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The Distribution of and Access to Basic
Health Services in Thailand

by

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I. Introduction

As a part of an upsurge in interest in income distribution among individuals or households in recent years, basic health services seem to be included in a group of effective agents which help redistribute income, making it more equal or less unequal. The causal relationships between health and income and its distribution are not too difficult to perceive: good health may provide a good form of investment or an increase in human capital (Mushkin [29]) which, in turn, helps increase labour or worker's productivity, and finally labour income. Or health services may be seen as providing direct benefits to health service beneficiaries in the sense that the cost of treatment in time of illness may be reduced with public-supported health services, or the expected treatment cost is foregone with effective preventive and promotional measures, thus saving a patient some money. In short, the household income distributional problems can be helped by provision of basic health care by the State.

There are several ways in which basic health care could be provided to the entire population. The public sector could act as only secondary health provider, leaving primary health care deliveries in the hands of the private sector. Or the State could be more involved in health care provision; either it becomes the major health provider itself or facilitates private health services through subsidization or

public assistance. Even the extent of public involvement could take a variety of forms and magnitudes: the State may wish to adopt the basic need approach where a certain specific standard or standards of health perceived to be the minimum allowable and then strives to attain that status. Or it may pursue another variant of health services which would provide the people with the level of health that will permit them to "lead socially and economically productive lives." This is a famous, new policy direction of the World Health Organization called "health for all by the year 2000." In the words of Dr. H. Mahler, the Director General of the WHO [22, p. 3] the essential elements to the attainment of health for all include:

".....adequate food and housing, with protection of houses against insects and rodents; water adequate to permit cleanliness and safe drinking; suitable waste disposal; services for the provision of ante-natal, natal and post-natal care, including family planning; infant and childhood care, including nutritional support; immunization against the major infectious diseases of childhood; prevention and control of locally endemic diseases; elementary care of all age groups for injury and diseases; and easy access to sound and useful information on prevailing health problems and the methods of preventing and controlling them."

Whichever approach the State has decided to adopt, it is still required that all the facts about the existing health system be fully known before specific policies could be planned or implemented. The process may entail the analysis of the present health status or health conditions of the population, the health delivery system, the access

to health services and all the problems associated with the distribution of health facilities and personnel. The knowledge of these matters is particularly useful or relevant to the planning of health as a social welfare policy instrument.

In Thailand, health is regarded as one of the most important basic factors of life but has received relatively little attention from the Government as an important area of concern. It is also one of the areas where many are puzzled by its strange phenomena. For example, the official statistics seems to show that the infant mortality rate in Thailand is very low, indicating satisfactory state of health, yet life expectancy still seems to be very low. Or, while educational services are widespread and popularly acceptable, health facilities seem to be very restricted and not so popularly accepted. Or despite being traditionally-oriented country, reliance upon modern medicine and modern techniques of healing are also widely accepted and widespread. These and other features need to be explored as to their true characteristics and causes before Government's social policies are suggested.

The major purpose of this paper, therefore, is to analyze few salient features of the present health system of Thailand. First, the health conditions of the Thai population will be explored especially those related to demographic characteristics, nutritional situations, and mortality and morbidity trends of the population. Secondly, the delivery system of the present basic health services, that is health

from the point of view of providers will be discussed as well as the popular access to health services, that is health from the point of view of receivers. Thirdly, problems of health delivery and access will be discussed and a few prospects to improved health care system will also be mentioned. And, finally, some policy recommendations regarding the aforementioned issues will be discussed in the hope that they would help toward formulating government policies particularly in the area of health services as a basic need.

The plan of the paper strictly follows the outline mentioned above. In Chapter II which follows immediately, aggregate health conditions of Thai households and individuals are analyzed. Chapter III discusses access to health services, delivery systems, and health distribution characteristics, whereas Chapter IV discusses problems of health service utilization mainly in the rural areas, and presents some new innovations about integrated primary health care delivery system. Finally, Chapter V summarizes the main discussion and conclusions and offers few policy recommendations.

II. Aggregate Health Conditions in Thailand

There are several ways in which health conditions of a nation could be assessed. First, they can be assessed through status and changes in demographic characteristics of its population: How many were born alive at any one time? How many died before they reached one-year of age? Has the general death rate been declining? What is the life expectancy of a child at birth? And so on. Secondly, they can be assessed through nutritional adequacy of the general population: Have they received, or were they able to receive, adequate nutrients - through their usual food consumption? And finally, such health conditions could be measured through the incidence of ill-health expressed in such indicators as the extent and frequency of illness of the population, the subsequent loss of working time due to that illness, and the severity of the types of illness or death suffered by the people as a whole or in a particular region, location or occupation. In what follows we will examine the demographic characteristics, the nutritional characteristics, and the incidence of ill-health of the Thai households or population the result of which should provide us with the overall picture of health conditions in Thailand at present.

Demographic Characteristics

By demographic characteristics of a community is meant the information relating the birth, death, fertility, domicility, migration and other similar aspects of its population. But here we will only be concerned about those characteristics associated with birth and death as these human phenomena do reflect the effect of health conditions in the sense

that birth could be facilitated or controlled when necessary, and life expectancy could be increased or death reduced by improved health and medical advancement.

The vital statistics of Thailand are collected and published by Division of Public Health Statistics (DPHS), Office of the Under-Secretary of State, Ministry of Public Health. The stages in which such information on birth and death have gone through before it reaches the Division of Public Health Statistics are as follows: First, when there is birth, death or stillbirth in any area, the head of the household or his representative must, by law, register such vital event with the local registrar. In the municipal area, this registrar is the Municipal Registrar, whereas in the non-municipal area, he is the Kamnan or tambon headman. The time allowed for such registration is 15 days for birth and 24 hours for death or stillbirth. These registrars will then fill out birth, death, or stillbirth certificates as the case may be, each of which has three parts, except stillbirth certificate which has two parts, and then give one part to the informant for use as evidence of registration (only for birth and death), keep one part for use in local registration record, and send the last part to the provincial chief medical officer who will then record and forward all the certificates to the Division of Public Health Statistics on a monthly basis.

