishments providing this benefit for a period of less than 30 days. This study found that 21.5% of establishments did not provide this benefit for their female employees at all. A further 12.5% of establishments did not provide

maternity benefit as they had no female employees. These establishments were those, such as; garages, ice mills, and rice mills.

Table 5.35: The total cash maternity benefit period.

Cash maternity benefit period	Number	%
This benefit is not provided	43	21.5
Less than 30 days	5	2.5
30 Days	104	52.0
More than 30 days	20	10.0
No female employees	25	12.5
No answer	3	1.5
Total	200	100.0

Some employees were entitled to have additional maternity leave without pay for a period of time. This was because a working mother may have a complicated delivery and need more time. Only one establishment, or 0.5% of the sample allowed employees to take maternity leave without pay for 61-90 days in addition to the regular 30 paid days. There were 21.5% of establishments providing additional maternity leave of 30 - 60 days and 5.0% provided less than 15 days. The majority of establishments (59.5%) did not provide the opportunity for working mothers to continue working for them if they had to take time off for 30 days or more for whatever reasons (see table 5.36).

Table 5.36: Additional maternal leave without pay per year.

Number of days	Number	%
No additional maternal leave	119	59.5
Less than 15 days	10	5.0
30 - 60 days	43	21.5
61 - 90 days	1	0.5
No female employees	25	12.5
No answer	2	1.0
Total	200	100.0

There were some 22 establishments providing maternity grants to the working mother in addition to cash sickness benefit and medical benefit. The survey found that this maternity grant, paid in a lump sum amount, ranged from 100 Baht per case to 6,000 Baht per case. The average (median) maternity grant was 1,000 Baht per case.

There were 11 out of these 22 establishments providing maternity grants which did not limit the maximum number of children for which a working mother was entitled to receive the benefit. Limits on one child, 2 and 3 children were found in 2, 6, and 2 establishments respectively (see table 5.37).

Table 5.37: Number of children for which female employees are entitled to receive maternity grant.

Number of children	Number	%
1 Child	2	9.1
2 Children	6	27.3
3 Children	2	9.1
No limitation	11	50.0
No answer	1	4.5
Total	22	100.0

In principle, a female employee does not have a diminished capacity for work due to her pregnancy and so should not have to change her job or duties. However, if the conditions of work have a high risk of occupational injury or illness, she has a right to ask for a temporary change by presenting a medical certificate. This study found that 62.0% of establishments did not change the pregnant employees' job or duties because of a diminishing capacity for work. By contrast, there were 50 establishments or 25.0% of the sample that changed the employees' job or duties because of her pregnancy (see table 5.38). It is also to be noted that pregnant employees in 4 out of the 50 establishments (or 2% of the sample), received less wages or salary than before being pregnant due to the employers' perception of her diminishing capacity of work.

Table 5.38: Change of job or duties because of diminishing capacity for work due to employee's pregnancy.

Change of job	Number	%
Yes	50	25.0
No	124	62.0
No female employees	25	12.5
No answer	1	0.5
Total	200	100.0

2). The employers' perception of health benefit.

Answering the question of what were the advantages of providing health benefits to employees, employers in 37.3 % of 177 establishments, regarded the benefits as providing an increase in employees' morale and security. There were 28.2% of them claiming that the benefit provision was leading to an increase in work efficiency and to their company's productivity. There were 26.6% employers perceiving that the advantage of health benefits was to save the employees' spending - in other words, it was an employee income support measure. There were 6.8% of employers who considered that the advantage of the benefit was to improve the relationship between themselves and the employee or promote their loyalty to the company. It is interesting that there were 1.1% of employers who found that the benefit would, in fact, reduce employers' total expenditure in the future (see table 5.39).

Table 5.39: Advantages of providing health benefits according to employers.

Advantages	Number	%
Increase employees' morale and security	66	37.3
Leading to increase in work efficiency	50	28.2
Better relationship between employers and employees	12	6.8
Saving employees' spending	47	26.6
Reduce employers' expenditure	2	1.1
Total	177	100.0

By contrast, the major disadvantage of providing health benefits, as seen by the employer and presented in table 5.40, was that they increase employers' expenditure (95.8% of 95 establishments). There were 3.2% of them that felt a disadvantage of health benefits would come from a high cost due to over-demand and/or overtreatment. Finally, 1% of employers perceived that the employees' dissatisfaction with the low quality of care would be a major disadvantage.

Table 5.40: Disadvantages of providing health benefits by employers.

Disadvantages	Number	%
Increase employers' expenditure	91	95.8
High cost of care because of abuse	3	3.2
Employee dissatisfied with quality of care	1	1.0
Total	95	100.0

3). Coverage of health benefits.

The survey examined the coverage of health benefits, especially the equality in receiving the benefit amongst the employees and, if the dependents of the employees were protected, whether or not the level of benefit received by them was equal.

Table 5.41 shows that 92.5% of the establishments provided the benefits for all of their employees, while 4.0% of them offered the benefits to some employees only. Table

5.42 reveals that, out of 8 establishments, 4 of them provided health benefits to only their full-time employees. There was one each of the establishments that offered the benefits only to accountants, trainees, managers and senior staff. It is interesting to note that these were small establishments.

Table 5.41: The number of eligible employees for health benefits.

Eligible employees	Number	%
Everybody is eligible	185	92.5
Only some get benefits	8	4.0
No answer	7	3.5
Total	200	100.0

Table 5.42: The level or position of some employees who are eligible to get health benefits.

Level or position of eligible person	Number	%
Accountant	1	12.5
Trainee	1	12.5
Full-time staff	4	50.0
Manager	1	12.5
Senior staff	1	12.5
Total	8	100.0

Considering the distribution of benefits amongst employees, 85.9% of 185 establishments provided equal benefits to all employees. There was no equality in the distribution in 14.1% of the establishments, where the senior staff were entitled to receive more benefit than the junior staff (see table 5.43 - 5.44).

Table 5.43: The level of health benefit coverage amongst the eligible employees.

Health benefit coverage	Number	%
Benefits are equal	159	85.9
Benefits are not equal	26	14.1
Total	185	100.0

Table 5.44: Discriminating factors for health benefits.

Discriminating factors	Number	%
Senior executives	12	46.1
Senior staff	4	15.4
Full-time staff	2	7.7
Trainee	1	3.9
No specific rule	2	7.7
No answer	5	19.2
Total	26	100.0

Employees only were eligible to receive health benefits in 85.1% of 188 establishments. Their dependents were also entitled to receive the benefits in 14.9% of the establishments (see table 5.45). However, the dependents were defined differently. In 12 out of 28 establishments, dependents were defined as the employee's spouse, children and parents, similar to those in the government employees' scheme. This definition reflects social welfare values in Thai society of the extended family where the parents live with their eldest daughter or eldest son. There were only 9 out of 28 establishments that defined dependents to be only the employee's spouse and children (see table 5.46).

Table 5.45: Coverage of health benefits.

Person covered	Number	%
Employees only	160	85.1
Employees and their dependents	28	14.9
Total	188	100.0

Table 5.46: Dependents of employees who are eligible to obtain health benefits.

Dependents	Number	%
Their spouse, children & parents	12	42.9
Their spouse and children only	9	32.1
No answer	7	25.0
Total	28	100.0

In general, Thailand has national policies to encourage families to have no more than two children, applied in the education and child benefit programmes of the government employees' scheme. This survey found that this population policy did not widely limit the number of dependents in this situation. No limit on the number of children in a family who were entitled to receive health benefits was found in 15 out of 20 establishments. Where there were maximum numbers of 3 and 2 children entitled to receive benefits, were found in 3 and 2 establishments respectively (see table 5.47).

Table 5.47: The maximum number of children for which health benefits can be obtained.

Maximum No of children	Number	%
2 children	2	10.0
3 children	3	15.0
No limitations	15	75.0
Total	20	100.0

Thus, the maximum number of eligible persons in a family including the employee in 180 establishments were; 1 person (88.9%), 7 persons (1.7%), and 5 persons (1.1%). There was no limit on the number of eligible persons in a family in 8.3% of the establishments (see table 5.48).

Table 5.48: The maximum number of persons eligible to receive health benefits in each family⁽¹⁾.

No. of eligible persons	Number	%
1 person	160	88.9
5 persons	2	1.1
7 persons	3	1.7
No limitations	15	8.3
Total	180	100.0

Note : (1) Including employees themselves.

Dependents of employees are entitled to receive the same level of benefit as employees in 11 out of 24 establishments. There were 13 establishments where the employees' dependents received lower benefits than the employees themselves. The lower level of benefits was such as entitlement to receive only out-patient care but not in-patient care or to receive about 50 - 75% of the full benefit (see table 5.49).

Table 5.49: Levels of health benefit which dependents of the employees are entitled to receive.

Levels of health benefits	Number	%
A part of the employees' benefits	13	54.2
The same benefits as employees	11	45.8
Total	24	100.0

The waiting period before a new employee becomes entitled to receive health benefits varies. However, 53.0% of the establishments did not require a waiting time; employees were entitled to receive health benefits on the first day of working. There were 21.5% of establishments that required their employees to have a probation period of less than 180 days before they were entitled to draw benefit. Those who required a waiting period of 180 days or more than 180 days were 14.0% and 10.0% respectively (see table 5.50).

Table 5.50: The waiting time before a new employee becomes entitled to health benefits.

The waiting time	Number	%
No waiting time (eligible to health benefits on the first day of working)	106	53.0
After probation of less than 180 days	43	21.5
After 180 days of probation	28	14.0
After probation of more than 180 days	2	10.0
No answer	21	10.5
Total	200	100.0

4). Method of paying providers.

The sole method of paying providers in Thailand was by retrospective payment. The common practice was for employees to pay for medical services and drugs and to be reimbursed later by their employers. From table 11, it can be seen that employees at 80.0% of establishments were reimbursed after

using public hospitals, 69.0% were reimbursed after using private hospitals and 67.5% were reimbursed after using private clinics.

a). Paying the doctor.

Amongst 35 establishments which had contracted doctors to provide a regular medical service for employees, there were 19 establishments that paid the doctor by the fee-for-service method at the customary private practice rate. Only one establishment managed to negotiate the rate and paid the doctor's fee-for-service at the negotiated price. The customarily negotiated rate was at a 10 - 20 percentage discount from the market price. These doctors were general practitioners who worked full-time in public or private hospitals and part-time in their own clinics or polyclinics. The normal arrangement for general practice services was that employees came to the clinic and paid a fee-for-service at the discounted price and were later reimbursed in part or in full by their employers. An alternative arrangement was for the doctor to send the bills to the employer and to collect the fees later. However, the trend in a big establishment was to employ a full-time or part-time doctor to provide regular health services in the workplace. There were 11 establishments with full-time doctors and 4 establishments with part-time doctors (see table 5.51).

Table 5.51: Methods of paying the general practitioner.

Payment methods	Number	%
Part-time salary	4	11.4
Full-time salary	11	31.4
Fee-for-service with a negotiated rate	1	2.9
Fee-for-service at ordinary private practice rate	19	54.3
Total	35	100.0

b). Paying the specialist.

In Thailand, it was difficult to distinguish between a general practitioner and a specialist because fee-for-service was the predominant mode of payment in private practice. These made general practitioners in private clinics work hard and sometimes beyond the loosely-defined border line between general practitioner and specialist. Another difficulty was that most of the general practitioners in private clinics were also full-time hospital doctors. However, a specialist or consultant could be defined as a senior doctor of high reputation who worked in a specialist unit of a large or a university hospital. In common with the general practitioner, some specialists also ran their own clinic, polyclinic or private hospital as well as work for the public sector in order to maintain their high reputation. At the same time, they could transfer some patients from public hospitals to their own clinics or hospitals. The survey found that 15 out of 20 establishments paid the specialist or consultant by

fee-for-service with a negotiated rate. As with the GP services, the discount rates for the specialist services were around 10 - 20% of the market prices. There were 5 establishments that paid the specialist at the customary fee-for-service rate (see table 5.52).

Table 5.52: Methods of paying the specialist or consultant.

Payment methods	Number	%
Fee-for-service with a negotiated rate	15	75.0
Fee-for-service at ordinary private practice rate	5	25.0
Total	20	100.0

c). Paying the nurse.

In many large establishments, there was a sick bay with a nurse to provide primary care at the workplace. It was required by industrial relations law to have a nurse in a large industry to provide first-aid, particularly for industrial accidents. The survey found that 22 out of 26 establishments employed a nurse on a part-time basis. Only 2 establishments employed a full-time salaried nurse. Payment per employee visit and payment per shift of 8 hours were found (see table 5.53).

Table 5.53: Methods of paying the nurse.

Payment methods	Number	%
Part-time salary	22	84.6
Full-time salary	2	7.6
Payment per employee visit	1	3.9
Payment per shift (8 hours)	1	3.9
Total	26	100.0

d). Paying the hospital.

Many establishments had a direct contract with a hospital, mainly with a private one in Bangkok and to a lesser extent, with a public one. This development was a further step from the previous arrangement between establishment and hospital under the Workmen's Compensation scheme. One difference between the Workmen's Compensation scheme and the ordinary sickness fringe benefit arrangement was that under the former, the contracted hospital sent their bills direct to the fund whereas, for the latter, they went directly to the employer. A similarity was that on each visit, an employee must present a letter from the employer specifying that he or she was entitled to receive the medical benefit.

In general, as shown in table 11, the survey found that the predominant method of paying the hospital in Thailand was the itemized billing reimbursement method. There were 29 out of 42 establishments that paid the contracted hospital by itemized billing at rates determined by the hospital. Payment by itemized billing at rates negotiated by the establishment were found in 9 establishments. Only 2 establishments paid the

contracted hospital at the daily charge rate determined by the hospital. Lastly, there was one establishment that paid the contracted hospital by an annual premium (see table 5.54).

Table 5.54: Methods of paying the hospital.

Payment methods	Number	%
Itemized billing at rates negotiated by the establishment or organization.	9	21.4
Itemized billing at rates determined by the hospital	29	69.0
Daily charge at rates determined by the hospital	2	4.8
Annual premium	1	2.4
No answer	1	2.4
Total	42	100.0

The frequency of paying the contracted hospital is displayed in table 5.55. Some 29 establishments paid the contracted hospital every month. One each of the establishments paid every 2, 3 and 12 months. Finally, 10 establishments paid the contracted hospital irregularly depending on the number of bills sent to them.

Table 5.55: The frequency of paying the hospital by employer.

Frequency of payment	Number	%
Every month	29	69.0
Every 2 months	1	2.4
Every 3 months	1	2.4
Every 12 months	1	2.4
Irregularly, depends on the bills	10	23.8
Total	42	100.0

5. CONCLUSION

This chapter described the general characteristics of the establishments. The findings and analysis presented are based on the existing provision of welfare and health fringe benefits. These findings then form the background for the costing of the existing health benefits in the next chapter.

The provision of a total of 32 types of welfare and health fringe benefits were found in Thailand with its generally low-wage conditions. However, to view them as income support measures would not present a full picture. The major effect of the fringe benefits was that the employees tended to work with employers for a long time, as they provide benefits for them. The employer, therefore, does not need to worry about a high training cost and lower productivity arising from an unskilled labour force. Another major advantage of health benefits is that healthy employees lead to

an improvement of efficiency in working, especially in the labour intensive jobs. Finally, this survey presented the types and coverage of health benefits. Also, the methods of paying providers were explored and found that fee-for-service and itemized billing were the predominant methods of paying the doctor and the hospital respectively.

CHAPTER 6

COST OF HEALTH BENEFITS

1. INTRODUCTION

In this chapter, the cost of existing health benefits will be analyzed, as well as the employers' opinions on national health insurance for Thailand. The aim of this section is to explore what the cost might be if the state were to take an active role in the health care market by introducing compulsory health insurance. Two methods of cost analysis were used. First, the total cost of the existing health benefits were computed from data given by employers on what they had spent in 1987. Second, the cost was analyzed by a "willingness to pay" approach. Employers were asked their opinion on national health insurance and how much they would be willing to pay as a percentage of employees' pay-roll. The costs, derived from both methods, were then compared to find out the character of establishments which would be most likely to join the scheme.

2. THE MEASUREMENT OF COSTS

A. The existing cost of health benefit provision.

From the point of view of this study which was being designed to examine the employers' potential for joining a

statutory health insurance scheme, there is a focus on analyzing only the total cost to employers of providing the existing health benefit, excluding any costs borne by the employee such as transport cost, meals and opportunity cost. The basis of the calculations was entirely on employers' direct tangible costs, excluding direct intangible costs such as the regret of employers from the sickness or death of employees, because these costs would be based on value judgments. The employers' indirect tangible costs were excluded because of the complexity of calculation. These would include the reduction of employers' productivity due to sickness, maternity and the death of employees, as well as the administrative cost of benefit payment. Finally, this survey also omitted the complexity of valuation of the indirect intangible cost; for instance, the social cost borne by society due to disabled employees. Therefore, the explicit valuation of the total cost to employers was enumerated, by using the expenditures between 1 January and 31 December 1987, as follows;

1. Contributions to the Workmen's Compensation Fund to cover industrial injury benefits, as was the case in some provinces, in some establishments with more than 20 employees.
2. Cost of hospitalisation and out-patient visits both in hospitals and private clinics. These included both the amounts that were reimbursed to employees and the direct payments to the contracted providers.

3. Cost of drugs and pharmaceutical products which the employer kept in establishments for minor accidents and illnesses.

4. Cost of part-time or full-time salaried doctors and honorarium for doctors who came to provide medical care in establishments.

5. Cost of nurses providing primary care in establishments.

6. Maternity grant which was paid in a lump sum to the working mother, when the child was newly born. This was a benefit separated from medical care cost, due to the maternity condition and the cash maternity benefit.

7. Cost of providing family planning for employees.

8. Cash sickness benefit which was calculated from days lost or the total number of days for which employees were paid during their absence from ordinary sickness, multiplied by the average daily wages.

9. Cash maternity benefit which was calculated from days lost or the number of paid days of maternity leave, multiplied by the average daily wages.

10. Cash sickness benefit from accidents not related to work, calculated in the same way as in 8 and 9, above.

11. Cash sickness benefit from accidents related to work were as compensated by the Workmen's Compensation Fund.

B. The opinion of employers on statutory health insurance and the cost from the "willingness to pay" approach.

This part of the survey attempted to analyze two components; the opinion of employers on statutory health insurance for their employees and the cost of their contribution by the "willingness to pay" approach. Also, their opinion on the potential of employees' contributions was asked. Then, the supportive and unsupportive groups of employers were compared with their existing costs of health benefit provision, derived from part A, in order to find out the character of establishments which were most likely to join the scheme. Finally, the cost derived from the "willingness to pay" approach was compared with the cost of existing health benefit provision to find out the acceptable amount for the employers' contribution.

3. FINDINGS AND ANALYSIS

A. Cost of existing health benefits .

1. Median total cost of existing health benefits.

Table 6.1 illustrates median total costs for establishments in two broad groups; namely, health benefit expenditure and other expenditure. Other expenditures were shown here for a comparative purpose. They were comprised of

personnel costs and administrative costs. Personnel costs were subdivided into normal wages and salaries (hereafter called pay-roll), and extra wages. Usually, the pay-roll was the normal parameter to determine the basic contribution. This survey found that the data was highly skewed in every item because the sample represented the very small and the very large establishments. Thus, the median was chosen to represent the average cost rather than mean. The yearly median personnel costs and administrative costs for each establishment were 720,000 Baht and 576,200 Baht, respectively. The median pay-roll were 609,700 Baht an establishment a year. Finally, the median total cost of health benefits, for each establishment, was 18,300 Baht a year.

In addition, this survey found 4 cases of death from accidents related to work and 12 cases of death from accidents not related to work. Thus, the proportion of deaths from accidents related to work and from accidents not related to work was 1:3. In the former situation, the employers who paid a regular contribution to the Workmen's Compensation Fund did not have to pay more than they had paid to the fund. However, in the small establishment the compensation had to be drawn directly from the company account which employers were always keen to avoid. In the case of death from accidents related to work, the family of the employee would received compensation from the Workmen's Compensation Fund or the employer (if it was a small firm). By contrast, the dependents of those who died from accidents not related to work would received

nothing. However, this study did not try to calculate the economic loss due to the death of employees working for the remainder of their working life, because their deaths were, in fact, economic losses for their families not for the employer as there was a plentiful supply of labour in Thailand. Only a small reduction in productivity may have occurred when the new employee was not as experienced as the previous one. This is especially so when, as in many developing countries, the labour supply in Thailand is unlikely to be particularly highly skilled. Therefore, the cost to the employer from an employees' death is small, and omitted from the calculation in this study.

Table 6.1: Median total expenditure on health benefits by establishments (1 January - 31 December 1987).

Type of expenditure	Median (Baht)	Skewness	Kurtosis	S.D. (Baht)	Range (Baht)
a) Other expenditures					
1. Personnel costs	720,000	5	30	-	-
2. Pay-roll	609,700	5	31	-	-
3. Extra wages	172,600	5	34	-	-
4. Admin. cost	576,200	8	78	-	-
b) Health expenditure					
5. Premium for Industrial injury benefits	20,400	2	7	165,100	888,600
6. Hospitals and clinics	5,500	6	43	820,900	6,999,800
7. Drugs	1,500	5	28	89,400	699,900
8. Doctors	100,000	3	16	1,175,100	-
9. Nurses	125,000	4	16	2,594,300	-
10. Maternity grant	4,100	1	-	32,600	94,600
11. Family planning	-	-	-	-	-
12. Sick pay	4,150	8	84	293,300	3,127,800
13. Maternity pay	6,900	4	26	148,700	939,100
14. Opportunity cost from accidents not related to work.	1,460	6	47	14,500	109,300
15. Opportunity cost from industrial accidents	2,120	7	60	33,900	280,500
Median total cost on health benefits (Excluding 1-4)	18,300	6	54	1,577,400	16,043,200

2. The median total cost of existing health benefit provision as a percentage of pay-roll and other expenditure.

When comparing the total cost of existing health benefit provision in 1987 with pay-roll, the median total cost of health benefit was 2.5% of pay-roll. However, this percentage was slightly decreased to 2.2% of pay-roll if the total health benefit is compared with the total personnel costs due to the inclusion of extra wages as with the personnel costs. In comparison with the total administrative cost, the median of

total expenditure of health benefits was 3.2 per cent. Due to the highly skewed data, the median was used to represent the average cost in all cases (see table 6.2).

Table 6.2: Median total expenditure on health benefits as a percentage of other expenditures.

Health benefit as the % of	Median (%)	Mean (%)	Skew-ness	Kurtosis	S.D. (%)	Range (%)
Pay-roll	2.5	5.9	8	82	16	185
Personnel cost	2.2	6.6	6	54	20	185
Administrative cost	3.2	18.5	13	171	485	-

The finding here was relevant to policy formulation on the question of how much the employers would be willing to pay as their contribution to statutory health insurance. Since the median total cost of health benefits was 2.5% of pay-roll and the average contribution to the Workmen's Compensation Fund was 1.0%, the amount that employers paid on account of ordinary sickness benefit was the difference between the two. Thus the answer to the policy question was the optimal amount of contribution which employers would pay would be 1.5% of the pay-roll. This amount would make the employer in the same position as the status quo, if not better when inflation from 1987 to 1991 is taken into consideration, because the cost of provision for ordinary sickness alone was 1.5% in 1987.

3. The median cost of existing health benefit and percentage of pay-roll spent on health benefit, classified by size of establishment.

When taking the size of an establishment into consideration, it was found that the structure of health benefit in a larger establishment was more complicated than that in a smaller one (see table 6.3). In establishments with employees of 300 or more, a full range of health benefits was provided (with the exception of family planning which was not provided in any size of establishment). There was no legal requirement for establishments with less than 20 employees to make a contribution to the Workmen's Compensation Fund for industrial injury benefit. In this circumstances, they were responsible for health care cost and usually made direct payments to health care providers. However, establishments of all sizes reported that they kept a nominal amount of drugs on their premises. Sickness cash benefit was also provided in all establishments.

The survey found that the percentage of pay-roll spent on health benefits varied. As presented in table 6.3, establishments with less than 10 employees spent the most on health benefit (3.21 per cent of pay-roll). Establishments with 10-19 employees spent 2.77 per cent of their pay-roll on health benefits which was more than the national median expenditure of 2.50 % (refer to table 6.2). One explanation of their disproportionate spending is because they were not

protected by the Workmen's Compensation Fund or any other type of health insurance. Employers had to pay out of their pocket for accidents to or illness of their employees.

Establishments with 20-99 employees spent 2.40 per cent of pay-roll on health benefit which was close to the national median of 2.5%. Establishments with 100-299 employees paid the smallest proportion of 1.89 per cent of pay-roll on health benefit. Both of these latter sizes of establishment managed to pay a smaller proportion because employers paid a regular contribution to the Workmen's Compensation Fund to protect against their financial loss from industrial accidents. At the same time, they provide other simple forms of health benefit.

Establishments with 300-999 employees spent 2.98 per cent of pay-roll on health benefit. The more expensive arrangement arose because they provided a more comprehensive form of health benefit than establishments of a smaller size. Their sickness benefit included a health clinic with full-time or part-time nurses and doctors service on the premises. Maternity grant and maternity cash benefit were provided in addition to industrial injury benefit and sickness benefit.

The largest size of establishment, which employed 1,000 or more employees, paid a relatively small proportion of pay-roll in providing health benefit for employees on account of an economy of scale. Though they offered a comprehensive system of health benefits, similar to that of establishments

with 300-999 employees, they spent only 2.29 per cent of pay-roll on health benefit because their benefits protected a larger number of employees. They could spread out the cost of health service provision by nurse and doctor, to protect a larger number of employees than those of establishments with 300-999 employees.

Table 6.3: Median expenditure on health benefits and median percentage of pay-roll spent on health benefit by size of establishment.

Type of expenditure	Median cost on health benefit by size of establishment					
	1-9	10-19	20-99	100-299	300-999	1000+
a) Other expenditures						
1. Personnel costs	180,450	373,400	1,275,000	6,028,600	15,178,000	76,876,000
2. Pay-roll	166,500	334,800	1,236,000	5,867,000	12,690,000	61,280,000
3. Extra wages	2,850	20,000	44,730	381,600	30,000	4,710,800
4. Admin. cost	127,000	225,000	1,048,000	4,320,000	685,454	13,029,900
b) Health expenditure						
5. Premium for Industrial injury benefits	-	-	4,367	20,000	107,050	245,656
6. Hospitals and clinics	1,500	3,000	8,500	16,640	73,500	259,800
7. Drugs	200	500	1,440	2,570	10,180	75,000
8. Doctors	-	-	-	-	352,580	75,300
9. Nurses	-	-	-	-	694,960	71,170
10. Maternity grant	-	-	-	-	500	20,820
11. Family planning	-	-	-	-	-	-
12. Sick pay	273	1,500	3,366	10,658	4,126	370,000
13. Maternity pay	-	-	-	1,400	3,037	51,200
14. Opportunity cost from accidents not related to work.	-	-	-	-	1,462	16,800
15. Opportunity cost from industrial accidents	-	-	-	630	2,047	14,120
Median total cost on health benefits	3,995	7,850	33,227	101,100	762,700	1,240,000
(Excluding 1-4) Health benefits as percentage of pay-roll	3.21	2.77	2.40	1.89	2.98	2.29

A policy implication of these findings, with regard to size of establishment, was that at the initial stage of

implementing health insurance only establishments with 300-999 employees would benefit from the statutory health insurance scheme. To join the scheme, they could reduce the cost of health benefit from 1.98 per cent of pay-roll (1% going towards the Workmen's Compensation Fund) to 1.5% of pay-roll. Similarly, those with less than 20 employees would also benefit from the potential cost reduction. Unfortunately, establishments with less than 20 employees would be excluded from the scheme in the first three years of implementation. By contrast, establishments with 20-299 employees would feel a financial burden in joining the scheme. However, more information, an educational programme, as well as a compulsory requirement would make them later understand and co-operate with the social policy. The most difficult cases are establishments with 1,000 or more employees because to join the scheme would mean they have to pay a higher cost than the amount they already pay. They would be the first group who would apply to opt out of the scheme and argue that they have provided a better health benefit than that specified by the Law.

4. The differences between mean ranks of total cost of health benefit between different locations, type and size of establishments.

The study applied the Kruskal-Wallis Test to compare the differences between mean ranks of total cost of the existing provision of health benefit and the different locations, type and size of establishments. The results were as follows;

a). The mean rank of total expenditure on health benefit provision of establishments located in different geographical areas of the country was not significantly statistically different, because the P value was more than 0.05 (see table 6.4).

Table 6.4: Compare the mean rank of total expenditure on health benefits by Kruskal-Wallis Test, classified by location of establishment.

Location	Rate	Mean ranks
Bangkok	60	100.08
5 Provinces surrounding Bangkok	22	118.02
Central region	25	96.76
North region	28	100.61
Northeast region	33	73.65
South region	22	85.32
Total	190	

$$X^2 = 10.325, \text{ d.f.} = 5, \text{ P-value} = 0.067$$

b). Table 6.5 revealed that differences in the mean rank of total cost of health benefit provision in every type of

establishment was not statistically significant (P value was more than 0.05).

Table 6.5: Compare the mean ranks of total expenditure on health benefits by Kruskal-Wallis Test, classified by type of establishment.

Type of establishments	Rate	Mean ranks
Food, drink and tobacco	17	107.74
Textiles, clothing and leather	15	77.93
Woodworking and construction	9	86.22
Paper, printing and publishing	6	117.50
Chemical and allied industries	5	143.20
Metals and non-metals manufacture	14	96.96
Mining and quarrying	6	112.17
Miscellaneous manufacturing	10	124.60
Transport and communications	4	70.50
Energy and water supply	6	134.50
Business, finance and banking	6	117.17
Professional and scientific services	6	129.00
Tourist services and hotels	14	91.36
Distribution trades, wholesale and retail	48	77.35
Miscellaneous services	24	88.04
Total	190	

$$X^2 = 23.461, \text{ d.f. } = 14, \text{ P-value } = 0.053$$

When comparing the different sizes of establishments, the mean rank of total expenditure on health benefits was statistically different at the 0.001 level of significance, as shown in table 6.6. This meant that the larger the size of the establishment, in terms of the number of employees, the considerably larger the amount that was spent on health benefits in 1987.

Table 6.6: Compare the mean ranks of total expenditure on health benefits by Kruskal-Wallis Test, classified by size of establishment.

size of establishments (No. of employees)	Rate	Mean ranks
1-9	42	46.77
10-19	46	64.64
20-99	52	105.35
100-299	20	138.65
300-999	16	157.56
1000 and more	14	173.93
Total	190	

$$X^2 = 110.293, \text{ d.f.} = 5, \text{ P-value} < 0.0001$$

5. The differences between mean ranks of health benefit as a percentage of pay-roll between different locations, type and size of establishment.

The total expenditure is not the best parameter to differentiate between health benefit provision amongst different sizes of establishment because, obviously, the larger the size of establishment the more they spend on the total cost of health benefit. Thus, for further analysis, the percentage of pay-roll spent on health benefit is used as a better parameter to identify whether there were any statistical differences between different locations, type and size of establishment. Therefore, the Kruskal-Wallis Test was applied to compare the percentage of pay-roll spent on health benefit by their mean ranks. The results were as presented below;

a). Table 6.7 shows that apparently the Northeast region, the North region and five Provinces surrounding Bangkok had a higher mean rank of percentage of pay-roll spent on health benefit than the rest of the country. However, the differences were not statistically significant (because the P value was more than 0.05).

Table 6.7: Compare the mean rank of percent of pay-roll spent on health benefits by Kruskal-Wallis Test, classified by location of establishment.

Location	Rate	Mean ranks
Bangkok	63	98.85
5 Provinces surrounding Bangkok	23	108.74
Central region	26	82.79
North region	28	115.32
Northeast region	34	115.47
South region	26	79.38
Total	200	

$$X^2 = 10.523, \text{ d.f.} = 5, \text{ P-value} = 0.061$$

b). When comparing the different types of establishments, the mean rank of expenditure on health benefits as a percentage of pay-roll were not significantly statistically different, as shown in table 6.8.

Table 6.8: Compare the mean ranks of percent of pay-roll spent on health benefits by Kruskal-Wallis Test, classified by type of establishment.

Type of establishment	Rate	Mean ranks
Food, drink and tobacco	17	94.12
Textiles, clothing and leather	16	86.88
Woodworking and construction	9	106.11
Paper, printing and publishing	6	133.50
Chemical and allied industries	6	116.33
Metals and non-metals manufacture	15	112.97
Mining and quarrying	6	122.83
Miscellaneous manufacturing	10	81.70
Transport and communications	5	46.40
Energy and water supply	7	119.14
Business, finance and banking	7	69.71
Professional and scientific services	5	139.60
Tourist services and hotels	14	107.54
Distribution trades, wholesale and retail	49	106.09
Miscellaneous services	27	83.39
Total	199	

$$X^2 = 18.774, \text{ d.f.} = 14, \text{ P-value} = 0.174$$

c). When using the percentage of pay-roll spent on health benefit as a parameter to compare the differences between size of establishment by Kruskal-Wallis Test, the result was not statistically significantly (as presented in table 6.9).

Table 6.9: Compare the mean ranks of percent of pay-roll spent on health benefits by Kruskal-Wallis Test, classified by size of establishment.

size of establishments (No. of employees)	Rate	Mean ranks
1-9	50	97.66
10-19	46	100.90
20-99	52	100.18
100-299	20	89.00
300-999	18	120.50
1000 and more	14	104.86
Total	200	

$$X^2 = 2.943, \text{ d.f.} = 5, \text{ P-value} = 0.708$$

In conclusion, there were no significant statistical differences in health benefit expenditure by location, type, or size of establishment when using the percentage of pay-roll spent on health benefit as the comparison parameters. Therefore, there will be no significant difference in potential to join the compulsory health insurance scheme, by location, type or size of establishment.

The policy implication of this finding is that the decision to include or exclude establishments in different locations, type and size was not statistically importance.

It is worth noting that the results arising in this section conflict with those from the cost study as presented in table 6.3. (The previous results indicated that some sizes of establishment would benefit more than other if joining the scheme, particularly the smaller sizes and those with 300-999

employees). However, an alternative conclusion here may be that the reliability of the results in this section are questionable because of a comparing of mean ranks based on highly skewed data.

6. The differences between the average earnings of employee working in different locations, types and sizes of establishments.

The potential of employees to join a statutory health insurance scheme and their ability to pay insurance contributions were analyzed by using the Kruskal-Wallis Test. This survey examined the average pay-roll earnings of non-manual and manual employees and the findings are presented in separated sections, as follows;

a). **Non-manual employees.**

1). The average monthly earnings of non-manual employees who worked in establishments located in different geographical areas of the country had a statistical difference at the 0.05 level of significance. This finding demonstrates that non-manual employees who worked in 5 provinces surrounding Bangkok had an average monthly income higher than those who worked in Bangkok, Central, North, and South regions. Those who worked

in the Northeast region had the lowest average monthly earnings in the country as shown by the lowest score of mean rank in table 6.10.

Table 6.10: Comparison of the average monthly income of non-manual employees by the Kruskal-Wallis Test, classified by location of establishment.

Location	Rate	Mean ranks
Bangkok	60	106.11
5 Provinces surrounding Bangkok	23	111.15
Central region	24	96.40
North region	24	96.30
Northeast region	30	68.97
South region	26	89.77
Total	191	

$$X^2 = 11.241, \text{ d.f.} = 5, \text{ P-value} = 0.047$$

2). Apparently, according to type of establishment, those who work in business, finance and banking had the highest average monthly earnings, as demonstrated by the highest mean rank in table 6.11. The second highest earnings were those who worked in mining and quarrying, and the third were employees in energy and water supply industries. The lowest average earnings were received by those who worked in textiles, clothing and leather. However, when applying the Kruskal-Wallis Test, the results indicated that non-manual employees in different types of establishments were not statistically different in their average monthly earnings.

Table 6.11: Comparison of the average monthly income of non-manual employees by the Kruskal-Wallis Test, classified by type of establishment.

Type of establishment	Rate	Mean ranks
Food, drink and tobacco	15	107.67
Textiles, clothing and leather	15	50.33
Woodworking and construction	8	110.88
Paper, printing and publishing	6	76.75
Chemical and allied industries	6	90.42
Metals and non-metals manufacture	15	106.17
Mining and quarrying	6	120.33
Miscellaneous manufacturing	10	98.80
Transport and communications	5	93.20
Energy and water supply	7	115.86
Business, finance and banking	7	154.43
Professional and scientific services	6	89.00
Tourist services and hotels	14	92.25
Distribution trades, wholesale and retail	46	95.57
Miscellaneous services	25	87.04
Total	191	

$$X^2 = 23.315, \text{ d.f.} = 14, \text{ P-value} = 0.055$$

3). When comparing the average monthly income of non-manual employees who worked in different sizes of establishment, the results from the Kruskal-Wallis Test identified the statistical difference at the 0.01 level of significance (see table 6.12). This indicated that, in general, the employees who worked in the larger establishment received average monthly earnings higher than those who worked in the smaller establishments. As indicated by the highest mean rank, those who worked in establishments with 1,000 or more employees received the highest average monthly income. The second highest income rank comprised those who worked in the establishments with 100-299 employees. The third and the

fourth highest income group were those who worked in establishments with 20-99 employees and 300-999 employees, respectively. The lowest average monthly income group were employees of the very small establishments with only 1-9 employees. Finally, the second lowest average monthly income group were those who worked in establishments with 10-19 employees.

Table 6.12: Comparison of the average monthly income of non-manual employees by the Kruskal-Wallis Test, classified by size of establishment.

Size of establishment (No. of employees)	Rate	Mean ranks
1-9	47	78.10
10-19	45	81.07
20-99	50	104.99
100-299	20	120.88
300-999	16	104.41
1000 and more	13	129.23
Total	191	

$$X^2 = 18.653, \text{ d.f.} = 5, \text{ P-value} = 0.002$$

b). Manual-employees.

Similarly to the non-manual employees, the survey compared the differences between average monthly earnings of manual employees who worked in different locations, types and sizes of establishment by application of the Kruskal-Wallis Test. It was found that;

1). There was a statistical difference at the 0.01 level of significance when comparing the average monthly earnings of manual employees who worked in different geographical areas. For instance, those whose jobs were located in 5 provinces surrounding Bangkok had the highest average monthly income. The second highest average income group were those whose places of work were located in Bangkok. The third highest monthly earners were manual employees of establishments in the Southern region. The lowest income group comprised those who worked in the Northeast region (see table 6.13).

Table 6.13: Comparison of the average monthly income of manual employees by the Kruskal-Wallis Test, classified by location of establishment.

Location	Rate	Mean ranks
Bangkok	45	83.16
5 Provinces surrounding Bangkok	19	101.71
Central region	16	63.47
North region	25	68.50
Northeast region	24	50.10
South region	18	70.72
Total	147	

$$X^2 = 19.189, \text{ d.f.} = 5, \text{ P-value} = 0.002$$

2). When types of establishment were used as a parameter to compare the differences between the average monthly income of manual employees, a statistical difference, at the 0.05 level of significance, was found. This indicated that manual employees of business, finance and banking received higher monthly earnings than those who worked in other types of

establishment. The second highest average income group were those who worked in transport and communications, and the third highest average income group were employees in energy and water supply types of establishment. Lastly, the lowest earning group were employees of miscellaneous services (see table 6.14).

Table 6.14: Comparisons of the average monthly income of manual employees by the Kruskal-Wallis Test, classified by types of establishment.

Type of establishment	Rate	Mean ranks
Food, drink and tobacco	14	86.86
Textiles, clothing and leather	11	65.14
Woodworking and construction	8	68.50
Paper, printing and publishing	6	83.25
Chemical and allied industries	5	92.90
Metals and non-metals manufacture	14	80.11
Mining and quarrying	6	89.33
Miscellaneous manufacturing	7	89.71
Transport and communications	2	114.25
Energy and water supply	5	109.20
Business, finance and banking	2	138.75
Professional and scientific services	2	66.75
Tourist services and hotels	12	65.38
Distribution trades, wholesale and retail	32	68.52
Miscellaneous services	21	46.93
Total	147	

$$X^2 = 24.574, \text{ d.f.} = 14, \text{ P-value} = 0.039$$

3). Table 6.15 reveals that the average monthly earnings of manual employees in different sizes of establishment were statistically different at the 0.001 level of significance. As presented in mean rank scores, the highest earners were employees of establishments who employed the largest

workforce. By contrast, the lowest earners were those who worked in the smallest size of establishment.

Table 6.15 : Comparison of the average monthly income of manual employees by the Kruskal-Wallis Test, classified by size of establishment.

Size of establishment (No. of employees)	Rate	Mean ranks
1-9	31	46.69
10-19	38	63.17
20-99	38	78.29
100-299	18	96.67
300-999	10	99.80
1000 and more	12	109.75
Total	147	

$$X^2 = 32.825, \text{ d.f.} = 5, \text{ P-value} < 0.001$$

Concerning the employees' ability to make a contribution to their health insurance, as measured by their average monthly income, the geographical location and size of establishment were of particular importance in both non-manual and manual employees. The highest and second highest average income, for both manual and non-manual employees, were those who worked in the 5 provinces surrounding Bangkok, and in Bangkok itself, respectively. By contrast, the lowest average earnings for both manual and non-manual employees were those who worked in the Northeast region which is the poorest region of the country. A policy implication of this is that employees who worked in the 5 provinces surrounding Bangkok, and in Bangkok were of the highest potential to join the scheme due to their higher average monthly income and thus greater

ability to pay the contribution unless this was counteracted by higher rents. Those with the least potential and therefore likely to suffer from paying the contribution, at the moment, were those who worked in the Northeast region of Thailand because their level of income was the lowest. There are two possible policy solution. First, to exclude the Northeast region at the beginning of the scheme making a gradual extension plan for them later on. Second, to apply cross-subsidy or compensation for them in the process of annual resource allocation. In addition, a similar approach could be worked out for those who worked in the smaller establishments.