However, the official vital statistics published by the Division of Public Health Statistics cannot be regarded as presenting the true picture of birth and death events in Thailand because of the existence of

widespread non-registration on the part of households, particularly in the rural areas. Accepting these statistics at face value, as many research and planning institutes such as the NESDB [32] has done, could be most misleading. This problem and extent of under-registration, although generally suspected to be prevalent, was quantitatively discovered through two surveys of population change by the National Statistical Office (NSO) in 1964-1967 and again in 1974-1975 NSO [33] which showed that the extent of understatement of official vital statistics due to household non-reporting ranges from about 15 percent for overall death to about 60 percent for death of infants below one-year of age. Table II-1 shows the extent of this understatement as percentages between the officially recorded vital statistics and the surveyed vital statistics which are here assumed to represent the true birth and death of the population.

There are many reasons for the failure in the non-reporting of birth or death on the part of households. From the survey by the NSO, the majority of the non-reporters (over 60 percent) simply ignored the reporting procedures; a small number (about 27 percent) would say they were too busy to report or thought that it was not an important matter, and an even much smaller number would cite the loss or non-possession of household registration records as the reason for non-reporting. The rate of non-reporting for infant death is shown to be much higher than other death because if the child is dead before his birth is reported (which may have already been delayed), then the parents will do nothing, that is reporting neither birth nor death. So, it is not surprising to see that the infant mortality rates given in the official statistics for

Table II-1: Extent of Understatement of Officially Recorded Vital Statistics Due to Non-registration Expressed as Percentages of Recorded Data to Surveyed Data

	<u>Total</u>	<u>Male</u>	<u>Female</u>
<u>Birth</u>			
1965	62.5	65.2	60.0
1975	59.4	57.9	61.4
<u>Death</u>			
1965	84.4	84.2	84.6
1975	69.9	71.1	68.5

Source: DPHS [6], and NSO [33].

1965 and 1975 (31.2 and 26.0, respectively) (DPHS 6, p. 199) are lower than the same infant mortality rates obtained from the population change surveys by the NSO for the same periods (84.3 for 1965 and 56.3 for 1975) (NSO [33, p. 26]) by almost 63 percent and 54 percent, respectively. Also, one interesting feature that can be seen from Table II-1 is that in the period of 10 years between 1965 and 1975 this extent of under-registration seems to increase rather than decline. This is rather disturbing as one would expect these civic duties of birth and death reporting to go up with economic development instead of falling down.

On the basis of understatement of data discussed above, adjustments were made to the officially published data on crude birth rate (CBR),

crude death rate (CDR), natural rate of population increase (NRP), and infant mortality rate (IMR), the results of which are shown in Table II-2.

Table II-2 shows not only our adjusted vital statistics, but also official figures for comparison purpose. For crude birth rate, the adjusted figures are quite close to official figures in the earlier periods under consideration, but then the differences increase in later years as a result of the increase in the rate of under-registration. The same is true for death rate although the extent of under-registration is greater here than the birth rate. Because of this, the adjusted natural rates of population growth appear to be consistently larger than the official rates. For example, the adjusted NRP for 1975 is estimated as 28.2 compared to 22.5 in the official statistics for the same year. If this difference is accurate, then it could mean that the rate of population growth does not decrease as much or as fast as many people believed.

Regarding the IMR, the adjusted rates are much larger than the official rates, but the rate of decline in infant mortality according to adjusted data from 1965 to 1975 (from 84.3 to 56.3) is much higher than the same rate of decline in the official figures (from 31.2 to 26.0). In fact the adjusted rate of decline of IMR is exactly 50 percent more than the official rate between 1965 and 1975. This is good, but nonetheless the rate of 56.3 in 1975 is obviously too high.

The results of the population change surveys in 1965 and 1975 by NSO also show these vital statistics by different regions of Thailand as shown in Table II-3. From Table II-3, it is interesting to note that,

Table II-2: Adjusted Crude Birth Rates, Crude Death Rates, Natural Rates of Population Growth, and Infant Mortality Rate, Whole Kingdom, 1965-1975, and Comparison with Official Rates.

Year	Adjusted				Official			
	CBR	CDR	NRP	IMR	CBR	CDR	NRP	IMR
1965	42.2	10.8	31.4	84.3	36.6	7.1	29.5	31.2
1966	39.6	12.2	27.4	89.7	35.0	7.6	27.4	33.5
1967	40.4	11.6	28.8	72.8	35.0	7.2	27.8	27.9
1968	43.1	11.5	31.6	68.1	36.6	7.1	29.5	26.5
1969	40.3	11.8	28.5	65.4	33.6	7.2	26.4	26.2
1970	40.2	10.6	29.6	62.5	33.1	6.5	26.6	25.5
1971	42.7	10.5	32.2	53.6	34.3	6.4	27.9	22.5
1972	41.2	11.2	30.0	62.7	32.5	6.8	25.7	27.0
1973	40.1	10.6	29.5	58.4	31.0	6.4	24.6	25.7
1974	40.3	10.6	29.7	57.8	30.6	6.4	24.2	26.1
1975	37.0	8.9	28.1	56.3	28.4	5.9	22.5	26.0

Source: DPHS [6]; NSO [33].

for birth rate, the Northern region has experienced a tremendous reduction from 43.7 per 1000 population in 1965 to 26.6 in 1975 which is the lowest of all regions in the country. But whereas its CBR is lowest in 1975, the CDR and IMR in the North are still highest among all other regions. If this trend continues, we can expect a relative decline in population growth in the North in the near future. Along with the Northern region, we see

Table II-3: Crude Birth Rate, Crude Death Rate, and Infant Mortality Rate Obtained from Population Change Surveys, 1965 and 1975, by Region and Whole Kingdom.

	CBR		CDR		IMR	
	1965	1975	1965	1975	1965	1975
Whole Kingdom	42.2	37.0	10.8	8.9	84.3	56.3
North	43.7	26.6	12.4	10.3	96.5	96.0
Northeast	43.5	45.0	11.4	10.0	83.4	54.4
Center	39.7	34.1	10.4	6.8	94.0	49.5
South	40.9	41.4	8.6	10.3	48.5	60.4
Bangkok	-	32.6	-	4.3	-	31.0
Urban	29.9	39.1	5.6	6.2	67.6	10.3
Rural	43.2	36.7	11.3	9.3	85.5	63.9

Source: NSO [33]

CBR of the Central region fall slightly in 1975 but this is more than compensated by a fall in CDR in 1975 as compared to 1965. In the Northeast, CBR increased slightly between 1965 and 1975 thus makes it the region with the highest birth rate in the country, but it interesting to point out also that IMR for this region in 1975 (54.4) is also one of the lowest in the country, and lower than the North by almost half. Of course this could be attributable to even greater rate of non-registration. If not, then it could mean that, despite their low income and hardy economic conditions,

the Northerners are quite sturdy people.

It is often useful to compare our demographic characteristics with those of other countries to see how we fare in these aspects of health conditions. Although there are dangers involved in such comparison because the data may not be compatible or are not of the same quality, it still give some idea as to the relative improvement in the health conditions. Such comparison is shown in Table II-4.

From the above information regarding major demographic characteristics of Thai population, it can be concluded in general that the health conditions in Thailand, insofar as they have reflected through these birth and death rates, have definitely improved. But the rate of improvement is still slow as the demographic status of the Thai people at present are still far behind other countries. Besides, there are urgent need for improved system of vital statistics collection which seems to lag behind economic development in general.

Nutritional Characteristics

Good health must require, among other things, eating food with adequate nutritional value. In order to know whether an individual is receiving adequate nutrients from his food, a nutritionist must first decide the standard against which the adequacy of that individual's food plan would be judged. In Thailand, several such nutritional standards have been attempted, but perhaps the most authoritative standard has been the one formulated by Division of Nutrition, Department of Health, Ministry of Public Health. 37 . From the list of basic nutritional substances

Table II-4: Comparison of Some Major Demographic Indicators between Thailand and Some Countries.

Country	CRR	CDR	IMR	Life Expectancy	
				M	F
Thailand 1965	42.2	10.9	84.3	55.9	62.0
1975	37.0	8.9	56.3	57.8	63.7
USA 1975	14.8	8.9	16.7	68.7	76.5
Japan 1975	17.2	6.4	10.0	72.2	77.4
S. Korea 1970-75	28.8	8.9	-	63.0	67.0 (1970)
Philippines 1970-75	43.8	10.5	58.9	56.9	60.0
Malaysia 1975	31.4	6.4	35.4	65.0	70.3
Singapore 1975	17.8	5.1	13.9	65.1	70.0
Indonesia 1970-75	42.9	16.9	125.0	47.5	47.5

Source: UN. Demographic Yearbook, 1976; UN. Statistical Yearbook, 1977.

which a typical Thai classified by age, weight, and sex must consume in a day in order to receive adequate nutritional values, one can prepare an average nutritional plan for an average Thai which can be used for the purpose of overall evaluation of national nutritional adequacy. One of such plans is presented in Table II-5.

Table II-5 must be examined and interpreted with care. First, there is no absolute sanctity in the recommended amount of nutrients that an average Thai should need in a day; second, the actual intake obtained

Table II-5: Requirements of Nutrients for An Average Thai, 1972 and Actual Intake from Sample Surveys

Nutrients	Amount Recommended per Capita per Day	Actual Intake from Sample Surveys	Percent Deficient
Calories	1919	1745	9.1
Protean	37.6 gm.	46.7 gm.	-
Calcium	484.0 mg.	n.a.	-
Iron	8.5 mg.	18.0 mg.	-
Vitamin A	1988 I.U.	1781 I.U.	10.0
Vitamin B ₁	0.8 mg.	0.42 mg.	47.5
Vitamin B ₂	1.1 mg.	0.54 mg.	48.8
Niacin	12.6 mg.	n.a.	-
Vitamin C	27.0 mg.	n.a.	-

Source: NESDB [31]

from the results of various nutritional surveys can at best be regarded as indicative rather than definitive because the samples were small and the surveys were carried out at different periods, some almost 10 years before. As regards the actual daily caloric intake which was obtained from a survey back in 1962 shows a deficiency of about 9.1 percent. It is most likely that this deficiency must have been remedied through improved diet in 1972. The same must be true for vitamin A deficiency; but for vitamins B₁ and B₂, the casual observations of the present situations do not lend support to any reversal of the shown result. It is still very

apparent that the population in the rural areas are still suffering from beri-beri and angular lesions in great number as a result of vitamin-B deficiency. As for iron intake, the result seems to indicate that there is no deficiency from nutritional habit, but the prevalence of parasitic infestation of the people in the rural areas has caused them to become anemic also in great number.

Perhaps it is not entirely appropriate to survey the ordinary food intake of an ordinary adult because in Thailand, food-eating habit changes often with changes in surrounding circumstances and certain specific groups of people, namely infants, pre-school children, pregnant women and nursing mothers are more susceptible to nutritional deficiencies than ordinary people. Take pregnant women and nursing mothers for example, the food habits in various locations throughout the country dictate that they must refrain from eating certain foods during pregnancy or the first few months after birth delivery on the belief that such foods will become toxic for them during these particular periods. And it so happens that most of these "restricted" foods are indeed very nutritious and should be encouraged rather than restricted. For example many nursing mothers in the rural Northeast would not eat beef or eggs and a host of other foods and vegetables. As the list of restricted foods may become very large, in fact too large to remember, many women will avoid the selection and resort to eating very simple foods such as plain rice with salt or fish sauce which obviously is not very nutritious. As a result, the infant whose main source of diet is his mother's milk will also receive inadequate nutrition. Moreover, feeding practices in the rural areas often do not

require supplementary diet for small children except perhaps rice and banana. As such, the growth of the child is often stunted both physically and intellectually. Preferences for many raw or half-cooked foods and the habit of eating with unwashed hand also contribute to the spread of parasitic infestation which affects the absorption of nutrients in the stomachs, as mentioned earlier.

One other approach to find out the proportion of Thai population suffering from nutritional inadequacy is by converting the minimum nutritional requirements such as those given in Table II-5 above into a typical food basket and then compute the minimum costs of that typical food basket. If this amount of expenditure needed by an average person or household to purchase food having adequate nutritional values is less than the average actual food expenditure by a person or family, then nutritional inadequacy does not occur. If not, then there is reason to believe that some forms of malnutrition do exist in Thailand.

Table II-6 shows a typical, well-balanced, food basket which meets minimum nutritional requirement when consumed. By multiplying the quantity of these food items by their average prices shown in Table II-7 and adding up what results is the minimum food expenditure which will satisfy average nutritional requirements. An experiment with the 1975 prices in each different region results in a series of minimum expenditures necessary to acquire food with nutritional adequacy. When these minimum expenditures are compared to actual food expenditures per person in different regions one can immediately see whether such actual expenditures

Table II-6: Typical, Well-balanced, Basket of Food Which Satisfies Minimum Daily Nutritional Requirements for an Average Thai, 1975.