Although type of establishments was not a determining factor for non-manual employees' income, it was an important parameter for manual employees' monthly earnings. In both cases, however, the common finding was that those who worked in business, finance and banking had the highest income and therefore the highest potential to join the scheme. Finally, the least potential group to join the scheme or those who would need some kind of compensation and support was manual employees in miscellaneous services because they were the poorest amongst the other group of employees.

B. Accessibility of health care and availability of transportation .

Before introducing any statutory health insurance, it is also important to find out the accessibility and availability

of the existing health services. For accessibility of health care, this survey examined the distance and travelling time of employees, when using the customary means of transportation, to visit the nearest doctor, hospital and pharmacy. Furthermore, this study was designed to explore the availability of doctor's services for it was the most fundamental service in the field of health insurance.

1. Accessibility of health services.

a). **Distance.**

The survey found that the nearest health service providers which were the most convenience for employees to visit were located at a physical distance of less than 1/2 Kilometre. Within this distance, the most accessible of health services were the pharmacy, the doctor and the hospital, respectively. The median distance to visit the pharmacy was less than 1/2 Kilometre, to visit the doctor was 1/2 to 1 Kilometre, and to the hospital was 1 to 2 Kilometres. However, a distance of more than 3 Kilometres was found in 8.0%, 12.5% and 18.5% of the sample in visiting the pharmacy, doctor and hospital, respectively (see table 6.16).

b). **Travelling time.**

All of the three kinds of health care could be visited at a median travelling time between 1 to 15 minutes. There

were 90.5% of establishments where employees had access to the pharmacy within 15 minutes, 87.5% had access to the doctor, and 83.0% had access to hospital (also see table 6.16).

Table 6.16: Accessibility of the nearest health care.

Accessibility to health care	Doctor No.	Doctor %	Hospital No.	Hospital %	Pharmacy No.	Pharmacy %
<u>Distance</u>						
Less than 1/2 Km.	80	40.0	38	19.0	115	57.5
1/2 Km. to 1 Km.	33	16.5	47	23.5	32	16.0
1 to 2 Km.	31	15.5	40	20.0	19	9.5
2 to 3 Km.	22	11.0	31	15.5	5	2.5
More than 3 Km.	25	12.5	37	18.5	16	8.0
No answer	9	4.5	7	3.5	13	6.5
Total	200	100.0	200	100.0	200	100.0
<u>Travelling time</u>						
1 to 15 Minutes	175	87.5	166	83.0	180	90.0
16 to 30 Minutes	16	8.5	23	11.5	8	4.0
31 min. to 1 hour	1	0.5	3	1.5	1	0.5
More than 1 hour	-	-	1	0.5	1	0.5
No answer	8	4.0	9	3.5	10	5.0
Total	200	100.0	200	100.0	200	100.0

2. The availability of means of transport.

a). Distance

The availability of the nearest means of transport was measured in order to find out the most convenient mode of transport when using health services. Three types of means of transport were evaluated; bus-stop, railway station and pier. This survey found that the nearest distance to any means of transport was less than 1/2 Kilometre. There were 55.0%

establishments within this distance, to the nearest bus-stop, 5.5% to a railway station, and 4.5% to a pier. However, employees in some establishments might have difficulty in travelling to health services because the establishments were located more than 3 Kilometres from means of transport - 18.0% to the nearest railway station, 8.5% to the pier, and 3.5% to the bus-stop (see table 6.17).

b). Travelling time

The travelling time to the nearest means of transport was also explored. It was found that 73.0% of establishments had the nearest bus-stop within a travelling time of 1 to 15 minutes. Similarly, twenty three per cent of establishments were also located within a travelling time of 1 to 15 minutes from the nearest railway station and 9.5% from a pier. There were 1% of establishments in each case which were one hour's journey from the nearest bus-stop and pier. (see table 6.17).

Table 6.17: The availability of the nearest means of transportation.

Means of transportation	Bus-stop No.	Bus-stop %	Railway station No.	Railway station %	Pier No.	Pier %
Distance						
Less than 1/2 Km.	110	55.0	11	5.5	9	4.5
1/2 Km. to 1 Km.	18	9.0	2	1.0	1	0.5
1 to 2 Km.	11	5.5	15	7.5	5	2.5
2 to 3 Km.	2	1.0	13	6.5	1	0.5
More than 3 Km.	7	3.5	36	18.0	17	8.5
No answer	52	26.0	123	61.5	167	83.5
Total	200	100.0	200	100.0	200	100.0
Travelling time						
1 to 15 Minutes	146	73.0	46	23.0	19	9.5
16 to 30 Minutes	4	2.0	22	11.0	9	4.5
31 min. to 1 hour	2	1.0	7	3.5	7	3.5
More than 1 hour	2	1.0	-	-	2	1.0
No answer	46	23.0	125	62.5	163	81.5
Total	200	100.0	200	100.0	200	100.0

For the availability of doctor's services, when employees used the customary means of transport, the median time spent during a visit to the nearest doctor including waiting time was between 31 minutes and 1 hour. Within the average time spent of less than half an hour were 45.5%, and more than one hour 16.0% of the total establishments (see table 6.18).

Table 6.18: The average time spent during a visit to the nearest doctor when using the customary means of transport including the time spent in the waiting room.

The average time spent	Number	%
1 to 15 Minutes	40	20.0
16 to 30 Minutes	51	25.5
31 min. to 1 hour	26	13.0
More than 1 hour	51	25.5
No answer	32	16.0
Total	200	100.0

In conclusion, the employee's accessibility to the nearest health care was high due to the high availability of health services and transport. The median distance to visit pharmacy, doctor and hospital were less than 2 Kilometres and the median travelling time for all visits was 15 minutes or less. The customary methods of transport to visit health services was by bus: the bus-stop was located within less than 1/2 Kilometre and travelling time of 15 minutes or less. When special attention was placed on visiting the nearest doctor by using the customary means of transport and the time spent in the waiting room was taken into account, the average time spent was between half an hour to one hour. The policy implication of the high accessibility to health care was that it was unnecessary to create new health care facilities for the compulsory health insurance scheme.

C. Causes of illness.

Information on causes of illness was based on data reported by employers. If, however, there was a nurse's services in a sick bay which was usually the case in a big establishment, records on employees' diseases or symptoms of illness were used instead. Next, the diseases or symptoms of illness were grouped according to the International Classification of Diseases (ICD). As in table 6.19, this survey found that the five leading groups of employees' illnesses were; diseases of the respiratory system (34.1%), diseases of the digestive system (27.2%), diseases of the nervous system and sense organs (16.4%), symptoms and ill-defined conditions (3.7%), and diseases of musculoskeletal system and connective tissue (3.4%). The first, second and fourth causes of illnesses reflected that of national prevalence (as presented in chapter 1). It showed that employees' major causes of sickness were, as reported by employers, causes from ordinary sickness like the rest of the Thai population. Besides, diseases of the nervous system and sense organs, as well as diseases of the musculoskeletal system and connective tissue were likely to be occupational-related sickness. However, workers do not know the cause of their illness and even doctors could not be sure whether an illness was occupational-related or not. This made it very difficult for employees to obtain benefits from the Workmen's Compensation Fund.

The policy implications of this pattern of illnesses would be that on the one hand employees should be treated in the same way as the rest of the population as their illnesses were not different from others. Also, for equity purpose, health care facilities should be utilized by all types of population regardless of occupation and income level. On the other hand, as some of the employees had a high risk of illnesses from their job, a special preventive and treatment programme for occupational-related sickness should be provided within the existing health care facilities. A policy of unified and equitable treatment could then be formulated and implemented according to the pattern of illnesses.

Table 6.19: Frequency of illness of the employees as reported by employers.

Rank	Causes of illness	Number	%
1	Diseases of respiratory system	183	34.1
2	Diseases of digestive system	146	27.2
3	Nervous system and sense organs	88	16.4
4	Symptoms and ill-defined conditions	20	3.7
5	Musculoskeletal system and connective tissue	18	3.4
6	Dental health	13	2.4
6	Allergic fever	13	2.4
6	Eye diseases	13	2.4
6	Diseases of urinary tract and sex organs	13	2.4
7	Accidents	9	1.7
7	Skin diseases	9	1.7
8	Diseases due to obstetric causes	4	0.8
9	Infectious diseases	3	0.6
10	Endocrine, nutritional and metabolic diseases	1	0.2
10	Complication of pregnancy,	1	0.2

D. Opinion on statutory health insurance.

Employers' attitudes about statutory health insurance were also evaluated. Although not all of the respondents were the owners of the establishment but were managers, their views might as well represent the employers' opinion. As shown in table 6.20, 35.0% of all respondents were the owners, the remaining respondents were general manager (38.5%), personnel manager (18.0%) and financial manager (8.5%). Amongst these, 68.0% of them were male and 32.0% were female (see table 6.21).

Table 6.20: Position of respondents in the establishment.

Position of respondents	Number	%
Employer	70	35.0
General manager	77	38.5
Personnel manager	36	18.0
Financial manager	17	8.5
Total	200	100.0

Table 6.21: Sex of the respondents.

Sex	Number	%
Male	136	68.0
Female	64	32.0
Total	200	100.0

1. Overall attitude.

When a likert scale was applied to a set of questions about health insurance, as presented in Appendix 2 (questionnaires 3), the overall scores of respondents were ranged between 40-60 marks. Therefore, the score of 50 was used as the point to discriminate between those with favourable and unfavourable attitudes towards statutory health insurance. Subsequently, the chi-squared test was used to compare whether there was statistical significance between their opinions or not.

Table 6.22 shows that there were not significant statistical differences between the attitude of the employers in different location of establishments about statutory health insurance.

Table 6.22: Compare the differences of respondents' attitude towards national health insurance scheme for all employees, classified by location of establishment.

Location	Unfavourable attitude	Favourable attitude	Total
Bangkok	19	44	63
5 Provinces surrounding Bangkok	4	19	23
Central region	11	15	25
North region	3	25	28
Northeast region	9	25	34
South region	11	15	26
Total	57	143	200

$$X^2 = 10.75835, \text{ d.f.} = 5, \text{ P-value} = 0.0564$$

Similarly, the attitudes of employers in different types of establishments towards statutory health insurance were not statistically significant (see table 6.23).

Table 6.23: Compare the differences of respondents' attitude towards the national health insurance scheme for all employees, classified by type of establishment.

Type of establishment	Unfavourable attitude	Favourable attitude	Total
Food, drink and tobacco	5	12	17
Textiles, clothing and leather	1	15	16
Woodworking and construction	1	8	9
Paper, printing and publishing	2	4	6
Chemical and allied industries	2	4	6
Metals and non-metals manufacture	4	11	15
Mining and quarrying	1	5	6
Miscellaneous manufacturing	4	6	10
Transport and communication	2	3	5
Energy and water supply	2	5	7
Business, finance and banking	1	6	7
Professional and scientific services	3	3	6
Tourist services and hotels	4	10	14
Distribution trades, wholesale and retail	18	31	49
Miscellaneous services	7	20	27
Total	57	143	200

$$X^2 = 10.55119, \text{ d.f.} = 14, \text{ P-value} = 0.7209$$

Likewise, as shown in table 6.24, there was not a significant statistical difference when comparing the attitudes of employers in different sizes of establishments towards national health insurance for all employees.

However, more employers of establishments of small size (1 - 99 employees) and of size 1000 and more employees had a favourable attitude towards statutory health insurance than those of medium size (100 - 999 employees). This result from employers in small sized establishments having a favourable attitude was consistent with what they spent on health benefit (see table 6.3). It is understandable that employers in smaller sized establishments (particularly those with 1-19 employees) would benefit financially in joining the scheme. By contrast, establishments with more than 1000 employees had a relatively low level of spending on health benefit, but still had a favourable attitude towards health insurance. Thus, the cost of health benefit may be associated with the employers' attitude towards health insurance only in a small sized establishment. In the larger establishments, the favourable attitude was derived from other factors such as the higher level of education of the employers.

Table 6.24: Compare the differences of respondents' attitude towards the national health insurance scheme for all employees, classified by size of establishment.

Size of establishment (No. of employees)	Unfavourable attitude		Favourable attitude		Total	
	No.	%	No.	%	No.	%
1 - 9	16	32.0	34	68.0	50	100.0
10 - 19	11	23.4	36	76.6	47	100.0
20 - 99	11	21.2	41	78.8	52	100.0
100 - 299	8	38.1	13	61.9	21	100.0
300 - 999	7	43.8	9	56.2	16	100.0
1000 and more	4	28.6	10	71.4	14	100.0
Total	57	28.5	143	71.5	200	100.0

$$X^2 = 5.05149, \text{ d.f.} = 5, \text{ P-value} = 0.4096$$

2. Opinion of employers compared with the percentage of pay-roll spent on health benefits.

In order to find out the character of establishments keen to join the scheme, levels of respondents' attitudes towards statutory health insurance were compared with the percentage of pay-roll spent on health benefits. The respondents' attitude, classified into favourable and unfavourable groups, were compared with the percentage of pay-roll spent on health benefits which also divided into high spending and low spending. The results of those who had favourable attitudes and high spending (35.5% of the total) were ranked as the highest potential to join the scheme. The moderate group who had also potential to cooperate with the scheme were those of favourable attitude but low spending (35.0%), and of unfavourable attitude but high spending (14.0%). In total, there were 84.5% of the total establishments which were likely to support the statutory health insurance scheme.

Table 6.25: Compare levels of respondents' attitude with the percent of pay-roll spent on health benefits, classified by location of establishment.

Location	Favourable	Favourable	Unfavourable	Unfavourable	Total
	attitude high cost	attitude low cost	attitude high cost	attitude low cost	
Bangkok	20	24	9	10	63
5 Provinces surrounding Bangkok	10	9	3	1	23
Central region	5	10	5	6	26
North region	14	9	3	2	28
Northeast region	15	10	6	3	34
South region	7	8	2	9	26
Total (No.)	71	70	28	31	200
Total (%)	35.5	35.0	14.0	15.5	100

The character of those who were likely to cooperate with the scheme, as shown in table 6.25, were classified by location of establishments. There were 95.7 per cent of establishments located in 5 provinces surrounding Bangkok, 92.9 per cent in the North region, and 91.2 per cent of those located in the Northeast region were likely to join the scheme. Of those located in Bangkok, Central and South regions, 84.1%, 76.9% and 65.4% of the total establishments in their regions, respectively, were also likely to cooperate with the scheme (see table 6.26).

Table 6.26: Character of establishment likely to support the scheme, classified by location of establishment.

Location	Likely to support		Unlikely to support	
	Number	%	Number	%
Bangkok	53	84.1	10	15.9
5 Provinces surrounding Bangkok	22	95.7	1	4.3
Central region	20	76.9	6	23.1
North region	26	92.9	2	7.1
Northeast region	31	91.2	3	8.8
South region	17	65.4	9	34.6
Total	169	84.5	31	15.5

To analyze in a similar way, types of establishments which were likely to support the scheme namely; woodworking and construction; paper, printing and publishing; chemical and allied industries; and transport and water supply (see table 6.27).

Table 6.27: Compare levels of respondents' attitude with the percent of pay-roll spent on health benefit, classified by type of establishment.

Type of establishments	Favourable attitude high cost	Favourable attitude low cost	Unfavourable attitude high cost	Unfavourable attitude low cost	Total
Food, drink	5	7	1	4	17
Textiles	7	8	-	1	16
Woodworking	3	4	2	-	9
Paper, printing	3	1	2	-	6
Chemical	3	1	2	-	6
Metals and non-metals	10	1	2	2	15
Mining	4	1	-	1	6
Miscellaneous manufacturing	1	5	2	2	10
Transport	-	3	-	2	5
Utilities	3	2	2	-	7
Financial	1	5	-	1	7
Professional	2	-	2	1	5
Tourist	5	5	3	1	14
Trades	17	14	7	11	49
Miscellaneous services	6	13	3	5	27
Total (No.)	70	70	28	31	199
Total (%)	35.2	35.2	14.1	15.5	100

In terms of size of establishment which were likely to support the scheme, data is presented in table 6.28. When computed further, there were 90.4% of establishments with 20-99 employees with a higher potential to cooperate in the operation of the scheme. The percentage of establishments which were likely to support the scheme went down to 87.2, 85.0, 82.0, 76.2 and 75.0 as the size changed from 10-19, 1000 and more, 1-9, 100-299, and 300-999 employees, respectively (see table 6.29).

Table 6.28: Compare levels of respondents' attitude with the percent of pay-roll on health benefits, classified by size of establishment.

Size of establishments (No. of employees)	Favourable attitude (high cost)	Favourable attitude (low cost)	Unfavourable attitude (high cost)	Unfavourable attitude (low cost)	Total
1 - 9	21	13	7	9	50
10 - 19	20	16	5	6	47
20 - 99	16	24	7	5	52
100 - 299	5	7	4	5	21
300 - 999	6	3	3	4	16
1000 and more	3	7	2	2	14
 Total (No.)	71	70	28	31	200
 Total (%)	35.5	35.0	14.0	15.5	100

Table 6.29: Character of establishment likely to support the scheme, classified by size of establishment.

Size	Likely to support		Unlikely to support	
	Number	%	Number	%
1 - 9	41	82.0	9	8.0
10 - 19	41	87.2	6	12.8
20 - 99	47	90.4	5	9.6
100 - 299	16	76.2	5	23.8
300 - 999	12	75.0	4	25.0
1000 and more	12	85.0	2	15.0
 Total	169	84.5	31	15.5

When comparing the size of establishment combined with their percentage of pay-roll spent on health benefit (table 6.3), establishments with 20 - 99 employees were most likely to support the scheme though their existing health benefit spending was relatively low. For this group, to join the scheme implied that they would have to pay a higher cost than the existing provision. Thus, cost of health benefit provision alone was not a key element in determining their likelihood in supporting the scheme. Similarly, establishment with 1000 and more employees followed this pattern. By contrast, the small establishments with 1 - 19 employees which were also likely to support the scheme had a high level of spending on health benefit (see table 6.3). For the small size of establishment, to join the scheme would imply that they could reduce their level of spending. Therefore, the existing cost of health benefit provision was associated with their likelihood in supporting the scheme.

The policy implications of the findings in this section are that initially, the scheme would be better covering those with a higher potential for joining. The scheme may cover those establishments with those located in 5 industrial Provinces surrounding Bangkok, the North region and the Northeast region and later, expand to cover the rest of the country. Alternatively, the scheme may start with some types of establishment, such as woodworking and construction, paper and printing, chemical and allied industries, and energy and water supply. When taking the size of establishment into

account, the scheme may start with establishments with 20 or more employees but should aim to include the smaller size in a relatively short time.

3. Opinion about the administrative organization of statutory health insurance.

a) **Provider of health insurance.**

The question of who should provide health care under the national health insurance scheme for private employees was asked. As shown in table 6.30, there were 49.0% of respondents who answered who preferred the public and private mixed option of provider. Those who favoured the public sector provider only showed up at a percentage of 38.4. Meanwhile, there were 12.6% of respondents who answered this question who chose private provider only.

Table 6.30: Attitude towards who should provide health care under the national health insurance scheme for employees.

Health care provider	Number	%
Private sector only	25	12.6
Public sector only	76	38.4
Both public and private sectors	97	49.0
Total	198	100.0

b) Administrative organization.

A favourable attitude to the Ministry of Public Health administrative organization of the statutory health insurance was evident from this survey. There were 68.2% of the 195 respondents who favoured the Ministry of Public Health as the responsible unit for the health insurance scheme. A new governmental body as an administrative agency was chosen by 14.9% of respondents. A joint venture between the Ministry of Public Health and the Ministry of Interior was favoured by 9.2% of the respondents. Those who preferred the Ministry of Interior were 4.1% of respondents. The Office of the Prime Minister was desired by 2.6%. Lastly, the Ministry of Finance was named in combination with other governmental bodies (see table 6.31).

Table 6.31: Attitude towards the government unit which should be responsible for organizing the national health insurance scheme for employees.

Responsible unit	Number	%
Ministry of Public Health	133	68.2
Ministry of Interior	8	4.1
Ministry of Public Health and Ministry of Interior	18	9.2
Office of the Prime Minister	5	2.6
A new governmental body	29	14.9
Ministry of Public Health and Ministry of Finance	1	0.5
Ministry of Public Health, Ministry of Interior and Ministry of Finance	1	0.5
Total	195	100.0

E. Cost of health insurance derived from the willingness to pay approach.

1. Who should contribute ?

The main response to the policy question of who should pay the contribution were from both employers and employees (66.3%). However, there were 28.0% of the 193 respondents who specified the employer only, while 5.7% of them indicated the employee only (see table 6.32).

Table 6.32: Attitude towards who should pay for the scheme.

Who should pay	Number	%
The employers only	54	28.0
The employees only	11	5.7
Both employers and employees	128	66.3
Total	193	100.0

2. The eligible persons.

Most of the respondents thought that the person to be protected by the scheme should be the employee only - 55.8% of 197 respondents. However, 44.2% thought that dependents should be included (see table 6.33).

Table 6.33: Attitude towards who should be covered by the scheme.

Persons covered	Number	%
Employees only	110	55.8
Employees and their dependents	87	44.2
Total	197	100.0

Amongst 87 of those who specified that the scheme should protect the dependents of employees, the details of dependents were given. Of these, there were; the employees' spouse and children (59.8%), their spouse, children and parents (31.0%), and finally only the employees' spouse (9.2%), as shown in table 6.34. It was evident that about one third of the participating respondents thought that employees' parents should be included in the benefits. This was because, in Thai tradition, most parents live with their children and the care for the elderly is a financial burden on the extended family.

Table 6.34: Attitude towards which dependents should be covered by the scheme.

Eligible dependents	Number	%
The employees' spouse	8	9.2
Their spouse and children	52	59.8
Their spouse, children and parents	27	31.0
Total	87	100.0

3. Cost of statutory health insurance.

The respondents were asked to give their opinion on what should be the maximum amount of their contribution to the statutory health insurance scheme as a percentage of the average pay-roll. Two possibilities were presented; when the beneficiary of the scheme was employee only; and when the beneficiaries were the employee and his dependents. In addition, their opinion on the amounts of employee's contribution was also asked to be quantified in the same way. The results were that, when only the employee was to be protected, the average of total cost of the statutory health insurance would be 7.8 per cent of pay-roll. Of this employers were willing to pay a maximum contribution of 4.9 per cent of the employees' pay-roll, while they thought that employees should pay only 2.9 per cent. If the employees' dependents were to be protected too, the median total cost of the scheme would then be 8.9 per cent of pay-roll. In this circumstance, employers were willing to pay contributions at the same figure of 4.9 per cent of pay-roll, but thought that employees should pay a higher contribution of 4.0 per cent (see table 6.35). This was because the employers considered that it was the employees' responsibility to look after the welfare of their dependents rather than the employers'.

The policy implication of these figures was that employers were willing to make a substantial contribution to the scheme - a median of 4.9 per cent of pay-roll. If the

mean was taken into account rather than the median, the lower figure of 4.6 per cent was found (see table 6.35). When compared with a contribution of only 1.5 per cent of pay-roll laid down in the Social Insurance Law of 1990, they would accept the scheme as very good value for money

Table 6.35: Attitude towards the average percentages of pay-roll which employers and employees should pay for the insurance contribution.

	If benefits covered employees only (% of pay-roll)		If benefits covered employees and their dependents (% of pay-roll)	
	Median	Mean	Median	Mean
Employers' contribution	4.9	4.6	4.9	4.7
Employees' contribution	2.9	3.2	4.0	4.2
Total	7.8	7.8	8.9	8.9

F. Compare cost from existing health benefits provision with cost derived from the willingness to pay approach.

To compare the cost of existing health benefits provision (as presented in table 6.2) with the cost of employers' contribution and the total cost of the scheme derived from the willingness to pay approach, the t-test was applied. The first part of table 6.36 shows the result that, when the benefits

cover the employee only, there was not a significant statistical difference between the actual cost of health benefits provision and the cost derived from the willingness to pay approach. However, the second part of table 6.36 reveals that, if benefits covered employees and their dependents, the actual cost of health benefits provision and the cost from the willingness to pay approach showed statistical differences at the 0.05 level of significance. This finding reveals that not only was the existing provision of health benefits not sufficient to cover the employees' dependents, but also employers were unwilling to pay for dependents. Therefore, at the initial stage of implementing the scheme, the dependents of employees should be excluded to secure the political acceptance of employers. However, the scheme should plan step by step to include them in the foreseeable future.

Table 6.36: Compare the actual expenditure on health benefits as a percentage of pay-roll with the opinion figures by t-test.

Condition	n	Me- dian	Mean	S.D.	d.f.	t-value	P-value
Benefits covered employees only							

Actual cost	190	2.5	5.9	16.518	302.69	1.4979	> 0.05
Opinion figures	146	4.9	7.8	8.916			

**Benefits covered
employees and
their dependents**

Actual cost	190	2.5	5.9	16.518	314.55	2.3857	< 0.05
Opinion figures	144	4.9	8.9	9.731			

4. CONCLUSION

In looking at what should be the cost of a health insurance scheme to be implemented in March 1991, the existing cost of health benefit provision and the cost derived from the "willingness to pay approach" were compared. The average existing cost of ordinary sickness benefit, provided as a fringe benefit by employers in a large establishment, was 1.5% of pay-roll, in 1987. However, the employers were willing to pay 3.9% of pay-roll (1.0% was subtracted for the contribution to the Workmen's compensation fund). Thus, the employers' contribution to the ordinary sickness insurance would be somewhere between 1.5 to 3.9% of pay-roll. For the total cost of the statutory health insurance scheme, after subtracting 1.0% for the Workmen's compensation fund, the employers perceived that it would be 6.8% of pay-roll.

The issue of the method of paying providers will be one of the challenges of the plan for a national health insurance scheme. As detailed in the previous chapter, the survey found that fee-for-service and itemized billing were the predominant modes of paying the doctor and the hospital. It would be useful in the next step to review both the theory and the practice, from international experience, of how to organize statutory health insurance. That is, of course, if the historical development of health insurance around the world has any useful lessons for the development of Thai national

health insurance. In practice, the decision-making for detailed planning and implementing of the scheme is a matter for local political choice.

PART TWO

AN INTERNATIONAL PERSPECTIVE

CHAPTER 7

FORMS OF HEALTH INSURANCE

1. INTRODUCTION.

There are two main forms of health insurance. First, voluntary health insurance, is a method by which individuals in a community contribute regularly to an insurance fund to protect themselves from risk or the uncertainty of having to pay the cost of financially catastrophic illnesses in the future (Mills, A., 1985; Barr, N., 1987; Akin, J.S, 1987). Second, compulsory health insurance, is an important method of health financing or health provision (Abel-Smith, B., 1990).

Both forms of health insurance involve risk-sharing but under social security this is compulsory. The risk-sharing concept, endorsed by the World Bank, is based on the individual's "willingness to pay" (Akin, 1987, p.5). However, the Bank states that (compulsory) health insurance is one strategy to mobilize additional resources for the health sector to cope with less financial resources in developing countries (World Bank, 1987).

There was also a perspective, under the risk-sharing concept, that health insurance should be combined with "user

charge" for cost recovery in the health care sector. As de Ferranti, D. (1984) expressed it

" serious consideration should be given to using a combination of coverage charges and user charges, rather than coverage charges alone, in risk-sharing schemes. The user charge - sometimes called co-payment fees or cost sharing in this context - would be set high enough to serve as a modest disincentive to overutilization. In this way, the co-payment fee would foster efficiency goals on the demand side, compensating for the inability of the coverage charge to do so; yet unlike some other forms of user charges, co-payment amounts would be small enough not to raise major equity concerns (e.g., can the poor afford to pay?), or at least not to the same degree. At the same time, the major part of the cost recovery needed would be accomplished by user charges."

(De Ferranti, 1984, p.438)

In addition, de Ferranti concluded that...

" in view of the possibilities for schemes that combine coverage charges and user charges, any new initiatives in the risk-sharing field that contain no co-payment provision, or that would lead to diminishing or eliminating user charges, should be avoided. Where possible, co-payment should be introduced into existing schemes that have none."

(De Ferranti, 1984, p.438)

Under the social security approach, the position adopted by the ILO, compulsory health insurance is an integral part of social security. Ron, Abel-Smith, and Tamburi (1990) considered that health insurance is a social security undertaking. It is worth noting that the terms social insurance and social security are interchangeable. However, Midgley, J. (1984, pp.89-90) remarked that the term social

insurance is not used in all countries, for example; the USA and France.

2. VOLUNTARY HEALTH INSURANCE.

Voluntary health insurance, sometimes referred to as non-statutory health insurance, balances the individual's willingness to pay against his or her risk of financial loss in the event of sickness.

A) Historical development.

As early as around the 14th or 15th century, guilds of the same craft had organized and assisted their members in case of sickness or injury. But, there are not many records of their activities. In Britain, there was a movement of working class people called the "friendly society" in the 18th-19th centuries, which organized the provision of their own welfare, medical care, social insurance and housing loans. In 1804 there were about a million members of friendly societies in Britain (Abel-Smith, B., 1965) and the number had increased noticeably to at least nine million by 1911 (Green, D., 1985, pp.95-96). Later, the existence of the friendly societies and their activities from the mid-nineteenth century to the creation of the national health service (1948) in Britain was well documented by Green, D. (1985). The voluntary health insurance movement was extensively developed and widespread in

Austria, Germany, Switzerland and Scandinavia, though they may have had different names, such as; sick clubs, sick funds, or medical cooperatives. The movement in Central and Southern Europe (in countries such as Germany, Austria, and France) was normally developed on an occupational basis and was encouraged by government. In Britain and Northern Europe (in countries such as Denmark, the Netherlands, Norway and Belgium), the geographically or community based societies were founded by the working-class. Most friendly societies' health insurance was consumer-sponsored and developed prior to the doctors being well organized. Apart from consumer-sponsored health insurance, there was also some doctor-sponsored health insurance in some countries such as the Netherlands, Denmark, Spain, Canada, and on a smaller scale in Germany and Britain. Doctor-sponsored pre-payment insurance was developed because the medical professions would like to free themselves from being servants of funds which were controlled by lay committees, as well as to ensure their regular and higher income. In some cases, this was to attract members to join societies which operated on principles laid down by the profession. The benefits offered, were usually provided in cash and thereafter in kind (through health services). Nevertheless, cash benefits were customarily provided to reimburse patients for part of their medical bills in France and Sweden. Later, the voluntary health insurance movement was operated on a smaller scale in Australia and New Zealand (Abel-Smith, B., 1976). The case history of the Australian

friendly society movement, started in 1830, was reported by Green, D. and Cromwell, L. (1984).

In Britain, there were several forms of voluntary health insurance, but only four of them were the most popular (Green, 1985);

1. **The local dividing society**, sometimes called a **slate club** or **tontine**, was the simplest form. They divided any surplus money amongst the members once a year, typically before Christmas.

2. **The large federations or affiliated orders**; such as, Manchester Unity and the Ancient Order of Foresters, were the most popular forms. They had autonomous local branches which united under a common set of rules.

3. **The deposit societies** were national organizations with no branches. They combined saving with social insurance. Around two-thirds of the medical benefits were reimbursed to their members from the society's accumulating sick funds. The remaining third was paid off from the member's personal interest-earning savings account.

4. **The centralized societies without branches**; for instance, the Hearts of Oak Benefit Society, paid sick pay from an accumulating fund.

With reference to the supply of medical care, amongst the variety of them, there were three most popular arrangements (Green, 1985);

1. **The lodge practice** was the traditional system in the large federations which employed a single medical officer to work in each branch. The doctor was paid by a fixed annual capitation fee to provide medical care and medicines for each lodge member, not their families. At the same time, doctors were allowed to practice privately.

2. **The medical institutes** were started around 1869 to merge groups of lodges for serving the whole family of the members. Doctors were usually employed on a full-time basis and paid by fixed salaries and given free accommodation. However, doctors were not responsible for the dispensing of medicine.

3. **The approved panel or closed panel** was the system whereby members could choose from the so-called "panel doctors" who agreed to work under terms of reference set by the society and accept prescribed fees.

At present, traditional voluntary health insurance of a non-profit nature, as mentioned above, has evolved into 3 types; a) private non-profit insurance, b) private for-profit insurance and c) modified private insurance.

a) **Private non-profit insurance or traditional voluntary health insurance.**

Currently, the role of voluntary health insurance in developed countries has declined and the more profit-oriented

insurance has grown serving the higher income groups. In many developed countries including the eastern bloc, the role of the conventional non-profit voluntary health insurance has declined, or even been terminated. Instead, they have been superseded by compulsory health insurance, or in many cases - by the universal health service. The active role of the state in these countries is as the regulator, if not as the direct controller, of health insurance. This is due to the so-called "market failures" in health and health insurance. The lessons learned from the British friendly society movement are

"attempts by ordinary people to obtain health care for themselves, without help from the state, are bound to suffer from a number of serious 'market failures'."
(Green, D., 1985, p.3, emphasis in the original).

In fact, the market failures in health care which call for state intervention according to Green (1985) are well documented elsewhere and are also applicable to the current situation. Contributors to this argument are:- Le Grand, J. and Robinson, R., (1976); Barr, N., (1987); Nolan, B., (1988); McGuire, Fenn and Mayhew (1989), amongst others. The main market failures are;

1. **Uncertainty of demand.** That is, the nature of health care is uncertain and unpredictable. In general, people cannot predict when or how much health care they will need.

2. **Imperfect consumer information.** There is generally no information about choice of medical intervention and particularly, the cost of health care. In the case of health insurance, the consumer might know about the price of premia or insurance contributions, but lack information on the cost of each type of treatment. They have a weak (or no) incentive to know, consider, and choose the most cost-effective option.

3. **Imperfect competition or monopoly on supply.** The patient is unable to "shop around" and choose the most cost-effective doctor. This is because, on the supply side, there are usually significant barriers for perfect competition to operate; such as, a limit on entry to the profession and bans on advertising. Also, doctors can organize against the consumer to raise prices as well as to protect their profession from medical malpractice.

4. **Free-rider.** In voluntary health care insurance, those with low risk and the more healthy may not buy health insurance and may not pay for preventive measures associated with insurance. Rather, they desire to get external benefit from other people's premiums.

5. **Inequity.** The private insurer, in particular, can apply "adverse selection" to the applicants for insurance. Those of high risk with pre-sickness conditions will be excluded from the private insurance market, or would be charged a higher premium. Thus, the sick and the poor are those who are excluded from the insurance, and feel discriminated against.

6. Moral hazard. The moral hazard problem occurs when individuals have no incentive to control the number of visits they make. Third party payment, in particular, leads to a high cost of care due to free service at the point of consumption.

Several developing countries arranged some form of voluntary health insurance for rural populations, while only a few countries offered this option for urban citizens. However, the forms of voluntary health insurance existing in the 1980s, in developing countries, are not the same as the friendly society type of health insurance that existed in developed countries in the previous century. Also, their operational arrangements vary from country to country according to their economic development, politics, culture and other local circumstances. For instance; in China, the rural cooperative insurance based on a decentralized approach to health care was put into action in 1968 on a voluntary basis. The decision to join was made at the community level on the basis of "all in" or "all out". In 1973, this scheme covered approximately 70 per cent of China's 50,000 communes (Hu, T., 1981). Unfortunately, it collapsed during the recent economic reforms (Akin, J.S., 1987). Recently, a voluntary health insurance for the urban population was set up in Indonesia. There was a scheme for private employees and their dependents started as a pilot project in 1985 in Jakarta. By 1988 the scheme was expanded to 16 cities in eight provinces (Ron, Abel-Smith, and Tamburi, 1990).

1) The case for private non-profit voluntary health insurance is based on the following:-

a). To insure against the costs of medical care and loss of income from interruption of work due to illness. Moreover, price discrimination according to ability to pay, within private practice, before completion of the insurance arrangements, is eliminated.

b). To emphasize the pooling and solidarity amongst members. The individual member is charged a common premium based on the average cost of all members. Pooling is quite different from individual risk rating as it leads to solidarity amongst the insured.

c). The self help or the self reliance approach to primary health care promoted by the WHO is growing. In early-capitalist Europe or in developing countries, where the resources are particularly limited, to organize themselves in assuming responsibility for their own health development encourages a most congenial society.

2) The case against non-profit voluntary health insurance.

a). It cannot work well in a marketplace without state intervention, as mentioned earlier in the discussion of market failure. Voluntary health insurance has a limited role in the

early-capitalist society, as in early-capitalist Europe, the traditional, or agricultural sectors of a developing country. Without state intervention, it cannot operate well in an advanced capitalist country or highly competitive market as the "market failures" problem is more severe in advanced capitalist societies.

b). It has the nature of horizontal distribution, or distribution amongst the insured only. Only those who have the ability to pay can afford the insurance, whilst the poor cannot. Thus, the insurance benefits are pooled and distributed amongst the better-off citizens, only. It is not based on vertical redistribution (or distribution between different social classes) as it is in the case of universal benefits. Therefore, there is an inequity in the distribution of benefits from voluntary health insurance.

c). The efficiency of a voluntary scheme is low. First, there is a gap of coverage from the inability of the voluntary scheme to guarantee full coverage. Also, most schemes are risk-related or family-related. Premiums of those with a high risk or large family, are high. Thus, there is poor coverage of dependents. Second, the society has to pay the external cost of relief suffering of the non-insured. Therefore, the total cost of health care falling upon society is high.

b) Private for-profit insurance or commercial health insurance.

There are a number of countries which rely on private for-profit financing and provision of health insurance as a dominant means of funding health care such as the USA and Switzerland. Several countries in the market economy for instance; the Netherlands, the U.K. and Germany have also some forms of private health insurance as a subordinate system to their public ones.

The main argument for private insurance is that of consumer preference or consumer sovereignty (Nolan, B., 1988). The patient is normally free to choose the provider of care and can control the amount of money they spend (Green, D.G, 1988). It is argued that competition between providers leads to greater efficiency and control of costs.

The major argument against private insurance are problems of "market failure" as described in the previous section. However, the focus is on adverse selection and the moral hazard which was underlined by Barr (1987). As a result of adverse selection, the low income sector of the population may not be able to afford insurance. In this case, the gap of coverage is a serious problem. The moral hazard is another problem increasing in severity with lower cost at the point of consumption. In most cases, the high cost of care, brought on mostly by the moral hazard, is the common problem of commercial health insurance particularly when there is third-party payment. Also, a high cost of care is nearly always the

case with commercial health insurance which negotiates favourable terms with providers.

c) Modified private insurance systems.

Forms of private non-profit voluntary health insurance, have long been used in western countries outside of America, and have been used only to a limited extent in the USA. This system was promoted in the USA under the new title of "Health Maintenance Organizations" (HMOs) from 1973. With the rapid development of medical technology along with a high level of capitalism, this form was slightly modified to exist in the more competitive marketplace. The third party payment problem of commercial health insurance is removed because HMOs act as both insurer and provider. Thus, the efficiency provision of health insurance is likely to persist because HMOs would try to provide health care in the most cost-effective manner. In addition, information on the cost-benefit of each health insurance plan is available in the market for consumers to choose from. The real competition in health insurance plans between HMOs and those plans with more choice for consumers, would lead to efficient provision.

The general trend of health insurance development in countries outside Europe has changed towards universal coverage through the more organized state health and welfare provision. But the USA is still protecting the unorganized and more competitive medicine in a more advanced capitalist

environment. The growth of HMOs and Preferred Provider Organizations (PPOs) in the 1970s and 1980s was the result of preservation of capitalist medicine in the new environment. Drawing from lessons learnt from Europe and Australia, Abel-Smith, B. (1988) questioned whether the HMO might be destroyed when it grows large enough to be a matter of professional concern. It is noted that the term conventional health insurance in the USA refers to commercial, third-party, health insurance. A discussion of some HMOs and PPOs follows;

1. The Health Maintenance Organizations (HMOs).

The dramatic rising cost of health care, particularly in the USA - where commercial private health insurance dominates, led to a modification of the system. The Health Maintenance Organizations (HMOs) were seen as a competitive alternative to "traditional" (in American terms) private health insurance. The HMO is considered to be a more efficient strategy to contain cost than direct control, (Ellwood Jr., P.M., 1971). This strategy is later on referred to by Enthoven, A.C. (1978, 1988a, 1988b) and his followers as "managed competition".

HMOs were first developed on a large scale in the USA around the turn of the twentieth century. They were not then known as HMOs, but called prepaid group practices. The first example, begun in 1906, was the Western Clinic in Tacoma, Washington, which offered medical care for the lumber industry

at the cost of 50 cents per member per month (Mayer and Mayer, 1985). Later, the Ross-loos Medical Group in Los Angeles(1929), the Elk city co-operative in Oklahoma (1929) and the Kaiser-Permanente scheme (1933), to mention a few, had developed on the same lines. Although the ideas were not new in the USA, the term HMO was only officially accepted by the Health Maintenance Organization Act of 1973, based on the most successful and the largest of the prepaid group schemes; the Kaiser-Permanente (Elliott, A., 1982, pp.652-3). The Act provided for \$375 million in loans and grants from the federal government over a five year period to develop HMOs (Marwick, P. 1985, p.10). Although the grants were abandoned in 1983, the office of the HMO under the Department of Health and Human Services remains active as a catalyst for this concept. Over a decade of promotion, these funds produced some 115 operational HMOs or 35.60 % of the total. Twenty seven HMOs, or 8.35 % of the total, failed. These organizations defaulted on federal loans of \$42 million. Iglehart, J.K.(1984) observed that the impact of this policy was that the HMO movement had grown largely from a non-profit base to a for-profit basis. However, in the three states of California, Massachusetts and Minnesota, this trend was not visible. The Kaiser Foundation-Permanente Programme, The Blues in Massachusetts and the Harvard Community health Plan have achieved a substantial market share. Moreover, the state law in Minnesota promoted the non-profit HMO by ruling that all HMOs must be non-profit organizations. Overall, the HMOs share of the insurance market was 16 % in 1987. Nevertheless, the rate of growth of HMOs

declined from 25.2% in 1986 to 20.8% in 1987 (Salter, B., 1988).

Enthoven, A.C. (1988b, p.42) defined an HMO by saying that it provides (arranges and pays for or provides directly) its voluntarily enrolled members with a comprehensive list of health care services for a fixed periodic payment that is independent of the member's actual use of the services. Luft, H.S. et al (1980) viewed HMOs as modified forms of traditional commercial health insurance because they integrate the functions of insurer and providers of health insurance. In addition, they have the potential for the efficient delivery of care and controlling of the cost with limits on government involvement. Abel-Smith, B.,(1988, p.694) explained that HMOs combine the indirect and direct types of insurer, categorized by the International Labour Office (ILO) many years ago.

There are four quite different forms of HMOs (Enthoven; 1988b, pp.46-53). These are (1) **the prepaid group practice (PGP)**, (2) **the individual practice associations (IPA)**, (3) **primary care networks** and (4) **network models**. He explained that in the USA history of HMO development, the PGP has its origin in the "Kaiser Permanente" in the 1930s and during World War II. By the end of 1986, there were nearly 10 million enrolled members of the 139 PGPs (including 12 Kaiser Permanente plans). The PGP, a "staff model" or sometimes referred to as a "close panel", is the largest type of HMO. Doctors are organized as employees and paid by salaries with

or without bonuses. Enrollees are limited to these doctors and facilities.

The second largest group of HMOs is the IPA. Although some IPAs had developed since the 30s and 50s, this movement only became significant in the 1970s. It started as several medical societies in California noticed that their fee-for-service solo practices were being threatened by the growth of Kaiser-Permanente. They decided to form the IPAs and organized themselves in such a way that the solo practice doctors could continue to practice on a fee-for-service basis for both IPA's enrollees and other insurance arrangements. Doctors accept the IPA's fee schedule (generally below the prevailing levels of fee) and various forms of utilisation control. In a typical scheme, they might be paid 80 per cent of the monthly billed fees. The remainder is withheld as a "risk pool" to be paid at the end of the year, if the funds are sufficient. In the 1980s, with an over-supply of doctors, some IPAs were purchased by profit-oriented investors/companies. This brought more of a business line to IPAs, for example, they became selective in their contracts with doctors, and restrictive in utilization control.

The third type of HMO is the primary care network. Similar to the IPA, it is based on the primary care doctors who continue to practice individually in their own office. The fundamental difference between them, however, is that the primary care doctors accept capitation payment whilst the

IPA's doctors receive fees-for-service. In December 1986, the IPAs and primary care networks together served about 10 million enrolled members.

The fourth type of HMO is a **network model**. Enrollees sign capitation contracts with two or more independent multi-specialty or single specialty group practices to provide identified health care services.

The cases for the HMOs are;

(1) their ability to contain costs by altering incentives to providers. In the case where providers are employees, the organization has a direct control over provider behaviour. When the service is contracted out, the incentive to control the cost of treatment can be passed on to the provider.

(2) They have the incentive to avoid overtreatment, especially in the hospital setting. HMOs have a hospitalization rate up to 40 per cent lower than the fee-for-service practice (Manning, W.G. et al, 1984).

(3) The administrative cost of providing care is somewhat lower than the fee-for-service (third party system). This is because HMOs are both the insurer and provider of services.

The cases against the HMOs, apart from the common argument of market failures they share with other types of voluntary insurance, are;

(1) the introduction of the HMOs does not solve the problem of gaps in coverage. The HMOs may still be reluctant to take the high risk group or those with pre-existing illnesses.

(2) While the HMOs alter incentives to providers in order to promote cost control, a side effect is that it encourages undertreatment or a lower quality of care. This is because each activity of care will directly reduce the profit.

(3) The relatively low cost of care because there is "adverse selection". They are able to skim the healthier and wealthier population, which can cut their cost down, and leave the state to subsidise the "expensive" cases.

(4) The dissatisfaction of consumers reported on account of a "lock in" provision. The consumer's choice of providers is limited to only their closed panel providers which sometimes does not suit their needs.

(5) HMOs are not able to contain the total cost of care. The overall impact of HMO strategy is too low. Luft, H.S. (1980) reported that, during a 1961-74 period, the rate of cost increase from HMOs was similar to that in the fee-for-service system. HMOs have not been able to alter the national pattern of medical inflation and increasing resource use. In any case, this trend continued to hold for the 1976-81 period (Newhouse, J.P. et al, 1985).

2. The Preferred Provider Organizations (PPOs).

The Preferred Provider Organizations (PPOs) have ancestors that can be traced to the 1920s and 1930s, but they were forced out of the market by organized medicine through legislation, boycotts and other tactics. They were actually illegal until 1982 (Enthoven, A.C., 1988b). Since then they became the fastest growing alternative business to the HMOs. The members and dependents eligible to use PPOs rose from 1.3 million in 1984 to 16.5 million in 1986, compared to a growth rate of around 25% annually in HMOs (Rice, T. et al, 1989). They also reported that employers were very satisfied with almost all aspects of PPOs but less so with HMOs. In addition, PPOs did not appear to be cheaper than their alternatives, but the consumers' higher satisfaction may have contributed to the high rate of growth. In 1987, the market share of PPOs was 11% (Gabel, J. et al, 1988). In fact, there were regional preferences amongst PPO and HMO enrollees. Both PPOs and HMOs were most popular in the region of their birthplace. PPOs are well accepted in the west but not in the east, while HMOs are well accepted everywhere except in the south. Finally, the increasing supply of doctors in the foreseeable future, will tend to make people join PPOs (Frech III, H.E. and Ginsburg, P.B., 1988). Therefore, the growth of PPOs is still very much on the agenda.

PPOs are contracts amongst insurers, providers and consumers on preferential terms with lower prices or more

benefits than the market (fee-for-service) price. The doctors offered the lower, fee-for-service price while the hospitals accepted the utilization review restrictions. By contrast with HMOs, the providers of PPOs do not share the "risk" of financial loss with the organization. In addition, PPOs' enrollees have more choice of providers compared with those of the HMOs. For instance, they can purchase a PPO health plan in addition to their regular (fee-for-service) insurance policy. They are given financial incentives such as reduced co-insurance and additional services, to favour PPO providers. At the same time, consumers are not limited to use only PPO providers, but they have to pay more if they use the providers out of the PPOs' list (Frech III, H.E. and Ginsburg, P.B., 1988).

The prospect of an increase in the volume of service, because providers do not share the financial risk with the organization or insurers, leads to stringent cost control. Cost control of PPOs can come about in four ways (De Lisssovoy, G. et al, 1988; Rice, T. et al, 1989) ;

1. PPOs obtain discount from providers. In this respect, they received a 9-19% discount rate from their contracted doctors compared to a 12-17% rate from their network hospitals.

2. They can choose only cost-effective providers. By the end of the year, the PPOs can evaluate the performance of providers and they can choose to renew the contract only with the cost-saving and high quality service providers.

3. They pay providers in such a way that encourages the conservation of resources. Some PPOs may negotiate to pay the doctors by capitation and to pay some hospitals by the prospective DRGs.

4. The most common form and the most efficient way to contain cost is by direct control of utilization. Particularly, all PPOs require pre-admission certificates for in-patient care. In addition, concurrent review during hospital stay is typically employed, except when hospitals are paid by DRGs.

However, De Lissovoy, G. et al (1988) compared their own surveys of 1985 and 1986 and concluded that PPOs relied on paying doctors by the discounted fee-for-service method instead of by capitation. Similarly, they continued to pay the hospitals per diem instead of by DRGs. To some extent, cost containment measures 1,2, and 4 can achieve their objectives, but not the third measure. Furthermore, Diehr, P. et al (1987), and Hester, J.A. et al (1987) found that the incentive inherent in the system resulted in an increase in ambulatory care (especially within the first six months after the benefit was offered), but the rate of hospitalization was stable. Besides, PPOs had a standardized cost per user lower than the Blues but higher than HMOs.

Proponents of the PPOs could argue that;

(1) PPOs have the potential for consumers to create cost-consciousness when he/she visits the PPOs' doctors and hospitals.

(2) A free choice of providers is possible (though PPO enrollees have to pay extra for exercising the freedom). They are not locked in to use only closed panel providers as in HMOs.

(3) A free choice of practices is preserved. Solo practice or group practice doctors can continue working in their own premises and charge fees-for-service of the other insurance plans or private patients.

By contrast, opponents of PPOs would argue, in addition to the general market failures, that;

(1) PPOs are costly. The nature of open-ended fee-for-service practices creates a high cost of care situation (all the weak points of fee-for-service will be discussed in more detail in chapter 8).

(2) It is not possible to create cost-conscious practices from the supply side because providers do not share the risk with the organization as in some types of HMOs.

(3) The total cost of care is not reduced regardless of the lower cost per user, even compared to the Blues and more stringent utilisation control mechanisms.

(4) Despite the change from their regular source of care to using PPOs, it does not stop the consumer "shopping around". PPO enrollees are still trial-and-error users, in

visiting their doctors and in their minor illnesses (Hester, J.A. et al, 1987).

(5) Adverse selection is evident. In general, PPO members are younger and healthier than non-PPO users.

(6) PPOs create a gap in coverage because poor consumers cannot afford to buy premiums to cover hospitalization and pay a reduced cost for ambulatory care.

(7) A PPO is a complex system with high administrative costs. In spite of the simplicity in concept of a PPO, its operating plan is difficult to implement and is not easy to understand. After all, benefits and restrictions have to be worked out in detail.

3. COMPULSORY HEALTH INSURANCE.

Compulsory health insurance or statutory health insurance, the terms are interchangeable, is sometime referred to as medical care, and/or sickness benefit under social security. There are 83 countries in the world which have this programme as part of their social security or social insurance programme (U.S. Department of Health and Human Services, 1986). It is interesting to learn from countries in the western and eastern blocs, as well as the newly industrialized countries and developing countries which have gone through this approach. Most of them shared a common experience in the process of development of statutory health insurance, as follows;

A) Historical development.

a) Western Europe.

Historically, with some years experience with the voluntary schemes, Germany was the first country to adopt compulsory health insurance for industrial workers in 1883. The scheme was extended to cover commercial and agricultural employees in 1885 and 1886 respectively (ILO, 1927, p.10). This process must be seen in conjunction with the economic, social and political changes. The very rapid growth of population, urbanization, industrialization, as well as the capitalist political/economic system contributed to the adoption of this concept. There were also an increasing number of working class, workers' associations, trade unions, sick clubs and political organizations. In an attempt to dissolve the socialist or communist movement, the government, under Bismarck, imposed the anti-socialist law of 1878. Realising that the labour question could not be encountered with repression alone, Bismarck subsequently passed the compulsory sickness insurance law of 1883 to satisfy "those socialist demands", in other words; to "bribe" the working class for their loyalty (Zollner, D., 1982). Zollner believed that Bismarck's idea of providing welfare benefits (including sickness benefit) was learnt from Napoleon III's regime during visits in 1855 and 1857 and as an ambassador in Paris in 1861. Afterwards, when the Act of 1883 came into force in December

1884, Germany had had substantial experience of organizing and administering the scheme. This is because, prior to 1883, Germany had compulsory insurance schemes (including sickness benefit) for all mine workers by the law of 1854 (Leichter, H.W., 1979, pp.117-8). The fundamentals of the compulsory sickness insurance Act of 1883 remained the basis of the national health care policy of that country (and was emulated by many other countries) for over a century. The German model was originally known by the name of "National Health Insurance" which implied that the benefit is attached to "employment". This is because the benefit is provided to those in the employment sector of the economy. The insurance contributions are paid by employees, their employers, and in some cases by the government.

Subsequently, similar provisions were adopted in many countries. To name only a few of the first generation countries, these are; Austria (1888), Hungary (1891), Norway (1909), Britain (1911), Russia (1912), and Bulgaria (1918).

The evolution of the British National Health Insurance (1911) from lessons learnt from Germany, to the National Health Service (1948) reflected the diffusion of health policy adjusted to suit local circumstances (Leichter, H.W., 1979). At the beginning, the industrial revolution in Britain produced the growth of the middle and working classes, with a simultaneous growth in their political power leading to further change. Besides, the National Health Insurance plan

untied the medical profession away from the "lay control" of the friendly societies (Abel-Smith, B., 1965). Also, there was pressure from the commercial insurance industries to secure their leading role in the scheme. Thus, the National Health Insurance Act of 1911 was clearly a result of the political pressures amongst the friendly societies, the commercial insurance industry and the British Medical profession (Gilbert, B.B., 1966). Moreover, the creation of National Health Insurance in 1911 was a result of a study visit of Lloyd George's, to Germany in 1908 (Leichter, H.W., 1979), although his primary objective was to study only the contributory pension scheme (Gilbert, B.B., 1966).

The period between 1911 and 1948 was one which Leichter referred to as the adjustment period, according to local needs. The creation of the National Health Service (1948), providing a universal benefit, came from the change of social policy values towards "the rights of citizenship" in British society and had been proposed by the British Medical Association. The central problems of poverty and the gap of coverage from the National Health Insurance scheme were the major issues raised. The workers' dependents were not covered by the scheme. In addition, hospital benefits were not included in the plan. Workers had to rely upon the charity of hospitals and means-tested local authority hospital and the poor law for in-patient care. But the public hospitals (mainly for the poor) and charity institutions were overcrowded and of low quality. The inefficiency and inequity

of the National Health Insurance system needed a structural change (Doyal, L., 1979). The National Health Service was created in 1948 from the Acts of 1946 and 1947 (for Scotland). It provided universal coverage for hospitalization, GP services, ophthalmic services, dental care and pharmacy under a unified administration. However, sickness cash benefit was provided by a separate unit (previously they were provided by the same organization). Since then, it has been modified several times but the fundamental of universal provision has remained unchanged. This institution is well-known worldwide just as is British democracy.

Each country provides medical care systems in different ways depending on the political and economic situations in the country. However, their common target is to attain "Health for All by the year 2000" as their commitment to the WHO in 1977. Some of them might achieve the global target before the others, but more work has to be done to achieve equity and efficiency. New Zealand and the United Kingdom have achieved universal coverage for hospital insurance since 1938 and 1948 respectively. After World War II many countries followed, such as; Scandinavian countries in the 1960s, Japan in 1961 and Canada in the 1970s, Italy in 1980, Portugal, Spain, and South Korea in the 1980s (Abel-Smith, B. 1990). Most of them have gone through a transitional period of providing compulsory health insurance for some segments of the population (Roemer, M.I., 1971; Abel-Smith, B., 1990). Currently, the nomenclature of national health insurance and national

health services as known in the traditional senses, seems to be diluted. Now a system of universal health provision may be called a national health service, national health insurance or national health system depending on the politics of the State (Abel-Smith, 1990). For instance, national health insurance in Japan, Korea, and Canada, or national health services in Taiwan and Italy, or national health systems in Spain and some other countries have the same meaning.

b) Eastern Europe.

The USSR and Eastern Europe followed the same pattern of health insurance development as that of western capitalist Europe (Kaser, M., 1976). However, the difference in most Eastern Europe countries was that all doctors were salaried. This was not the case in the UK, Sweden or Denmark. In addition, private practice was theoretically abolished in Eastern Europe, while it was common practice in Western Europe.

In 1917, within a week of revolution, the USSR adopted compulsory health insurance which was partly based on the German model and partly on the "zemstvo", pre-revolution medicine. For two decades, the scheme was largely restricted only to wage-earners and their dependents but excluded peasants. It was not until 1937 that the scheme provided free care to all citizens with a priority given to the working

class, and particularly, to industrial workers (Leichter, H.W., 1979). Czechoslovakia launched her compulsory health insurance for the industrial labour force long before the scheme could be extended to all citizens in 1966. A compulsory health insurance system for wage-earners and their families was introduced in Poland in 1919 and enlarged to serve all inhabitants in 1972 (Kaser, M., 1976). The Hungarian health insurance scheme excluded about 15% of the population in 1960, but this was reduced to 1% by 1972 and finally gave universal coverage in 1975 (Deacon, B., 1984).

c) Japan and the Newly Industrialized Countries (NICs).

Japan and her allies of the Newly Industrialized Countries (NICs) adopted statutory health insurance as a result of industrialization and urbanization. Japan was the first non-western country to introduce statutory health insurance. After having a long-established relationship with Germany for medical development since 1870 (Leichter, H.M., 1979; Powel, M. and Anesaki, M., 1990), their concept and pattern of health insurance development was copied almost without change. The difference lay in the care given to the elderly and infirm, being based on the family institution and influenced by Chinese medicine, which Japan also inherited (Ikegami, N., 1989; Powel, M. and Anesaki, M., 1990). Japan's first Act of compulsory health insurance, passed in 1922 (and enforced in 1926), protected only workers in factories and mines. After that, the national health insurance Act of 1938

extended cover to the self-employed and their dependents. Meanwhile, special schemes were set up separately for some other specific groups when the circumstances demanded them, such as; salaried employees, seamen, day labourers, private school teachers, public servants and the employees of public corporations. Eventually, the national health insurance scheme, after several reorganizations were undertaken, achieved universal coverage in 1961 (Ikegami, N., 1989, pp.1, 9-10).

Other countries in Asia followed the Japanese pattern of occupational based insurance development, particularly the NICs like South Korea and Taiwan. The method of paying the doctor under health insurance in Japan, South Korea and Taiwan are based on the fee-for-service system which they inherited from Germany.

Korea, historically, had been occupied by Japan. It was the Japanese National Health Insurance model which was adopted 22 years after the occupation ended. With a rapid increase in industrialization in South Korea in the early 1960s, the introduction of a statutory health insurance in that country was unavoidable. To start with, South Korea launched a compulsory health insurance Act of 1976 (implemented in 1977) to protect the workers in corporations of 500 or more. Continuously, the scheme was extended to cover employees in smaller firms, with at least 300 workers in 1979, more than 100 workers in 1981, and with 16 or more in 1983, and finally to

those with at least 5 workers in 1988. In the meantime, separate schemes were operated for civil servants and private school teachers in 1979 and for military personnel and pensioners in 1980 (Kim, Y., 1987; Ron, Abel-Smith and Tamburi, 1990). Lastly, schemes for self-employed persons were experimented with in three designated areas in 1981, for the self-employed in the same occupation in 1982, and expanded in 1988 to cover self-employed workers in all rural areas. Until 1988, the total coverage of insured persons under compulsory schemes in South Korea was over 66 per cent, compared to only 8.8 per cent in 1977 (Ron, Abel-Smith and Tamburi, 1990). In 1989, the scheme became universal.

Taiwan, the Republic of China, once colonized by Japan, also followed the Japanese tradition. The Labour Insurance of Taiwan was promulgated in 1950 and put into effect in 1958. The "Government Employees' Insurance Scheme" was also established in the same year. Finally, after a long wait, the Farmers' Health Insurance scheme was set up in 1989. In total, 45 per cent of the Taiwanese population were protected by statutory health insurance by 1989. Further, the government of Taiwan energetically declared a most ambitious plan to achieve universal coverage by 1995 (Chiang, T., 1989; Yaung, C., 1989).

The remaining NICs, namely Hong Kong and Singapore, have developed their statutory health insurance system in different forms. Hong Kong has a national health service system while

Singapore has a "Medisave" scheme which combined personal saving with hospital insurance. In Singapore, the insured person and his/her employer each pay 3% of pay-roll into the employees's Medisave account for hospital insurance. Moreover, the scheme allows its members to utilize savings for the purchase of private housing and approved private investment. However, over the retirement age of 55 the insurer is required to maintain a balance of S\$6,000 (1986 prices) for future hospitalization cost (U.S. Department of Health and Human Services, 1986).

d) Developing countries.

Surprisingly, statutory health insurance schemes in a total of 48 out of 90 developing countries have expanded well during recent decades. They were operated in all 20 Latin American, 2 Caribbean, 14 African and 12 Asian countries (Zschock, D.K., 1982). They were first introduced in Latin America, and later in Asia and Africa. The reasons to adopt statutory health insurance were diversified from the influences of colonial administration, decolonization, social revolution and industrialization. At any rate, it expanded gradually in most developing countries. However, countries with social revolutions such as Cuba(1979), the Libyan Arab Jamahiriya(1980), and Nicaragua (1982) transformed their statutory health insurance at a more rapid rate. In any case, they retained payroll-related contributions of employees and their employers (Ron, Abel-Smith and Tamburi, 1990). In this

respect, Cuba is a particular example in her approach to universal coverage (excluding domestic servants), achieving this in 1970, compared with 62.6 per cent coverage in 1960 (Mesa-Lago, 1986).

1. Latin America

In Latin American countries, compulsory health insurance was transplanted from Europe without modification to the local circumstances (Arroba, G., 1979). The arrival of statutory health insurance in Latin America occurred when countries in that region had just developed to only the early stage of industrialization. Thus, only a minority of the working population and privileged persons received the benefits, which led to the problems of inequity remaining unchanged until now. The main reason to adopt statutory health insurance came from the so-called "social security movement" imported from Europe. The historical development of statutory health insurance in Latin America and its consequences is well documented, for example; in ILO (1958); Roemer, M.I.(1973); Arroba, G. (1979); Zschock, D.K. (1986); Mesa-Lago, C.(1978; 1983; 1985(ed); 1986); and Beirute, L.A.(1988).

In 1924, Chile was the first country in Latin America to adopt statutory health insurance. The initial legislation applied only to wage-earners, accounting for around 10-15 per cent of the population. The Chilean model of health care provision was referred to as the "direct method" : it employed

its own staff and set up its own hospitals. This model was widely emulated in this region. Afterwards, Chilean health insurance underwent gradual expansion and attained 69.5 per cent coverage by 1970 (Mesa-Lago, 1983). Notwithstanding, this figure declined slightly to 67.3 per cent in 1980 (Mesa-Lago, 1986). It was due to the changing of health financing policies of the Pinochet government since 1973, towards a free market, the privatization of provision, and the cutting of public funding (Viveros-Long, A., 1986).

Three relatively high income countries, amongst a total of twenty in this region which have more than 80 per cent of their inhabitants insured under their national compulsory health insurance schemes are: Brazil, Costa Rica, and Argentina (Zschock, 1986). In 1934, Brazil introduced statutory health insurance schemes for commercial workers and bank employees. Subsequently, in 1938, separate schemes were set up to cover industrial and transportation workers. Afterwards, schemes for railway and public utility service workers were organized in 1953. In the meantime, the government employee scheme was operated separately. It was not until 1963 that a scheme for agricultural workers was put into effect. Lastly, a unification of all previously separated schemes, for greater efficiency in provision, occurred in 1966 (Bastos, M.V., 1971). Regardless of the exceptionally high cost to run (McGreevey, W.P., 1988), Brazilian statutory health insurance increased its population coverage

significantly from 23.1 per cent in 1960 (Mesa-Lago, 1983), to 96.3 per cent in 1980 (Mesa-Lago, 1986).

Costa Rica has also achieved a very high statutory health insurance coverage. The Costa Rican compulsory health insurance Act of 1941 came into force in 1942 (ILO, 1958). It followed the Chilean, direct method of service (Mesa-Lago, 1985) and protected both public and private employees. The scheme was extended to cover the insured's dependents in 1955. In 1961 a constitutional amendment paved the way for the universalization of health care coverage and the Act of 1973 ordered the integration of health care facilities. Next, the pensioners and their dependents were insured in 1976. By 1982, a total of 86.1 per cent of Costa Ricans were insured compared with only 15.4 per cent in 1960. Eventually, the programme to achieve universal coverage of health care began in 1983 (Mesa-Lago, 1985) with the aim of achieving universal coverage in 1990 (WHO, 1987).

Compulsory health insurance in Argentina came into operation in 1974 (U.S. Department of Health and Human Services, 1986). Its development expanded rapidly in parallel with rapid economic growth. By 1980 the population coverage of the scheme was estimated at 80 per cent (Zschock, 1986).

Comparing the experiences of Latin American countries it can be seen that the relatively low income countries could not extend their statutory health insurance to protect the

majority of their population. Below 25 per cent of population coverage by statutory health insurance in ten relatively poor countries (accounting for half of all Latin American countries) has remained unchanged since the inception of the schemes several decades ago (Mesa-Lago, 1986). According to Mesa-Lago (1986), these countries and their percentage of population coverage in 1980 were; Colombia(11.6%), Ecuador (7.9%), El Salvador (6.2%), Guatemala (14.2%), Haiti (0.8%), Honduras (7.3%), Nicaragua (9.1%), Paraguay (18.2%), Peru (17.4%), and the Dominican Republic (7.9%). Thus, the critique of Mesa-Lago (1978) on account of inequity in the provision of statutory health insurance as a result of social stratification and efforts to protect those with more power seems to be justified in the circumstance of low income nations in this region (Zschock, D.K., 1986).

Referring to Latin America, however, Abel-Smith (1985, p.959) argued that the high coverage did not really mean that there were services locally available for use. Some of this was "paper coverage" due to the inaccessibility of care arising from a lack of doctors or hospitals nearby and/or no transportation cost for the poor to visit. Also, the population coverage for the comparison did not mean the same things in terms of service coverage, or range of services provided. For instance; the service coverage for the covered dependents only included maternity and paediatric care in some cases and with a limitation in the use of hospital care in others.

2. Asia and Africa.

Many countries in Asia and Africa have had direct experience of statutory health insurance since the colonial period. Although some countries such as Nepal, Saudi Arabia, Egypt, Ethiopia and Thailand were never ruled by Europeans, to some extent they had an indirect influence from the west and from international aid agencies. Before the second World War, statutory health insurance schemes in Asia and Africa were unusual. Only employer liability and medical assistance schemes existed. In the post-war period, India(1948) and China(1951) were pioneers in compulsory health insurance in Asia while in Africa, the scheme made its debut in Algeria in 1949 (Roemer, M.I., 1987).

India, after a few years of preparation for a health insurance plan with some modifications suggested by two ILO experts, promulgated the Employees' State Insurance (ESI) Act in 1948, soon after India achieved independence (Singh, H.M., 1982). It has been in operation since 1952 (Singh, H.M., 1983, p.53) and provided full comprehensive medical care and cash benefits to the insured and restricted medical benefits to their families. Health insurance under the ESI started as an integration of five benefits in the same package. Concurrently, there were separate schemes for government employees, railway workers and military personnel (Ron, Abel-Smith and Tamburi, 1990). Initially, the statutory and contributory Employees' State Insurance applied to non-

seasonal power-using factories employing 20 or more workers. Later, three areas of gradual extension were made, namely, by geography, by industry, and by wage group (Singh, 1982). On 31 March 1988, the scheme covered 27 million beneficiaries (Ron, Abel-Smith and Tamburi, 1990) or around 4 per cent of the entire population compared to 12.6 million in the 1960s (Rajan, R.V., 1968, p.7). Even though India is a vast country, this coverage was not very impressive, particularly when compared to countries of the same size like the USSR and China. Some criticism of the Indian scheme (Hasan, S.Z., 1969; Banerji, D., 1986) went along the same lines as criticism on Latin America, namely that health insurance under the social security approach, and its low coverage, intensified social inequality.

China, in comparison with India, had done reasonably well in providing compulsory health insurance since 1951. It was comprised of two statutory schemes, namely; government health insurance and labour insurance (Prescott, N. and Jamison, D.T., 1984). The former, a non-contributory scheme, protected government employees, college teachers and college students but not their dependents (nor did it provide meals in hospitals). It accounted for about 2 per cent of the population in 1980 (Hu, T., 1981). The latter was a contributory scheme covering workers in urban areas and their dependents which accounted for around 10-12 per cent of the whole population (Hu, 1981; Prescott and Jamison, 1984). Similar to the ESI scheme of India the workers' dependents were entitled

to restricted benefits of only 50 per cent of health care costs. To sum up, the population coverage of the Chinese statutory schemes was around 14 per cent, or close to 3-4 times more than the proportion in India.

Other countries in Asia are in the early stages of development of compulsory health insurance. In Indonesia, a scheme for civil servants, retired civil servants and military personnel and their dependents was started in 1968. In 1988, the population coverage of the scheme was 15.5 million (Ron, Abel-Smith and Tamburi, 1990), or about 9 per cent of the total population. Pakistan's statutory health insurance scheme was started in 1967. Initially, it covered only the textile industry in three cities but was gradually extended to other areas and industries. After two decades of operation, the population coverage of the scheme was close to 2.25 million in 1987 (Ron, Abel-Smith and Tamburi, 1990), accounting for only around 2 per cent of the population. In contrast, the statutory health insurance of the Philippines, after its first implementation in 1971, covered around 21 million inhabitants in 1987 (Ron, Abel-Smith and Tamburi, 1990) or approximately 36 per cent of the entire population.

The last group of developing countries which adopted compulsory health insurance was Africa. Algeria, the ex-French colony, was a pioneer in this continent in introducing the scheme in 1949. Several countries have gradually developed their statutory health insurance in addition to their public

health programmes, particularly since becoming independent. But the extent of statutory health insurance service and population coverage was very limited and diversified in comparison to Latin America (Dunlop, D.W., 1983). At any rate, Roemer, M.I.(1987) noted that schemes were being implemented in Guinea(1952) Libya(1957), Tunisia(1960), Kenya(1966), Egypt(1975), Senegal(1975) along with a few other countries.

B) The major argument for compulsory health insurance.

(1) To protect the insured (and his family) from financial disaster due to sickness and income loss, with financial contributions from the employer, the employee, and (in some countries) from the state.

(2) To prevent the externalities caused by the non-insured. This is to limit the free-riders and protect those with chronic illnesses or congenital conditions. It is the most efficient way to provide health care to increase coverage in the most equitable way.

(3) The price of the insurance contribution, if related to ability to pay as a proportion of income, leads to an equitable redistribution of income.

(4) It is the prologue to health for all. The premium collected, namely payroll tax, is earmarked for the provision of health care to a section of the population. The benefit of an earmarked tax is that the health sector does not have to compete so directly with other government programmes, such as the defense budget, to take an extreme example. The health

sector, in general, is able to mobilize additional resources from the money which would otherwise have been used to support the insured, to give priority to the poor, to attain health for all.

(5) Emphasis on self reliance. Self reliance or self help is a central characteristic of statutory health insurance. Part of the insurance fund comes from the employees who pay for their own health care with financial support from their employers and in some cases from the state. However, the subsidy from the state is likely to be insignificant in relation to the total amount of general taxation.

(6) The emphasis is on social solidarity. The risks and resources are pooled for the insured persons regardless of their income or health status. However, in some countries statutory health insurance does not apply to those with a very high level of income because they do not need to get financial support from the employer (or the state).

C) The major argument against compulsory health insurance.

(1) Experiences in developing countries show that only a small proportion of the population receive the benefits. The regular employees in the modern sector of the economy in the urban areas enjoy the benefits, whilst the rural poor, the self-employed, agricultural farmers, and domestic servants, etc. are excluded.

(2) Discontinuity of protection. Because compulsory health insurance's benefits are employment-related, the

insured is likely not to be protected, if they lose their job. This is a particularly severe problem in developing countries which have a very large and mobile supply of cheap labour.

(3) Lack of competition and choice. Generally, there is less competition amongst providers. It is typical to find a standard health insurance plan which may offer choice of providers. However, the consumer's choice is limited to providers who work under the framework of cost generating incentives.

(4) The monopoly of the provider. Doctors are often the primary decision makers in the health insurance system. Most compulsory health insurance schemes do not provide strong financial incentives for cost-saving doctors. Most doctors are not aware of the economic consequences of their decisions. Where this is the case, the system is a long way from being cost-effective.

(5) The consumer lacks full information on the cost of each medical intervention and so has a weak incentive to contain it. The consumer relies on his doctor's advice which may not be for the most cost-effective option but for that which gives a financial benefit to himself.

(6) Underserving. In the situation of being able to impose cost-saving measures through compulsory health insurance, the provider may receive financial benefit from underserving his patient.

(7) The employers' contribution is regarded as employees' income foregone. In some cases, the average pay rise of

employees under health insurance is found to be lower than before statutory insurance. In other cases, the employers may increase the price of their products or services, so that the consumer bears the final costs.

(8) It is unfair to use the state budget, if any, to subsidize the better-off. Particularly, it is worse when the budget comes from regressive taxation, when the poor support the rich.

(9) It creates a two-tier health service system, particularly in developing countries. First, the insurance system creates higher standards of medical care and curative oriented services for a minority of the population in the modern sector of the economy. Second, it is only a poorly funded system of public health care that provides for the majority of the population.

4. REFORMS AND INNOVATIONS.

There have been several attempts to reorganize national health insurance around the world, regardless of the form of insurance and governmental regime. The most well known contemporary reform strategies are;

A) Decentralization and self-management.

Yugoslavia, for example, embarked on a course of decentralized health care in 1953 and gradually obtained more and more financing through communal insurance associations

(Parmelee, D.E., 1985). In the early 1980s, Hungary began health care reforms with three themes; decentralization, patient co-payments and a voucher system (Csazzi, L. and Kullberg, P., 1985). Similarly, Poland, in 1984, considered implementing decentralized self-management health care (Deacon, B., 1984).

B) Emphasis on preventive medicine.

The Gabrovo health service development project of Bulgaria, started in 1972, demonstrated a successful experiment of preventive mass screening and active follow up of the individual at risk. The model was based on the concept of "dispensarization" (being preventive, systematic, comprehensive, and with active follow up), as pioneered in the USSR (Apostolov, E. et al, 1980; Sokolov, D.K. et al, 1980).

C) Deregulation and more of a market-oriented approach.

The reforms with a pro-market strategy namely "managed competition" or "regulated competition" are more welcome in the USSR than in the U.K. This is because in the USSR, reforms are associated with more funding while in the U.K. they are not. Moreover, the problem of under-funding in the NHS is widely accepted. Recently, the USSR under Gorbachev, has advocated a policy of "glasnost" (openness) and "perestroika" (restructuring) which extended to the health services. In April 1988, a "Leningrad experiment" was introduced in

Leningrad, Kujbychev and Kemerovo to provide health care by using the market mechanism. That is, hospitals were given zero budgets and a set price list for specific items of care and made to compete with each other to get customers. State funds went to the primary health care sector, to polyclinics, which functioned as the purchasers of hospital services at "market prices" for their local population (Mortimer, S., 1989; Robert, J., 1990).

Similarly, the "managed competition" approach to create the "internal market" in the reform of the NHS in the U.K. is to be implemented in April 1991. The District Health Authority (DHA) and/or the groups of GPs with lists of at least 9,000 patients, will be the "budget holders" to buy the (private and public) hospital and other services for their patients in the most cost-effective way. Hospitals with over 250 beds will be encouraged to form a Trust and become self-governing. Hospitals will have to set their own prices and compete with each other and with the private sector to sell their services to budget holders. Under (internal) market competition, the money saved would be an incentive to providers and used, partly, to improve services. However, if GP budget holders fail to achieve the saving, they will face financial penalties (U.K., 1989; Beardshaw, V. et al, 1989).

The reform in the Netherlands by the "regulated competition" approach, as proposed by the Dekker Committee (Netherlands, 1987), plans to introduce a "basic insurance scheme"

for every citizen. The coverage of the basic insurance is to be determined by law and the contribution for basic coverage is income-related and collected through the tax system. In addition, the supplementary insurance scheme is a nominal flat rate contribution paid directly by the insured to his/her insurer. Each insurer has to compete with other insurers by offering a lower price or more service coverage on the supplementary plan. Moreover, the Dekker plan indicated that the insured would be free to make a choice, but that the insurer would be obliged to accept him/her as in the basic coverage. Moreover, according to the plan, the previous bond between the insurer and the providers is abolished. Under the regulated competition, only the good performance provider can sign a contract with the insurer (Netherlands, Ministry of Welfare, Health and Cultural Affairs, 1988; Lapre, R.M., 1988; Van de Ven, W., 1989; Elsinga, E., 1989). Afterwards, the new coalition government in 1990 proposed the so-called Simons plan (named after the Health Minister from the Labour party). The new plan is, in fact, a modified version of the Dekker plan and changes the coverage of basic insurance to satisfy the needs of certain interest groups, particularly the trade unions.

D) Collaboration between Health Ministries and social security schemes.

Costa Rica provided a new model of functional integration between the Ministries of Health and Social Security, by a

scheme launched in February 1987. Under this scheme, the patient registered with a doctor of his/her choice. The doctor received a basic salary for promotional and preventive activities, in addition to a capitation fee. The scheme also integrates and co-ordinates the promotive and preventive health services involving more than one institution through health and social security boards, in which the local community plays an active role (Beirute, L.A., 1988).

E) Substituting ambulatory for hospital care.

Attempts to contain the high cost of a statutory health insurance scheme were made in Germany, between 1979 and 1983/84. They set up the so-called "Bavarian Contract" which was an agreement between Bavarian sick funds and the office-based doctors of Bavaria. The contract involved a simple shifting of in-patient cares to out-patient cares; i.e., from hospital to GP service. After a few years of experimentation, however, it was concluded that there is no evidence that expanding ambulatory care may help to contain the growth of health care expenditure (John, J. and Potthoff, P., 1987).

5. SALIENT ISSUES.

A) Provision of medical care.

Direct and indirect methods comprise the classical typology of medical care provision. The direct method refers to the way in which the insurer owns hospitals and health centres and employs health professionals on a salaried basis. This model of health care provision is found in many countries of the Eastern bloc, Latin America, Greece, Portugal and Spain.

Under the indirect method, the insurer purchases medical services from the existing public or private facilities and/or contracts self-employed health professionals (Zschock, D.K., 1982; Abel-Smith, B., 1988, 1990). Under the terms of contract, the methods to pay the doctor are fee-for-service and capitation while the methods to pay the hospital are diverse (see chapter 9). In most cases, the government plays a major role as active regulator or direct controller, to contain costs and secure equitable provision.

However, the most crucial point is that to choose which is the most suitable method depends on the existing social resources available. In Latin America, direct provision was set up when there was little public health care available, nor a strong, private medical market. In addition, there was an oversupply of doctors in private practice. They welcomed the scheme and were delighted to receive an assured salary instead of the bad debts of the poor. In this situation, direct

provision seemed to be the most economical decision (regardless of the abuse and high cost later). In some Asian and North African countries, by contrast, the situation was quite different. There were networks of hospitals, clinics, health centres and primary health care centres run by the Ministry of Health and the private medical market was well established. In these circumstances it seemed to be an economic rationale to apply indirect provision (Roemer, M.I., 1987).

B) Types of funds.

There are a number of funds, diversified in type and arrangement, in different countries, dependent mostly upon political structure and historical development. According to Abel-Smith (1990), there are 4 main types of classification:-

a) A unified and centralized fund at national level covering all of the insured population. This type of fund provides for those who have to change job or their place of residence. The most controversial point is, as found in the USSR and her allies, over the high degree of centralization and control. Inefficiency is almost bound to arise from the monopoly and bureaucracy of managing a large fund. However, the inefficiency can be minimized by decentralization and support of self-management at local branches.

b) There are a series of multiple funds available locally which work independently to serve local needs. They may be organized by geographical area; for instance,

provincial funds, village funds, etc., or by occupational groups; such as funds for teachers, farmers, and white collar workers. This system, although bringing control closer to local needs, is usually accompanied by the inefficiency of duplication or gaps of coverage. The major argument is, however, on the inequity of the level and service coverage of the benefits. Some rich funds serving in the prosperous areas or the wealthy sectors of population may offer a better deal. This needs state control and a national health plan of cross-subsidiaries. Furthermore, there is an administrative problem associated with cross-boundary cases which may end up with discontinuity of care. Some countries have a very complex system of organizing multiple funds. As in France, there is a large general scheme protecting about 75 per cent of the population, special schemes for some occupations, autonomous schemes for the self-employed and agricultural schemes for agricultural workers and farmers. Each scheme has several regional funds and/or local funds (Abel-Smith, B. (ed), n.d., pp.43-44).

c) There are **occupationally based multiple funds** as in Germany, Japan and South Korea. The German prototype is highly decentralized and pluralistic but not highly competitive amongst the funds. It had a total of 1,645 funds in 1988 (Dopson, L., 1988), compared to 1,950 in 1970 (Pflanz, M., 1971) and as many as 18,942 funds in 1885 (Leichter, H.M., 1979). This trend shows that the funds have been merged to achieve economies of scale. Amongst them, about 1,200 funds belong to the statutory health schemes, so-called ROV funds

(Brennecke, R., 1986, p.1). The funds are organized by occupation, enterprise or geographic district. They are self-governed, private, non-profit organizations and are able to collect contributions directly from their members. Each fund is independent of government control but is controlled jointly by an equal number of employees and employers' representatives under regulations laid down by law. The advantage of joint control is that it may bring a closer relationship between the workers and managers. Also, trade unions can negotiate for more benefits than those required by law. Nevertheless, the most serious disadvantage found in Germany is that it is a most expensive scheme with much waste. A lesson learnt here is that to control the price but not the volume of services does not help in reducing total costs. Instead, the state intervention in the previous years only achieved cost shifting rather than cost reduction (Deppe, H., 1989). Besides, this system was also found to be rather rigid and inert (Altenstetter, C., 1986).

d) There are **competitive multiple funds** as proposed in the Dekker plan for the Netherlands (mentioned above). These funds are private non-profit organizations and, in practice, act as quasi-governmental institutions. There has been a gradual process of consolidation amongst the funds so that there is only one fund in many parts of the country. Currently, there are about 45 funds (Ham, Robinson and Benzeval, 1990, p.37), compared to about 60 in the early 1980s (Abel-Smith (ed), n.d., p.47). The basic insurance is financed by income-related contributions collected by a

central fund and paid to the consumer-chosen insurers by the risk-adjusted capitation fee. For instance; the central fund pays the capitation fee for an 80 year old person, around ten-fold the capitation fee for a 20 year old person. The competition of insurance is, therefore, derived from the supplementary part. Because the basic and supplementary insurance has to be bought from the same insurer, the consumer would choose the best buy (Van de Ven, 1989).