<u>Food Item</u>	<u>Amount (gm.)</u>
Rice	340
Fish	18
Poultry	17
Beef	16
Pork	23
Egg	27
Dry bean	15
Green Vegetables	100
Other Vegetables	200
Fruits	200
Lard	15
Vegetable Oil	15

Source: NESDB [31, p. 100].

were sufficient to cover the basic minimum food requirements. The difference between these two sets of expenditures could then be construed as the extent of malnutrition in the country. Such comparison is shown in Table II-8.

It is apparent from Table II-8 that the extent of malnutrition in Thailand in 1975 was estimated at 30.8 percent for the whole kingdom but, as expected, was much more pronounced in the Northeast (42.1 percent)

Table II-7. Average Food Prices in 1975, by Region

Unit: Baht/Kg.

Food Items	North	Northeast	Center	South	Bangkok
Rice and cereals	4.41	4.32	4.51	4.54	4.41
Poultry and meat	24.29	24.64	26.17	26.41	30.00
Fish	19.53	19.92	16.37	16.44	17.81
Eggs	21.06	20.97	19.33	19.33	20.61
Vegetables and Fruits	7.70	7.00	7.26	6.56	8.04
Oils and fats	21.43	22.51	20.90	23.59	23.00
Sugar and sweet	5.80	5.63	5.22	5.81	5.15

Source: computed from primary data obtained from the Department of Business Economics, Ministry of Commerce.

and in the North (37.7 percent). By our method, Bangkok has smallest percentage of malnutrition (10.3 percent). What lent credence to this technique of estimation is that the severity of nutritional deficiencies seems to conform to our general understanding of economic conditions of each region, that is to say, most severe in the Northeast which is the poorest region, then the North, South, Center, and Bangkok in descending severity.

Table II-8: Comparison Between Minimum or Nutritionally Adequate Food Expenditures and Actual Food Expenditures, and the Presumed Extent of Malnutrition, by Regions, 1975.

Region	Minimum Recommended Food Expenditures	Actual Food Expenditures	Percent of Deficiency or Malnutrition
North	1241	773 (5.0) ^a	37.7
Northeast	1403	813 (5.9)	42.1
Center	1259	1032 (5.2)	18.0
South	1245	901 (5.3)	27.6
Bangkok	1499	1345 (5.7)	10.3
Whole Kingdom	1335	924 (5.5)	30.8

Note: ^a number in parenthesis is size of household.

Incidence of Ill-health

Having dealt with somewhat indirect aspects of health conditions in terms of demographic and nutritional characteristics of the population, we now turn to more direct aspects of health conditions, that is to consider the incidence of ill-health of the Thai population. The definition of ill-health includes both mortality and morbidity of general population due to various kinds of diseases and afflictions. With regard to mortality situations, the points of concern are the significance of the causes of death, but with regard to morbidity situations, what is of concern is the opportunity cost of illness in terms of time loss as well as productivity loss. Any improvement in health conditions must be measured in changes in certain causes of death and the reduction in time and productivity losses.

a) Mortality situations.

Table II-9 presents the rate of deaths per 100,000 population of all ages by ten major known causes of death in 1971, 1973, and 1975. The purpose of this table is to show the mortality situations in Thailand between 1971 and 1975 and some tendencies for changes in major causes of death during these 5 years. With the exception of deaths by old-age and by other ill-defined conditions which constitute the largest bulk in the "others" category, deaths by accidents, poisoning and violence seem to be leading, and rising, causes of deaths between 1971 and 1975. Incidentally, death by homicide failed to get listed in Table II-9 but which is very

Table II-9: Deaths of All Ages by Causes of Death, 1971, 1973, and 1975

Causes of Death	Death Rate per 100,000 Population		
	1971	1973	1975
Total	1029.2	1014.3	936.2
1. Accidents, poisoning & violence	43.5	50.8	54.0
2. Diseases of the heart	32.1	30.2	25.8
3. Tuberculosis of respiratory system	31.0	27.2	26.1
4. Diarrhoeal diseases	30.1	30.4	25.8
5. Pneumonia	24.0	26.2	29.4
6. Malaria	19.8	22.7	22.9
7. Malignant neoplasm, all forms	19.8	26.1	29.3
8. Avitaminosis and nutritional maladjustments	14.5	10.2	6.1
9. Diseases of pregnancy, child-birth and puerperium	10.4	8.2	7.0
10. Diseases of stomach & duodenum		11.8	9.8
11. Others	795.6	770.3	699.7

Source: MPH. [6]

significant in terms of its large size (about 46.8 per 100,000 population in 1975). However, we should be concerned about health-related deaths. Those causes of death which show declining tendencies are diseases of the heart; pulmonary tuberculosis; avitaminosis and nutritional maladjustment;

and diseases of pregnancy, childbirth, and puerperium. And those causes which show rising tendencies include all forms of cancer, pneumonia, and malaria. Death by malaria has been increasing quite rapidly since the latter part of 1960's after it had been controlled at fairly low level during the late 1950's and early 1960's. This upsurge in death by malaria must be explained in part by the rapid opening of forest reserves for agricultural expansion starting from late 1960's.

As for deaths by pneumonia and diarrheal diseases, Table II-9 does not present the whole picture. These two major diseases should be grouped with larger groups of diseases, namely, diseases of the respiratory tract and diseases of the digestive system. Reclassifying them this way, these two groups of diseases become the two most significant causes of death in Thailand, as we can see a new mortality situation below:

<u>Death per 100000 population by</u>	<u>1971</u>	<u>1973</u>	<u>1975</u>
Diseases of respiratory tract	86.5	94.7	295.1
Disease of digestive system	67.4	73.7	72.4

An unusually large number of death by acute respiratory infections had caused the total death by diseases of respiratory tract to jump considerably in 1975. But even if this is discounted, deaths by this group of diseases still show a distinct sign of increase.

b) Morbidity situations

Two aspects of morbidity situations will be of concern here. First, the rate at which a number of people in the country become ill at

any one period of time could be use as an indication of health or healthiness of the population. Second, more exact morbidity conditions are measured by the number of inpatient discharges from various health institutions after being treated for all kinds of diseases or afflictions (including normal birth delivery), plus the number of out patient visits and times of illness of the entire population.

Information on number of persons who reported ill during any period of time is obtained from the survey of utilization of health personnel and medical care expenditures of the population conducted by the Ministry of Public Health in corroboration with the Institute of Population and Social Research, Chulalongkorn University and Faculty of Public Health, Mahidol University, in 1970. This survey, better known as the National Health Survey, 1970, interviewed almost 4000 households or almost 24,000 individuals throughout the country. In one part of the survey, respondents were asked whether they became ill during the month before the interview, and if so, how many time they were ill. The results of this question are reported in Table II-10.

Table II-10 classifies respondents by region and by location (urban or rural area). It is clearly seen that there were some differences among the incidence of illness across regions and locations. For the whole kingdom, the rate of number of people reporting ill within one month was 14.9 percent of total population (blown up from surveyed population), and a little higher (16.5 percent) with regard to the number of time of illness per total population. One striking feature of the survey result is

Table II-10: Number of Population Reported Ill and Frequency of Illness Within One Month, and the Rates per 1,000 Population, by Region, 1970.

Region and Location	Population Sample	No. of Population Reported Ill in One Month		Frequency of Illness in One Month		
		No.	Rate per 1000	No.	Rate Per 1000	
North :	Urban	969	142	147	154	159
	Rural	2074	259	125	291	140
	All	3043	401	132	445	146
Northeast :	Urban	1203	184	153	203	169
	Rural	3105	389	125	415	134
	All	4308	573	133	618	143
Central :	Urban	1975	312	158	382	193
	Rural	3919	658	168	826	211
	All	5894	970	165	1208	205
South :	Urban	880	163	185	184	209
	Rural	1742	338	194	389	220
	All	2622	501	191	573	219
Bangkok		7922	1087	137	1094	138
Whole Kingdom		23789	3532	149	3933	165

Source: MOPH [12].

that rural population in the North and the Northeast reported the smallest number of illness while those in the South and the Center the highest.

This seems odd in the sense that people in the rural North and the Northeast who are generally poorer than their counterparts in the South and Center would be expected to become ill more frequently. Apparently this reasoning is not valid if the survey result is to be accepted. If there was no unusual underreporting in the North and the Northeast, the above phenomena could indicate that people in the North and the Northeast are hardier and healthier than those in the rest of the country. This point was confirmed again by Table II-11 which shows the disabled days due to illnesses by individuals in each of the four regions. Population in the North and the Northeast had lower disabled days when they became ill than population in the Center and the South. However, this could equally mean that they were too poor to afford a rest when they became ill.

On the incidence of illness by type of diseases or afflictions, data were available from "Base Year Data and Background Information for National Health Programming: Thailand, January-February, 1975," prepared by the Ministry of Public Health. Morbidity rates from this data source are presented in Table II-12.

Strictly speaking, Table II-12 which shows the morbidity rates measured in terms of inpatient discharges and outpatient visits and number of times of illness for the year 1972 is not very useful because it does not tell us how morbidity rates have changed from one period to another since these data were available for only one year. But certainly these base year data would be very useful as a benchmark or reference upon which future changes in morbidity rates would be compared.

Table II-11: Number of Days Lost Due to Illnesses in One Month per 1000 Population

	Rate per 1000 Population		
	Urban	Rural	Region
North	350	380	370
Northeast	430	484	469
Center	452	556	521
South	215	490	398

Source: HPD [12].

From Table II-12 we can see that the largest number of population were afflicted by respiratory tract infections more than any other diseases. This is more or less consistent with the mortality rate of this group of diseases as discussed earlier. Another salient feature of morbidity situations in 1972 was the prevalence of infections and parasitic water-and food-borne diseases which was the second largest type of diseases from which the people were suffering. Especially for parasitic infestation in human beings, this type of ill-health was so prevalent that almost two out of three persons in the rural areas selected at random would be affected by some kinds of worms. This fact is confirmed by most health surveys in all area of the country. For example, Srinophakun and Jiradit [48] reported that the positive rates of parasitic infestations in Thailand in 1974 are 46.0%, 61.5%, 71.0% and 85.7% in the Central, Northeastern,

Table II-12: Morbidity Situations by Type of Diseases or Affliction,
Whole Kingdom, 1972

Type of Diseases or Afflictions	Morbidity			
	Inpatient Discharge		Outpatient Visits	
	No. (000)	Rate Per 1000 Pop.	No. (000)	Rate Per 1000 Pop.
1. Accidents	134.7	3.49	2649.3	68.68
2. Complications of pregnancy and puerperium	150.3	3.90	1753.6	45.46
3. Normal delivery	154.7	4.01		
4. Infection and water and food borne diseases	111.4	2.89	9440.9	244.73
5. Infection vector borne diseases	56.3	1.46	1192.1	30.90
6. Respiratory tract infection	117.2	3.04	32810.7	850.52
7. Infectious diseases controllable by immunization	32.2	0.83	168.3	4.36
8. Other infectious diseases	18.8	0.49	823.9	21.36
9. Diseases due to nutritional deficiency	27.7	0.72	3498.6	90.69
10. Chronic degenerative diseases	114.8	2.98	3122.0	80.93
11. Diseases associated with stress and mental disorder	50.6	1.31	2206.4	57.19
12. Diseases of skin	15.1	0.39	1499.9	38.88
13. Dental diseases	1.0	0.03	2193.4	56.86
14. Congenital anomalies, handicaps, and rehabilitative diseases	7.7	0.20	157.5	4.08
15. Other diseases requiring medical care	157.1	4.07	24180.3	626.81

Source: HPD [10].

Northern, and Southern regions, respectively.

Conclusion

In this chapter, we have discussed the health conditions of the Thai individuals or households for which we have found that indices of health may not be so favourable as many may be led to believe. True, the health conditions have improved considerably in the last one or two decades, for example, the death rates were falling rapidly, as were infant mortality rates, and life expectancy seems to rise all the time, but certain health indicators such as the infant mortality rates referred to above were still too large at present. There are still widespread malnutrition or nutritional problems throughout the country particularly in the North and the Northeast. The incidence of ill-health was still prevalent with the type of diseases which could be controlled by change of habits, immunizations, and sanitation, all of which there are still room for improvement. In the next Chapter, popular access to health services will be analyzed to see whether such access is difficult or whether the basic health services are fully utilized.

III. Access to Health Services

The existing health conditions described in the last chapter could be regarded as a benchmark upon which the present or future health services could attempt to improve. Such health status could be both the cause and the outcome of the access to health services by the people, that is to say, many people were too severely afflicted by illnesses because they could not get access to health services, or on the contrary, existing poor health conditions demand that present health care administration be improved to provide better access. In this section, we shall discuss the health care delivery system, the distribution of health personnel, public expenditures on health services, the health benefits that accrue to certain income groups, all of which imply the efficacy or the deficiency of the access to health services in Thailand at present.