C) Administrative organization.

Responsibility for the administration of statutory health insurance programmes in most instances rests with various types of semi-autonomous agencies or sickness funds. These funds are usually subject to general supervision by a government agency. But in some cases they are self-governing boards headed by a tripartite of employers, employees and the government or bipartite consisting of employers and employees. In some countries, the administration of health insurance is placed directly in the hands of a government agency (U.S. DHHS, 1986). There are 4 types of government agencies who are directly responsible for administering health insurance programmes;

a) **National social security institutions.** An institute of social security to provide various forms of social security benefits including health insurance. They have various names such as; Department of Social Welfare (New Zealand), Ministry

of Social Security (Luxembourg, Turkey, Libya), Ministry of Social Affairs and National Solidarity (France), Ministry of Social Administration (Austria), Institute of Social Security and Welfare (Nicaragua).

b) Several government institutions coexist and coordinate several aspects of health insurance. They may work closely on the basis of having a clear division of labour or be fully integrated. For example; Australia has a Department of Social Security to provide cash sickness benefit while a Department of Health provides medical benefits. In Argentina, the Ministry of Health and Social Action is responsible for general supervision, while the coordination of programmes is under the accountability of the National Institute of Social Services. Besides, the duty of the Ministry of Labour and Social Security is to administer maternity benefits. Similarly, the outcome of such coordination in Panama was that half of the population is under the Ministry of Health and the other half under the Ministry of Social Security (Ugalde, A., 1985).

c) The Ministry of Labour (Ministry of Interior or Home Office in some countries) has a major responsibility for statutory health insurance. This system is used in such countries as India, Pakistan, Singapore, Taiwan, Venezuela and Romania. They may be responsible for more than the provision of health insurance such as employer liability schemes and pensions. These are the Ministries of Labour and Social

Affairs in Germany and Israel, or the Ministries of Labour and Social Security in Portugal and Uruguay. In Peru it is known as the Ministry of Labour and Social Promotion, whilst in Poland it is labelled as the Ministry of Labour, Wages and Social Affairs.

d) The Ministry of Health administers statutory health insurance. Some countries merge all health care agencies into one; such as the Department of Health and Social Security until recently in the U.K. It is called Health and Welfare in Japan and Health and Social Affairs in South Korea. However, it is customary to provide cash benefits in a separate agency as in the U.K. and the USSR. Particularly in the USSR, unions of workers instead of a government agency, control cash benefits.

In some countries of Latin America, there is some concern over the collaboration between statutory health insurance and public health. In some countries, public health care seems to play a subordinated role or is incorporated in a social security institution. As is the case in Mexico and Brazil, which provide public health care in their rural social security health centre networks. However, in the relatively lower income countries of Latin America and Asia with only a small coverage of statutory health insurance, public health services play a dominant role.

An attempt to answer the question of whether medical care under social security weakens public health programmes or not was made by Roemer, M.I. and Maeda, N. (1976). They found that there was no statistical evidence that spending on health insurance under social security had a negative impact on public health services or on the strength of Ministries of Health. Rather, coordination or complete amalgamation can create effectiveness and greater distribution of health care.

International efforts to motivate coordination between the two sectors in Latin America occurred in a series of meetings in 1959 and after (Zschock, D.K., 1986). It seems that coordination has been achieved more in the richer countries (and those now with a higher insurance coverage) than in the relatively poorer countries. In 1970, a joint ILO/WHO recommendation was that coordination should be applied globally (WHO, 1971). However, a number of international meetings on this subject still focus on Latin America (PAHO, 1977; 1981; 1987).

In the meantime, since 1970, 12 out of 15 countries around the world who launched statutory health insurance schemes have a good relationship between Ministries of Health and Social Security. Four of them have close coordination, while eight of them are placed fully under the Ministry of Health (Roemer, M.I., 1987). Therefore, a general trend of cooperation and unification is likely to ensue.

6. CONCLUSIONS.

The emergence and evolution of health insurance in both voluntary and compulsory forms has been examined from the global perspective. However, the diversity of arrangements between countries makes it difficult to make comparisons. In order to understand and learn the lessons from a comparative health insurance policy analysis, one must understand the local history, culture, politics and economic development. There are so many actors involved in the insurance subject, namely; health professions, consumers, employers and politicians who need to gain from the insurance business or at least maintain the status quo. Thus, it is truly the case that, as Abel-Smith put it,

"Introducing health insurance is essentially a problem of political salesmanship."
(Abel-Smith, B., 1986, p.10)

That is because, to develop health insurance not only secures health services and shares risk, but also redistributes social resources. Therefore, it is also true to say that to manage and develop it further is a matter of politics rather than economics. In practice, there is no one perfect or ideal model health insurance system, or no one optimal structure. Many alternative configurations and modifications exist in many countries in the world. Each form has its own advantages and disadvantages, depending on the

local circumstances, but there is always a call for local experiments to be successful.

Usually, internal politics play a very important role in health insurance development, while the structure of a political regime is of less importance. Countries of advanced capitalism, of the welfare state, newly industrialized countries, and developing countries have experiences in common with insurance development seen in countries of the socialist bloc. They have a common path of insurance development, not only from voluntary to compulsory insurance, but also from limited extent to comprehensive and universal coverage.

A considerably important factor in the development of statutory health insurance, is the level of economic development in the country. European countries developed their voluntary health insurance several decades ago, if not centuries ago. Its role declined when the state intervened in the health care market by introducing statutory health insurance in 1883. After that, country after country adopted statutory health insurance programmes. However, only countries with relatively high income and determined political regimes can expand the coverage to the entire nation. It is clear that the number of the regular work force in the modern sector of the economy is a contributory factor in this achievement.

Finally, there is a dilemma over whether or not developing countries should follow the west, because insurance

systems have been very costly to implement. In addition, there are initial problems of inequity where only a small proportion of the population are protected. In the meantime, there is a call for health for all by the year 2000 which is not too far away. Health insurance offers a challenge of applicability to achieve this common goal.

CHAPTER 8

PAYING THE DOCTOR

1. INTRODUCTION.

A doctor's remuneration has become a fundamental policy issue associated with new medical development and changing technology. The historical development of national health insurance and/or national health services in several countries has shown that the method of paying the doctor has had to be carefully worked out and negotiated between the profession and the parties concerned. Recently the major concern of several governments on cost, quality, quantity, attitude and incentive of medical care is leading to the reform of the organising and financing of health services. Several authors for example; Roemer, M.(1962), Abel-Smith, B.(1963,1972,1976,1989), Hogarth, J.(1963), Glaser, W.(1970, 1986), and Sandier, S.(1989) reveal that the method of payment has a large influence on doctor's decisions and it is one of the contributing factors to the cost and quality of care.

The method of paying the doctor here refers to the way in which a doctor is compensated for his services, and not the method used by the patient to pay for services received, nor the method by which funds are raised to pay for the medical care. Also, it refers to the method of paying a doctor

working outside a hospital. A hospital under health insurance usually receives compensation directly from the insurer and the specialist is paid out of the hospital payment (details of paying the hospital will be described in the next chapter).

Basically, methods of paying the general practitioner are usually described as (a) fee-for-service, (b) salary and (c) capitation. Some authors like Hogarth, Glaser, and Sandier consider (d) payment per case as another payment method. However, Roemer(1962,1978) includes payment per case of illness, without stating the number of medical acts performed especially found in surgical or obstetrical cases, in the fee for service method. By contrast, Abel-Smith(1972, p.226) argues that payment per three-monthly case, as operated in Austria, is a modified capitation system. To avoid misinterpretation, therefore, the analysis of the method of paying the doctor here is based on the three main principal ones.

Historically, all three basic methods of paying the doctor have been used in different societies in different periods of time. In the day of Hippocrates, salaried doctors were appointed by the community to treat the sick without a fee. The Romans employed many of their doctors on the same basis (Titmuss,R., 1963, p.16). As part of the poor law or public assistance services, doctors in Europe were employed on a part-time or full-time salaried basis (Abel-smith, 1972, p.222). On the other hand, in ancient times doctors charged

for their services on a fee-for-service basis which the patient might pay in cash (if available) or in kind. Likewise, doctors in Britain, Germany, Norway, Denmark, and the Netherlands have been paid by the capitation method from the voluntary insurance movement of the Mutual Aid or Friendly Societies (Abel-Smith, 1972, pp.224-5). At the present time, a combination of all three methods to pay the doctors are found in different countries or in the same country at different points of time. The following are the three principal methods of paying the GP under health insurance with their advantages and disadvantages;

2. THE FEE-FOR-SERVICE METHOD.

Fee for service is payment for each unit of medical procedure, in other words paying on a piece-work basis. It has been one of the traditional methods of paying the doctor since the early stages of the development of medicine. It is still in use in many countries as a major mode of payment and/or as a supplement to the other methods. Doctors in England and some European countries, have been working as private entrepreneurs (in a solo practice) for several centuries. The patient paid the doctor on an "item of service" basis, for visits, medicine, surgical procedure, midwifery and (since the early nineteenth century) vaccination. Roemer (1962) and Abel-Smith (1976) stated that a doctor traditionally adjusted the fees according to the patient's ability to pay. This is called the "sliding scale of fees". Nowadays, in developing countries

this pattern still exists. In addition, Glaser(1986) pointed out that as medical practice became more complex, the fees became more varied. Also, price discrimination is found to be associated with social class and the education of the doctor. Although competition amongst doctors might limit the range of fees in a community, the more famous and popular doctors could still charge more.

Competition amongst the profession in the eighteenth and nineteenth centuries reduced medical fees (Loudon, 1986). Broadly speaking, today the simple economic analysis of demand and supply cannot be applied any more. Davis, K. (1984) pointed out that several econometric studies of the market for doctor services in Canada and the USA in 1970s have found that doctor's fees tend to be higher, not lower, in areas with more doctors. Davis writes

" In areas with a greater supply, physicians maintain or raise fees, convince patients to return more frequently, perform more tests and procedures, and in general act to achieve a target level of income."

(Davis, K., 1984, p.38)

Similarly, Raskin, I.E. et al (1982) argued that the real issue of the high total cost of medical care in society is on the effect of total doctors' earnings and not just simply on prices. Although the two issues are interrelated, my main analysis is focused only on the method of payment - not on the doctors' incomes.

Medical service has become organized in the form of a compulsory health insurance system since its origin in Germany in 1883 and spread to other countries such as Austria(1888), Hungary(1891), Norway(1909), Britain(1911), Russia(1912) the Netherlands(1941) and many more. In many cases except the USA, fee-for-service payment has been standardized after the negotiation between the insurer (or third party) and the provider. Moreover, the third parties are able to negotiate for a lower price than in the private market because the insurers are bulk purchasers (Ron, Abel-Smith and Tamburi, 1990, p.54). Thus, the fee schedule under an insurance system has somewhat limited the arbitrary price discrimination as applied now in several countries, for instance, France and Switzerland. On the other hand, in the early period after health insurance was introduced in 1939, doctors in New Zealand continued to charge the usual fees by accepting the balance and/or the "tip" from the patients (Lovel-Smith, J.B., 1966). In the same way, patients in the USA (Medicaid programme between 1966-76) had to pay the doctors out of their own pockets for the additional cost above the standard fee schedule of the state (Starr, P., 1982). Likewise, in Canada prior to 1984, the "over-billing" or "extra-billing" practice which allowed the doctor to charge the patient above the negotiated fee was very common. At the present time, the U.K., Denmark and the Netherlands are using fee-for-service as an additional way of paying their GPs, but only on a small scale in the U.K. The United States, Canada, Japan, France, Switzerland and Germany are paying their out-of-hospital

doctors by the fee-for-service method, although the cost-sharing and cost containment measures are different. The fee-for-service payment system, operating in different social settings, is described below:-

A. Operational experiences.

Several countries have applied fee-for-service in various degrees from the major (or the only) mode of payment to the supplementary mode. The reason for adopting and/or continuing to use the fee-for-service method varies. In general, it is based on the history of the medical development of the country which has determined how strong the organized profession is. The medical association in most countries has opted for this particular method of payment.

In practice, there are five different methods of paying the doctor by fee-for-service under health insurance. The first method is a reimbursement to the patient by the sickness fund at standard rates when the fee is set by doctor. The second method is a reimbursement of the negotiated fee. The third method is that of the insurer paying the doctor directly at the negotiated fee without any co-payment from the patient. Lastly, is the system which the doctor not only receives payment from the insurer but also co-payment from the patient. The following are experiences of some countries which apply the fee-for-service system as a method of paying their GP.

1. **Reimbursement at standard rates of which doctor sets the fee.** Under this method, the patient pays fee-for-service at rates set by the doctor and is reimbursed by the insurer. Usually, the charges are set by the doctor according to his market position. Under this method, the patient has to pay direct to the doctor in full at the point of services. The insurer has less control on cost because the doctor sets the prices. However, the insurer tries to contain health care cost and the doctor's practice indirectly with some sets of rules on the reimbursement amounts which the patient will receive. The patient would receive a total or partial reimbursement after his/her medical bills are sent to the insurer, checked and a calculation made on the basis of the rules. At the end, the reimbursement amounts would theoretically discourage the patient from going to the partial reimbursable doctor and encourage use of the fully reimbursable doctor. In practice, however, a famous doctor can still receive high rates and the patient has to pay the co-payment. This arrangement is found in the Medicare and Medicaid Programmes of the USA.

The USA has a long established fee-for-service system as the predominant method of paying the doctor under free market medicine. The USA developed the HMO type of insurance with the capitation or salary method of paying the doctor in the period between the two world wars, but only to a limited extent. By contrast, many European countries were used to paying the doctor by salary or capitation methods under the HMO form of health insurance with the high coverage of one-third to one-

half of the population in some countries by 1933 (Abel-Smith, B., 1988). In addition, neither the voluntary insurance movement, nor the insurance of doctor services had developed in the USA to as full an extent as in the early period in Europe. Above all, the American Medical Association has successfully stopped attempts to create national health insurance several times. For decades, doctors in the USA charge the patient according to the "usual, customarily and reasonable" fees. Today, they are still free to establish their own fee schedules. Changing from private financing to social financing by third party payment under Medicare, Medicaid or private insurance was not able to limit their ability to charge. Patients still have to pay a substantial amount above the fee level reimbursed by these funds (Starr, P., 1982).

2. **Reimbursement at the negotiated fee** . This method of payment also involves a direct payment to the doctor in full by the patient at the point of services, but the patient may receive a full or partial refund from the insurer. The fundamental difference between this method and the previous method is that a standard fee-for-services here is set (usually at below the market prices) as a result of the negotiation between the insurer and the provider. In this system, the doctor charges the patient in full and the doctor will not receive any money from the insurer. Similar to the previous system, it seems that the insurer has lost control over the doctor's practice. However, in fact, the amount of

reimbursable cost to the patient is the indirect factor to control the doctor's behaviour. France provides an example of this method.

France is an example of a country with a strong medical profession opposed to state regulated medicine. Also, France has a long development of the mutual benefit which better off employees formed amongst themselves. The voluntary health insurance movement in France tended to be restricted to cash benefits. The reimbursement system was adopted when compulsory health insurance developed later (Abel-Smith, 1972). When the first compulsory health insurance Act was introduced in 1928, doctors in France objected to its proposals for the payment by a third party and not by the patient. They advocated "liberal medicine" which was based on four principles - the patient's freedom to choose his doctor; the doctor's freedom to prescribe treatment; medical confidentiality; and direct payment of medical fees from the patient to the doctor (Bridgman, R.F., 1971, p.332). As a result, the Act was amended drastically. When the scheme was introduced in 1930, the medical profession maintained their clinical freedom to charge directly as in the private market (Hogarth, J., 1963, p.132). Their autonomy has remained unchanged until now. At present, they can choose to work as full contractors or partial contractors with the statutory health insurances. The former are obliged to accept the official fee schedule while the latter can charge what they wish (the extra has to be paid by the patient). Patients have to pay the full fees to the

doctors and can be refunded from the funds for around 70-80 per cent of what they have paid (Lacronique, J., 1984). Finally the patient has to pay the co-payment (or "ticket moderateur") about 20-30% of the total bill. Recently, according to Cullis and West (1985), the French government has exerted more control on the medical profession. Since the 1960 reform and the strike by doctors in the Paris area, fees are now generally set by negotiation between the insurers and the medical profession rather than privately between doctor and patient. Also, the rate of reimbursement has varied for some services to encourage a different pattern of service. Services are divided into several sub-categories called the "Nomenclature" of item-of-services which serves as a tariff framework. Each of the items, also, is assigned an attached flexible "code letter" depending on how complicated the services are. In addition, a coefficient of each code letter is assigned. Then, the monetary values are worked out according to the code letters and the coefficient of service (Glaser, W., 1970). However, the continuing freeze in doctors' fees and proposals for reform of the tariffs led to a large and strong doctor demonstration in 1981 (Lacronique, J., 1984).

3. The insurer pays the doctor directly at the negotiated fee without co-payment from the patient. Under this system, as operates in Canada and Germany, the full cost is paid directly by the insurer. Patients are not obligated to pay when visiting their GPs. Patients do not know the cost of their visit, nor are they aware of the economic consequences of

their health care consumption. However, this payment system brings greater control from the insurer over the doctor's activity and remuneration (Sandier, S., 1989). Examples of countries using this system are Denmark (for three quarters of the doctor's remuneration), Canada (Quebec), Germany and Australia. The following are some operational experiences of Canada ,Germany and Australia.

Canada has been successful in implementing a national health service system financed largely by taxation. Most doctors continued to be paid on a fee-for-service basis. Previously, there was a practice of "over-billing" or "extra billing" which allowed the doctor to charge the patient over and above the negotiated fee scale. However, regardless of a 25 days doctors' strike in Ontario, the over-billing was finally abolished nationwide by the enactment of the Canada Health Acts of 1984. In practice, in Quebec and British Columbia the over-billing had already been banned prior to 1984 (Stevenson, Williams and Vayda, 1988). Today, a doctor's source of income is almost entirely fee-for-service payments from the provincial public insurer. The patient is not required to pay a fee or make any other financial contribution (Evans, R.G., 1989). However, a provincial variation is allowed for the level of fees.

In Germany, the fee-for-service payment is the only method used for paying GPs and specialists out of hospital. Historically, German doctors under the voluntary sickness

insurance movement were paid mainly by capitation under the control of a consumer organization. After the 1883 Insurance Act was compulsorily extended to cover a section of the population, the medical profession not only fought against lay control but also fought against capitation and salary. The Medical Association was set up in 1900 and went on strike in 1903 to negotiate higher levels of payment and the right for every doctor to participate in the insurance plan. Later on, the method of payment was placed on the agenda for negotiation in favour of fee-for-service. There are two possible explanations given by Abel-Smith (1963); to make it easier to negotiate for higher remuneration; and to allow the younger and less established doctors to attract patients from the well established practitioner. In the end, the German doctors obtained the fee-for-service system of payment for which they fought (Abel-Smith, 1963). Nowadays, doctors under the statutory schemes are paid on the basis of the official tariffs. The German system is simpler to that of France. After the list of services is sent in, the "point" of each item is quantified. This schedule of services and relative values of each item are negotiated nationally but the monetary value per point is now determined by the provincial budget for doctor services. The money received from sick funds is "pooled" and reallocated to the individual doctor every three months. Payment is by the fee-for-service method according to the aggregated value of points. At the end of each day, doctors do not know for sure how much they are going to be paid for each act. Above all, the cash value per point which

each doctor received from the local Association of Sick Fund Doctors (K.V.) is not necessarily the same as the negotiated scale. In order to contain the cost, the total budget is fixed or sometimes called "capping". If the total services provided exceed the total budget, the monetary value per point is reduced accordingly (Eichhorn, S., 1984).

The paying of GP services under the Australian Medicare scheme is not much different from Canada and Germany for there is no co-payment from the patient if the doctor chooses to bulk-bill. There are official fees namely the "Medical Benefit Schedule" attached to the Health Insurance Acts which is used to determine the Medicare rebate of 85 per cent of the services performed outside hospital. The GP can choose between "bulk-billing" or charging the patient according to the full official fees. Under bulk-billing, the doctor receives the 85 per cent rebate directly from the Medicare scheme but forgoes the 15 per cent from the patient. The second option is that the doctor can collect the full amount of the fee from the patient and send the patient to Medicare for the rebate. Most of the doctors in Australia choose to bulk-bill because it simplifies the paper work and eliminates the risk of bad debts (Logan, J., Green, D.G. and Woodfield, A., 1989).

4. The system in which the doctor not only receives payment direct from the insurer but also co-payment from the patient. The doctor's activity under this payment system is to some extent controlled by the insurer. In addition, the

demand for GP visits will theoretically be kept down due to cost-sharing from the patient. Some experiences of this payment system is to be found in New Zealand, Japan and South Korea.

Outside Europe and Northern America, New Zealand launched universal coverage for health services in 1939. There are no private insurance carriers involved. The health service system is generally financed by general taxation. Again, at the beginning of the scheme doctors went on strike in order to exclude the higher income groups and maternity benefits. Later, after a long term of negotiation between the New Zealand branch of the British Medical Association (BMA) and the government, the fee-for-service payment method came into being. Capitation and salary were proposed by the government. Several mechanisms of fee-for-services such as payment through a third party, and direct payment by the patient including cost-sharing were also considered. Meanwhile, the system allowed doctors to practice both capitation and fee-for-service at the same time. In other words, a patient under a capitation scheme can visit any other doctor on a fee-for-service system. As the result, the income of a GP increased sharply and much more than that of the specialist. The system of what were originally "token" co-payments from the patient also operated. In the end, the capitation system has been eliminated. Only the reimbursement scheme of direct fee-for-service payment from patient to doctor has been adopted. The desire of the medical profession who advocated the

preservation of the doctor-patient relationship to the fullest extent has been met (Lovel-Smith, J.B., 1966).

There is substantial co-payment from the patient at the time of use of the GP services to deter unnecessary visits. Bernstein, A.H. (1972, p.109) stressed that the co-payment requirement is important in New Zealand for reducing the government's obligation and for increasing the patient's cost-awareness. Bernstein also concluded that the New Zealand experience demonstrated that where the co-payment is very low, patients might abuse the system by over-utilising it. In contrast, Maynard, A. (1990, p.237) argued that an effect of significant co-payment in the primary care sector is a reduction in use, particularly by poorer groups like Maoris and Islanders. However, the issue of paying the doctor to reduce inequality and generate greater efficiency will be reviewed under a reform of the health care system in 1990 towards more control instead of decentralization and competition.

The first health insurance Law in Japan was enacted in 1926 and expanded to attain a universal coverage in 1961 (Ikegami, N., 1989, p.1). South Korea implemented her first health insurance Law in 1977 and aimed at universal coverage in 1989. The method of paying the GP by fee-for-service according to the German style was imitated in both countries. Japan had long developed her relationship with Germany since the official adoption of western medicine in 1871. Payment of

medical practice is based on a fee-for-service system, calculated by a "point system" similar to that of the German prototype (Hashimoto, M., 1984). Similar to Japan, South Korea has used a so-called "point-unit" method of fee-for-service since 1977 (Kwon, S., 1988). To some extent, Japan has been able to control supply by limiting the overall budget or "capping" like that of Germany. In addition, in Japan and South Korea a substantial co-payment from the patient at the time of the visit is implemented. Doctors in Japan and South Korea receive co-payment from their patients at the time of service and the remaining portion is paid directly by the insurer. In Japan, Sandier, S., (1989) reported that cost-sharing from the patient is relatively low at around 10-30 per cent in ambulatory care. On the other hand, Korea has not really managed to control the supply side. Rather, she relies on controlling the demand side by imposing extremely high co-insurance. The facts are that patients must pay 30 per cent of the fee in any out-patient clinic, and 55 per cent if they visit the out-patient department of a teaching hospital (Kwon, S., 1988, p.37).

B. Advantages.

1. **Free choice of the patient is preserved.** For each illness or during the course of illness the patient has a completely free choice to visit any doctor.
2. **The doctor's autonomy and clinical freedom is relatively high.** However, in most countries now there is some

interference from the insurer; such as, peer review, constraint from a budget limit and so on, to contain the overall cost of the scheme.

3. There is less abuse of health care by over-use from the patient in the reimbursement scheme. In this situation, as the patient pays the doctor directly, it creates cost consciousness at the point of consumption.

4. No under-investigation. There is a financial incentive to investigate the patient as the payment is based on each activity or each investigation. It is apparent especially when the third party is meeting the cost.

5. No excess of referrals. Many GPs would avoid referring their patient to the specialist because some of their income would be foregone. This would be because the patient may not come back to be treated by him again.

6. Well equipped surgeries. The doctor has the financial incentive to undertake the investigation himself. Therefore, it makes sense for him to install good equipment on the premises.

7. High courtesy and prompt service. Because good practices attract more patients, the doctors are very courteous and provide prompt service to earn more income. A doctor is supposed to be more attentive than if he were paid by a third party.

8. Good morale if fees are adequate. Fee-for-service is most favoured by doctors especially if fees are adequate because they lead to a higher income than other methods of payment.

9. **The doctor's income reflects work done.** The reward of paying doctor by fee-for-service under health insurance is related to the actual amount of work the doctor performs. A doctor will often be prepared to work long hours, do extra work and encourage patients to make repeat visits. As a result, doctors in Canada, Germany, France and New Zealand, to mention a few, obtained initially a higher income from fee-for-service under health insurance than in the pre-insurance period. This is because insurance eliminated the inability of the patient to pay.

C. Disadvantages.

1. **Lack of continuity of care.** In fee-for-service systems, the patient goes to visit any doctor he likes. Therefore, it is less likely to be a family doctor who knows all the medical history of an individual patient.

2. **No integration of services.** Usually, fee-for-service is mainly for curative services. To provide preventive measures in order to reduce some diseases in the future is not a major concern of a doctor because there is no financial incentive to do so. However, some countries such as the United Kingdom until recently paid the doctor to provide preventive services by fee-for-service. Overall, the medical care system, with predominated by the fee-for-service, fragments.

3. **Delay in seeking care.** Visiting a doctor may be postponed, if the patient has to collect a large sum of money

to pay the doctor. In the end, the poor are the ones who suffer most from this.

4. **Short consultation time.** Since rapid work leads to a high income, doctors tend to shorten their consultation time for each patient.

5. **Poor geographic distribution of medical services.** Particularly when compared with salary and capitation, doctors in a country with the fee-for-service system of payment tend to work according to market mechanisms. Doctors tend to work in rich areas rather than poor areas. In addition, there are several personal incentives to work in particular urban areas; such as, higher opportunity to keep up with professional practice, more affluent patients and opportunities to do private practices, better education for their children, etc.

6. **High cost of diagnostic tests.** The diagnostic test leads to more precise diagnosis and treatment. Usually, there is a separate fee for each diagnostic test under a fee-for-service system. Therefore, doctors use many diagnostic tests because the more diagnostic tests they use, the more they earn. Another reason is that they would like to gain a good reputation from precise treatment to attract more patients.

7. **High drug use.** In some countries with fee-for-service, such as Japan, South Korea and Taiwan, doctors also sell drugs and the volume of drugs used is high. The more drugs the doctor prescribes the more profit he will receive.

8. **High administrative cost for both doctor and insurer.** The doctor has to produce a record of the work for individual patients not just the number of visits but every single item

of service rendered. The amount of paper-work for the doctor to make a claim from the insurer or provide bills on which the patient can claim reimbursement is massive. Besides, the insurer has to review, analyse and make the payment according to each item of services.

9. **High total cost of care.** There are economic incentives for the doctor to over-prescribe and maximize the services rendered. Hence, the burden of the total cost of care which is falling on society, is high.

10. **Little continuing education and holiday for the doctor.** Because of the high competition in the profession, doctors must make themselves available for much of the time. Not working for continuing education or for a long holiday means a loss of income.

11. **Unpredictable cost.** The fee-for-service system leads to open-end expenditure. The insurers find that they are unable to predict and control the budget efficiently.

3. THE SALARY METHOD.

The salary method is a fixed payment for service rendered over a stated period of time, such as a year, or a month. It is the payment of the doctor for his time, regardless of the number of units of service provided or the number of persons cared for. The salary may be paid on a full-time or a part-

time basis. The salary level is based on the doctor's professional qualifications, his education, experience, skill, rank, job title, or other factors. The salary is usually associated with employment in an organisation or in a medical group rather than in an individual practice. It is generally confined to doctors working in clinics, health centres or group practices; for example, maternal and child care clinics in France, community health centres in Canada, etc. (Sandier, S., 1989).

Historically, sick clubs in many parts of the world have remunerated doctors on a salaried basis to persuade them to work in remote, sparsely-populated or poor areas of the country. In European countries, there is a long history of publicly employed salaried doctors to give service to the sick poor. France and the USA have provided occupational medical services for those who work in remote areas. Norway and Sweden from the seventeenth century and Russia from the nineteenth century have paid their doctors salaries for working in remote areas (Abel-Smith, 1963, pp.31-2).

Paying the doctor by salary as the predominant mode is to be found in the USSR, other Eastern European countries, and developing countries. Doctors in the USSR and many Eastern European countries are regarded as full-time state-salaried employees with low status in society and low pay. However, there has been a recent development in the Eastern bloc in the 1980s towards decentralization and privatization. Private

practices become legally allowed on a part-time basis while illegal part-time private practices are common. Medical care in Spain, Portugal and some developing countries (particularly in Latin American countries) is provided by part-time salaried doctors in the direct pattern of delivery of health service administered by the Ministry of Social Security (Roemer, M.I., 1987). Doctors are salaried under health insurance in Israel and some low-income countries of Africa and Southeast Asia (Abel-Smith, 1972).

A. Operational experiences.

Norway has had a system of district medical officers appointed by the national government for more than 350 years. They have a strong sense of pride in the tradition of the service. In 1979, there were more than 600 district medical officers working in 390 districts. These doctors are employed half-time in public health work and half-time in clinical practice. The public health segment of the work is paid for by salary from the national Ministry of Social Affairs. The clinical service is remunerated on a fee-for-service basis by the health insurance system in the same way as other GPs (or family doctors) are reimbursed. In practice, the district doctors spend more time in curative services than in public health service. If the patient requires a specialised service, he is usually referred to a salaried hospital specialist. If the patient wants to see a famous or a specific specialist, he can be referred to one in private practice which can be found

only in large cities. The salaried hospital doctor is allowed to spend up to six or seven hours per week in private practice (Roemer and Roemer, 1981, pp.173-216).

The salaried doctor in the USSR is rooted in the "Zemstvo" doctor working in the rural areas in nineteenth century Russia. After the Russian revolution, the system of the full-time salaried doctor was extended to cover the entire population (Abel-Smith, 1963, p.32). Despite a dramatic increase in the number of doctors and hospitals, the USSR kept the same level of allocation of the total national income to health at about 4 per cent of GNP per year for more than twenty years. However, with the health care reform under the "Perestroika" plan, the USSR expects to double its allocation to 8 per cent of GNP by the year 2000 (Khan, N., 1989). And yet, the distribution of doctors amongst the republics, and between urban and rural areas, has remained a problem. The incentive measures, for example, higher pay, better living conditions, automobiles, early retirement and so on, have not significantly altered the situation. Doctors' salaries and prestige vary according to experience, specialisation and nature of work. Private medical practice is not forbidden but rather discouraged. Thus, some form of bribes such as tipping or unofficial payments to the doctor are common. However, industrial enterprises often give bonuses of up to 40 per cent of doctors' salaries and some establishments pay them an extra month's salary. The average of a doctor's salary is less than that of an engineer (Raffel, N.K., 1984, pp.488-519). The

income from informal fees, such as the fee for a house call and the cost of a return-fare taxi in the course of official duties, rank the social status of the doctors as being equal to those of school teacher rather than above them as in most Western countries (Kaser, M., 1976, pp.64-5). Similarly, in Bulgaria a junior doctor's earnings are about half that of a bus driver (Searle, D. and Power, M., 1990).

The integrated health service (or ZOZ) in provincial Poland pays the doctor by the salaried method. Rural health stations and primary care centres are providing general ambulatory care by one or more doctors, aided by other health personnel. Polyclinic and out-patient departments of a hospital are providing specialised care on an ambulatory basis. After working 40 hours per week in the public medical system, the doctor is free to provide a private practice. He may see the patient at his own or the patient's home, but not in a public facility. Recently, medical cooperatives have been formed by groups of doctors to provide private services after their official hours of duty. A contributing factor for doctors to work in private practice is the relatively low salaries paid to doctors in the public system. In Poland, a top consultant's salary is equivalent to that of a cloakroom attendant (Sheldon, T., 1990, p.1033), which implied that a GP's salary would be even less than this. On average, the co-operative doctors' income from their part-time work is more than their salaries (Roemer and Roemer, 1981, pp.217-80).

In Latin American countries, a social security programme providing medical care was developed before the services of the Ministry of Public Health were well developed. Chile (1924) and Brazil(1934) are amongst 12 out of 20 countries in the region that established health insurance as part of social security, after World War II. During that time, the private medical market was not strong. Doctors were quite happy to work for full-time or part-time salaries as against the uncertain receipts of medical fees (Roemer, M.I., 1987). After some years of implementing the programme, the coverage of the programme was limited to a small percentage of the economically active population (with some exceptions in Cuba, Chile and Costa Rica). The emphasis of the service was on a curative basis. There was a problem of lack of coordination of medical care programmes amongst the multiple social security organizations serving different population groups and the ministry of public health. Moreover, the cost of medical care has been rising steeply, more than per capita income. Doctors were enjoying their prosperity from the rapid increase in their salaries (Roemer,M.I.,1973). What is more, their income rose sharply from fee-for-service payment in their private practices.

B. Advantages.

- 1. Costs are predictable.** The insurer can predict and control personnel costs. Thus, the prospective annual budget can be estimated and relied upon.

2. **Supervision by senior doctor.** The salaried senior doctors in the organisation are available to provide the supervision to maintain the minimum acceptable level of medical services, in both quality and quantity of care.

3. **Continuing education.** The doctor can leave the premises to attend continuing education without the penalty that he will lose income. In addition, the doctor can learn from his colleagues when working together.

4. **Emphasis on prevention.** If preventive medicine and curative medicine are under a unified organisation, it is possible to assign the salaried doctor and his team to place an emphasis on preventive services in the hope that this will reduce his curative work in the long run.

5. **Good premises.** Usually salaried doctors work in a large health centre, dispensary or clinic which is financed by the government or the insurer. Many health centres provide all preventive medicine such as immunization, family planning, nutrition, health education and so on, as well as curative practice with pathology tests, X-rays, dental care, etc.

6. **Encouraging team work.** The doctor has no constraints with competition as he does when paid by the fee-for-service method, so he can share experiences with his colleagues. Also, it is possible to take time off for leisure and a holiday without penalty.

7. **No incentive for unnecessary work.** There is no unnecessary work because the doctor has no incentive to do more work.

8. Guaranteed income. Salaried payment can be made attractive to a doctor because it can guarantee a stable income at an acceptable level, with regular work. Particularly in low income countries, the salaried doctor does not have to worry about the uncertain conditions of bad debt or unpaid bills from the poor. The financial burden falls on the enterprise, not on the salaried employee.

9. The salaried system provides for consistent services. There is no accident or bankruptcy occurring with large organizations which adopt a bureaucratic structure.

C. Disadvantages.

1. Lack of continuity of care. The patient can only see the doctor on duty who may not be the same as that originally consulted. In addition, the patient might feel it is an impersonal service because of this. An impersonal service is given because the doctor is loyal to the organisation or his boss (who would give him promotion or economic incentives) and not primarily, to the patient.

2. Long waiting time and delay of service. The doctor has no economic incentive to provide additional units of patient care. He, therefore, tends to work just above the minimum acceptable level or spend time doing the administrative work instead. The result can be delay in service and a long waiting time for the patient.

3. The total cost of care might be high. There is no economic incentive for doctors to monitor the cost of each

medical practice or the total cost of care. Furthermore, there is likely to be a long consultation time since there is no incentive to provide a quick service and to see more patients. This raises the cost.

4. **Excess referral.** There is no incentive to treat the patient by himself. In addition, the doctor does not know the patient very well so he may make excessive referrals to the specialist.

5. **Poor time keeping.** The doctor may arrive late and leave early, especially when the system allows him to practice privately during unofficial hours.

6. **Bribes and tipping.** When the level of income from salary is not sufficient to maintain a high social rank in the society, bribes and tipping are likely to occur.

7. **Cost may be uncontrollable.** Salaried payment could encourage the unionisation of doctors leading to an increase in their ability to bargain over the rate of pay. This could affect the insurers or government's inability to control health care costs through salaried payment.

4. THE CAPITATION METHOD.

Capitation is a method of paying the doctor by the number of persons "on his list" whether or not a service is actually rendered and regardless of the number or units of service rendered. This method of payment has long been used for paying the general practitioner (GP) in Germany, the United Kingdom,

Denmark, and the Netherlands, but at present Germany has abandoned this method. The best known application of this method is in the United Kingdom (Roemer, M.I., 1978, p.199). The Danish system was one of the earliest in Europe, and provided a model, when the framework of national health insurance was being worked out in Britain. The Dutch system is relatively recent, and was influenced by the British system (Hogarth, J., 1963, p.24). In Italy, from 1980 onwards all general practitioners are paid on a capitation basis to replace the fee-for-service method (Abel-Smith, B., 1984). Currently, it operates under some Health Maintenance Organisations in the USA. In the case of developing countries, it has recently been introduced in Costa Rica and Indonesia (Ron, Abel-Smith, B. and Tamburi, 1990).

Capitation payment has been applied to the service of general practitioners, including drugs, under some forms of health insurance. The need of the population to go to visit the specialist is too unpredictable to permit its application. Therefore, the specialists are remunerated by other methods (Roemer, M.I., 1962). In general, payment by capitation requires a health service system with a clear division between the general practitioner (or family doctor) and the specialist (Abel-Smith, 1976). Also, the system does not permit the patient to go to visit a specialist directly without referral from a GP. Meanwhile, the system assumes that the GP is working, to a considerable extent, independently with less interference with his clinical freedom from the insurer.

A. Operational experiences.

The friendly societies in Britain have paid their doctors by the capitation payment method since the nineteenth century. The reason for adopting this method by a number of the mutual aid organisations was because of its simplified budgeting and administration. In addition, it enabled them to predict and control their expenditure (Abel-Smith, 1972). In fact, during the course of preparation for national health insurance in 1911 the issue of the method of paying the doctor was not a key issue for the British Medical Association (BMA). Doctors were freed from the lay control of the previous friendly societies and "statutory insurance committees" were set up. Meanwhile, two experiments of fee-for-service payment were undertaken in Manchester and Salford but the Commissioners of 1926 reported unfavourably on the system (Abel-Smith, 1963). Likewise, during the creation of the National Health Service in 1948 the BMA preferred capitation to the bureaucratised salaried system that it believed was being planned by a Labour government (Glaser, W.A., 1970, p.82). In 1989, the total of 31,071 GPs in The United Kingdom are independent contractors under contract with 90 family practitioner committees (FPCs). GPs are remunerated from the NHS through a combination of capitation fees, allowances (such as basic practice allowance, designated area allowance, group practice allowance, seniority allowance and so on), and (until recently) fee-for-service for preventive medicine (Review Body on Doctors' and Dentists' Remuneration, 1991). The proportion of the earnings from the

NHS varies between GPs. On average, the capitation fee accounts for about 55% of the NHS earnings, while fee-for-services, and various practice allowances account for 45%. GPs can provide private practice. In addition, they can be a medical adviser for an organization, do occupational health work, provide deputising services for colleagues or work part-time in a hospital. The average GP receives about 6 per cent of gross income from private practice (Schulz, R. and Harrison, S., 1986). GPs have unlimited financial control over their diagnosis and treatment though the hospital and community health service parts of the NHS (holding about 75% of the total NHS budget) are controlled by cash limits. Nevertheless, the government proposes that after April 1991 that GP groups with at least 9,000 patients should be budget holders and controlled by cash limits. The Regional Health Authority will allocate the cash limited budget to the GPs while the FPC will continue to hold the GPs's contracts and be responsible for monitoring expenditure against the budget (Working for Patients, 1989).