Health Care Delivery Systems

The delivery of health services to the population at large are taken up by both public agencies and private organizations. In the following account, the delivery systems by public agencies and private organizations will be discussed in turn.

Public Agencies

Government's agencies which provide health care in various forms include Ministry of Public Health, health-related departments or organizations in other ministries, some state enterprises, local

governments and official or semi-official mobile medical units.

a) Ministry of Public Health (MOPH)

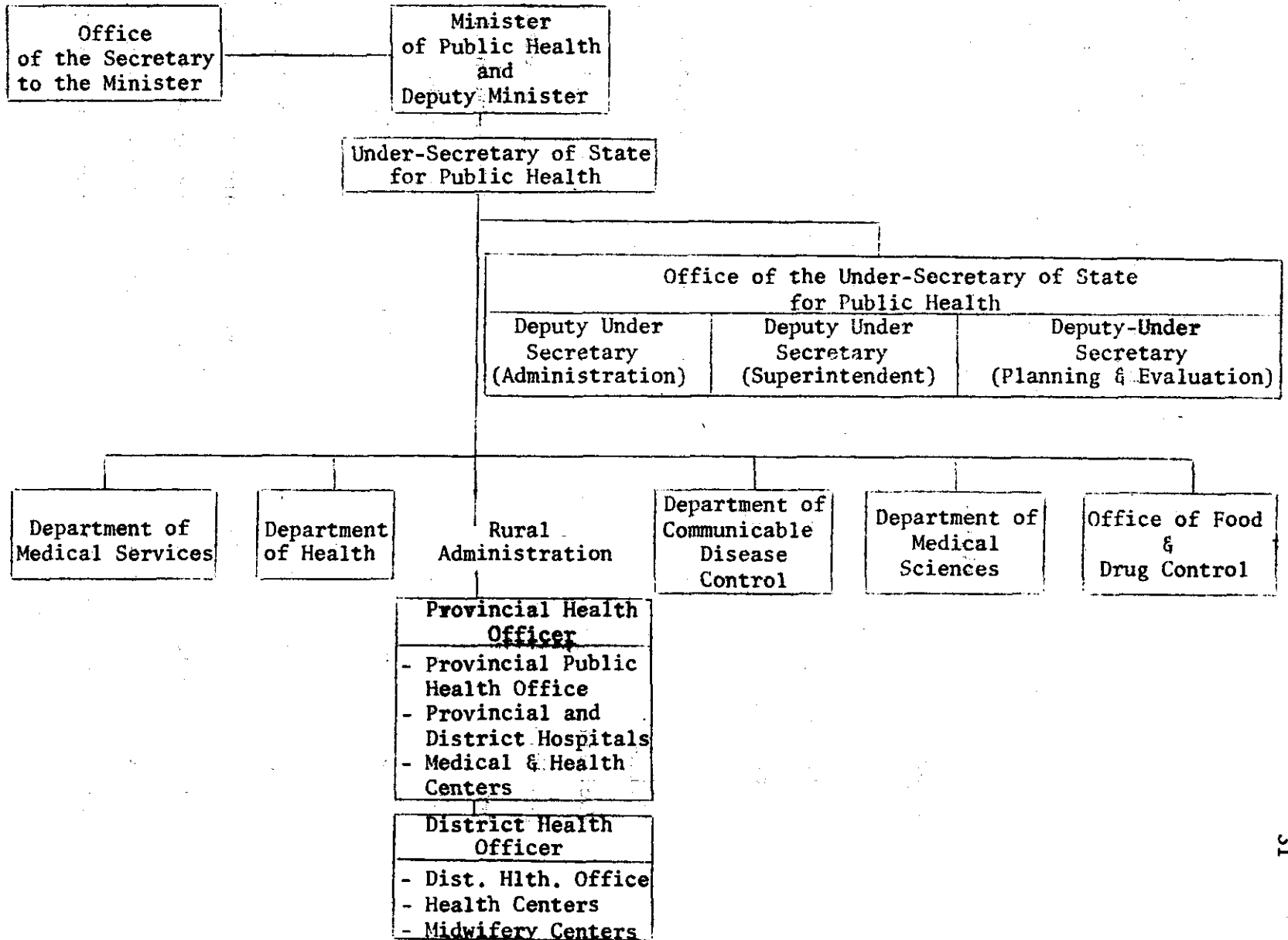
The largest health provider in Thailand, the MOPH oversees a widespread network of hospitals and rural health centers reaching out to all 72 provinces, to over half of the 570 districts of the country, about 60% of the sub-districts and almost 10% of the villages. In principle, it has the major responsibility of taking care of health problems of any Thai citizen. The Ministry, which is situated in Bangkok, is organized into six major components as follows (see Figure II-1):

1. The Office of Under-Secretary of State for Public Health has 18 divisions, and coordinates the work of five departments within the ministry. In addition, it directly administers, supervises, and controls provincial health care system.

2. The Department of Medical Services provides part of the medical care to the Bangkok Metropolis in the form of specific and general hospitals, and psychiatric services for the whole country.

3. The Department of Health with its eight technical divisions dealing with dental health, rural water supply, nutrition, sanitation, family health, school health, environmental health and occupational health, provides a variety of support for ministry programs relating to the environment and population.

Figure 1: Organization of the Ministry of Public Health



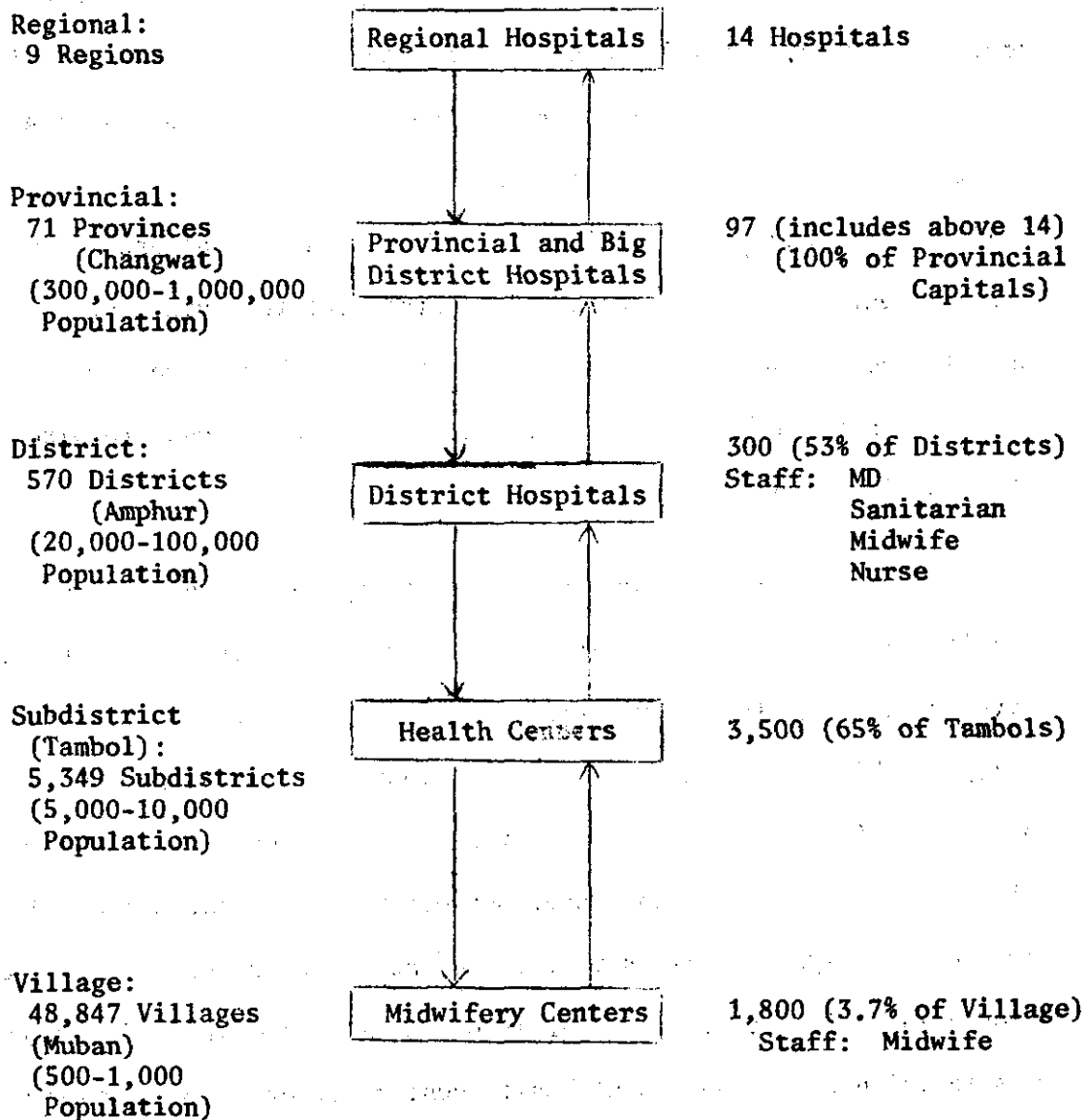
4. The Department of Communicable Disease Control is responsible for the control of venereal diseases, malaria, filariasis, leprosy, tuberculosis and general communicable diseases. It also operates specialized hospitals for leprosy, tuberculosis, and infectious diseases.

5. The Department of Medical Sciences is responsible for laboratory research and services.

6. The Office of Food and Drug Committee deals with the quality control of cosmetics, drugs, psychotropic substances, and food and beverages.

At the provincial level, normal health care facilities can be divided into five classes (see Figure II-2). The smallest unit of health facilities is the midwifery center where one government midwife is responsible for maternal and child health, family planning and general health services. This midwifery center is supposed to serve a village with an immediate population of at least 500 to 1000. In the area where the population is 5000 to 10,000 the midwifery center will be upgraded to a (formerly second-class) health center having at least a male junior health worker in addition to the midwife, and offering more services than the midwifery center, such as sanitary work, communicable disease control and minor medical care. Service area of a health center normally covers a subdistrict or tambon. If this health center is located in the district seat, its administration will be handled by a district health officer

Figure 2: Current Ministry of Public Health Facilities at the Provincial Level^a 1976



^aSource: MOPH Planning Division, 1976

who will have a larger staff than ordinary health center and also provide services for a larger number of patients.

In about half of the districts, the health facilities are available in the forms of district hospitals and medical and health service centers. The difference between these two types of facilities is that a medical and health service center is usually smaller and is waiting for the assignment of a medical doctor, after which it is upgraded to a district hospital. Even if it is a medical and health service center, its health staff is quite complete having, at a minimum, usually one or two nurses, two junior health workers, two nurse aides, midwives, and a laboratory technician. At least 10 beds are also available for inpatients.

At the peak of provincial health system is the provincial hospital which is usually a large institution offering the most extensive medical services in the province. The general administration of the provincial hospital and its sister institution, the provincial health office, is in the hands of the Provincial Chief Medical Officer who is directly responsible to the Under-Secretary of the State in the Ministry of Public Health as well as to the Provincial Governor. Although the Provincial Chief Medical Officer is officially in charge of both the provincial hospital and rural health center network, there has traditionally been a clear separation between the former which provides predominantly curative care, and the latter which is responsible for the

network of rural health centers, providing some curative but mostly preventive services. Provinces are also grouped into nine health regions each of which has at least one regional hospital. Figure III-3 shows the provincial health care organization in relation to overall provincial administration.