Denmark had a long history of voluntary sickness funds for the working class. The general practitioner and the specialist in Denmark each have clearly defined roles. The GP provides mainly the family medical service traditionally practised more consistently than in any other country (Hogart, J. 1963, p.400). The Danish health insurance scheme offered a choice for GPs between two different methods of remuneration. They were payment based mainly on capitation,

and payment based exclusively on fee-for-service. In practice, the capitation was widely used in towns and fee-for-service in country areas. Also, the older doctors tended to prefer the capitation system and the younger ones the fee-for-service method. In general, the rate of remuneration is adjusted twice yearly according to the retail price index (Hogarth, 1963). At the end of 1979, there were 2,700 GPs and 1,900 specialists in Denmark. The area of approximately 500 islands of the kingdom of Denmark does not allow provision for full-time private practices in most disciplines (including the GP).

As far as the rights of the patient are concerned, they can choose to be insured by one of two insurance groups. The group 1 patients are covered for all medical expenses and have to be registered with one particular GP. They have no direct access to the specialist without being referred by their GPs. The group 2 patients are not obliged to be registered with any particular doctor, nor do they need to be referred by the GP to see a specialist. However, they have to pay their GPs by fee-for-service (according to a standard fee scale issued by the Danish Medical Association) and obtain full reimbursement from their sickness fund (Hogart, 1963, p.396). In 1979, group 1 patients accounted for around 93% of the population and the remaining 7% belonged to group 2 (Sondergaard, W. and Krasnik, A., 1984, pp.153-96).

Similar to that of the U.K. and Denmark, the historical development of the Dutch health insurance system emerged from

the mutual aid of the working class in the nineteenth century. However, the sickness funds in the Netherlands were often based on the co-operative principle. The payment system for the "contracted doctor" was fee-for-service until 1906. After 1906 the payment to the GP was changed to a salary. However, around 1912, a group of doctors proposed payment by the capitation system. As a result, the capitation system was introduced as an experiment.

Parallel to the sickness funds administered by the insured persons themselves, doctor's funds or "sick clubs" were set up in the nineteenth century to arm doctors against the risk of uncertainty of income (Glaser, W., 1970, p.10). In addition, doctors played a leading role to set up these funds to have inside control of their policy (Abel-Smith, B., 1988, p.697). The insured patients paid contributions to the doctors' fund, on a capitation basis. In the beginning of the twentieth century the Dutch Medical Association (KNMG) set up the institution of "Society Sickness Funds" which replaced the previous doctors' funds and the insured persons were represented on the boards. Afterwards, strong conflicts between the KNMG and the mutual sickness funds of the working class occurred from time to time. When the Sickness Funds Decree of November 1941 came into operation (Hogarth, 1963, p.442), the voluntary form continued to exist. In 1947, the benefits and limits of the compulsory and voluntary sickness insurance were set at the same level. It was not until 1964 that both systems were unified. In 1988, 60% of the total

cost of health care was financed by compulsory health insurance, about 30% came from voluntary private health insurance, 5% came from general taxes and the remaining 5% was directly out of pocket (Lapre, R.M., 1988, p.22).

At the present time, GPs receive payment for services in two ways; a capitation fee for the insured person and fees-for-services for private patients. In addition, the fee for obstetric services is on a case basis. Direct access to the specialist without a referral card from the GP is prohibited (Tiddens, H.A. et al, 1984, pp.371-418). The public insurers will pay the specialists according to the number of patients referred by the GPs at a fixed amount of money (official tariff) per case per month. Moreover, for major operations, specialists are paid on a fee-for-service basis. There is also an official tariff for each operation (Abel-Smith, n.d., p.88).

B. Advantages.

1. **Flexibility.** The arrangement of health services provides for flexibility; clinics may open late. A doctor may offer home visits, or decide to accept installments from the patients or from insurers for the capitation fee. All of which may be different from his fellow doctor.

2. **Administrative simplicity.** The doctor need not produce complicated paperwork to claim from the insurer as under the fee-for-service method.

3. **Predictable cost.** Cost of care is predictable and controllable. The basis of calculation for total cost is also simple, based on the capitation fee multiplied by the total number of insured persons.

4. **Maintaining the doctor-patient relationship.** The GP is likely to develop his personal relationship with his client in the long term. This is because there is a financial incentive to have that person remain on his list.

5. **Continuity of care.** The patient has one family doctor to look after him continuously.

6. **Provide regular income and reduce the pressure of competition.** Doctors can get a certain amount of regular income from the number of persons in their lists. The pressure of competition amongst the profession for patients is less than in the fee-for-service method.

7. **Less abuse through over-treatment.** The capitation system does not provide special incentives for doctors to provide additional treatment. Therefore, the abuse through over treatment is minimal.

C. Disadvantages.

1. **Standards vary and are less well controlled.** Quality of services may differ markedly dependent on the personality

and qualifications of the GP. Standard setting is often a problem with the independent contractor.

2. **It may be troublesome for a patient to change his doctor.** Once the patient has registered with a doctor, in some countries, it is quite difficult to change the doctor until a certain period of time has elapsed, for example, three months, four months or more often, once a year. However, in the U.K., the patient is allowed to change the GP at any time. The administrative process may cause a delay, when compared to the fee-for-service method, before the patient can actually see the new GP.

3. **GPs lack additional incentives to treat the patients themselves.** Hence, their work may be at the least acceptable level and the referral of cases to specialists or to hospitals may be more than necessary. In addition, excessive prescribing might occur when GPs have no responsibility for the prescribed drug costs.

4. **There may be unnecessary visits.** The patient may visit the doctor for minor illness more than in the situation when he/she has to pay out of their own pocket at the point of service.

5. CONCLUSION.

Any payment system has some advantages as well as disadvantages, but some methods seem better than others. Fee-

for-service has dominated the system of payment especially in countries with free market oriented economies like the USA, Germany, Switzerland, Japan and Korea. Some market oriented countries, which tried to implement universal health coverage were faced with strong opposition from the medical professional and continued to pay their doctor by fee-for-service, for example Canada and New Zealand. The socialist government in France, to some extent, could nationalise some industries but had to compromise with the medical associations in favour of fee-for-service. The free choice of the patient and the doctor's autonomy are the strongest arguments for this method. By contrast, the strongest argument against this method are the discontinuity of care and high cost compared with other methods.

Salaried payment is used widely in countries which have a strong government able to provide health care out of taxation and able to control the medical profession. The example of the countries falling into this category are those of three groups. There are (1) the socialist countries for example; the USSR and their allied Eastern European countries and Cuba. (2) The countries with a less organized medical profession such as the Latin American countries. (3) The very poor countries where doctors agree to accept a stable income for instance; some Asian and African countries. Furthermore, district doctors in Sweden and hospital doctors in most Western Europe maintain their salaried tradition. The case for the salary is that it is simple and to some extent the cost

can be controlled. Though, the case against salaried method rests with the quality of care and the cost is not necessarily low when there is no system of controlling the cost and expensive technology being used.

Capitation is used in The U.K., the Netherlands, Denmark, on a small case in India and some Health Maintenance Organisation in the USA. Also, it is being tried out in Costa Rica and Indonesia. The reasons for adopting this system are based on tradition and familiarity as in the cases of the U.K., the Netherlands and Denmark. The strengths of the method are that it is simple, economical and maintains the doctor-patient relationship. However, the weaknesses of this method may be in the quality of care.

The reasons for adopting any method of payment vary. It depends on the political and economic background of the country, the ethical standard of the professional as well as the cooperation of the medical professions. The combination of several methods seems to be an attractive option. As in the U.K., capitation is paid for curative medicine while fee-for-service was used for preventive and promotive medicine. Costa Rica pays capitation for curative, and salary for preventive medicine. However, a pilot project is needed before any major change.

CHAPTER 9

PAYING THE HOSPITAL

1. INTRODUCTION

Total national health expenditure has grown rapidly in most industrialized countries within the last 20 years, particularly countries which are classified as market oriented economies and which provide medical care under some form of social insurance. The USA, in particular, spent the highest national per capita health expenditure in the world, amounted to \$2,051 per person in 1987 (OECD, 1990) which is approximately one hundred times the per capita expenditure on health services in developing countries (Sorkin, A.L., 1986)

Hospital expenditures have been well documented as being the largest item of total health care expenditures (Glaser, W.A., 1979, 1980a,b; Maxwell, R.J., 1981; Abel-Smith, B., 1984; Raffel, M.W. (ed), 1984; OECD, 1987). The reasons for this particularly high rising cost of hospital service in the market oriented economies are as follow;

1. There are more admissions due to the ageing of the population. Older people require more hospital care than younger people do.

2. In some countries, there is an oversupply of beds resulting from economic growth, urbanization and expansion of hospitals or the "development effect". This surplus of beds can cause longer stays in hospital and more admissions in order to keep a high occupancy rate. However, this trend is down in most Western European countries as a result of the implementation of some cost containment systems.

3. Higher wages are a major component in rising hospital costs. This is because hospital care is a labour intensive service.

4. There is inefficient practice and poor management in hospitals, for example identical medical examinations carried out by different departments.

5. The trend of using more sophisticated medical technology resulting from better science and technology being available.

6. There is a large increase in the number of doctors in most countries, despite some regional and specialty shortages, often associated with some form of over-prescription in order to maintain their high income.

7. In several developing countries, high hospital care cost caused by inefficient screening and poor referral system.

8. Some hospitals provide excessive services because of financial incentives attached to payment mechanisms.

2. METHOD OF HOSPITAL PAYMENT

The methods by which the hospitals are paid for services rendered is not only seen as one of the main causes for increasing hospital costs, but it can have a major influence on access and the quality of care. Moreover, the payment method within the overall limits still influences the allocation of resources for hospital services (OECD, 1987). The following are 2 descriptions of methods of paying the hospital.

A. DIRECT AND INDIRECT METHOD OF PAYMENT

1. THE DIRECT METHOD OF PAYMENT is the payment the insurance funds make direct to the hospital. Direct payment is often described as an expensive method, when compared to the indirect one, particularly when it is associated with malpractice from providers. This is because where insurance funds pay all hospital care cost, neither doctor nor patient is constrained by the patient's ability to pay. This situation is referred to as the third-party payment problem.

Many countries use a direct third party payment to the hospital without burdening the patient with out-of-pocket payments, for instance; the U.K., West-Germany, Japan and some Latin American Countries.

2. THE INDIRECT METHOD OF PAYMENT is the method by which the patient pays the medical provider and is reimbursed by the insurance fund.

Medical providers are pleased with the indirect method because no third-party is involved in the payment mechanism, which means less direct control from the sick fund. This method, therefore, is applied in countries with powerful medical associations, for example in France and Belgium. However, it is argued by several public authorities that patients should not be compelled to advance cash.

The advantage of the indirect method is seen as making the consumer cost-conscious and therefore discouraging unnecessary use of services (ambulatory services in particular). However, when this is applied to the in-patient services, because large amounts of money are involved, the sick funds often pay the hospital directly. The patient, however, still has to share costs to generate consumer awareness and reduce excessive demand, for example; 30% of the first thirty days of hospitalization as it applies in France. For many French patients, this co-payment is reimbursed by an extra mutual aid fund or for those with low incomes is covered by social assistance (Lacronique, J., 1984).

Based on the experiences of developing countries in Latin America in particular, which provide medical services under social insurance with both direct and indirect payment

methods, Zschock, D.K. (1986, pp.113-116) found that the three countries which primarily use direct payment (from the sick fund) to the hospital - Costa Rica, Mexico and Panama - allocate relatively larger shares of their GDP to the health sector, while the three countries using the indirect pattern - Argentina, Brazil and Uruguay - allocate a relatively smaller share of their GDP to the health sector. Moreover, his calculation for the cost of medical care in 11 Latin American countries is derived from the Basic Table of ILO (1981) which has strong evidence to support this argument. Eight countries using the direct method have a tendency to spend larger proportions of their social insurance receipts on medical care than do three countries that rely primarily on the indirect method.

B. RETROSPECTIVE AND PROSPECTIVE METHOD OF PAYMENT

Another way to classify the method of payment is by its retrospective or prospective nature.

1. THE RETROSPECTIVE PAYMENT METHOD is a method of cost-based reimbursement of health services. It means rendering the service to the patient and the insurer and/or the patient will pay the hospital after the fact (Herkimer Jr., A.G., 1978).

Historically, as earlier mentioned, medical service charges are not fixed before purchase. Medical providers may vary the price according to the income of the consumer.

However, currently, the trend is for standard medical service charges to be established prior to the rendering of service everywhere especially in a country with itemized charges of services in the hospital.

In the American experience under Medicare, Medicaid and the Blue Cross and Blue Shield before 1983, the U.S. government schemes and private insurance companies paid hospitals the cost incurred in delivering care to the beneficiaries. Without an overall limit, it is claimed that this unstructured method of payment encouraged rapid and continual increases in hospital expenditures.

However, the argument in favour of retrospective payment method is that it eliminates the risks of cost for third-party payers from hospital inflation or from other intangible costs.

2. THE PROSPECTIVE PAYMENT METHOD

In contrast to the retrospective method, the prospective payment method is a method of paying the hospital in which; firstly, the amount or rate of payment is established in advance for the coming year. And, secondly, hospitals are paid these amounts or rates regardless of the costs they actually incur (Dowling, W.L., 1987).

Dowling (1987) also notices that prospective payment clearly shifts some of the risk of costs for the third-party payer to hospitals, in contrast to retrospective payment where payers assume the risk for whatever a hospital spends.

Herkimer Jr.(1978) argued that this risk factor is only one element involved in prospective payment. He gave three basic knowledge requirements for setting rates of prospective payment; the true cost of services, competitor's prices and the amount of profit required to satisfy management.

Therefore, hospitals under the prospective system have been encouraged to provide care while ensuring quality for less than the set price. Clearly this method of payment provides incentives for a hospital to make cost-conscious decisions in contrast to retrospective reimbursement in which the hospital incentive is to expand and to provide more services for more people.

An attempt to find out whether prospective payments are more or less costly than retrospective methods was made by Glaser, W.A. (1978) by comparing Canada, France, Belgium, The Netherlands, West-Germany, Switzerland, Sweden, the U.K. with the USA. None of them but the USA used retrospective methods of paying providers under national health insurance. As a result, every country's fees usually rise at about the same rate as the consumer price index while the USA's Medicare fees have gone up faster. For the very high cost of health care in

USA in relation to other highly industrialized countries Abel-Smith concluded that

" ... any attempt to explain why the experiences of the United States is so different from that of Europe. Moreover, as one looks at trends and experiences throughout all highly industrialized nations - not just Europe but also Canada, Japan, and Australia - one is left asking the question, 'Who is the odd man out?'"

(Abel-Smith, B., 1985c, p.16)

Since 1983, to contain the sharp rise in the Medicare cost, the USA has changed the retrospective open-ended method of hospital payment into the reimbursement system based on the Diagnosis Related Groups (DRGs) prospective standard rate setting for all its inpatients.

Glaser (1978) concluded that an important aspect of a prospective payment system is that everyone knows the price in advance. All uncertainties are eliminated. Therefore, it reduces conflict among the parties involved.

3. UNITS OF HOSPITAL PAYMENT

Sick funds or sometimes government agencies pay hospitals under national health insurance by different methods. Paying hospitals can be done generally in four different ways. These units of payment are:

1. Global budget.
2. Daily charge.

3. Itemized charges for services.

4. Case payments.

These units of paying hospitals are described below with their advantages and disadvantages.

A. Global budget.

Global budget means the allocation of a block sum of money to an institution, service or department for usually a year. This block sum should be used by management to cover the whole cost of administering and financing services falling within the ambit of the department or institution. In the hospital setting, a block sum of money could be allocated to hospitals and the management of such hospitals, i.e. boards and administrators would have the responsibility to decide how best to allocate the funds within the institution (Levy, V.M., 1985).

This type of payment is mainly used when government gives budgets to the hospitals which may be owned by government at national or at local levels. Financing of hospital care generally comes from taxation. This method reflects a different degree of commitment of the state to provide health care facilities to its people. It varies from nearly full support from the government to hospitals as in the U.K., Denmark, Sweden, Norway, Finland and Canada, to support only for the capital cost of hospitals as in West-Germany.

a). Operational experiences

In Britain, the NHS spent 85% in 1987 from general taxation; 11% from the NHS contribution paid weekly by employees with National Insurance Contributions; and the remaining 4% from patients' charges and the sales of surplus property and land (DHSS, 1988). Hospitals in Britain receive over half of the NHS budget and until recently this proportion has been increasing. Between 1977/78 and 1989/90, the government of the U.K. allocated resources geographically on the basis of needs on a formular laid down by the Resource Allocation Working Party (RAWP). Needs were measured in terms of population and adjusted by age and sex structure. Standardized Mortality Rates (SMRs) were used as a key determinant to reflect morbidity. The expense of training medical students and the expense of providing high cost services in London and at regional level were also included. Moreover, the British government imposed so-called "cash limits" regardless of future inflation and other uncertainties in order to contain costs (Mays, N. and Bevan, G., 1987).

From 1990/91, financing hospital services in the U.K. is to be based on the "internal market" strategy as proposed in the government White Paper "Working for the Patient" (1989). The U.K. government believes that it would encourage competition between hospitals and more efficient budget allocation. From 1 April 1991, some hospitals in the U.K. will be operated as a self-governing hospital under NHS Hospital

Trusts. In this case, the main sources of the self-governing hospital revenue will be from the services as specified in contracts with Health Authorities. The other sources of the self-governing hospital revenue will be obtained from services they sell to GP budget holders, private patients, private insurance companies, private hospitals, employers and other NHS Hospital Trusts.

In Canada, it has become customary to pay hospitals on a "global budget" basis. This means that hospitals will receive regular funds for providing services based on a precalculated budget. After Canada launched the universal hospital insurance system in the late 1960's, the Canadian government (although it had never used the retrospective payment method) found that hospital expenditures had been rising steadily and thus began to contain its cost. At the beginning of the hospital insurance programme the federal government shared roughly fifty percent of the hospital expenditure. Negotiations between federal and provincial governments were begun so that the system of funding from the federal government could be brought under stronger control and replaced by a block grant. Later on the federal government decentralized control and handed the ability to collect taxes over to the provinces. Now the provincial government became responsible for most of their own hospital costs within their local taxes and share of federal taxes. At the early stages of hospital insurance, the government payer controlled individual hospital expenditures by line-by-line budget review. Afterwards realizing that the

line item budget caused inefficiency, the government shifted from line item budgets to global budgets. This means that instead of limiting individual input costs the government limits total costs by the global budget system. However, some provincial governments still find the information of line-by-line budget useful to help in calculating the hospital's total cost (Hatcher, G.H. et al, 1984). Canada has been relatively successful in holding down the cost of hospital care since the late 1960's (Crichton, A., 1984). Similar to the cash limit principle applied in the U.K., the Canadian government contains its hospital costs by applying a ceiling to the global budget (Filochowski, J., 1983).

Hospital financing system in West-Germany can be classified into two main categories: the capital account (or investment cost) and current account (or operating cost). The investment costs of hospitals in West-Germany under the "Laender" hospital plan between 1973-1985 were fully financed by public funds out of taxation, whereas operating costs are covered fully by cost reimbursement from a sick fund and/or by the patients. Originally, the federal government was to finance about one-third of the investment cost leaving two-thirds to be paid by the provinces ("Laender"). In practice, the federal subsidy decreased to about 16% by 1983 and finally withdrew its subsidy in 1985 (Altenstetter, C., 1986). In 1985, the provinces financed about 10% of hospital investment costs (Neubauer, G. and Unterhuber, H., 1985). Short term capital goods were financed by lump sum grants, which were

calculated according to the number of beds and the age of the hospital. These grants prevented the reduction of excess capacity because they were bound to the number of beds. Moreover, long-term hospital capital planning was not based on rational planning but on competition for state subsidies and lobbyism (Neubauer, G. and Unterhuber, H., 1985).

Because of the autonomous position of the provinces in West Germany, each province has had its own structure and plan of hospitals which is comparable only partially with those of other states. However, the plan of individual hospitals must fit into the framework of the regional hospital plan. Hospitals cannot get money from the state to finance depreciation, to buy or lease equipment (for an existing hospital), or to finance the investment cost for a newly planned hospital if they are not included in the regional hospital plan (Eichhorn, S., 1984). In addition, Neubauer, G. and Unterhuber, H., (1985, p.165) argued that the nature of state financed capital costs led to an over-capitalization or a false economy. However, hospitals which are not enrolled in the state hospital plan can also include depreciation and interest rates from capital user costs in their operating costs, as long as they do not exceed those of a comparable, publicly subsidized hospital (Abel-Smith (ed), n.d.).

b) Advantages

1. Predictable budget. It is useful and convenient to calculate the next year's prospective budget. The hospital budget under the National Health Services of Britain is in this category. Recently, the RAWP system has been used to allocate the resources of the NHS to Hospital and Community Health Services. Hospital and community health services in England spent about 75% of the NHS budget. It is found that over 50% of the NHS budget is spent on running the hospital alone. (Allen, D., 1984)

2. Accurate budgeting and ease to control within its limit. Canada and Britain set a spending target for the year to come which has to be adhered to. In Ontario province of Canada, for example, it has been regularly given budget increases slightly below the inflation rate since it has adopted a system of global budgeting for hospitals. Hospital services in Montreal have also been cut by 6% in 1981 and 1982. Similarly, the British system of cash limits in public expenditure including hospital services are an accurate budget in money terms. It is seen as one of the useful methods to control over high spending hospitals.

3. Can enforce a fair distribution of funding to hospital and make it more equitable. The distribution of hospital revenue under the "Crossman Formula" in Britain during 1971-1975 was an attempt to remove regional

inequalities in the hospital services within 10 years. Later on, a revised method of allocation was worked out by the Resource Allocation Working Party (RAWP).

4. Built in incentives for hospitals to increase efficiency. Global budgeting encourages efficiency and cost saving for hospitals. In a hospital, the unused funds or the surplus achieved through efficiency and cost saving may be channelled into new services or programmes when the need arises.

5. Increased cost-consciousness of providers. Hospital service providers including health administrators and doctors decide how funds are to be allocated within their department or institution. Therefore, the service providers are encouraged to exercise managerial skill to reduce expenditure by using more efficient working methods.

6. Administrative simplicity. It is recognised that the administrative work under global budgeting is quite simple. In Canada, after the preparation of the budget, the statutory authority allocates a certain amount of money to the hospital, and leaves the management to decide how it is to be appropriated departmentally. It saves time and paper work when compared to the reimbursement by case, by unit of service, or by inclusive daily charge.

c) Disadvantages

There are a number of disadvantages inherent in global budgeting. These include:

1. **Lack of information on individual patient and procedural costs.** Records are kept on the previous years performance of each hospital and budgets are allocated accordingly. Similarly each hospital may keep records of each department and allocate a budget direct to each department unit. Although some countries, for example Canada, may use the more detailed line item budget to help in allocating resources to hospitals, it is still crude and does not provide information on individual patient costs. Under the global budget, it is difficult to work out the cost of an individual patient in relation to his/her disease. Also, there is no information on the cost of a particular procedure.

2. **It needs good reporting and information systems.** In many countries, the incompleteness of reporting and information systems of hospital services tends to be a major problem for the better allocation of resources. Global budgeting relies on information support to help allocate budgets which have to be accurate one year in advance. Otherwise, an organization, group or individuals that are more powerful and more articulate may win a larger share of funds. In addition, lack of information may facilitate the disguising of poor estimation and financial mismanagement.

3. No incentive for individual doctor. The global budget fits well with the salaried structure because the hospital needs to calculate and fix the amount of money to be used in the coming year. The hospital finds the other methods of paying the doctor cannot be easily controlled and are not appropriate under the fixed budget system. Doctors in many societies tend to avoid the salaried method of payment and welcome fee-for-service methods in particular. The incentive which is achieved through efficiency and cost saving is a direct benefit for the hospital not for the individual doctor. Doctors may try to find incentives in his own ways, for example; spending their official time running their private clinics as has happened in many Latin American Countries; or creating a long waiting list as in the U.K.

4. Hospitals get an incentive for underserving. Under global budgeting, hospitals cannot obtain additional money by admitting more patients, prolonging stays, extending wards, or generating additional services. In fact, the hospitals tend to cut down their services both in terms of quality and quantity. Hospitals in Canada, during 1980-81, claimed that they were underfunded, the result being their services have declined in quality (Glaser, W.A., 1987). Also several of the British hospitals are closing down units: they also complain that they are underfunded. Hospitals in Britain have no incentive to reduce the length of stay and thus admit further patients from the waiting list. As a result, there are a long waiting list in British hospitals (particularly when compared with the

scheme which is funding the hospital by the Diagnosis Related Group method in the USA).

B. Daily charge.

Daily charges means the allocation of money to the hospitals per day of in-patient care. Under the agreement between hospitals and the organized payers, the fixed price per patient day or a standard daily charge for all patients is agreed. In some cases, the hospital might decide its charges; the patients and sick funds have to pay accordingly. By contrast, in some cases, the organized payer might decide its payment, and the hospital must accept it.

The inclusive daily charge can be classified as a standard payment per patient day for all patients or there can be different rates varying by specialty or by department. If the doctors are salaried, the doctors' salaries are always included but in some cases the addition of separate rates for the principal clinical services are required. If the doctors are not salaried, the doctors's fees are not included in the daily charge. However, regardless of the different details of costing the per diem for hospitalized patients in different communities, the prospective rate-setting of the standard daily charge needs to be set in advance.

a) Operational experiences

Hospitals in West-Germany, between 1973-1985 were reimbursed their operating cost in full from the sickness fund in the form of a global comprehensive daily rate or at a lump sum daily rate identical for both insured and non-insured patients. A global comprehensive daily rate is charged for each day an insured patient is hospitalized. This rate covers all necessary and economically justified operating costs for all services. From 1986, a flexible and prospective hospital budget was introduced calculated on the anticipated occupancy rate in the forthcoming year. Rates fall into three categories: general rates; special rates; and, rates for specialized treatment and surgery. All rates involved a uniform sum per day for the entire duration of hospital stay. Instead of a general rate, special rates can be set for different patient groups. If some services are delivered on a semi-out-patient basis, different rates will have to be set. Rates for specialized treatment and surgery, for example, cancer treatment, thorax surgery, heart and other transplants etc., are not included in the prospective hospital budget nor are they subjected to adjustment (Altenstetter, C., 1986). For additional services, for example; single room, television, extra food, treatment by a doctor of one's free choice, etc., patients are charged directly.

The daily rate to be paid for the insured person by the sickness fund is negotiated with regional groups of hospitals

or with the individual hospital. In Bavaria, for example, hospital rates are directly negotiated for each of the over 500 hospitals based on a complex hospital accounting form. Hospitals in any one region are grouped into 20 categories, and expenditures are compared only with those of hospitals in the same group in the same region (Altenstetter, C., 1986). However, the state official has the final determination of the standard daily rate. Neubauer, G. and Unterhuber, H., (1985, p.165) expressed the view that rate setting in Germany was a matter of political decision-making which the state authorities tended to decide in favour of the hospitals rather than the health insurance organizations.

Each patient has to have a referral to a hospital from a doctor and may select a hospital of his/her choice, but if the per diem costs are higher than those of a comparable hospital nearby, the patient will run the risk of paying the difference (Brennecke, R., 1986). In addition, these official rates of charge are applied to the private patient also. But the private non-insured person has to pay out-of-the pocket.

The inclusive daily charge, as applied in France before 1984 called "prix de journee" was applied at different rates for each patient according to specialty or by principal clinical services. The complicated prix de journee in France for several decades set different rates for different classes of patients. Eventually, standard daily charges with different rates in each hospital were set for everyone. Furthermore,

price discrimination by the size and function of each hospital was established. Hospitals with more clinical complexity might have a higher rate (Glaser, W.A., 1987).

Although France has made many experiments in alternative ways of paying hospitals, the prix de journee has been seen as the most popular one. However, because of the increase in the complexity of costing and the inaccuracy of data, from 1985 onward the prix de journee was replaced by the global budget for the public hospitals and the non-profit hospitals, now assimilated into the public service. But for those who do not belong to a French sickness fund, there is still the traditional system of the daily charge.

To pay hospitals by the prix de journee, the sick fund managers and the private hospitals negotiated the daily charge annually, while the daily charge for public hospital inpatients was fixed every year by a regulation of the national Ministry of Health. It was quite common to find that the prix de journee in a public hospital was higher than the prix de journee in a private clinic because of the differences in their complexity. The prix de journee in public hospital included the costs of basic housing, nursing, administration, food, basic medical supplies, the operating room and drugs. A prix de journee in private practice excluded the cost of the operating room and a part of drug costs. The fee for the operating room, the flat rate of cost-sharing for drug cost, and other fees for services were sent out directly to the

sickness fund to which the patient belonged. Also, the amortization and interest charges for investment costs were allowed to be included in the prix de journee both in public and private hospitals. France is a country that has an efficient "carte sanitaire" (health map) or a National Plan of medical facilities to control the expansion of medical facilities including beds, buildings, and heavy equipment. However, the expansion of medical facilities and equipment purchase have to be screened according to the carte sanitaire. Also, when an attempt was made to compare the cost per admission between the two sectors for the same condition of sickness it was not clearly higher in one sector than the other. In general, France is a good example of the coordination between public and private hospitals and the division of labour between them.

Free choice of hospital is a fundamental principle and practice in the French health care system as well as free choice of doctor. This was a result for which the French medical professions had fought for, to retain their status and avoid tight control from the state. The patient has the right to choose to go to a public hospital or to a licensed nonprofit or for-profit private hospital. Patients can be treated and covered in full under national health insurance, but in French tradition, patients have to pay out-of pocket 30% co-payment for the first thirty days of the hospitalization. In most cases, this co-payment is reimbursed

by an extra mutual-aid fund or is covered by a public sick fund reserved for low-income persons (Lacronique, J., 1984).

b) Advantages

1. Predictable budgeting. The system of the daily charge can fit in well with the prospective budgeting mechanism. The hospital can project the total number of patient-days for the next year by using past experience and calculate the demographic changes. The predicted budget of the next year is based on the total projected number of patient-days multiplied by the standard daily charge of that coming year which has to be set in advance at the beginning of the year.

2. Simple for calculation. The daily charge is simply set by dividing the expected total budget for the forthcoming year by the expected total number of patient-days. After the standard daily charges are fixed by the hospital and organized payer in negotiation (or by regulation at the start of the year) the result is clear that a hospital will be paid by that hospital's standard daily charge multiplied by the number of patient-days over a period of time. Because the daily charge is an average cost for all patients, it saves time not to have to calculate the detailed cost of each individual patient.

3. Administrative simplicity. When compared with itemized charges for services, the daily charge is simpler to administer. The hospital can send the aggregated bills of the

patients to their sick funds and be reimbursed at once. The sick fund can also send money to the hospital account quickly without taking time to scrutinize each patient's claim form. The Netherlands developed a computerized programme and made this reimbursement method very efficient. The hospital sent the patients' information to their sickness fund and made sure that the patients were covered. When the patients are discharged, the hospital computer sends a notice to the sickness fund. They both can work out the length of stay of each patient immediately and then the computer of the sick fund instructs a transfer from the sickness fund's bank account to the hospital's bank account. Thus, when compared to the itemized charge for service method, the daily charge is simpler and saves effort in billing and collection.

4. Costs can be comparable. The standard daily charge of a hospital can be used as a proxy indicator of input cost to compare the performance of that hospital with another hospital so that hospital spending should not exceed that of a comparable hospital. Switzerland was one of the first countries making computerized peer group comparisons of hospital prospective budgets and of retrospective cost reports, in order to spot excessively expensive individual organizations. France has different daily charges for different services in the same hospital, so that it is possible to compare the cost of clinical departments in different hospitals. The daily charge can also be used for

internal statistics about hospital costs and comparisons made with previous years.

5. Flexibility. The daily charge is flexible enough to fit into a health insurance system with many small sickness funds as well as with a few big ones. Many of the small sickness funds made any other method of payment difficult. For example in the experiment in France with global budgeting during the 1980s, it was quite difficult to manage with many third parties. The result was that many small sickness funds had to be pooled (Glaser, W.A., 1987).

c) Disadvantages

1. Lack of information on individual patient treatment.
The daily charge provides little information about utilization. It cannot compare the cost of individual treatments, nor can it compare the cost of medical procedures. Also, it is not possible to estimate the cost of treating cases under different payment systems. (Glaser,W.A.,1987, p.54)

2. Prolonged stay in the hospital. Because the daily charge is based on the "average" cost, the hospital has an incentive to prolong the length of stay to keep the occupancy rate high. Usually the patient cost is high in the early days because it involves the tests and expensive treatment, and his/her last days are less expensive. The hospital can earn a

profit by keeping the patient after the time when the cost of hospitalization of that patient is less than the "average" cost.

3. Some patients subsidize others. Again, the "average" cost for the hospital as a whole which is the nature of the daily charge causes inequity amongst patients. In fact, some patients are more expensive than average. and some patients are less expensive. Therefore, in principle, the daily charge is an unfair system because some patients subsidize others.

4. Administrative complexity. If a hospital has a different rate of daily charge to prevent the problem of patients subsidizing each other and to prevent the problem of prolonged stay as in France. the administrative work will be complicated and results in delays of payment. For example if a patient stayed in different departments with different daily rates, the more complicated system of billing based on the individual patient would have to be taken into account. The whole system of billing and collecting would become slow and cumbersome. French hospitals, before 1984, dealt with the problem of the complexity in calculation of the several daily rates. In fact, their calculation was based on guess work and inexact information.

5. Unable to contain costs by motivating lower utilization. Costs can be reduced by discouraging tests and treatments that are excessive in volume or in complexity. In

medical practice, in most countries, the autonomy and the supremacy of the doctor is a basic principle. Therefore, to control the cost from a doctor's malpractice is very difficult. If the doctors are paid by salary and their costs are part of the daily charge, the cost of their medical practice is unforeseeable. Also their clinical records are not available, making it difficult to learn whether medical practice in any hospital is wasteful or not. Therefore, it is impossible to contain costs by lower utilization.

C. Itemized charges for services.

Itemized charges for services or itemized billing means that the allocation of money from sick funds to a hospital is based on the detail of each clinical service which the hospital can bill them for separately. Itemized charges for services can be used for paying both for inpatient care and for outpatient care.

Some European and Canadian hospitals have itemized price lists for charging in-patient costs not covered by national health insurance, but more often price lists are used in the outpatient department for self-paying and privately insured patients. In all European hospitals, the cost of a first class room and extra services such as extra food, flowers, and telephone are billed separately.

The method used to set charges varies with the philosophy of paying the hospital in each country. It varies from the market-oriented mechanism of price setting in the USA to more state involvement in Europe and Canada. The United States hospitals enjoy being able to collect user charges that they themselves set except for Medicare who did not collect user charges. The countries in Europe and Canada use the price schedules resulting from negotiation between hospitals and organized payers, or as the result of the state intervention on behalf of the public interest.

a) Operational experiences

In France, Glaser, W.A. (1987, p.55) found that the private clinic has always been accustomed to billing by each item of service. Usually the billings are for;

1. Prix de journee (basic housing, nursing, administration, food and basic medical supplies)
2. Each medical service, by each doctor. Laboratory tests and radiological examinations as well as treatments.
3. Use of special equipment (for example; the operating theatre, the delivery room)
4. Special clinical supplies (such as drugs, blood, and prostheses)
5. Supplements for a private room.
6. Extra services (for instance, telephone, television, flowers, special food)

The public hospital in France has additional charges to the prix de journee. Usually their itemized charges for services include a fee for the surgeon, fee for anesthetist, laboratory tests, X-ray examinations and other fees.

In Switzerland, as in many other countries in Europe, they do not itemize all services or try to bill the patient exactly. Rather, they adopt the system of an inclusive daily charge, with some hospitals billing patients for doctor's fees and drugs, in addition. Other hospitals may include everything in an inclusive daily charge.

Sick funds in most cantons in Switzerland, although varied in detail, pay for basic ambulatory care, in-patient care, and several other benefits for their subscribers. If the patient has requested additional services from the hospital, or if he has selected his own doctor rather than relying on the salaried medical staff, he is liable for all hospital charges and medical fees, when the hospital and doctor send him itemized bills. To cover these contingencies, the Swiss subscribe to additional voluntary policies offered by sick funds or by for-profit insurance companies. Examples of chargeable items are:- a private or semi-private room, private medical treatment, extra comforts (such as additional food beyond the hospital's basic diet, personal telephone, a television set, etc.), nursing beyond what is medically necessary, and so on. The patient may pay the hospital and be reimbursed by the carrier; or the carrier may take his bills and pay the hospital and doctor directly (Glaser, W.A., 1979).

Itemized charges for services in the United States developed long before World War II. Each patient was billed individually. Charge lists have become very extensive.

Patients are either expected to pay the itemized charges themselves or arrange for payment to be made by commercial insurance companies. For those who can afford to pay, charges are higher than cost because the lower income self payers leave bad debts and the charges take this into account. Most commercial insurance policies reimburse the patients in large part but not in full. Each hospital in the USA has its own arrangement, and is secretive about pricing, collection and income (Glaser, W.A., 1987).

b) Advantages

1) Political Acceptability. The patient pays for his own cost, not for the average patient cost in the hospital. The insurer is also happy to pay for its own subscriber's cost, not the average patient cost at the hospital. This system of itemized charges is welcomed by the provider; if a hospital is free to create its own facilities and set its own prices, it can earn a good profit.

2) Accurate information for a manager. The itemized charges for services provides a record of resource consumption for each patient. This information can be used to improve the management of the hospital. The modern accounting and cost finding technique of "cost centre" accounting is feasible to apply in a hospital by using the data based on individual records of itemized charges for services. Switzerland and France are examples of countries which have developed cost-

centre accounting and reporting in their hospitals. The cost-centre accounting implies that the separate services of a hospital can be distinguished. Therefore, they will be organized so that their activities can be counted and priced. The quasi industrial parts of the hospital, such as laboratories and radiology, can have more accurate knowledge of their expenses and income. When clinical and financial information on each patient is linked, the management will know the cost of care in different ways and this cost finding enables the hospital manager to control and improve their less efficient services. Examples of different cost-of-care uses include the following:-

- Cost comparisons among services
- Trend of costs over time
- Cycle of costs by month
- Comparison among diagnoses

3) **Control over the medical profile is possible.** The insurer can compare the data file from the itemised charges for services of one doctor's profile with another's. If one doctor's prescriptions are substantially above the norm, that doctor can be told to reduce his excessive prescribing.

b) **Disadvantages**

1) **Administrative complexity.** Hospitals have itemized price lists in detail and the patients and insurers have to pay according to the fee schedule. The more clinical services and laboratory tests the patient has, the more complex

administratively, for both hospitals and insurers. It is also difficult to aggregate information for each patient. In many large hospitals, a computer system is needed to help in the administrative work.

2) **High cost of care from over-prescription.** When the insurer pays the hospital by itemized charges method, there is less concern to keep costs down both by the hospital and by the patient, because health care is free to the patient at the point of consumption and the hospital is not constrained by the patient's ability to pay. Patients and the hospital face zero private costs. Thus, there is a tendency for more services to be charged to the insurer. The hospital tends to do more tests and treatments in inpatient departments and particularly in out-patient departments, and send more bills to the sickness funds. The patient gets private benefit by being able to consume all health care resources offered. This is called the "moral hazard" problem of over prescription resulting in over consumption of health services.

D) Case Payment

Case payment, such as the "Diagnosis Related Groups" (DRGs), is a system of paying the hospital by a sum prospectively determined according to the diagnosis of the patient at the time of discharge from a general hospitals.

The DRGs were, constructed from statistical and clinical input and cost information extracted from the individual patient's medical record. Jenkins, L., McKee, M. and Sanderson, H. (1990, p. 11-15) explain the information needed to assign DRGs for each patient as the following:-

1. Principal diagnosis
2. Secondary diagnosis
3. Principle procedure
4. Secondary procedures
5. Destination on discharge/discharge status
6. Sex
7. Age
8. Other information about the patient such as admission and discharge dates, type of admission, ward, consultants, length of stay, etc.

The current version of the groups contains 475 DRGs (Jenkins, McKee and Sanderson, 1990). The groups were designed to reflect a similar pattern of resource usage (Bardsley, M. et al (eds), 1987).

a) Operational experiences

The USA is the first country which developed and implemented DRGs nationwide. The system has been used, since 1983, to pay for all Medicare in-patients, covering about 40% of hospital patients. Beginning in early 1975, Yale University was awarded funds to develop a case payment reimbursement system based on a diagnosis specific payment unit, or at least leading to techniques for taking case-mix differences into account in a prospective payment system. By the end of 1975, 317 DRGs were identified and tested for several years for

effectiveness in managing a hospital. A statewise demonstration programme was experimented with in Maryland and New Jersey. The prospective payment rates based on the earlier work of Yale University were fully developed in New Jersey. A set of 383 DRGs was refined. By 1982, the new version of the DRGs, with its 467 groups, was actually implemented in the state of New Jersey. Originally, the programme of DRGs was to apply to certain payer systems only; Blue Cross, Medicare, and Medicaid, but legislation was passed to enforce application to all payers (Esposito, A.D., 1983).

When a patient is discharged, the records of his clinical and financial information are examined and assigned a computerized code appropriate to a particular diagnostic group. Under the DRG method, the cost of each patients direct care arises from the sum of cost-finding procedures within each hospital, while the hospitals fixed costs are spread over all individual patients (Glaser, W.A., 1987, p. 59).

Research on DRGs is spreading to some countries in Europe such as France, Belgium, the U.K, Portugal, the Netherlands and Italy. Many countries in Western Europe, Canada and Australia are also experimenting with DRGs (Rodrigues, J., 1987). Outside the USA, it is seen as a measure of case-mix with cost attached. The definition of the iso-resource group also makes the DRG attractive as an information system for managers at different levels of government. For example:-

- At National level, it can be used as a tool for estimating global budgets.
- At regional level, it can help in allocating resources.
- At hospital level, it is useful for budgeting and performance reviews in both quality and utilisation aspects.

In Italy DRGs have been used for reviewing hospital performance rather than for prospective payment. In the U.K., they have been recommended for use in hospital resource management (Jenkins, McKee and Sanderson, 1990). There were 6 hospitals in the U.K. which piloted DRGs with the potential for further expansion to 250 major acute hospitals in England alone, as anticipated in the NHS White Paper. However, the achievement of the plan depends on a training programme and the availability of data.

b) Advantages

1) Hospital's incentive to minimise resource usage. The incentive inherent in the DRG system is to encourage efficient hospitals to earn more than their costs on the case and use their profit to improve other services. Inefficient hospitals earn less. Usually, hospitals gain on some patients and lose on others, but if they are inefficient, they lose on many patients. Thus, the DRG system encourages the hospital to minimise resources used for example; using fewer personnel, fewer tests, shorter stays, and, possibly, abandoning care of

certain conditions that other hospitals can treat more cheaply.

2) Reduce hospital length of stay. The DRG payment mechanism is based on a regional average cost of that case calculated from the historical data of resource consumption. Therefore, the hospital loses money if they keep the patient stay longer than the average. American hospitals, during 1984, a year after implementing the DRGs in the Medicare programme, found that the average length of stay was reduced from 7 to 6.7 days for all patients, and from 9.6 to 7.4 days for Medicare patients (Glaser, W.A., 1987).

3) Reduce wastes. The DRGs system encourages the hospital to reduce waste and become more efficient. A comparison of expenditure for supplies, services, and related non-labour expenses between 1983 and 1984 (the year of implementing the DRGs in American hospitals) showed that the rate of growth of such expense dropped sharply from 10.2% in 1983 to only 3.5% in 1984.

4) Closer collaboration between managers and doctors. The DRGs provide a diagnosis or procedures language for clinicians and other managers. It produces a closer collaboration between managers and doctors in order to understand and to control the hospital's costs. It forces the lay manager to appeal to overspending doctors to become more conscious of their practice style and try to work within each DRGs price.

c) Disadvantages

1. **Early discharge and many readmissions.** DRGs give hospitals a strong incentive for early discharge of patients needing long-term care. Too early discharge can worsen their health status. Also, patients are often admitted as inpatients rather than ambulatory patients when they could receive the same care, because they cost less than the full DRG rate for the hospital. Discharging and readmitting the same patient in order to collect two DRG payments for the same case is commonly found as well.

2. **Adverse selection.** Some hospitals have denied admission to very serious and high cost patients. Meiner, M.S. and Coffey, R.M. (1984, p.12) studied the effect of DRGs in Maryland's hospital in 1980 and found that the hospital would have an incentive to refuse admission to certain types of patient that providers expect to be too costly to treat. This "adverse selection" problem against chronic illness or multiple serious conditions creates inequity in the health care system as a whole.

3. **High cost of reimbursement.** The DRGs rely on discharge abstracts which often include classification and coding errors, failure to include all diagnoses and procedures, and variations in the documentation of the attending doctor and the conventions of the individual coder. The DRGs grouping of the performance of a surgical procedure

often categorises a patient into a more complex DRG. The hospital is encouraged to identify that patient as a complex case and may offer surgical procedures to the patient because they result in higher reimbursement.

4. Delay of payment. The inability to assign a DRG accurately before the patient is discharged causes serious problems in management and delay in payment.

5. Meaningless information. DRGs are not clinically meaningful because they fail to sub-divide some broad diagnostic groups and to differentiate between patients in different stages of the same illness. Moreover, DRGs do not address the problem of death and undiagnosed cases which also use hospital resources. This creates inequity in a DRG-based reimbursement scheme. DRGs are not statistically meaningful when applied to populations other than that from which they were originally derived.

4. CONCLUSION.

Many countries choose to pay hospitals with mixed methods. The international trend towards capital cost payment is payment by global budget out of taxation. France, Switzerland and the U.K. are amongst countries which have facility planning control for capital costs. Countries in Europe have long been familiar with paying the hospital's operating costs by a mix of systems between a standard daily

charge and the itemized charges for services (especially for the doctor's fee). The UK's and the Canada's operating costs of hospitals are funded by a global budget which is an example many countries can follow to contain their costs.

Recently, the USA, which had long been using retrospective arbitrarily itemized charges for services for Medicare in-patients found them unattractive and costly and developed the new system of case payment (DRGs) and, in 1983, began to use DRGs for Medicare's inpatients for the whole country. The DRGs have now spread into Europe as a useful aid in the management and financing of hospital services.

In conclusion, all the methods of payment have their strengths as well as their weaknesses. To apply any system of payment in a particular country depends on the historical development of health economics, and the political situation of a country. Although the international trend is towards the most cost-conscious system of payment - the global budget - strong government intervention in the free market in medicine is needed to follow this trend.

POLICY OPTIONS
FOR HEALTH INSURANCE IN THAILAND

1. INTRODUCTION

Thailand adopted her first social insurance law in 1954, during the military regime led by Field-Marshal Phibun Songkhram, but it was never implemented due to the interruptions of several coups d'etat. The Law which included compulsory health insurance for employees was originally drafted during the military regime, with help from two civilian consultants of the government (Chandaravitun, N., 1990, p.12). To apply the Law, supportive legislation was required which was never introduced. However, successive governments tackled the problems of political instability and economic development without being seriously concerned with applying the Social Insurance Law of 1954.

A later military government created the Workmen's Compensation Scheme in 1972 in response to the emerging problems of industrial accidents associated with industrialization. Meanwhile, the country developed several statutory health insurance schemes to protect other groups of the population, namely; civil servants, military officers, public enterprise employees, school teachers and so on. Also,

a network of public health services for the rest of the population was created nationwide.

Politically, the country has gradually moved towards more democracy with an elected Constitutional Government since the student uprising of October 1973. However, it was not until 11 July 1990, that the House of Representatives finally passed unanimously the "Social Insurance Bill" although it was rejected by the Senate on 6 July 1990 (Chandaravitun, N., 1990). But under the Thai Constitution, the Law will come into force in March, 1991.

This chapter explains why Thailand is able to adopt its statutory health insurance plan for private employees, as part of the Social Insurance Law in 1990. Secondly, the contents of the health insurance plan and its consequences will be analysed. Finally, the policy options for health insurance in Thailand and the transition to a universal and comprehensive National Health Insurance Plan are discussed.

2. THE CRITICAL ANALYSIS

There are nine reasons to explain why Thailand is able to adopt statutory health insurance in 1990, after 35 years of being unable to apply its first social insurance law of 1954. The complexity of the issue of social insurance involves several theoretical analyses which are derived from different disciplines, as follows;

1) **The level of economic development of the country.**

Between 1987 and 1989, Thailand was moving towards being a Newly Industrialized Country with a growth rate of about 10 per cent per year. The real gross domestic product has expanded more than fivefold from around 47,000 million Baht in 1960 to 247,000 million Baht in 1986 (at 1953 prices). Meanwhile the real per capita income increased 2.6 times, from 1,746 Baht in 1960 (at 1953 prices) to 4,564 Baht in 1986 (Kiranandana, T. et al, 1989, table 6.1). Also, there was rapid urbanization and demographic changes, with more working people living in urban and industrial areas. This created a demand for some form of social protection, including health insurance.

2) **The country is gradually moving from military rule towards democracy.** The government which passed the Law in 1990 was an elected government. The government and political parties under the constitutional democracy are more concerned about the social needs and benefits of their constituency of voters. The employees and their wives (for maternity benefits only), the beneficiaries of this scheme, amounting to around 2 million persons, are their voters. Thus, the concerted efforts of several political parties resulted in the submission of 5 social insurance proposals (a coalition government's proposal was included), and the Social Security Bill was unanimously passed in the House of Representatives, although it was rejected in the Upper House. The objection from the Senators was largely due to personal conflict between

two ministers and the military. There was also some disagreement on the coverage of the plan and the thought that the government should not contribute to the Fund.

3) **Class relations.** Since Thailand developed to be more capitalist, a larger working class has emerged. Previously, the labour movement in Thailand, dominated by the trade unions of public enterprises, was not very strong because it was divided into 4 National Labour Congresses. In the past, they worked separately and almost always disagreed on policy issues. In 1988, for the first time in the history of the Thai labour movement, they joined forces to campaign for the social security Law. It is evident that the pressure from the labour movement was a major force in the social insurance policy-making process.

4) **The role of the state in a capitalist society which represents and protects the benefits of the capitalist class.** It is true that several Thai cabinet ministers belong to the capitalist class themselves, or at least their parties are supported financially by the capitalist class. Thus, a reason for introducing statutory health insurance in Thailand is to help them control the cost of health benefits. It is because, in the production process, employers need to increase their productivity. Therefore, they would like to employ a healthy work force and to keep skilled labour working with them. In 1987, as shown in chapter 5 and 6, some employers had already arranged and paid for fringe health benefits and other welfare

benefits for their employees. According to their previous experiences of paying providers in Thailand, statutory health insurance under social security is likely to be a more economical arrangement for them in the long run. They will also be able to control health insurance costs by paying regular and predictable contributions to the insurer without having to worry about the open-ended cost of their existing medical benefits.

Along the same lines, it can be said that through statutory health insurance, the State will help some groups of the Thai medical profession who belong to the capitalist class. The peculiar situation in Thailand is that private hospitals are owned by the leading doctors. Recently, private hospital investment has grown rapidly. But, the bed-occupancy rate is only around sixty per cent. Therefore, when the scheme comes into effect, private hospitals hope to welcome private employees as their regular customers, and fill their empty beds, without having to worry about the patients' ability to pay.

5) The "market failure" in health insurance. A further reason for the Thai government introducing statutory health insurance is, on the one hand to prevent medical monopoly and private medical oversupply and, on the other, to assist employees to obtain health care even when they suffer from chronic illness and poverty.

6) **The pluralist theory of power in the decision making process.** There were several interest groups that interacted equally and put pressure on the government to introduce the policy. These groups were politicians, trade unions, the Union for Civil Liberty, academicians, the medical profession, bureaucrats and so on.

7) **The elite theory.** The elite in this case were the Prime Minister's advisors on labour affairs, Nikom Chandaravitun, and the political advisory team of the Pisanulok House which played a major role in political lobbying and providing advice to the Prime Minister on this particular policy.

8) **The influence of the International Labour Organization of which, Thailand is a member.** It cannot be denied that the International Labour Organization played an important role in giving technical support, including the provision of experts such as Brian Abel-Smith, Aviva Ron to advise about the content of the plan. In addition, to exchange visits to other countries, various international aid agencies, such as WHO, the World Bank, and so on, supported bureaucrats in attending seminars and study visits, etc.

9) **The leadership theory.** It was the ability of the Prime Minister Chatichai Choonhavan himself, to exercise his legitimate power and support until the Bill passed through Parliament. Finally, the effort of key bureaucrats in the

Labour Department, such as Amporn Junnanon and her colleagues, who carefully worked out the details of the plan and how it would operate, must be acknowledged.

3. CONTENTS OF THE STATUTORY HEALTH INSURANCE

A. Coverage.

Under the Social Security Act of 1990, an insured person is a private employee who works in a private establishment with twenty or more employees. After three years of operation, the scheme will be extended to protect private employees in establishments with at least ten employees. Agricultural workers and some public enterprise employees's are also included in this scheme. However, the scheme is not designed to protect private employees who work in foreign countries, teachers, students, and domestic servants.

In general, the dependents of employees are not protected, but wives of insured persons are covered for maternity benefit only (up to two deliveries).

In addition, self-employed persons will be able to join the scheme on a voluntary basis, after four years of the scheme's operation.

B. Types of benefit.

Health benefits comprise ordinary sickness, maternity, invalidity and death benefits. They include both benefits in cash and benefits in kind. Cash benefits will provide 50% of earnings for up to 365 days of sickness, maternity benefit for 60 days, and invalidity benefit for 15 years. Death benefits will provide a lump sum payment of 100 times the maximum national minimum wage to the insured's dependents.

Benefit in kind will provide a wide range of services, both ambulatory care and hospital care. Costs for diagnostic tests, drugs, medical supplies, meals, room, and transportation are included, while medical appliances, prostheses and dental care are excluded. The cost of rehabilitation for accidents not-related to work is also provided.

C. Source of revenue.

Revenues for the statutory health insurance for private employees will come from three main sources; employer, employee and the government. Each of them pay a contribution of equal amount - 1.5% of pay-roll. In total, the revenue of the scheme would be 4.5% of pay-roll which will be around 1,500 million Baht a year. However, if the fund runs a deficit by the end of the year, the government has to pay the

additional amount to cover the deficit. Other sources of revenue may come from donations, interest, fees and so on.

Temporarily unemployed persons can apply to continue membership with the scheme. However, their contribution rate would be 3% of their last earnings and the remaining 1.5% will be subsidized by the government.

The ceiling of income up to which an insured person has to pay his/her contribution is fixed at 500 Baht a day.

D. Administration.

The scheme will be centrally administered by the National Committee on Social Security. This is a tripartite standing committee with 15 members, 5 of which represent each contributor - the government, employers and employees. There is also a Medical Committee and a Tribunal or Review Body at the national level. An Office of Social Security will be established within the Ministry of the Interior and will be responsible for the operation of the programme. A fixed amount of ten per cent of the total cost will be allocated for the administrative cost of the scheme.

E. Payment to providers.

The Law did not give details of the type of health service providers to be used, nor of the methods of paying

hospitals and doctors. It only specifies a broad range of benefits as mentioned earlier. The type of providers will be announced by the Chairperson of the tripartite committee. Criteria and rates of payment to providers will be worked out at medical committee level.

4. EFFECTS OF THE SCHEME

A. On employees.

Generally, employees will benefit enormously from the scheme because previously the comprehensive health benefit was to protect employees in the larger establishments on a voluntarily basis only. After implementation of the scheme, smaller establishments with 20 or more employees will be comprehensively protected. Later, establishments with less employees will be covered along with the self employed. Employees will not have to worry about inability to pay for the cost of health care on each visit. Labour unions need not bargain for health benefits, enabling them to move on to other industrial relations issues. At the national level, they have their representatives to reflect their views and problems to the tripartite committee. There is also a mechanism to appeal to a tribunal.

The scope of the scheme is designed also to cover the State Enterprise's employees. Most of them and their dependents have already been protected by the non-contributory

schemes belonging to each enterprise. The benefits of the individual schemes vary but some have the highest standards of provision and the highest cost per beneficiary in the country. Thus, there will be a problem of merging these schemes under the umbrella and central control of the new scheme. This is because the new scheme is likely to arrange benefit in a more economical way and to apply stringent cost containment measures compared with the previous ones. State enterprise's employees could not accept being made to pay contributions to the scheme but get less benefits and have their dependents excluded as well. However, to avoid this problem, the Social Security Law provides an option for employers, now providing better health benefits than those of the new scheme, to contract out. They will have to pay a reduced contribution rate to cover only the cash benefits or any other benefits from which they are not contracting out. This provision will be very complicated to operate because each establishment provides health benefits differently and it is thus difficult to make comparisons. In addition, the scheme stands to lose a large amount of its target income because the State Enterprise's employees include those in the higher income groups. Overall, the scheme is likely to produce deficits because employees who will join the scheme, will be specifically those with relatively low incomes who are likely to be a relatively high-risk group.

B. On employers.

As mentioned earlier, employers of establishments with 20 or more employees will know that the cost is better controlled than under the previous individual arrangements of fringe benefits. They will know the amount of their insurance contribution in advance, and will be able to compare it with the past experience of open-ended fee-for-service payments and itemized billing. However, employers of establishments with between 10 and 19 employees have three years to prepare themselves before the scheme is expanded to cover them.

C. On the government.

The scheme is to be subsidized by the government at 1.5% of pay-roll or around 33.3% of the total cost. This is considered an acceptable amount of subsidy especially when compared with the subsidy of 57.5% for an out-patient visit and 66.4% for an in-patient stay at a public hospital (Health Planning Division, 1989b, p.43-45). Thus, the government is better off subsidising employees who would otherwise visit the public hospital, providing the scheme is self-sustainable at this level of contribution. However, the scheme is designed to receive more money from the government if it runs into deficit. And, experience abroad shows that the situation of running into deficit is likely to happen if an open-ended system of paying providers is chosen. Therefore, the method of paying providers must be carefully worked out to avoid

uncontrollable costs. In addition, if the scheme is skimmed off by excluding the state enterprise's employees or the employees of large establishments which have higher incomes on average, the chance of running deficits is likely to be high. This is the most vulnerable element in the scheme. To provide an unlimited government subsidy will not solve the problem. Rather, it will create inequitable redistributive effects, particularly if the Thai government has to rely on general taxation which is regressive in Thailand (Krongkaew, M., 1979).

D. On the providers.

The scheme did not provide details on the methods of paying the doctor and hospital before the Bill was passed through Parliament. Presumably this is a tactic to postpone conflict with the medical profession to the implementation stage. The experiences of doctors' strikes in France, Canada, Australia, and New Zealand against statutory health insurance could be emulated in Thailand if they are not satisfied or feel threatened. Thus, there will need to be difficult negotiations between the funds, the medical profession and the labour unions periodically. In addition, lessons from abroad warn that there may be an excessive demand for health services at the beginning of the scheme's implementation. Providers will have to be prepared to cope with the effects of the over use of health services.

5. POLICY OPTIONS FOR HEALTH INSURANCE

Health insurance should have the effect, to a large extent, of reforming health care financing and delivery while preserving cultural and customary practices to some extent. It is difficult to compromise between these two conflicting objectives. However, this section will discuss the possible options for a statutory health insurance which combines both reform and some conservation within the health system. Also, the policy options should try to achieve the criteria set out below:-

A. Criteria for health care provision.

1. Economy. The scheme must be cheap and keep costs under control so that in the long run it can be expanded to cover the dependents of employees. It must have a self-sustaining financial system and be linked with effective cost containment measures to prevent cost escalation. There must be no incentives to provide unnecessary services or unnecessary visits. Any form of fraud or abuse from both providers and users, must be prevented. This is an important criterion because Thailand cannot afford an expensive scheme such as those found in some developed countries.

2. Simple. The scheme should be simple administratively for both the Fund and providers. This is of particular importance because the country has a shortage of trained

personnel to deal with the complexity of insurance management and administration. It will take some years to develop human resources to implement and manage a more complex arrangement.

In addition, the benefit structure and the conditions of use should not be too complicated for employees to understand.

3. Quality. The system must guarantee the quality of care provided to the employees. The quality of personnel, drugs used, and equipment must reach a minimum medical standard. There should be no under-investigation and under-treatment.

4. Consumer choice. The statutory insurance scheme should not limit the consumer's ability to choose a health care provider. Consumers should be allowed to choose their primary providers and change, if they are not satisfied. However, continuity of care must be encouraged.

5. Competition. The system should encourage competition between health care providers to induce providers to offer courteous care of good quality but in a cost-effective manner. The scheme must be designed to give incentives to efficient providers.

6. Consumer satisfaction. The scheme should be arranged to ensure that both employers and employees are satisfied with

the level of benefits. Hospitals and doctors should be located in a convenient place for them to be used with a short waiting time. The scheme should be arranged so that the consumer feels it is justifiable to pay the insurance contribution.

B. Options for health care provision.

Option 1. Direct provision (Full-time salaried doctor and global budget for the hospital).

The first option is for the Fund to construct its own hospitals for the use of employees in Bangkok or its neighbouring provinces. The Fund would employ doctors and other health personnel to work on a full-time salaried basis. The hospital would receive an annual global budget from the Fund. If this option is to be used in Thailand, general practitioner services and specialized services are to be provided in their own hospitals or health centres (which may be those of the Bangkok Metropolitan Authority, under the Ministry of Interior), to provide care.

Advantages.

1. Medical records of individual patients are kept. However, the continuity of care is worse than in a system which pays the doctor by a capitation fee. Patients will not see the same doctor throughout the course of their illness, but meet the doctor on duty.

2. The scheme is simple to run. The administrative work in paying doctors and hospitals is minimal.

3. Quality of care may be high, depending on the technology used.

Disadvantages.

1. Consumer satisfaction may be low because patients can use only a hospital owned by the Fund which may be far from their home or their workplace. It is likely to have a long waiting time because hospitals can control their costs by increasing the length of stay rather than the turn over rate. This is because the first few days of hospital care are more expensive than the later days.

2. The salary scale of the doctor, in particular, must be high to attract doctors from existing government hospitals to work full-time for them. This will make the cost of the scheme high. Thus, the first criteria will not be met. In addition, it may attract a young rural hospital doctor to work in an urban setting. In the long term, it worsens the distribution of doctors.

3. It is an expensive option as new hospitals would have to be built.

4. It is curative-based. The integration between curative and preventive care is difficult because they are provided by different organizations.

5. There is no competition between providers. It is less responsive to consumer's needs.

6. Operating costs of health services may be high because there is no incentive for individual doctors to work at a fast pace.

Comments

This option is not appropriate for the situation in Thailand because:-

1. There are several public and private hospitals in Bangkok and surrounding provinces. To create a new hospital is merely a duplication of health services with more costs falling on society. It is not an efficient way to use the country's limited resources.
2. It will create a double standard in health services; the expensive, curative-based system for employees and the public health system for the rural, self-employed farmers.

Option 2. Part-time salaried doctors and global budgets for public hospitals.

Under this option, the Fund would pay its health budget to the government providers, mainly the Ministry of Public Health and the Bangkok Metropolitan Authority. Doctors would be paid on a part-time basis for opening a special clinic in the evening and/or week-end to serve employees. Hospitals would be paid according to a global budget calculated according to the use made by insured persons.

Advantages.

- 1 - 3. As in option 1.
4. It is convenient for employees to visit a doctor in the evening or at week-ends. The net-work of health care providers is wider spread than in option 1.
5. It is more economical than option 1 because it uses existing facilities. The country's resources tend to be used efficiently.
6. It is easy to integrate services between preventive and curative care because they run under the same organization.

Disadvantages.

1. Consumers may not be fully satisfied because their choices are limited to only the government facilities, particularly when compared to the benefits under the Workmen's Compensation scheme which allows the use of private services.
2. As there is no competition between providers, it is less responsive to consumer preferences.
3. Cost of care may be high due to the lack of economic incentives for doctors to save costs or work rapidly.
4. There may be a long waiting time because doctors would tend to see less patients to keep the costs within a limited budget, particularly when high technology equipment is used. Also, the hospital may choose to close down some wards, prolong stay rather than increase turn over rates, or reduce

services such as community medicine, or health education, to lower its costs.

Comments

This option is simple to run and has the capacity to integrate with the existing services rendered by the Ministry of Public Health and expand towards a national health insurance in the long run. However, it is not the best option to be chosen because employees in Bangkok and neighbouring provinces may not be fully satisfied with only the public hospital arrangement. They tend to prefer private health services, rather than government services.

Option 3. Fee-for-service for the doctor and itemized billing for the hospital.

This arrangement is based on the existing pattern of health care provision in Thailand under the Workmen's Compensation scheme, the government employees scheme, and the public enterprise schemes. Patients pay medical bills and are reimbursed by their insurers in part or in full depending on the set of rules of the individual scheme. The Fund reimburses the employee for out-patient visits and pays the hospital for in-patient care by itemized bills sent by the hospital. In the long run, the method of paying the hospital should be based on the Diagnostic Related Groups. However, under this option, cost-control measures must be imposed such as:-

1. There must be a negotiated fee structure used by every participating hospital and doctor.
2. The national essential drug list must be adhered to.
3. The patient must pay a considerable amount of co-payment, particularly if visiting the out-patient department of a large hospital without a referral letter.

Advantages.

1. There is free choice for patients. Employees will be pleased to have a wider choice of both private and public hospitals.
2. Private hospitals and doctors would welcome this system because they would have regular customers. They would not have to worry about unpaid bills.
3. Quality of care may be high because there is an incentive attached to the service rendered. There would be a tendency to use high technology, and an excess of services.
4. The system encourages competition amongst providers and response to the consumer's preferences.

Disadvantages.

1. The scheme is complex to understand with its fee structure, set of rules and several cost control measures.
2. It is expensive to administer. This is because a statistical mean of health care usage must be kept for

comparison. The claims of providers and patients would need to be reviewed and analysed before a payment is made.

3. The system is open to abuse, such as over-investigation, unnecessary services and false claims. Thus, the total cost of the scheme would be high.

4. Co-payment measures would make the scheme unpopular and the lower income group of employees will suffer more than the higher income group. Employees will not like having to pay extra when they have already paid a monthly contribution.

5. The care of an individual patient is not continued because the patient can visit several doctors, even during the course of his/her illness.

Comments.

This option should not be used in the statutory insurance for employees because of the tendency for cost escalation due to its open-ended nature. The system is open to abuse and when trying to control cost it becomes complex and expensive to administer.

Option 4. Fee-for-service for the doctor and daily charge for the hospital.

Out of hospital doctors are paid by the fee-for-service method, under a negotiated fee structure. Patients need to pay a considerable amount of co-payment to prevent unnecessary visits. For in-patient care, the Fund will pay the hospital by

a standard daily charge. Public hospitals and private hospitals with the same size and area will receive the same daily rate from the Fund. However, private hospitals may be allowed to charge the patient about 10-30% of its standard daily rate.

Advantages.

As in option 3, above.

Disadvantages.

1. Under this option, the hospital has an incentive to keep a high occupancy rate by prolonging the length of stay.
2. The system of a hospital daily charge is not fair for some patients because it is based on average costs. Some patients subsidize others.
3. The system is complex and expensive to administer. It is more complicated when linked with cost containment measures such as utilisation review for hospital use and claim review.
4. Co-payment for out-patient services would affect the use of services by poor employees. They may wait until their health conditions are chronic before visiting the doctor.
5. The care is not continuous because the patient is free to visit any doctor. There is no family doctor who keeps a patient's records continuously.

Comments.

This option is not suitable for use in Thailand because there is a tendency for costs to rise. The system is expensive to administer and, when cost containment measures are imposed, it becomes more complex.

Option 5. Capitation for the doctor and global budget for the public hospital.

A doctor is paid by a capitation fee for each registered patient whether the service is used or not. Drugs are also included in the doctor's services as is the customary practice in Thailand. The patient must visit the doctor he or she chooses to register with in the doctor's private clinic before being referred to the hospital. The hospital under this system receives a global budget from the Fund annually. Thus, only public hospitals can participate in the scheme because the amount of the budget will be too low to include private, for-profit hospitals.

Advantages.

1. There will be continuity of care and the patient can choose to register with any doctor for a certain period of time.
2. The scheme is simple to understand and economical to run. The administrative cost is also at a minimum.

3. The cost of the scheme is predictable and controllable.

4. In some areas, there is competition between doctors to attract more employees to register with them. Thus, to some extent, it leads to efficient health care provision and is responsive to patients' needs.

Disadvantages.

1. Employees, particularly those who live in Bangkok and neighbouring provinces, may not be fully satisfied with this option because they can use only government hospitals.

2. There is no competition between hospitals. The hospital may be less responsive to the needs of the patient.

3. Referral rates from doctors to hospitals may be high because doctors need to minimise their costs.

4. The hospital waiting lists may be long because the hospital controls its budget by cutting down on some services or reducing its activities.

5. The quality of doctor and hospital services may be low in order to keep the cost down.

Comments.

This is not an ideal option although it is simple and cheap to run. This option may lead to inefficiency from long waiting times, excessive referral, and lack of competition

between providers. In addition, consumers may not be satisfied when their choice is limited only to public hospitals.

Option 6. Capitation for the doctor and daily charge for the hospital.

Similar to option 5, the Fund pays the doctor by capitation according to the number of registered employees. Patients need a referral letter before visiting a hospital. Under this option, the patient can visit a public or private hospital of his or her choice with the consent of the doctor. However, if the patient chooses a private hospital, he or she must accept some form of cost-sharing which should be around 10-30% above the daily charge of a public hospital of the same size and location as the private hospital.

Advantages.

1. There is a family doctor, with whom the employee choose to register, and who looks after him or her continuously. Medical records of the patient are kept and care is continued.

2. There is competition between public and private hospitals, as well as between doctors. The system of health services, to some extent, reflects consumer preferences and tends towards efficiency.

Disadvantages.

1. Doctors may refer their patients to the hospital more than necessary to lower their costs.

2. Patients may make unnecessary visits. However, co-payment may be imposed to reduce unnecessary visits but the poor patients will suffer. Co-payment is not welcomed by patients.

3. The hospital has an incentive to prolong the length of stay to maintain a high occupancy rate. The hospital tends to keep the patient longer so that the hospital can make profits. This is because the cost is higher than the average daily charge in the first few day of stay when more medical procedures are involved, and below the average daily charge in the following days.

4. It is difficult to control the cost of hospital care. Hospitals may expand their capacity to keep more patients.

5. The quality of services is likely to be low because providers want to maximise their profits.

Comments.

This is not the best option because it is likely to be expensive and inefficient from the long length of stay. To use private hospitals is somewhat more expensive than option 5. Consumers prefer to use private hospitals but will not welcome the extra cost.

Option 7. Capitation for the doctor and itemized billing for the hospital.

Similar to option 5 and 6, the insurer pays the doctor according to the number of employees on his/her list whether or not the employees use the service. The fund will negotiate with the hospital a standard tariff of charges and costs will be reimbursed accordingly. Employees can use public or private hospitals but must be referred by their family doctors. However, cost-sharing is applied to those who choose to visit private hospitals. Cost control measures would be implemented to reduce excessive use. In the long term, cost per case according to Diagnostic-Related-Groups for in-patient care would be developed.

Advantages.

1. There is a continuity of care by a family doctor who knows the medical history of the patient.
2. Consumer choice is preserved. Employees have the choice of both public and private hospitals.
3. Quality of care is likely to be high for hospital services because the hospital's income depends on the services rendered.
4. Doctors compete with each other for their patients. Similarly, there is competition between the hospitals. Therefore, consumer needs are responded to and the scheme is likely to be efficient.

Disadvantages.

1. It is a complicated system, particularly in hospital services. It is more complicated when cost containment measures are imposed. Statistical means are needed to compare hospital performance and costs.

2. The administrative cost of the scheme is high because the Fund needs to deal with claims and hospital reviews.

3. This scheme is expensive because of an uncontrollable, open-ended hospital cost structure.

4. The doctor has incentives for under-serving and excessive referral for hospital care. The quality of the doctor's care is likely to be low.

5. The cost-sharing mechanism for using private hospitals is not likely to be welcomed by employees.

Comments.

This option is not suitable for Thailand because it is inefficient. The cost of hospital care is expensive and uncontrollable. Also, there is likely to be a low quality of doctor's service and excessive referral. Moreover, the administrative cost and complexity of payment for hospital care is considerable.

Option 8. Capitation for contracted (budget holder) GPs.

This option is to pay the doctor by capitation to cover all the health service needs of the patient whether the patient uses the services or not. After screening, the doctor will purchase hospital services by a variety of methods as in option 5, 6 and 7 but based on the market mechanism. The fundamental strength of this option is that it eliminates the problems of third party payment by contracting a group of family doctors to be gate-keepers as well as budget-holders for hospital services. Thus the amount of capitation fees and the number of registered patients to a group of GPs must be large enough to cover the risk of financial loss. This option is in favour of, and encourages, group practice (equivalent to a polyclinic in Thailand) rather than a solo clinic. For some exceptional cases, the Fund would pay extra money to alleviate the financial burden of the doctor.

Advantages.

1. The problem of excessive referral is removed because doctors have to purchase hospital services for their patients.
2. There is competition between hospitals. The hospital must then be of a high quality and offer a low cost to attract more patients. The needs of patients are responded to.
3. Cost is controllable. The problem of third-party payment vanishes. Doctors have to take the risk of financial

loss. Thus, the system encourages doctors to provide services in a cost-effective manner.

Disadvantages.

1. It is a complex system. To make this system work efficiently, hospital costing and hospital performance must be available for making comparisons.

2. The administrative cost is high for both the doctor and the hospital.

3. The quality of care from doctors may be low because their financial incentive is to under-serve.

4. Consumer choice of hospital services is rather limited. Doctors would compare the cost of hospital services and choose the best buy on behalf of their patients which may not be the most convenient place for their patients. For instance, patients may prefer a hospital which is not the cheapest but one which is near their workplaces or near the school for their children, etc. Also, some patients may be loyal to a particular hospital which may not be the best buy option.

Comments.

This is not a recommended option for Thailand in 1990 although there are some advantages in the elimination of the third party payment problem so that the scheme is economical and the cost is controllable. However, the weakness of this

scheme is that it is complicated. It needs an accurate information system to enable the market mechanism to work. Thailand does not have a good hospital information system (on costing and performance) both in public and private hospitals. In addition, most doctors are working as full-time government employees and open their private clinics in the early morning or evening. Traditionally, the Thai doctor's reputation is bound to his/her government post. The country is not really prepared for having budget-holders and whole-time independent doctors.

Option 9. Capitation for the contracted hospital.

Hospitals are paid on a capitation basis regardless of visits from registered employee. Hospitals (public or private) which meet some medical standards are contracted with the Fund to provide out-patient and in-patient services. Hospitals may subcontract other hospitals or buy some services from other hospitals as well as subcontract a group of doctors. A first point of contact is assigned at the doctor's clinic, health centre, the out-patient department of a hospital, or at the employee's workplace. Methods of paying the participating doctors vary, depending on the individual net-work. After all, several net-works of providers are formed and compete to serve the registered patients. The patient can choose to register with any contracted providers for a certain period of time. To prevent adverse selection, providers cannot deny any patients who apply to register with them. For special cases, the Fund

will pay extra money to relieve the financial burden of providers.

Advantages.

1. The scheme is simple and the cost of administration is low, particularly from the insurer's point of view.

2. The cost of the scheme is predictable and controllable. Overall, the scheme is cheap to run. The insurer does not have to worry about financial deficits because the risks are passed to providers.

3. This system creates efficiency in provision from the competitive conditions between networks of providers. Also, to make providers responsible for the risk of financial loss would encourage providers to reduce unnecessary services.

4. Employees can use public or private hospitals of their choice providing the hospital meets the standards laid down by the Fund.

5. There is continuity of care. In some net-works, primary care is provided by a family doctor, but in some arrangements care may be provided by the doctor on duty.

Disadvantages.

1. Consumer choice is limited. In some areas, there is a limited number of network providers available for patients to choose from. Also, once employees choose a net-work provider,

they are bound to use only hospitals and doctors belonging to that particular net-work.

2. Quality of services may be of a low standard because providers would like to keep their costs down. Thus, underservicing is likely to happen.

Comments.

This is an option suitable for use in Thailand for a compulsory scheme for employees because of the following reasons:-

1. It has the capacity for running economically and the cost of the scheme is controllable.

2. It is simple to understand. The administrative work is minimal particularly from the insurer's standpoint. It is particularly important to start a simple scheme because Thailand is short of human resources to deal with the management and administration of insurance.

3. The providers have incentives to minimise the cost and are responsible for financial losses if they provide unnecessary services. At the same time, competition between providers exists. Thus, efficiency of provision is likely to be the result.

4. Fundamentally, patients can use private or public providers. In fact, there is a wider choice of providers in Bangkok and its neighbouring provinces than the rest of the country.

However, the only remaining criterion this option does not meet is that of quality of care, which is likely to be low. In practice, several regulations and quality assurance mechanisms can be implemented as part of the contract. In the following years, if providers fail to meet the standards or fail to satisfy the consumer, the Fund will not continue the contract. Also, naturally, employees will not choose to continue registration with substandard providers. There should also be a mechanism to deal with complaints from the consumer and consumer satisfaction reviews should be undertaken.

C. Organization.

The official status of the Fund shall be a semi-autonomous body under the policy direction of the National Committee. To be more responsive to local needs, in the long term, Provincial Funds should be established. A modern management system should be applied for efficiency, without being tied to bureaucratic rules.

A Quality Assurance committee (or sub-committee) should be established, to look after the quality of care, the quality of drugs, technology assessment, and to compare medical profiles. There are many retired prominent professors or top executive doctors available to be nominated. Their experiences of medical practice and administration can be enormously useful. It is to be noted that the retirement age of Thai civil servants is sixty years. So the not-so-old retired

person would be respected as part of an efficient, mobile quality assurance team to visit private hospitals as well as public hospitals.

A committee for resource allocation also needs to be set up. Every year, the capitation rate will need to be adjusted for inflation or renegotiated.

6. THE TRANSITION TO A NATIONAL HEALTH SERVICE

The transition to full coverage, for the whole population is expected in 8 years. By the year 2000, the country should enjoy a national health insurance programme protecting the entire population . The benefits of each scheme should be standardized, if the several programmes are not unified. During the first 4 years, it must introduce several models of development. Alternative forms of health insurance, methods of paying providers, and within different population groups, should be tested as pilot projects. A feasibility study of assimilation between the Fund and the existing schemes should be explored with the aim of decentralizing and strengthening the role of Provincial Funds. A cross-subsidy mechanism must also be implemented.

The National Health Insurance Programme should be planned, implemented and monitored under the Ministry of Public Health. In the future, if a new Ministry of Welfare is to be established, both Ministries should work closely or

merge into a Ministry of Health and Welfare. However, the autonomous, semi-government status of the Fund should be maintained for efficiency.

Health care prevention and promotion should be integrated. In the long term, care for the elderly should be planned to cope with the increasing number of elderly persons.

The preparation, implementation, and management of the National Health Programme could not be done without human development. The country should be prepared for international training and local training, as well as conducting research for development in health insurance-related fields.

Health insurance is a new area of knowledge, so Thailand needs to bring in know-how from abroad. International collaboration for training and research development should be developed. Experts from abroad are needed at the initial stage of development as Thailand lacks its own experts. Study visits to the UK, the Netherlands, the USSR, the USA, Indonesia, Taiwan, Costa Rica and so on should be arranged.

7. CONCLUSIONS

The Statutory Health Insurance scheme for private employees, as a branch of social security, is in its initial stage of development and subject to modification, to serve local needs. The experience gained from implementing this

scheme with incentives to reduce abuse, and to improve efficiency, in itself, will serve as a pilot project for national health insurance. Within the next few years other schemes should be studied and emulated. If possible the different schemes in Thailand should be merged. The final goal of national health insurance in Thailand should be for universal, economical, practical, portable, and equitable coverage. At present, there is an option which is simple, economical and leading to efficiency in organising a statutory health insurance scheme for employees, as described in option 9 above. However, experience from abroad reveals that the best course of action is to conduct pilot projects and to make improvements from real experience. Real life is usually rather different but the politician cannot wait for a result from a pilot project before dealing with urgent demands from their voters. Finally, after some years of implementation of option 9, the country will learn from experience and gradually improve the scheme as part of the aim of achieving health for all, by the year 2000.

BIBLIOGRAPHY

Abel-Smith, B. (1963) "Paying the family doctor", Medical Care, Vol.1, No.1, pp.27-35.

.(1965) "The major pattern of financing and organization of medical services that have emerged in other countries", Medical Care, Vol.3, No.1, pp.33-40.

.(1972) "The history of medical care", in Martin, E.W.(ed.), Comparative Development In Social Welfare, London: George allen & Unwin, pp. 219-40.

.(1976) Value for Money in Health Services, London: Heinemann, Chapter 1-3.

.(1984) Cost Containment in Health Care, Occasional Paper on Social Administration No.73, London: Bedford Square Press.

.(1985a) "Preparation for country resources review in Thailand", WHO Report, (Mimeo graphed.)

.(1985b) "Global perspective on health service financing", Social Science and Medicine, Vol.21, No.9, pp.957-963.

.(1985c) "Who is the odd man out? : The experience of Western Europe in containing the costs of health care", Milbank Quarterly, Vol.63, No.1, pp.1-17.

.(1986a) "The world economic crisis. Part 2: health manpower out of balance", Health Policy and Planning, vol.1, No.4, pp.309-316.

.(1986b) "Funding health for all: Is insurance the answer?", World Health Forum, Vol.7, No.1, pp.3-11.

.(1988) "The rise and decline of the early HMOs: Some international experiences", Milbank Quarterly, Vol.66, No.4, pp.694-719.

.(1990) "Health Insurance and Health For All", 23 June, Manuscript, Draft 3.

. ed.(n.d.) Eurocare, Health Econ, Basel: Health Service Consultants.

Adeyi, O.O. (1988) Requiem for the Health Card ? Sustaining the Demand for Rural Health Insurance in Thailand: A case study from Chiang Mai Province, M.CommH. Dissertation, Department of International Community Health, Liverpool School of Tropical Medicine.

Akin, J.S. (1987) " Health insurance in the developing countries: Prospects for risk-sharing", Washington, D.C.: World Bank. (Mimeo graphed.)

Allen, D. (1984) "Health Services in England", in Raffel, M.W. (ed), Comparative Health Systems, University Park: Pennsylvania State University Press.

Altenstetter, C. (1986) " Reimbursement policy of hospitals in the Federal Republic of Germany", International Journal of Health Planning and Management, Vol.1, No.3, pp.189-211.

Apostolov, E. et al (1980) " Mass Screening in Disease Prevention", World Health Forum, Vol.1, Nos.1&2, pp.87-98.

Arroba, G. (1979) " The financing of social security in Latin America", in Methods of Financing Social Security, Studies and Research No.15, Geneva: International Social Security Association, pp.61-82.

Badgley, R.F. and Wolfe, S. (1967) Doctors' Strike, New York: Atherton Press.

Balock Jr., H. M. (1979) Social Statistics, International Student Edition, Tokyo: McGraw - Hill.

Banerji, D. (1986) " A long, grinding political struggle is in prospect", World Health Forum, Vol.7, No.1, pp.12-14.

Bank of Thailand (1990) Thailand: Economic Development in 1989 and Outlook for 1990, Special Supplement, Department of Economic Research, Bangkok: Chuanpim.

Bardsley, A., Coles, J. and Jenkins, L., eds. (1987) DRGs and Health Care, London: King's Fund.

Barr, N. (1987) The Economics of the Welfare State, London: Weidenfeld and Nicolson.

Bastos, M.V. (1971) " Brazil's multiple social insurance programmes and their influence on medical care", International Journal of Health Services, Vol.1, No.4, pp.378-389.

Beardshaw, V. et al (1989) Managed Competition, Briefing Paper No.9, London: King's Fund Institute.

Beirute, L.A. (1988) " Trends, policies and strategies in medical care provision in Latin America", International Social Security Review, Vol.4/88, Geneva:International Social Security Association, pp.409-432.

Boesch, E.E. (1972) Communication between doctor and patients in Thailand, part I, Saarbrucken: Socio-Psychological Research Center on Development Planning, University of Saar.

Boonyoen, D. (1988) The Development of Various Forms of Health Insurance and Implied Issues : A Case Study of Thailand, Bangkok. (Mimeographed.)

Brennecke, R. (1986) " The Structure of the Health Delivery System of the Federal Republic of Germany (FRG): A Short Description". Berlin: Institute of Social Medicine. (Mimeographed.)

Bridgman, R.F. (1971) " Medical care under social security in France", International Journal of Health Services, Vol.1, No. 4, pp. 331-41.

Caldwell, M., (1976) "Thailand: Toward the Revolution", Race and Class, Vol.18, No.2

Chandaravitun, N. (1990) The Social Security Law, Bangkok: Siamrat.(In Thai).

Chayapong, D. (1975) Corvee Labour Under Thai Sakdina System, M.A. Thesis, Faculty of Economics, Thammasart University, Bangkok. (In Thai.)

Chiang, T. (1989) " A Critical Assessment of Health Care Financing in the Republic of China", Document presented in the International Symposium on Health Care Systems, Taipei, Taiwan, Republic of China, Dec. 18-19.

Crichon, A. (1984) "Not the National Health Service: The Canadian Health Care System", Hospital and Health Services Review, Vol.80, No.5, pp.212-215.

Csaszi, L. and Kullberg, P. (1985) " Reforming health care in Hungary", Social Science and Medicine, Vol.21, No.8, pp. 849-855.

Cullis, J.G. and West, P.A. (1985) " French health care: viewpoint A - system X ? ", Health Policy, Vol.5, No.2. pp. 143-49.

Davis, K. (1984) " Physician supply and health care cost", in Ginzberg, E. and Ostow, M.(eds.), The Coming Physician Surplus, New Jersey; Rowman & Allenheld, pp. 37-48.

Deacon, B. (1984) " Medical care and health under state socialism", International Journal of Health Services, Vol.14, No.3, pp.453-480.

De Ferranti, D. (1984) " Strategies for paying for health services in developing countries", World Health Statistic Quarterly, Vol.37, No.4, pp.428-450.

De Lissovoy, G. et al (1988) " Preferred Provider Organizations one year later", Inquiry, Vol.24, No.2, pp.127-135.

Department of Labour (1988a) Occupation accidents and illnesses 1986, Ministry of Interior, Bangkok. (In Thai.)

_____.(1988b) You and the Workmen's Compensation Fund, 9th ed., Ministry of Interior, Bangkok. (In Thai.)

Deppe, H. (1989) " State and health" Social Science and Medicine, Vol.28, No.11, pp. 1159-1164.

DHSS (1988) The Health Services in England: Annual Report 1986-1987, London: DHSS.

Diehr, P. et al (1987) " Use of ambulatory health care services in a PPO", Medical Care, Vol.25, No.11, pp.1033-1043.

Division of Civil Registration (1988) Registration Report 1988, Ministry of Interior, Bangkok.

Dopson, L. (1988) " Health care in Germany", Nursing Times, Vol.84, No.17, pp.33-34.

Dowling, W.L. (1979) "Prospective Reimbursement of Hospitals", in Weeks et al (eds), Financing of Health Care, Ann Arbor, Health Administration Press, pp.249-266.

Doyal, L. (1979) The Political Economy of Health, with Pennell, I., London: Pluto Press.

Dunlop, D.W. (1983) "Health care financing: Recent experience in Africa", Social Science and Medicine, Vol.17, No.24, pp. 2017-2025.

Economist (1990) "Thailand, Not following orders", Vol.317, No.7683, p.78.

Eichhon, S. (1984) "Health Services in the Federal Republic of Germany", in Raffel, M.W. (ed), Comparative Health Systems, University Park: Pennsylvania State University Press, pp.258-285.

Elliott, A. (1982) " Health Maintenance Organizations in the USA", Update, Vol.24, No.4, pp. 652-659.

Ellwood Jr., P.M. (1971) " Health Maintenance Organizations Concept and Strategy ", Hospitals, Vol. 45, No. 6, pp. 53-56.

Elsinga, E. (1989) " Political decision-making in health care: The Dutch case", Health Policy, Vol.11, No.3, pp. 243-255.

Enthoven, A.C. (1978) " Consumer-choice health plan", New England Journal of Medicine, Parts 1,2, Vol.298, Nos.12,13, pp.650-58, 709-720.

.(1988a) "Managed competition: An agenda for action", Health Affairs, Vol.7, No.3, pp. 25-47.

.(1988b) Theory and Practice of Managed Competition in Health Care Finance, Lecture in Health Economics No.9, Amsterdam: Elsevier Science.

Esposito, A.D. (1983) "Medicare' s Prospective Payment Demonstration Programme" in US DHSS and the New Jersey Department of Health, Proceeding of a National Conference on Diagnosis Related Groups, Atlantic City, New Jersey, pp.18-24.

Evan, R.G. (1989) "The Canadian Health Care System: The Other Part of North America is Rather Different", Document presented in International Symposium on Health Care Systems, December 18-19, Taipei, Taiwan.

Filochowski, J. (1983) "Maple-Leaf medicine", Health Services, No.53, 15 July, p.15.

Frech III, H.E. and Ginsburg, P.B. (1988) " Competition amongst health insurers , revisited", Journal of Health Politics, Policy and Law, Vol.13, No.2, pp. 279-291.

Gabel, J. et al (1988) " The changing world of group health insurance", Health Affairs, Vol.7, No.3, pp.48-65.

Gilbert, B.B. (1966) The Evolution of National Insurance in Great Britain, London: Michael Joseph.

Glaser, W.A. (1970) Paying the Doctor, Baltimore: Johns Hopkins Press.

.(1978) Health Insurance Bargaining, New York: Gardner Press & Willy.

.(1979) "Paying the Hospital in Switzerland", New York: Centre for the Social Science at Columbia University. (Mimeo graphed.)

Glaser, W.A. (1980a) "Paying the Hospital in France", New York: Centre for the Social Science at Columbia University. (Mimeo graphed.)

_____. (1980b) "Paying the Hospital in Canada", New York: Centre for the Social Science at Columbia University. (Mimeo graphed.)

_____. (1986) "Payment system and their effects" in Aiken, L.H. and Mechanic, D. (eds.), Application of Social Science to Clinical Medicine and Health Policy, New Jersey: Rutgers University Press, pp.481-99.

Glaser, W.A. (1987) Paying the Hospital, San Francisco: Jossey-Bass.

Green, D. (1985) Working-Class Patients and the Medical Establishment, London: Temple Smith/Gower.

Green, D. and Cromwell, L. (1984) Mutual Aid or Welfare State, Australia's Friendly Societies, London: George Allen & Unwin.

Griffin, C.C. (1988) User Charges for Health Care in Principle and Practice, EDI Seminar Paper No.37, World Bank, Washington, D.C.

Ham, C., Robinson, R. and Benzeval, M. (1990) Health Check, London: King's Fund Institute.

Hansan, S.Z. (1969) "Social security in India: Limited resources, unlimited needs", in Jenkin, S. ed. Social Security in International Perspective, New York: Columbia University Press, pp.190-208.

Hashimoto, M. (1984) "Health services in Japan", in Raffle, M.W. (ed.), Comparative Health Systems, University Park: Pennsylvania State University Press, pp.335-70.

Hatcher, G.H. et al (1984) "Health Services in Canada", in Raffel, M.W. (ed.), Comparative Health Systems, University Park: Pennsylvania State University Press.

Health Card Centre (1985) Manual for Health Card Project, 1985-1987, Ministry of Public Health, Bangkok. (In Thai.)

_____. (1986) Guideline and Method to integrate the Free Medical Care Project into Health Card Project, Ministry of Public Health, Bangkok. (Mimeo graphed., In Thai.)

Health Planning Division (1985) Allocation of the Office of Permanent Secretary for Public Health Expenditure for Fiscal Year 1982, Ministry of Public Health, Bangkok. (Mimeo graphed., In Thai.)

Health Planning Division (1987) The Sixth Five-Year National Health Development Plan (1987-1991), Ministry of Public Health, Bangkok.

.(1989a) "Health Development Strategies, Under the Seventh Five-Year National Economic and Social Development Plan (1992-1996)", Ministry of Public Health, Bangkok. (Mimeo graphed., In Thai.)

.(1989b) Development of Financial and Managerial Information System by the Supplementary Cost-Accounting System, Ministry of Public Health, Bangkok: Thamasart University Press.

.(1990) Health in Thailand 1990, Ministry of Public Health, Bangkok.

Health Statistics Division (1989) Basic Health Statistics 1987-1989, Ministry of Public Health, Bangkok. (Mimeo graphed., In Thai.)

Herkimer, Jr., A.G. (1978) Understanding Hospital Financial Management, Germantown: Aspen Systems Corporation.

Hester, J.A. et al (1987) " Evaluation of a Preferred Provider Organization", Milbank Quarterly, Vol.65, No.4, pp.575-613.

Hogarth, J. (1963) The Payment of the General Practitioner, Oxford: Pergamon Press.

Hongvivatana, T. et al (1986) Health Services Utilization under the Health Card Project, Bangkok: Health Policy Studies Centre, Mahidol University. (In Thai).

Hu, T. (1981) " Issue of health care financing in the People's Republic of China", Social Science and Medicine, Vol.15C, No.4, pp. 233-237.

Hutaserani, S. and Jitsuchon, S. (1988) Thailand's Income Distribution and Poverty Profile and Their Current Situations, Thailand Development Research Institute Foundation, Bangkok. (Mimeo graphed.)

Iglehart, J.K. (1984) " HMOs (for-profit and not-for-profit) on the move", New England Journal of Medicine, Vol.310, No.18, pp. 1203-1208.

Ikegami, N. (1989) " The Japanese Health Care Financing and Delivery System: Its Experiences and Lessons for other Nations", Document presented in the International Symposium on Health Care Systems, Taipei, Taiwan, Republic of China, Dec. 18-19.

Institute for Population and Social Research, Mahidol University (1988) The Morbidity and Mortality Differentials, ASEAN Population Programme Phase III, Thailand Country Study Report, Bangkok.

International Labour Office (1927) Compulsory Sickness Insurance, Studies and Reports Series M (Social Insurance) No.6, Geneva: International Labour Office.

.(1958) Social Insurance in Latin America, Geneva: International Labour Office.

International Labour Office (1981) The Cost of Social Security: Tenth International Inquiry, 1975-1977, Basic Tables, Social Security Department, Geneva.

Jaidee, S. et al (1986) "Problems of waste use of drugs" in Hongwiwat, T. et al (eds.), The Economics of Health in Thailand, proceeding of a seminar on health economics research and training in support of PHC in Thailand, MOPH and Mahidol University, Chonburi, Thailand, 12-14 March. (In Thai.)

Jansom, V. (1988) The Ministry of Public Health: Strengths, Weaknesses and Development Strategies, Thai Development Research Institute, Bangkok. (Mimeo graphed., In Thai.)

Jenkins, L., McKee, M. and Sanderson, H. (1990) DRGs: A Guide to Grouping and Interpretation, London: CASPE Research.

John, J. and Potthoff, P. (1987) "Cost containment in a statutory health insurance scheme by substitution of outpatient for inpatient care ? The case of the Bavarian Contract", Health Policy, Vol.8, No.2, pp.153-169.

Kaser, M. (1976) Health Care in the Soviet Union and Eastern Europe, London: Croom Helm.

Khan, N. (1989) "A healthy revolution", Health Service Journal, Vol.99, No. 5162, p. 954.

Khumthong, N. et al. (1989) Health Care Seeking Behavior of Patients: A Case Study at Khun Han Hospital, Sisaket. (Mimeo graphed., In Thai.)

Kidder, L.H. and Judd, C.M. (1986) Research Methods in Social Relations, with Smith, E.R., Fifth Edition, HRW International Editions, Tokyo: CBS Publishing Japan.

Kim, Y. (1987) "Health Care Financing in Korea", Document presented in the Seminar on Health Care Financing, ADB, Manila, 23 July - 3 August. (Mimeo graphed.)

Kiranandana, S. (1988) "Health Insurance and Medical Schemes for Civil Servants and State Enterprise Employees", Paper presented at workshop on Health Insurance System for Thailand, Chonburi, 18-19 August. (Mimeographed., In Thai.)

Kiranandana, T. (1988) "Health Insurance in Thailand" in Merkle, F., Schwefel, D. and Kiranandana, T., The Health Card Programme in Thailand, Project Evaluation and Appraisal Report, Commissioned by the GTZ, Munich and Bangkok, pp.15-24.

Kiranandana, T. et al (1989) Morbidity and Mortality Pattern of Thai Population, Research report, Bangkok: Chulalongkorn University Press. (In Thai.)

Kitphapaiampon, T. (1988) Household Decision-Making and the Utilization of Medical Services: A Case Study of the Health Card Programme, M.A. Thesis, Faculty of Economics, Thammasart University, Bangkok.

Kolakul, J. (1988) " Health Insurance and Sickness Benefits in Private Businesses", Paper presented at workshop on Health Insurance System for Thailand, Chonburi 18-19 August. (Mimeographed., In Thai.)

Kritayakirana, K. et al (1986) " An Analysis of Private Health Insurance" in Boonyoen, D. and Singkaew, S. (eds), Health Insurance for Thailand : A Dream or Reality?, Proceeding of a workshop on health insurance for Thailand, MOPH, Chonburi, 10-12 June, pp.149-92. (In Thai.)

Krongkaew, M. (1979) Effects of Public Finance on Income Distribution, Research Report No. 15, Faculty of Economics, Thammasart University, Bangkok. (In Thai.)

Kwon, S. (1988) Social Insurance in Korea, KDI Working Paper No. 8808. Korea Development Institute, Seoul.

Lacronique, J. (1984), Health services in France, in Raffle, M.W.(ed.), Comparative Health Systems, University Park: Pennsylvania State University Press, pp.258-85.

Lapre, R.M. (1988) " A change of direction in the Dutch health care system?", Health Policy, Vol.10, No.1, pp.21-32.

Laudon, I. (1986) Medical Care and the General Practitioner 1750-1850, Oxford: Clarendon Press.

Le Grand, J and Robinson, R. (1984) The Economics of Social problems, second edition, London: Macmillan.

Leichter, H.M. (1979) A Comparative Approach to Policy Analysis, Cambridge: Cambridge University Press.

Levy, V.M. (1985) Financial Management of Hospital, Sydney: Law Book Company.

Logan, J., Green, D.G. and Woodfield, A. (1989) Healthy Competition, The Centre for Independent Studies, Australia.

Lovel-Smith, J.B. (1966) The New Zealand Doctor and the Welfare State, Auckland: Blackward & Janet Paul.

Luft, H.S. (1980) "Trend in medical care cost: Do HMOs lower the rate of growth?", Medical Care, Vol.18, No.1, pp.1-16.

Luft, H.S. et al (1980) "Health Maintenance Organizations" in Feder, J., Holahan J. and Marmor, T. eds. National Health Insurance, Conflicting Goals and Policy Choices, Washington D.C.: The Urban Institute, pp.129-180.

Mahidol University and Health Statistics Division (1988) A Study on Infant Mortality Rate in Thailand, Bangkok. (In Thai.)

Manning, W.G. et al (1984) "A controlled trial of effect of a prepaid group practice on use of services", New England Journal of Medicine, Vol.310, No.23, pp. 1505-1510.

Marwick, P. (1985) "Competition: The future of health care, Part one", Hospital and Health Care, Vol.16, No.12, pp. 10-12.

Maxwell, R.J. (1981) Health and Wealth, Massachusetts.: Lexington.

Mayer, T.R. and Mayer, G.G. (1985) "HMOs: Origin and development", New England Journal of Medicine, Vol.312, No.9, pp. 590-594.

Maynard, A. (1982) "The private health care sector in Britain", in McLachian, G. and Maynard, A. (eds) The Public / Private Mix for Health, London: The Nuffield Provincial Hospital Trust, pp.129-62.

.(1990) "New Zealand: The Other Road to Health Reform", Health Service Journal, Vol.100, No.5188, p.237.

Mays, N. and Bevan, G. (1987) Resource Allocation in the Health Services, London: Bedford Square Press.

McGreevey, W.P. (1988) "The high costs of health care in Brazil", Bulletin of the Pan American Health Organization, Vol.22, No.2, pp.145-166.

McGuire, A., Fenn, P. and Mayhew, K. (1989) " The assessment: The economics of health care", Oxford Review of Economic Policy, Vol.5, No.1, pp.1-20.

Meiners, M.S. and Coffey, R.M. (1984) Hospital DRGs and the Need for Long-Term Care Services: An Empirical Analysis, Rockville, Maryland: National Centre for Health Services Research.

Mesa-Lago, C. (1978) Social Security in Latin America: Pressure Group, Stratification and Inequality, Pittsburgh: University of Pittsburgh Press.

_____.(1983) " Social security and extreme poverty in Latin America", Journal of Development Economics, Vol.12, Nos.1/2, pp.83-110.

_____.(1985) " Health care in Costa Rica: Boom and crisis", Social Science and Medicine, Vol.21, No.1, pp. 13-21.

_____.(1986) " Comparative study of the development of social security in Latin America", International Social Security Review, Vol.2/86, Geneva:International Social Security Association, pp.127-152.

_____. ed.(1985) The Crisis of Social Security and Health Care, Latin America Monograph and Document Series, No.9, Pittsburgh: University of Pittsburgh, Centre for Latin American Studies.

Midgley, J. (1984) Social Security, Inequality and the Third World, Chichester: John Wiley & Sons.

Mills, A. (1980) Health Services for Low Income Group : Access to Free Medical Care, WHO Report. (Mimeographed.)

_____.(1985) " Economic aspects of health insurance", in Lee, K. and Mill, A. eds. The Economics of Health in Developing Countries, Oxford: Oxford University Press.

Ministry of Public Health (1985) Thailand Health Profile, 1985, Bangkok.

Ministry of Public Health and The German Agency for Technical Cooperation (GTZ) (1989). Health Card Project : The Evaluation of a Pilot Project in Chiangmai Province, 1985-88., Bangkok and Chiangmai. (In Thai.)

Morrow, M. (1972) "Thailand: Bombers and Bases - America's New Frontier", Journal of Contemporary Asia, Vol.11, No.4.

Mortality Profile of the Thai Population (1988) Country Report No.24, Thailand, paper presented at the WHO Interregional Seminar on Financing Human Resources for Health, Bangkok, 6-10 March. (Mimeographed.)

Mortimer, S. (1989/90) " Health care in the USSR", Journal of Management in Medicine, Vol.4, No.3, pp. 199-203.

Moser, C.A. (1952) " Quota sampling", Journal of the Royal Statistical Society, London: Royal Statistical Society, Vol. A115, pp.411-23.

Moser, C.A. and Stuart, A.(1953) " An experimental study of quota sampling", Journal of the Royal Statistical Society, London: Royal Statistical Society, Vol. A116.

Myers, C. et al. (1985) Financing Health Services and Medical Care in Thailand, USAID, Bangkok.

National Epidemiology Board of Thailand (1987) Review of the Health Situation in Thailand, Priority Ranking of Diseases, The Fact Finding Commission, Bangkok.

National Statistical Office (1960, 1980), Population and Housing Censuses 1960, 1980, Office of the Prime Minister, Bangkok.

.(1976, 1986) Socio-Economic Surveys 1975/6, 1985/6, Office of the Prime Minister, Bangkok.

.(1989) Labour Force Survey, 1988, Office of the Prime Minister, Bangkok.

Netherlands (1987) Willingness to Change, Report of the Committee on the Structure and Financing of the Health Care System, By Dekker, W., Chairman. The Hague, 26 March.

.(1988) Changing Health Care in the Netherlands, Ministry of Welfare, Health and Cultural Affairs, Rijswijk, September.

Neubauer, G. and Unterhuber, H. (1985) "Failures of the hospital financing system of the Federal Republic of Germany and reform proposals", Effective Health Care, Vol.2, No.4, pp.161-169.

Newhouse, J.P. et al (1985) " Are fee-for-service costs increasing faster than HMO costs ?", Medical Care, Vol.23, No.8, pp.960-966.

Nolan, B. (1988) Financing the Health Care System: Is Private Financing an Alternatives ?, Dublin: The Economic and Social Research Institute.

OECD (1987) Financing and Delivery Health Care, OECD Social Policy Studies No.4, Paris.

.(1990) Health Care Systems in Transition, OECD Social Policy Studies No.7, Paris.

Office of Permanent Secretary for Public Health (1984) Manual for Free Medical Care Project, Part 1 : for Health Personnel, Ministry of Public Health, Bangkok. (In Thai.)

Office of the Primary Health Care (1985) Primary Health Care in Thailand, Bangkok.

Office of the Prime Minister (1985) Thailand In Brief, Government Public Relation Department, Bangkok.

Pan American Health Organization (1977) " Coordination between Social Security System and Public Health", Technical Discussion Paper, Washington, D.C.: PAHO. (Mimeo graphed.)

.(1981) " Coordination of Social Security and Public Health Institutions", 28th Meeting of the PAHO Directing Council, Provisional Agenda Item 23, Washington, D.C.: PAHO. (Mimeo graphed.)

.(1987) " Coordination of Social Security and Public Health Institutions", Resolution adopted at the 32nd Meeting of the PAHO Directing Council, Washington, D.C.: PAHO, Sep., CD32/17 Eng. (Mimeo graphed.)

Parmelee, D.E. (1985) " Whither the state in Yugoslav health care? ", Social Science and Medicine, Vol.21, No.7, pp.719-732.

Petprasert, N. (1986) "An Analysis of the Workmen's Compensation Fund" in Boonyoen, D. and Singkaew, S. (eds), Health Insurance for Thailand : A Dream or Reality?, Proceeding of a workshop on health insurance for Thailand, MOPH, Chonburi, 10-12 June, pp.91-111. (In Thai.)

Pflanz, M. (1971) " German health insurance: The evolution and current problems of the pioneer system", International Journal of Health Services, Vol.1, No.4, pp.15-30.

Pichaisanit, P. et al. (1984) The role of Government Hospitals in National Health Services, Mahidol University and the MOPH, Bangkok.

Prasithrathsint, S. and Boonpuang, C. (1987), Adjusted Mortality Rates and Life Table in Thailand 1964-1984, Bangkok. (In Thai.)

Prescott, N. and Jamison, D.T. (1984) " Health sector financing in China", World Health Statistics Quarterly, Vol.37, No.387-402.

Powell, M. and Anesaki, M. (1990) Health Care in Japan, London and New York: Routledge.

Raffel, M.W., ed. (1984) Comparative Health Systems, University Park: Pennsylvania State University Press.

Raffel, N.K. (1984) " Health services in the Union of Soviet Socialist Republics", in Raffle, M.W.(ed.), Comparative Health Systems, University Park: Pennsylvania State University Press, pp.488-519.

Rajan, R.V. (1968) Monograph on the Organization of Medical Care within the Framework of Social Security in India, Geneva: ILO.

Raskin, I.E. et al (1982) " Cost containment" in Luke, R. and Bauer, J.(eds.), Issues in Health Economics, Rockville: Aspen, pp.533-47.

Review Body on Doctors' and Dentists' Remuneration (1989) Nineteenth Report, Cm 580, London: HMSO.

Rice, T. et al (1989) " PPOs: The employer perspective", Journal of Health Politics, Policy and Law, Vol.14, No.2, pp.367-382.

Robert, J. (1990) " Winter in Leningrad", Health Service Journal, Vol.100, No.5182, pp.18-19.

Rodrigues, J. (1987) " The international scene", In Bardsley, Coles and Jenkins, (eds), DRGs and Health Care, London: King's Fund, pp.61-73.

Roemer, M.I. (1962) "On paying the doctor and the implications and different methods", Journal of Health and Human Behavior, Vol.3, No.1, pp.4-14.

_____.(1971) " Social security for medical care: Is it justified in developing countries?", International Journal of Health Services, Vol.1, No.4, pp.354-361.

_____.(1973) " The development of medical services under social security in Latin America", International Labour Review, Vol.108, No.1, pp.1-23.

_____.(1976) Health Care System in World Perspectives, Ann Arbor: Health Administration Press.

_____.(1978) "The dynamics of different methods of paying for medical care", Social Medicine, New York: Springer, pp.194-208.

Roemer, M.I. (1987) "Health system financing by social security, International Journal of Health Planning and Management, Vol.2, pp.109-124.

Roemer, M.I. and Maeda, N. (1976) " Does social security support for medical care weaken public health programmes?", International Journal of health Services, Vol.6, No.1, pp.69-78.

Roemer, M.I. and Roemer, R.J. (1981), Health Care Systems and Comparative Manpower Policies, New York: Marcel Dekker.

Ron, A., Abel-Smith, B. and Tamburi, G. (1990) Health Insurance in Developing Countries, Geneva: ILO.

Royal Thai Government (1988a) Health and Social Development in Thailand, Bangkok.

.(1988b) Proceedings of the First Thai Health Assembly, Bangkok, 12-15 September. (In Thai.)

Rural Health Division (1988) Report of the Free Medical Care Project, Ministry of Public Health, Bangkok. (Mimeo graphed., In Thai.)

.(1989) "An Analysis of Budget Allocation 1989", Paper presented in a meeting of the Free Medical Care Project Working Group for Budget Allocation, Bangkok, 31 August, (Mimeo graphed., In Thai.)

Salter, B. (1988) "The state of health maintenance organizations in the United States of America", The Family Practitioner Services, Vol.14, No.2, pp.21-22.

Sanderson, H. (1990) "First train your staff", Health Service Journal, Vol.100, No.5185, pp.132-133.

Sandier, S. (1989) " The Payment of Physicians in Selected OECD Countries", Paper prepare for Working Party on Social Policy, OECD, (Mimeo graphed.)

Schulz, R. and Harrison, S. (1986) " Physician autonomy in the Federal Republic of Germany, Great Britain and the United States", International Journal of Health Planning and Management, Vol.1, No.5, pp.335-55.

Schwefel, D. (1988) "The Health Card Programme in Thailand", in Merkle, F., Schwefel, D. and Kiranandana, T., The Health Card Programme in Thailand, Project Evaluation and Appraisal Report, Commissioned by the GTZ, Munich and Bangkok, pp. 25-57.

Searle, D. and Power, M. (1990), "Legacy of Decay", Health Service Journal, Vol.100, No. 5204, p. 849-50.

Sheldon, T. (1990) "Only the Fittest Survive", Health Service Journal, Vol.100, No. 5209, p.1032-34.

Singh, H.M. (1982) "Methods of medical care delivery: The experience of India", International Social Security Review, Vol.1, No.35, pp.17-37.

.(1983) "Current issues in the development of medical programmes under social security", Report of Sixth Regional Conference for Asia and Oceania, Tokyo, 6-10 Sep. 1982, New Delhi: ISSA, Regional Office for Asia and Oceania, pp.50-72.

Sirivanarungsun, P. et al.(1989) The Trend of Budgeting of Ministry of Public Health 1977-90, Bangkok: Health Planning Division. (Mimeo graphed., In Thai.)

Sokolov, D.K. et al (1980) The Gabrovo Health Services Model in the People's Republic of Bulgaria, EURO Reports and Studies No.27, Copenhagen: WHO Regional Office for Europe, WHO.

Sondergaard, W, and Krasnik, A. (1984) "Health services in Denmark" in Raffle, M.W.(ed.), Comparative Health Systems, University Park: The Pennsylvania State University Press, pp.153-78.

Sorkin, A.L. (1986) Health Care and the Changing Economic Environment, Mass.: Lexington Book.

Starr, P. (1982) The Social Transformation of American Medicine, New York: Basic Books.

Stevenson, H.M., Williams, A.P. and Vayda, E. (1988) "Medical Politics and Canadian Medicare: Professional response to the Canada Health Act", Milbank Quarterly, Vol.66, No.1, pp.65-103.

Stuart, A. (1968) "Non-probability sampling" in Sills, D.L. ed. International Encyclopedia of Social Sciences, Vol.13, New York: Macmillian & Free Press, pp.612-16.

Sudman, S. (1966) "Probability Sampling with Quotas", Journal of the American Statistical Association, Vol.61, No. 315, September, pp.749-71.

Sussangkarn, C. et al (1988) The Long-term View on Growth and Income Distribution, Thailand Development Research Institute Foundation, Bangkok. (Mimeo graphed.)

Tansiriratanakul, C. (1978) "Evaluation of Financing of Health Services for Low Income Population Project", Essay presented to The Faculty of Columbia University School of Public Health in partial fulfilment of the Requirement for the Degree of M.PH. (Manuscript.)

Tantiserani, P. and Prompakdee, S. (1989) " Health Card Project in rural areas" in Wutthipong, P. et al (eds), Health Insurance System in Thailand, Bangkok: Health Policy Studies Centre, Mahidol University and Health Card Centre, MOPH. (In Thai.)

Thailand Public Health Association (1991) Public Health Diary 1991, Bangkok. (In Thai.)

Tiddens, H.A. et al (1984) " Health services in the Netherlands", in Raffle, M.W.(ed.), Comparative Health Systems, University Park: The Pennsylvania State University Press, pp.371-418.

Titmuss, R. (1963) " Ethics and economics of medical care", Medical Care, vol.1 No.1, pp.16-22.

Tollefson, A.E. (1964) Bitter Medicine, Saskatoon: Modern Press.

Tourism Authority of Thailand (1990) Tourism Journal, Vol.30, No.11, p. 17.

Ugalde, A. (1985) " The integration of health care programmes into a national health service" in Mesa-Lago, C. ed. The Crisis of Social Security and Health Care, Latin America Monograph and Document Series, No.9, Pittsburgh: University of Pittsburgh, Centre for Latin American Studies, pp.109-142.

U.S. Department of Health and Human Services (1986) Social Security Programmes Throughout the World - 1985, Research Report No.60, Washington, D.C.: Social Security Administration.

Van de Ven, W.P.M.M. (1989) A Future for Competitive Health Care in the Netherlands, NHS White Paper Occasional Paper No.9, York: University of York, Centre for Health Economics.

Viveros-Long, A. (1986) " Changes in health financing: The Chilean experience", Social Science and Medicine, Vol.22, No.3, pp. 379-385.

Wibulpolprasert, S. et al (1987) Health Care Financing : Thailand, A Country Report for the Seminar on Health Care Financing, ADB, Manila, 23 July - 3 August. (Mimeo graphed.)

Working for Patients, (1989), Cm 555, London: HMSO.

Workmen's Compensation Fund Office (1985) Workmen's Compensation Law with an Explanation, Bangkok. (In Thai.)

Workmen's Compensation Fund Office (1986, 1987) Annual Reports of Workmen's Compensation Fund 1986, 1987, Ministry of Interior, Bangkok. (Mimeographed., In Thai.)

World Bank (1984) Thailand : Managing Public Resources for Structural Adjustment, A World Bank country study, Washington D.C.

.(1987) Financing Health Services in Developing Countries: An agenda for Reform, A World Bank Policy Study, Washington, D.C.: World Bank.

.(1990) World Development Report 1990, New York: Oxford University Press, June 1988.

World Health Organization (1971) Personal Health Care and Social Security, Report of a Joint ILO/WHO Committee, Technical Report Series No.480, Geneva: WHO.

.(1987) " The Costa Rican Plan for Health for All by the Year 1990", Financing Health Development, Geneva: WHO, WHO/HSC/87.1, pp.26-30.

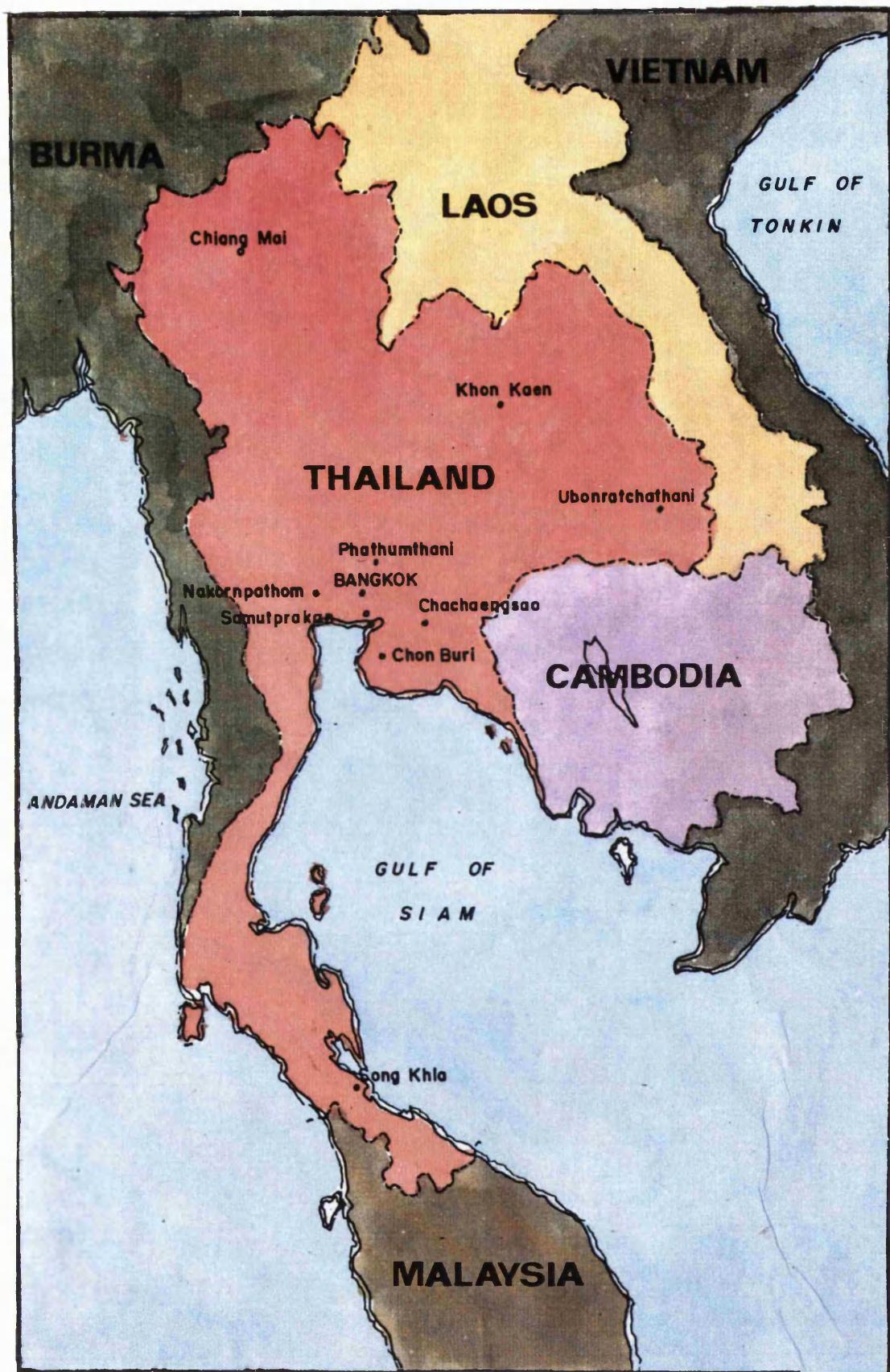
Yaung, C. (1989) " Current System of Health Care Financing and Delivery in R.O.C. and Its Challenge for Future Development", Document presented in the International Symposium on Health Care Systems, Taipei, Taiwan, Republic of China, Dec. 18-19.

Zollner, D. (1982) " Germany" in Kohler, P.A. and Zacher, H.F. eds. The Evolution of Social Insurance 1881-1981, London: Frances Pinter, pp.1-92.

Zschock, D.K. (1982) " General review of problems of medical care delivery under social security in developing countries", International Social Security Review, Vol.1, No.35, pp.3-16.

.(1986) " Medical care under social insurance in Latin America", Latin American Research Review, Vol.21, No.1, 1986, pp.99-122.

APPENDIX 1: Map of Thailand



APPENDIX 2
RESEARCH METHODOLOGY

1. INTRODUCTION

This appendix discusses the methodology and design of the survey of health benefits for private employees in Thailand whose objectives and detailed results are presented in chapters 5 and 6. The survey gave a better understanding about the pattern and costs of health benefit provision before a statutory health insurance is to be implemented. In addition, the survey explored overall fringe welfare benefits and some key characteristics of general industrial relation practices in Thailand. This is because, prior to the survey, there was a lack of national data on industrial relation practices particularly on health benefits for employees.

2. SECONDARY DATA

There are five major sources of existing data related to this subject which can be used as secondary information regardless of them being non health benefit specific. These are as follows;

First, the 1981 socio-economic survey conducted by the National Statistical Office, Office of the Prime Minister. It has been conducted every 4-5 years since 1958. It has been better developed since 1975/6, to provide more reliable data and to include general health information.

Second, the 1982 health and welfare survey which was previously conducted in 1976, 1977, 1978, by the National Statistical Office. It presents information on the health status and welfare of the Thai population and was used specifically for planning the health services and manpower development.

Third, the general household surveys of 1970 and 1982 conducted by the Health Planning Division of the Ministry of Public Health providing information on the utilization of health care facilities and on health expenditure.

Fourth, the morbidity and mortality differentials survey conducted by Mahidol University in 1988. It indicated the morbidity and mortality pattern of the Thai population and its utilization of health services.

Fifth, a study on social insurance by Raviwong, V. et al in 1986 which presents more specific information on health insurance than other studies. It is comprised of 4 volumes; social insurance premium estimates, the tendency to join social insurance schemes by employers and employees,

philosophy and comparative law, and finally, conclusions and recommendations.

However, there are some weak points in Raviwong et al's study which need further study, namely;

1. The classification of the benefit options is not based on the international standard grouping. The study offered two options for coverage and the estimates of the premium, accordingly. The first set of benefits are comprised of sickness, death, and invalidity benefits. The second set combines maternity and old age benefits. This classification is not based on international grouping such as those of the ILO, and the U.S. Department of Health and Social Services, making it difficult to administer and to make international comparisons. Customarily, sickness and maternity programmes are grouped separately from old age, invalidity and death programmes. However, in some countries, separate programmes are organized for each benefit.

2. The premium estimates are based on risk-rating which does not incorporate any consideration of equity.

3. The response rate of the mail questionnaires from employers was 25.4 per cent which is low. However, a more significant issue is that the respondents were not fully representative of the employer population.

3. KEY FEATURES

The survey collects information on the following basic areas:

1. Type of business.
2. Type of health and other fringe benefits.
3. The cost of existing health fringe benefits.
4. Coverage of health benefits.
5. Limits on health benefits.
6. Cost of transportation, cost of drugs, and other costs.
7. The cost of health care provision as a percentage of pay-roll.
8. Methods of paying the doctor.
9. Methods of paying the hospital.
10. Accessibility to health services.
11. Causes of illness of employees as perceived by employers.
12. The opinion of employers about health insurance and their willingness to pay.

4. THE SAMPLING FRAME AND THE SAMPLE

The sampling adopted was quota sampling because it is easy to use, has a high reliability of data, and is economical.

The registration of employment information kept by the Ministry of Industry was found to relate to manufacturing industries only, and was kept in card form as opposed to computer storeage media, as was the case with the information kept by the Ministry of Interior. This Ministry held more up-to-date information covering both manufacturing and service industries. Therefore, the sampling frame was the **census of employment** obtained from the Ministry of Interior.

The unit of analysis was the **establishment or workplace**. That is an individual place of employment at a single address and covering all the employees at the address of the same employer. In this survey, a total of two hundred establishments were targeted, out of a population of 139,445 establishments. This sample represents 1 in 697 or 0.14% of the total.

The size, type, and geographical location of establishments selected were chosen to obtain a good representative cross section of the sample. Different sampling fractions were used for sample selection within six size bands as presented in **Table A.1**. Similarly, quota sampling classified by 6 industrial relation regions and 15 types of establishment was used with differing sampling fractions, as shown in **Table A.2** and **A.3** below:-

Table A.1: Quota of establishments, classified by size of establishment.

Size of establishment (No. of employees)	Establishments	Sampling fraction	Quota
		(1 in...)	
1 - 9	110,527	2210	50
10 - 19	13,937	302	46
20 - 99	12,377	238	52
100 - 299	1,836	91	20
300 - 999	640	35	18
1000 and more	128	9	14
Total	139,445	697	200

Source : The total number of establishments from the Technical and Planning Division, Department of Labour, Ministry of Interior, 1987.

Table A.2: Quota of establishments, classified by location of establishments.

Location of establishment	Establishments	Sampling fraction	Quota
		(1 in...)	
Bangkok	54,640	867	63
5 Surrounding provinces of Bangkok	9,437	410	23
Central region	18,940	728	26
North region	17,846	637	28
Northeast region	22,919	674	34
South region	15,663	602	26
Total	139,445	697	200

Table A.3: Quota of establishments, classified by type of establishment.

Types of establishment	Establishments	Sampling fraction	Quota (1 in...)
<u>Manufacturing sector</u>			
Food, drink and tobacco	11,182	657	17
Textiles, clothing and leather	10,214	638	16
Woodworking and construction	4,729	525	9
Paper, printing and publishing	2,321	386	6
Chemical and allied industries	2,865	477	6
Metals and non-metals manufacture	11,337	755	15
Mining and quarrying	952	158	6
Miscellaneous manufacturing	3,791	379	10
<u>Service sector</u>			
Transport and communications	3,304	660	5
Energy and water supply	544	77	7
Business, finance and banking	5,016	716	7
Professional and scientific services	3,541	590	6
Tourist services and hotels	10,299	735	14
Distribution trades, wholesale and retail	50,454	1029	49
Miscellaneous services	18,896	699	27
Total	139,445	697	200

5. QUESTIONNAIRE CONSTRUCTION

The questionnaires used to guide interviewers were constructed with care including both pre-coded and open-ended questions. Altogether, there were three questionnaires which are shown in Appendix 3.

During the interview period, the interviewer started with questionnaire 2 which is mainly about types of welfare benefit and health benefit provision, followed by questionnaire 1, on the cost of health benefit, sent to the respondent before the interview took place. Finally, questionnaire 3, about the

opinion of employers towards health insurance, was presented.

The following are summaries of the questionnaires.

Questionnaire No.1.

This questionnaire provided factual information for the calendar year 1987 and consisted entirely of open-ended questions. This questionnaire was sent to the respondent one or two weeks before the interview to allow extra time for some of the information to be obtained. Examples of the type of question in this questionnaire are:-

9. What was the total personnel cost for employees of this establishment spent last year ? (1 January - 31 December 1987) _____ These included, for normal wages and salaries, an amount of _____ Baht. And extra wages an amount of _____ Baht.

13. What was spent on drugs kept at the establishment last year? _____

17. What was the total cost of health benefit that you spent last year? _____

Questionnaire No.2.

Concerning the make-up and operational details of the employer's health benefit scheme(s), this questionnaire comprised two parts:-

1) General information not included in questionnaire No. 1; such as, the type of establishment, the main activity of the establishment, ownership, working conditions, pay-roll method, and the provision of fringe benefits.

2) Questions concerning the health benefits provided for employees (five parts);

a) The type of benefit employees are entitled to receive.

b) Coverage of benefit; e.g., Do all employees receive the benefits? Do any of their dependents receive the benefits?

c) Method of payment, to the health service provider, doctors and hospitals in particular.

d) Also, if private health insurance is arranged in the establishment, the method and cost of paying the premium.

e) Finally, some related questions on sickness and maternity cash benefits were asked, in order to ease the task of analyzing the total health benefit.

Questionnaire No.3.

Attitude towards health insurance; it was asked whether employees had access to health services or not and if not, what were the limitations. If they had access, it was asked whether they considered them to be adequate, inappropriate or discontinuous. Respondents were asked who, they felt, should be responsible for the provision of health care services under the National Health Insurance scheme and who should organise the health insurance fund.

Employers were also asked about their willingness and preparedness to pay for health insurance. What was an appropriate price for employees to join the scheme, and what proportion of the employees' income would they be prepared to contribute ?

6. PILOT SURVEY

After the questionnaires were developed as specified above, they were sent to consultant experts in the fields of medicine, public health, health economics, health insurance, and social security and industrial relations, in order to obtain their views. Feedback received from them was demonstrated to be of value in shaping the questionnaire structure at an early stage.

The pilot survey was conducted between 13th June and 1st July 1988 among nineteen establishments in Bangkok, of differing sizes and kinds. The differences were taken in the same proportions as for the full survey in order to maximise its validity. During the course of the pilot study, three versions of the questionnaires were tried out. The basic structure of the questionnaires remained the same, while the detailed questions were changed.

Initially, the interview time was one and a half to two hours. However, after final modifications, the interview time was reduced by forty five minutes to one hour and fifteen

minutes, depending on the complexity of the health benefits of each establishment.

The pilot survey was a test for, not only the content and length of questionnaires, but also the procedures for contacting the employer. The first step in approaching an establishment, was to telephone to explain briefly the objective of the survey and to arrange for an appointment for a personal interview. The next step was to send out an official letter from the Health Planning Division, Ministry of Public Health, confirming the interview date and enclosing questionnaire No. 1. This method of communicating with the employers was seen as the most effective and so was used as the method of communication and data collection in the later, main survey.

7. THE TRAINING OF THE INTERVIEWERS

Before the main survey was carried out, two days of intensive training was arranged for those who were to interview, in the Vieng-Tai Hotel, Bangkok, between 7th and 8th July 1988. Most of the interviewers, ten in number, had a background in Public Health or Economics.

The content of this intensive training was as follows:-

- a) Health problems in Thailand.
- b) General concepts of health insurance and social security.

- c) Industrial relations laws.
- d) The workmen's compensation fund.
- e) Health benefit under the State's employees scheme.
- f) Free medical care for the Indigents.
- g) Private Health Insurance.
- h) Guidelines for interviewers.
- i) Questionnaires 1, 2, and 3.
- j) Group practices.

8. THE MAIN SURVEY

Before the interview took place, respondents were informed that the purpose of the survey was to provide information for policy making. Their information would help the government in trying to formulate the policy towards health insurance. However, their identity would be treated as highly confidential.

The main survey was conducted in sixty three establishments in Bangkok and neighbouring provinces, between 11th July and 11th August, 1988. The interviewers were given five times the number of quota samples actually required so they could visit the next establishment on the list, if the first could not respond or were not contactable.

Between 15th and 19th August 1988, the research team was divided into three and sent to the Northern, Central, and the

Northeastern parts of Thailand. Later they rejoined to go to the South between 29th August and 3rd September, 1988. During the course of the interviews, the questionnaires were edited on the spot by the team supervisors so that if any questions arose, they could be solved immediately. A common problem was a change in the size of the establishment since last reporting to the Ministry of Interior. The list obtained from the Ministry of Interior at the central level had to compare with that at the provincial level. If necessary, the list of establishments given to the interviewers was changed using the provincial list of establishments. In addition, the provincial staff of the MOPH were of great help in contacting the employers, particularly when changes had occurred.

After interviewing, a letter of thanks was sent from the Health Planning Division to the respondent in each establishment, while the interviewers were de-briefed and some checks were made to ensure that establishments had been visited.

For quality control of the quota sampling it was found necessary to keep up-to-date records of the sample quota, with special regard to size of the establishment. This was to permit exchange of target quotas between interviewers in order to keep the total target in line with the design. This was because the size of the establishment had changed and the owner or manager did not bother to inform the Ministry of Interior. The questionnaires were completed and returned to

the office, with feedback, as soon as they were completed. The work was monitored and edited quickly for two reasons; first, to monitor the progress of the project by comparing the completed sample with the target quota, and second, to make sure that the performance of each interviewer was kept up to standard. If an incomplete questionnaire was found, it was sent back to the interviewer with discussion and support. Finally, team discussion took place regularly in order to receive feedback and provide support to the interviewers.

9. CODING, EDITING AND ANALYSING OF THE DATA

The overall coding and editing of the data took place between 12th September and 4th November 1988. The pre-coded part of questionnaires 2 and 3 were coded by the interviewer at the time of the interview and edited as soon as they were returned to the central office. The open-ended questions presented some difficulties in understanding and interpretation. Therefore, some answers were referred back to the interviewers or respondents in order to obtain more information and greater clarity.

Data coding sheets were developed in order to help key the data into the computer. Checks made by the computer found some errors which could be corrected by referring to the original data.

The data analysis took place between 7th to 18th November, 1988, followed by the writing of the preliminary report (in Thai) from 20th November to 20th December, 1988. The Statistical Package for Social Sciences (SPSS), was used for analysing the survey results. The Statistical Division of the Ministry of Public Health provided the technical support during the course of the analysis.

10. STATISTICAL MEASURES

The statistics used for analysing the data are as follows:-

1) Descriptive statistics;

a) Numbers and percentages. Factual information about establishments, classified on nominal scales, are expressed in terms of actual numbers and percentages in each category. Examples of categories are:- location, type of business, fringe benefits , and limitation of benefits. In any case, if the total number of cases was small, say 50 or less, it was preferable to use the actual number rather than percentages. However, this study displays results in both actual numbers and percentages in order to make comparisons. The information display is as follows: tables 5.1 - 5.55 on general information and fringe benefits, tables 6.12 - 6.17 on accessibility to health services, causes of illness, and

characteristics of respondents, and tables 6.18 - 6.30 on attitudes towards health insurance.

b) Measures of central tendency by Arithmetic Mean, Median, and measures of dispersion by Standard Deviation, Range, Skewness, and Kurtosis. When data is obtained in interval scales, the statistical methods used are measures of central tendency with a comparison to measures of dispersion. These are as indicated in table 6.1 on costs of health benefits, and table 6.2 on the cost of total health care fringe benefits as a percentage of pay-roll. In this study, the data on costing demonstrates the abnormal distribution with extreme values as evidence of a high score of skewness and kurtosis and wide ranges of standard deviation and range. In spite of that, the median is generally more appropriate than the mean. Thus, for general purpose this study used the median rather than the mean. However, for furthur analysis, the mean and mean rank were used in t-test and Kruskal-Wallis test respectively, to compare between different types, size and location of establishment.

2) **Chi squared test.** This test is very widely used in social science research. It can be used to evaluate whether or not frequencies which have been empirically obtained differ significantly from those expected under a certain set of theoretical assumptions. Generally, it applies when two nominal scale variables have been cross-classified (Blalock,Jr., H.M, 1979). This study applies the chi square test in two situations. First, as shown in tables 6.3 - 6.11, it is used to represent "H" in the Kruskal-Wallis test because

they are interchangeable. Second, as in tables 6.18 - 6.20, it is used generally to investigate whether or not these two groups of samples are significantly different.

3) **The Kruskal-Wallis one-way analysis of variance by rank.** Where there are a number of independent random samples and ordinal and nominal scale levels of measurement, the test used is the Kruskal-Wallis analysis. As in table 6.3 - 6.11, a comparison is made by using the mean rank of each independent variable. The statistic, chi square is computed, as it is approximately H , in order to measure the degree to which the various sums of ranks differ from what would be expected under the null hypothesis (Blalock, Jr., H.M, 1979).

4) **Likert scales.** It is a method to quantify attitude or opinion for comparative purposes and is the most widely used in social science today (Kidder, L. H. and Judd, C.M., 1986, pp.210-14). As in questionnaire number 3, the respondents indicate agreement or disagreement with each statement. Scores of 3 for a positive attitude, 2 for a neutral or undecided position, and 1 for a negative attitude are derived for each question. Next, the total score is summed from the responses to each question. Later, the respondents are classified into two groups of high and low score. Finally, a further comparison of these two groups are made as in tables 6.18 - 6.20 by applying the chi square test to ascertain whether any differences are statistically significant or not. The chi square test could not be applied to tables 6.21 - 6.24 because the respondents were categorized into four instead of two groups.

5) The t - test. To compare the difference of two means as in table 6.31, the statistical test used is the t-test.

11. SCOPE AND LIMITATIONS OF THE STUDY

The scope of this study focused on health benefits for private employees only. It does not include the State's or State-enterprise employees and private teachers because these groups already benefit under their own schemes.

Private industries were classified as one of two main types; manufacturing and service industries, respectively. "International Standard Industrial Classification", and "The Standard Industrial Classification (Thailand) B.E. 2515".

At the beginning, the survey was intended to include employees of the agricultural sector because of the gradual change from year-long, small-farm care to the agro-business, using landless, seasonal employees. Unfortunately, information on the total number of employees in this sector could not be obtained. There is no legal requirement to keep such records. Therefore, agricultural employees were not included in the survey. For the same reasons, some other groups of employees were excluded; these are, domestic servants, seamen and the self-employed such as shop-keepers, lawers, and taxi-drivers.

There are three types of bias that may arise from the survey. Firstly, a bias may arise from the quota sampling

itself which tries to overcome the problem of a low response rate but may include a disproportionate number of employers with positive attitude towards health insurance instead. The second bias arises from the sponsorship for the survey; respondents may feel reluctant to project a negative attitude towards the organization which supports the survey. Thus, there may have been a highly positive attitude for the Ministry of Public Health which sponsored the survey. Thirdly, there may have been a bias in the employer's perception of the reasons for industrial accidents believing that they occurred mostly because of the employees carelessness.

12. OPERATIONAL DEFINITIONS

For the better understanding of operational terms used in this study, they are defined as follows;

a) **Insurance:** A person makes regular payments (the premium, or contribution) to an insurer to safeguard against the risk of illness, fire, or burglary etc. If a claim is made, for a period of ill-health, for example, the health care costs are covered by the insured person's, and possibly other person's, premium payments.

b) **Health Insurance:** Insurance specifically to safeguard against the risk of some or all of the following health care costs; hospitalization, medicines and doctor's fees. Because of the high costs involved and to prevent

the insurer from going bankrupt, the premia must be high and a large number of people must make them. Subscribing to the insurance fund is voluntary under some employers' schemes and compulsory under others.

c) **National Health Insurance system:** A compulsory health insurance system to cover different groups of population by the same means. The government's role is to control the quality and standard of the health insurance system in order to attain social efficiency and equity.

d) **Social Insurance:** Sometimes known as Social Security, an insurance system operated by the State to safeguard against not having an income for times of unemployment, old-age etc. (some schemes include ill-health, as well). In general, Social Insurance requires compulsory contribution, since most people will need, at least, pension payments for old-age. Since a large sector of the population are targeted in this way, the low-risk and high income groups are included, as well. Furthermore, the funding for Social Insurance can be collected at source by making a deduction from the pay-roll.

e) **Health, or medical, or sickness Benefits:** Benefits provided by employers for employees including benefits in cash and kind. Examples are:- health insurance, medical check-ups, hospital benefit, medical cost reimbursement, sick pay and maternity benefit.

f) Establishment or workplace: A single location at which work of some kind is carried out and where accounts, personnel, materials and production records are kept. This requires that two separately located branches of The Bangkok Bank Ltd., for example, are classed as two establishments even though they are part of the same company. The same distinction would be drawn for the marketing and the production departments of the same company, if they are located at differing addresses. If an organisation consisted of more than one establishment, by this definition, care was made to interview only one of the establishments as the others of the same organisation are likely to have the same benefits.

g) Employer: A person, partnership or company that pays wages or salary to one or more other individuals.

h) Employee: An individual, apprenticed or otherwise who is paid wages or salary for working, regardless of whether contractually or not. Included are the full-time, part-time daily-waged, temporary staff, and those who are paid by results or on a piece-work basis. Excluded are State and State Enterprise employees and teacher who already have their own health schemes. Also excluded are the agricultural labourer and contractor whose working hours, location and conditions of work are not of great importance to the client and desires not to exercise control over these aspects. In addition, agricultural workers, contractors and domestic

workers are excluded mainly because of information on the number of them could not be obtained.

i) **Personnel expenditure:** Monies which an employer pays to an employee, including regular wages, commission, bonuses, per-diem and overtime payments. Fringe benefits such as food or housing are not included.

j) **Administrative expenditure:** General expenditure which is not directly involved in the production process of the establishment, such as the salaries of administrators, telephone, postal, electricity, and water charges, depreciation, rental, or mortgage costs, maintenance, stationary, accountancy, and legal fees, donations, insurance for employees, membership and other taxes (excluding income tax).

13. DIFFICULTIES ENCOUNTERED.

There were some methodological difficulties encountered during the course of the survey:-

1. Although the appointment was made by telephone and a letter was also sent before the interview, about 35% of interviewers had to make several visits. Therefore, a telephone call just before the interview time became the recommendation.

2. Although questionnaire No.1 was sent in advance with an appointment letter, about 40% of total establishments did not complete it before the visit. Because of this, the normal sequence of questionnaires presented in the interview of 2, 1 and 3 was changed to questionnaires 2, 3 and 1. In a large organization, multiple respondents were asked to fill the gap in some of the information in questionnaire 1, particularly on costing. However, in some situations questionnaire 1 was sent back by post, or the interviewer had to re-visit to collect it.

3. The quota sample fraction was set with specific criteria by size, type and location of establishment. However, the size of establishment (particularly small establishments) had changed from that previously registered with the Ministry of the Interior. The interviewer was instructed to check that the establishment to be visited fell within their target quotas. Thus, close monitoring of the target quotas of the interviewers was essential. A weekly meeting to solve general problems and re-allocate target quotas was particularly useful.

4. The willingness to pay for the scheme was sometimes difficult to measure and translate into monetary terms. If this was the case, the respondent was asked a leading question. However, the interviewer was told not to ask this question unless it was necessary.

A P P E N D I X 3

Q U E S T I O N N A I R E S

THE SURVEY OF HEALTH BENEFITS FOR PRIVATE EMPLOYEES

Questionnaire 1: Factual information

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This research was financed by
The World Health Organisation

The information from this interview will be treated in strict confidence and will only be used for statistical research. The name of the person interviewed will not be revealed at any stage.

FACTUAL INFORMATION (1 January - 31 December 1987)

1. Name of Establishment _____
2. Address (in full) No _____ Street _____
Province _____ District _____
Tel. _____
3. Address of the headquarters of this establishment _____
4. The total number of employees of this establishment at the moment
Number of male employees _____
Number of female employees _____
Number of full-time employees _____
Number of casual employees _____
5. Taking both full-time employees and casual employees together, how many manual employees of this establishment do you have ? _____
And how many non-manual employees of this establishment do you have ? _____
6. What is the total number of employees of this organization in the whole country ? (Including those in other branches and the headquarters) _____
7. How much is the average monthly income of manual employees of this establishment ? _____
8. How much is the average monthly income of non-manual employees of this establishment ? _____
9. What was the total personnel cost for employees of this establishment spent last year ? (1 January - 31 December 1987)
These included, for normal wages and salaries, an amount of _____ Baht.
And extra wages an amount of _____ Baht.
10. What was the administrative cost of this establishment which you spent last year ? _____
11. How much did you pay as a contribution to the Workmen's Compensation Fund last year ? _____
12. How much did you pay for the hospitalization and/or the cost of private doctors in clinics for your employees last year ? _____

13. What was spent on drugs kept at the establishment last year? _____

14. What was the total salary and honorarium cost for doctors last year? _____ And what was the total salary cost for nurses last year? _____

15. How much maternity benefit did you provide for the employees last year? _____

16. What was the cost of family planning spent last year for the employees? _____

17. What was the total cost of health benefit that you spent last year? _____

18. What was the total number of employees who were absent from work or who failed to attend to their normal duties, on account of ordinary illness, last year? _____ And what were the total number of sick days? _____ (excluding absence from industrial injury or work-connected illness).

19. What was the average number of your employees visiting a doctor per week? _____

And what was the average number of employees who visited a nurse per week? _____

20. How many employees have been absent from work because of child delivery last year? _____

And how many are the total maternity leave days last year? _____

21. How many employees have had accidents not connected to work last year? _____

How many total sick leave days resulted from the accidents? _____

And how many persons died from the accidents? _____

22. How many employees in this establishment have had accidents related to work during the last year? _____

How many total sick leave days resulted from the accidents? _____

And how many persons died from the accidents? _____

23. What are the major causes of illness of the employees working in this establishment? (Please give in priority order).

1. _____
2. _____
3. _____
4. _____
5. _____

24. What is the distance between this establishment and the nearest doctor? _____ Km.
And how long is the travelling time? _____ minutes

25. What is the distance between this establishment and the nearest hospital? _____ Km.
And how long is the travelling time? _____ minutes

26. What is the distance between this establishment and the nearest pharmacy? _____ Km.
And how long is the travelling time? _____ minutes

27. Please specify the distance and travelling time from this establishment to the nearest

27.1 Bus-stop _____ Km. Travelling time _____ minutes.

27.2 Railway station _____ Km. Travelling time _____ minutes.

27.3 Pier _____ Km. Travelling time _____ minutes.

28. How long does it take the employees on average to visit the nearest doctor when using the customary means of transportation and including the time spent in the waiting room?

Hours. _____ Minutes. _____

=====

FINISH QUESTIONNAIRE I

THANK YOU VERY MUCH FOR THE INFORMATION
YOU HAVE BEEN OF GREAT HELP TO OUR INVESTIGATION

THE SURVEY OF HEALTH BENEFITS FOR PRIVATE EMPLOYEES

Questionnaire 2: Health benefit arrangements

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This research was financed by
The World Health Organisation

The information from this interview will be treated in strict confidence and will only used for statistical research. The name of the person interviewed will not be revealed at any stage.

HEALTH BENEFIT ARRANGEMENTS

A: GENERAL INFORMATION

1. Name of establishment: _____	1-3	
2. Address (in full): _____		
District _____		
Province _____ Tel _____		
RING	Bangkok 1	4-5
	Samutprakan 2	
ONE	Phathumthani 3	
	Chonburi 4	
CODE	Nakornpathom 5	
	Chachaengsao 6	
	Chiangmai 7	
	Ubonratchathani 8	
	Khonkaen 9	
	Songkhla 10	
3. Place of interview _____		
4. Please could you tell me what is the title of your job here? _____		
RING ONE CODE	Employer 1	6
	Manager 2	
	Senior Officer 3	
5. Sex of the informant.	Male 1	7
	Female 2	
6. What is the formal status of this establishment?		
RING	(READ OUT)	
ONE	Private Business 1	8
CODE	Cooperative 2	
	Non governmental 3	
	organisation	
	Religious organisation 4	
	Other (specify).....5	
7. Is this establishment a SINGLE INDEPENDENT or is it part of a MULTI-ESTABLISHMENT organisation?		
Headquarter with branches	1	9
Single independent organization	2	
Branch of multinational company	3	
Branch of national company	4	
Other (specify).....	5	
8. Is this establishment Thai owned or owned by foreigners?		
(READ OUT)		
Thai owned	1	10
Owned by foreigners	2	
(Specify)		
51% Thai, 49 % foreigners	3	
(Specify)		
Other	4	
(Specify)		

9. What is the main activity of this establishment?

Manufacturing sector		11-12
Food, drink and tobacco	1	
Textiles, clothing and leather	2	
Woodworking and construction	3	
Paper, printing and publishing	4	
Chemical and allied industries	5	
Metals and non-metals manufacture	6	
Mining and quarrying	7	
Miscellaneous manufacturing	8	
Service sector		
Transport and communication	9	
Energy and water supply	10	
Business, finance and banking	11	
Professional and scientific services	12	
Tourist services and hotels	13	
Distribution trades, wholesale and retail	14	
Miscellaneous services	15	

10. Are any of employees in this establishment a member of a trade union?

Yes	1	13
No	2....	skip to Q.13

11. If yes, how many full-time employees are members of a union? _____ (total figure)

n/a	9	14
Low: less than a third of the total	1	
Medium: less than 2/3 of the total	2	
High: 2/3 of the total or more	3	

12. Is this union recognized by management for negotiating pay, conditions of work, including health benefits?

n/a	9	15
Yes	1	
No	2	

13. Are there any committees between management and employees to discuss pay and conditions of work?

Yes	1	16
No	2....	skip to Q.15

14. If yes, please specify the name of the committee

17

And the composition of the committee

RECORD
FULLY

18

15. What is the predominant system of working in this establishment?

Peiceworking	1	19
Hourworking	2	
Shiftworking	3	
Daily working	4	
Full-time working	5	
Contracting	6	

16. How often do most of the employees in this establishment get pay for their work?

Every week	1
Every 2 weeks	2
Monthly payment	3
Piecework payment	4
Daily payment	5
Other (specify)	6

20

17. What are the arrangements for employees of this establishment?

(READ OUT IN TURN)		Yes	No	
RING	Food / Food allowances	1	2	21
ONE	Cloth / Clothing allowances	1	2	22
CODE	Accommodation	1	2	23
FOR	Social / Recreational activities	1	2	24
EACH	Transportation to work	1	2	25
ITEM	Bonus	1	2	26
	Productivity bonus	1	2	27
	Cheap loans	1	2	28
	Pension	1	2	29
	Providence	1	2	30
	Funeral benefit	1	2	31
	Children's education	1	2	32
	support			
	Child benefit	1	2	33
	Wedding gift	1	2	34
	Religious support	1	2	35
	* Industrial injuries benefit	1	2	36
	* Maternity benefits	1	2	37
	* Routine physical check-up	1	2	38
	* Physical check-up for new employee	1	2	39
	* Life assurance and accident insurance	1	2	40
	* Private medical insurance	1	2	41
	* Contracted doctor	1	2	42
	* Contracted hospital	1	2	43
	* Reimbursement if use public hospital	1	2	44
	* Reimbursement if use private hospital	1	2	45
	* Reimbursement if use private clinic	1	2	46
	* Full-time doctor services	1	2	47
	* Part-time (public) doctor services	1	2	48
	* Part-time (private) doctor services	1	2	49
	* Sick room with full-time nurse	1	2	50
	* Sick room with part-time nurse	1	2	51
	* Hospital owned in the business premise	1	2	52
	* Hospital owned outside the business premise	1	2	53
	(specify the location)			

RECORD

FULL

ADDRESS

18. If you provide any of these benefits for your employees, which are you most proud of?

54

19. Could you give the reason why?

RECORD
FULLY

55

If none of the * health benefit arrangements are provided for, terminate this questionnaire and move on to PAGE 488, PART 5.

B: EXISTING MEDICAL BENEFIT PROVISION FOR EMPLOYEES**Part 1: Type of benefits.**

1. Which of the following arrangements are provided for any employee?

(READ OUT IN TURN)		Yes	No	Conditions	
RING	Occupational illness	1	2	56
ONE	Ordinary sickness	1	2	57
CODE	Industrial injury	1	2	58
FOR	Accident not related	1	2	59
EACH	to work				
STATE-	Rehabilitation related	1	2	60
MENT	to work				
Family planning services	1	2	.....	62
Perinatal care	1	2	.....	63
Normal delivery	1	2	.....	64
Complicated delivery	1	2	.....	65
Mental care	1	2	.....	66
Dental care	1	2	.....	67
Eye test	1	2	.....	68
Drug, medical supply	1	2	.....	69
Medical check-up	1	2	.....	70
Others (specify)	1	2	.....	71

2. Are there any limits or restrictions on the type of sickness? (specify)

Occupational illness.

1. Are there any health benefits for occupational illnesses of employees in this establishment?

Yes	1	72
No	2	

2. Please give reasons why employees should receive health benefits for occupational illness?

3. Also, please give the reason(s) why employees should receive health benefits for ordinary sickness?

74

4. State what are advantages and disadvantages of health benefits providing by employers?

Advantages are: _____

75

Disadvantages are: _____

76

5. Is there any limit on occupational illness benefit?

Yes	1	77
No	2	

6. If yes, please specify the limit.

78

ordinary sickness.

1. State what are limits or restrictions on ordinary sickness benefits?

(READ OUT IN TURN)	Yes	No	Conditions
Upper limit of.....Baht per year	1	2.....	79
Upper limit of.....Baht/OPD visit	1	2.....	80
Upper limit of.....Baht/IPD case	1	2.....	1
A fixed daily rate of.....Baht	1	2.....	2
Reimbursement of.....% if use any public hospitals	1	2.....	3
Reimbursement of.....% if use any private hospitals	1	2.....	4
Reimbursement if only go to hospitals on the positive list (specify)	1	2.....	5
Reimbursement if only go to clinics on the positive list (specify)	1	2.....	6
Others (specify)	1	2.....	7

2. What item/activity are covered by ordinary sickness benefits?

(READ OUT IN TURN)	Yes	No	Condition/limit
Out-patient care	1	2.....	8
In-patient care	1	2.....	9
Doctor's fees	1	2.....	10
Drugs	1	2.....	11
Laboratory test	1	2.....	12
Room	1	2.....	13
Meals	1	2.....	14
Appliances	1	2.....	15
Prostheses	1	2.....	16
Dental care	1	2.....	17
Eye-tests	1	2.....	18
Physical check-ups	1	2.....	19
Transportation	1	2.....	20
Maternity care	1	2.....	21
Specialist's fees	1	2.....	22
Family planning	1	2.....	23
Others (specify)	1	2.....	

Accident

1. Were there any accidents and poisonings which occurred to employees last year ?

Yes	1	24
No	2	

2. Please state causes of industrial accidents of employees in this establishment ?

25

3. Also, please specify causes of accidents not connected to work of employees in this establishment ?	26
4. What are types of providers which employees are entitled to use when accidents not related to work occur ?	
RING This benefit is not provided 9	27
MORE Public hospital 1	
THAN Private hospital 2	
ONE Private clinic 3	
5. If the employees has to be admitted in the hospital because of an accident NOT connected to work, how much of the health care costs are covered ?	
This benefit is not provided 9	28
Costs covered in full 1	
Costs covered in part at _____ % of 2	
in-patient care cost (specify)	
6. Please specify limits or restrictions on in-patient care because of accident not related to work.	29
7. If the employees are sick from an accident connected to work, do you pay the rehabilitation costs in addition to compensation from the Workmen's Compensation Fund?	30
Yes 1	
No 2	

Part 2: Coverage of benefits.

1. Is everybody who works in this establishment entitled to receive health benefits ?	31
Yes, all of them 1.....	.skip to Q.3
Only some get benefits 2	
2. If only some get benefit, please specify the rank of employees who are eligible to get the benefit.	32
RECORD _____ FULLY _____	
3. Do all eligible persons receive the same level of benefits ?	33
n/a 9	
Yes, the same level 1	
No, benefits are not the same 2	
4. If employees do not receive the same level of benefits, could you explain the differences ?	34
RECORD _____ FULLY _____	
5. Could you please tell me, for those who can get benefit, do these benefits cover their dependents ?	35
Yes, their dependents are protected 1	
No, only employees are protected 2....	.skip to Q.8
6. If yes, which dependents can obtain these benefits ?	
READ OUT	
IN 1	36
TURN 2	
Wife 9	
Husband 9	37
Children 9	
Parents 9	38
	39

7. If the benefits cover children, what is the maximum number of children who can obtain these benefits ?	40	
n/a	9	
One	1	
Two	2	
Three	3	
Four	4	
Others (specify no. _____)		
No maximum limit	5	
8. Therefore, in total, what is the maximum number of eligible persons in each family INCLUDING EMPLOYEE.		
One (only employee)	1.....	.skip to Q.13
Two	2	
Three	3	
Four	4	
Five	5	
Six	6	
Seven	7	
Others (specify no. _____)		
No maximum limit	8	
9. Do dependents receive the same level of benefits as employee ?	42	
n/a	9	
Yes, the same	1....	.skip to Q.11
No.	2	
10. If dependents do not receive the same benefits as employee, could you explain what is the differences of benefit received by employees and dependents.	43	
RECORD FULLY		
11. Are there any restrictions to the benefit which apply only to the dependents but not to the employees ?	44	
n/a	9	
Yes	1	
No	2....	.skip to Q.13
12. If yes, could you describe that kind of restriction, please.	45	
RECORD FULLY		
13. How is the waiting time before a new employee becomes entitled to the benefit ?	46	
No waiting time	1	
(Entitled to receive benefits on the first day of working)		
After probation of.....days (specify)	2	

Part 3: Method of payment.

a) Paying the doctor.

1. If employer has his/her own hospital or contracted doctor, what is the method of paying the doctor (general practitioner) ?	47
n/a	9
Part-time salary	1
Full-time salary	2
A fixed honorarium	3
Capitation	4
Fee-for-service with a negotiated rate	5
Fee-for-service at ordinary private practice rate	6

2. If specialist is needed to provide care for employees, what is the method of paying the specialist or consultant ?

n/a	9	48
A fixed honorarium	1	
Capitation	2	
Fee-for-service with a negotiated rate	3	
Fee-for-service at ordinary private practice rate	4	
Other (specify)	5	

b) Paying the nurse.

1. What is the predominant method of paying the nurse who works in the health clinic or hospital owned by the employer ?

n/a	9	49
Part-time salary	1	
Full-time salary	2	
A fixed honorarium	3	
Capitation	4	
Payment per visit	5	
Other (specify)	6	

c) Paying the hospital.

1. If the employee is entitle to use the employer-owned hospital or the contracted hospital, what is the method of paying the hospital ?

n/a	9	50
Itemized billing at rates negotiated by establishment/ organization	1	
Itemized billing at rates determined by hospital	2	
Daily charge at rates negotiated by establishment	3	
Daily charge at rates determined by hospital	4	
Annual premium	5	
Case payment (or per episode of illness)	6	
Other (specify)	7	

2. How often does employer has to pay the hospital ?

n/a	9	51
Every two weeks	1	
Every months	2	
Every 2 months	3	
Every 3 months	4	
Every 4 months	5	
Every 6 months	6	
Every 12 months	7	
Irregularly, depends on the bills	8	

3. Do you pay the hospital prospectively or retrospectively ?

Prospective payment	1	52
Retrospective reimbursement	2	

4. If you reimburse the employee for his/her health costs, does the employee or the hospital present the bill for reimbursement ?

The hospital	1	53
The employee	2	
Both	3	

Part 4: Private insurance.

1. If the employer buys group insurance from a commercial insurer for employees, what is the per capita premium cost, per year? _____	54
2. If the dependents of employees are protected, how much is the premium per family per year ? _____	55
3. How many eligible persons in a family ? (specify) _____	56
4. How often do you make the premium payments to the insurance company ? Monthly _____ Every 3 months _____ Every 6 months _____ Every 12 months _____ Other (specify) _____	57

Part 5 : Cash benefits.

a) Sickness benefit.

1. For how many days can the employee receive sick-pay for each period of illness? n/a _____	9	58
3 consecutive days with a medical certificate _____	1	
3 consecutive days without a medical certificate _____	2	
2 consecutive days with a medical certificate _____	3	
2 consecutive days without a medical certificate _____	4	
1 day with a medical certificate _____	5	
1 day without a medical certificate _____	6	
Others (specify) _____	7	
2. In a year, how many days can the employee receive sick pay? (excluding maternity benefits) None _____	9	59
30 days per year _____	1	
Less than 30 days per year _____	2	
More than 30 days per year _____	3	

b) Maternity benefits

1. How many days can the employee have for maternity pay? (excluding sick pay) None _____	9	60
Less than 30 days _____	1	
30 days _____	2	
45 days _____	3	
60 days _____	4	
90 days _____	5	
Others (specify) _____	6	
2. For those who can receive maternity pay, how much do they get? n/a _____	9	61
100 % of earnings for.....days(specify) _____ and.....% of earning for.....days _____	1	
Others (specify) _____	2	
3. Is there any maternity grant for employees? Yes _____	1	62
No _____	2....	skip to Q.6
4. If yes, how much is the grant? (specify) _____		

5. If the employee can obtain the maternity grant, for how many of her children is payment made?			
n/a	9		63
One child	1		
Two children	2		
Three children	3		
More than 3 children	4		
No limit on the number of children	5		
6. Have any of the employees had to change their job or duties because of diminishing capacity for work on account of pregnancy.			64
Yes	1		
No	2		
7. If yes, have they received the same wages or salary as before being pregnant?			
n/a	9		65
The same as before being pregnant	1		
Less than before being pregnant	2		

FINISH QUESTIONNAIRE II

THANK YOU VERY MUCH FOR THE INFORMATION
YOU HAVE BEEN OF GREAT HELP TO OUR INVESTIGATION

TO INTERVIEWER

1. Assess the reliability of the information obtained?

Very unreliable	0
Rather reliable	1
Quite reliable	2

Any comments: _____

2. How long did the interview in this section take?
Hour. _____ Minutes.

3. Describe any disturbances or circumstances occurring during
the interview which may have affected the validity of the
responses? _____

4. Who is the respondent of questionnaire no 1 ?

5. Date of interview _____

6. Name of interviewer _____

THE SURVEY OF HEALTH BENEFITS FOR PRIVATE EMPLOYEES

Questionnaire 3: Opinion on Health Insurance

SONGPHAN SINGKAEW
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This research was financed by
The World Health Organisation

The information from this interview will be treated in strict confidence and will only be used for statistical research. The name of the person interviewed will not be revealed at any stage.

1. Do you consider that there are sufficient health care facilities in this area for this establishment?	Yes	1	66
	No	2	
	Cannot say	3	
2. Do you consider that during the last year the employees of this establishment had adequate financial means to use the available health services?	Yes	1	67
	No	2	
	Cannot say	3	
3. What do you think the employees would do if they did not have adequate finance to use the available health services?			
(READ OUT IN TURN)			
a). Seek aid from relatives or friends or incur debts?	Yes	1	68
	No	2	
	Cannot say	3	
b). Avoid care for the illness?	Yes	1	69
	No	2	
	Cannot say	3	
4. Do you think it is desireable that every employee should be compelled to undergo a free medical check-up by the doctor, once every year?	Yes	1	70
	No	2	
	Cannot say	3	
5. Do you think it is desireable that a doctor should be available, free of charge, to all citizens?	Yes	1	71
	No	2	
	Cannot say	3	
6. Do you think an employee should visit a doctor if he/she had:-|	Yes		
(READ OUT IN TURN) Yes No Cannot say			
a). A temperature of 39 Degrees C.	1	2	72
b). A headache that has lasted for 1 week	1	2	73
c). A bad skin eruption that has lasted for 1 week	1	2	74
d). Fatigue and a lack of appetite that has lasted for 1 week	1	2	75
7. Do you think an employee would visit a doctor more than necessary if he/she did not have to pay for the cost of care out of his/her own pocket, for every visit?	Yes	1	76
	No	2	
	Cannot say	3	
8. Do you think that all of the employees in this establishment received sufficient treatment for their illnesses last year?	Yes	1	77
	No	2	
	Cannot say	3	
9. Do you consider that all of the employees in this establishment received adequate, continuous care from the doctor, if they needed it?	Yes	1	78
	No	2	
	Cannot say	3	

10. What is the major reason why some employees, nevertheless, are not receiving continuous care by a doctor? Is the major reason:-

(READ OUT IN TURN)
a). Lack of funds

Yes	1	79
No	2	
Cannot say	3	

b). Distance to the doctor

Yes	1	80
No	2	
Cannot say	3	

c). Other reasons (specify) _____

1

11. " Health care services provided by the employer have been said to have defects causing annoyance to the employees".

Do you agree with this statement ?

Yes	1	2
No	2	
Cannot say	3	

12. State what you consider to be the most important defect(s) in the present health care provided by any employer.

3

13. Do you think that there is abuse of the present health care provided by employer ?

Yes	1	4
No	2	
Cannot say	3	

(skip
to Q15)
(skip
to Q15)

14. State what form the abuse has taken:

5

15. State what you think an ideal health care system, for the employees, should consist of:

6

16. What do you think are the advantages and disadvantages of Health Insurance?

16.1 The advantages are _____

7

16.2 The disadvantages are _____

8

17. Do you think it is desireable to have a National Health Insurance scheme to protect all private employees?

Yes	1	9
No	2	
Cannot say	3	

18. If there is a National Health Insurance scheme in Thailand, who should be the provider of health care under health insurance?

The private sector	1
The public sector	2
Mixed	3

10

Please give the reason(s)

19. Within the government sector, who should be responsible for organizing a National Health Insurance scheme?

The Ministry of Public Health	1
The Ministry of Interior	2
Both, Ministries of Health and Interior	3
The Office of the Prime Minister	4
A new governmental body	5
Cannot say	6
Others (specify)	7

11

Please give the reasons for your choice:

20. Who should pay for the scheme which covers curative, preventive, promotive, rehabilitative and maternity care for employees?

(READ OUT IN TURN) Yes No Cannot say

RING a).The employer	1	2	3
ONE b).The employee	1	2	3
CODE c).The government	1	2	3

12

13

14

FOR
EVERY ITEM

21. Who should be protected under the National Health Insurance scheme?

a). The employee only
b). The employees and their dependents

15

22. Who should be the eligible dependents?

a). The employees' spouse
b). Their spouse and children....(specify no.)
c). Their spouse, children....(specify no.)
and parents

16

23. If the benefits cover the employees only, how much of the contribution as a percentage of pay-roll should be paid for by the;

Employer(% of pay-roll)
Employee(% of pay-roll)

17-19

20-22

24. If the benefits cover the employees and their family how much of the contribution as the percentage of pay-roll should be paid for by the;

Employer(% of pay-roll)
Employee(% of pay-roll)

23-25

26-28

FINISH QUESTIONNAIRE III

THANK YOU VERY MUCH FOR THE INFORMATION
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TO INTERVIEWER

1. Assess the reliability of the information obtained?

Very unreliable	9
Rather reliable	1
Quite reliable	2

Any comments: _____

2. How long did the interview in this section take?
Minutes _____

3. Describe any disturbances or circumstances occurring during
the interview which may have affected the validity of the
responses? _____

4. How many visit have you made until you found the appropriate
respondent? _____ Time(s). _____

5. Who is the respondent of this questionnaires? _____

6. Date of interview _____

7. Name of interviewer _____