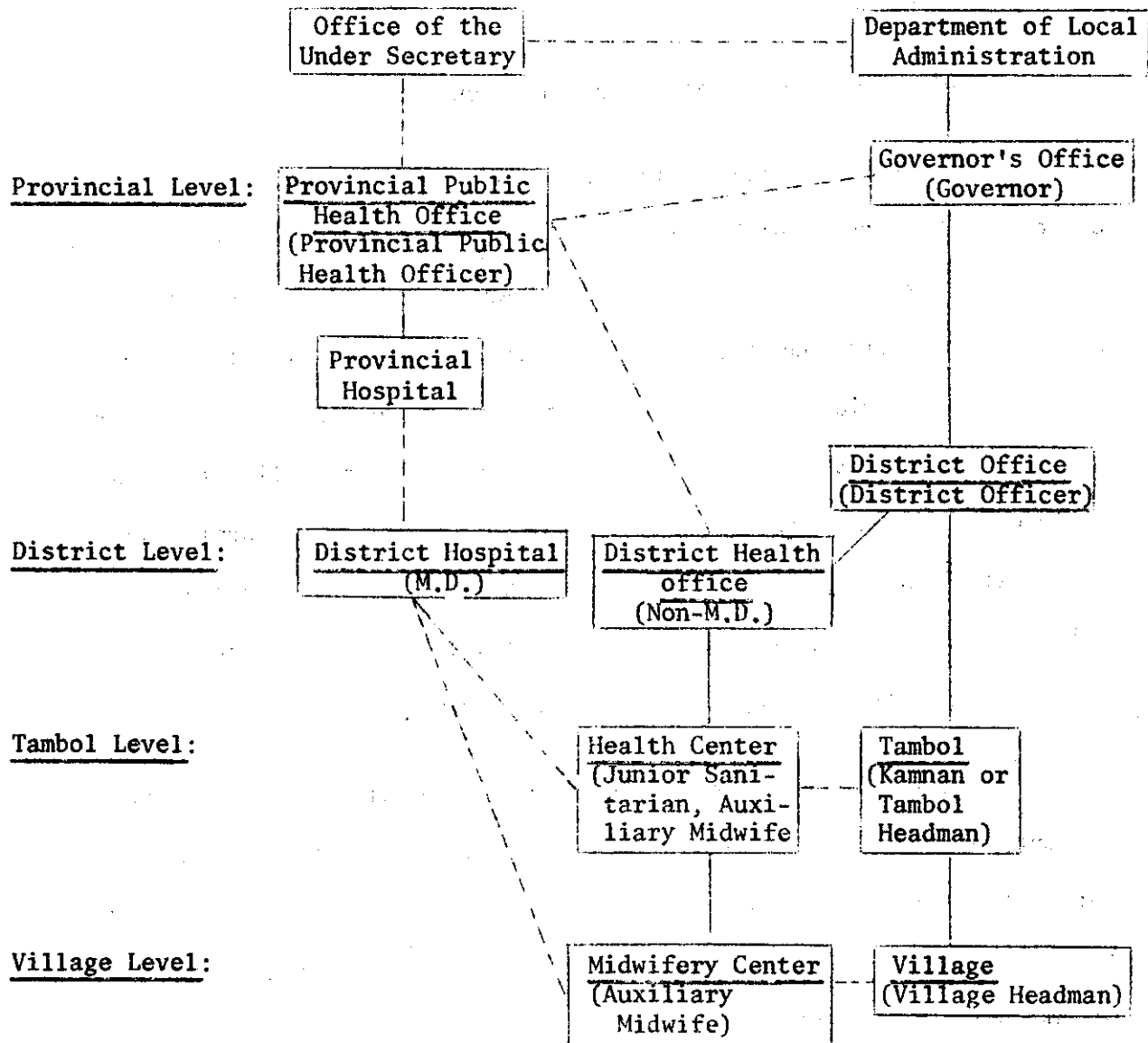
b) Other Government's Organizations.

Health services are also provided through a network of university hospitals which are under the jurisdiction of State University Bureau. Ministry of Defence operates several hospitals which are also open to the general public. Similarly, the Police Department in the Ministry of Interior has its own hospital in Bangkok whose services are also available to the general public. In Bangkok Metropolis, the Bangkok Metropolitan Administration maintains a vast network of general hospitals and health centers. Notice, however, that except for one or two university hospitals, most hospitals and health centers referred to above are situated in Bangkok Metropolitan Area.

In support of these mainly curative health services, certain preventive and promotive health services such as immunization services, maternal and child services, family planning, health education and nutrition programs are also offered by the above organizations. Activities of some of the Government's departments may not be classified as health services, but they could certainly be conceived as health-related. For example, the Department of Labour enforces that part of labour law which

Figure 3: Network and Administrative Relationship Between
Ministry of Public Health and Ministry of Interior,
Thailand (1978)

Central Level:



Source: LHDP [19, p. 9].

deals with avoidance of occupational health hazards; the Department of Industrial Plants has a part in the protection of environmental pollution by industrial firms, the same may as what the Office of National Environment Board may be doing on a larger scale, and so on.

c) State Enterprises

Few of the larger state enterprises in Thailand such as the State Railways, the Port Authority and the Tobacco Monopoly, have their own general hospitals for their employes and, whenever possible, the general public. Again, all these hospitals are located in Bangkok. One state enterprise which provides neither direct curative nor preventive services, but has a unique contribution to health care in Thailand, is the Government Pharmaceutical Organization (GPO). This state enterprise produces several pharmaceuticals and biologicals and is the official supplier of almost half of these products used by public hospitals throughout the country.

d) Official or Semi-official Mobile Health Units

Until 1976, one of the major functions of the Office for Accelerated Rural Development attached to the Ministry of Interior was to provide medical and health services to remote areas in the North and Northeast. This was carried out through mobile health units under close cooperation with medical universities, Departments of Health and Medical Services, and few Other Government bodies which would provide

doctors and other health personnel. Although these services were not provided to any particular area on a regular basis, the ARD Office had tried to operate the mobile health units in the designated areas as frequently as possible. Since 1976, however, this mobile medical service has been suspended, but its resumption has not been ruled out entirely. Other two mobile health care delivery units which are of note at present are those mobile health units organized under the Central Committee for National Security of the Supreme Command Headquarters and the directorship of the Queen Mother. They are equally effective as providers of health care to rural areas of Thailand.

Private Organizations

Information on private organizations providing health services is not as complete as information on public agencies. However, the health care delivery systems by private concerns can be summed up roughly as follows:

1. Private hospitals and clinics

Modern health care especially curative aspect of it is being provided in increasing degree by private hospitals and clinics which offer modern or "Western" type of medical services. Some of the doctors in these private hospitals and clinics are full-time medical staffs there, but many are government's doctors who work in public hospitals or health centers during official hours, but work in their own private capacities outside official working hours in these private medical centers. In

Bangkok the number of private hospitals has increased tremendously in the last few years due partly to the investment promotion measures offered by the Government. As for private clinics, they have become a major source of health care that the majority of Bangkok people will go to when they need medical attention. In the rural areas, these private, modern medical services have become widespread in only recent years.

2. Traditional doctors

Traditional doctors as a source of health care are found everywhere in the country but perhaps in a dwindling number because most people have increased faith in modern medicine. Herbs are used as curing agents coupled, occasionally, with food restrictions. It is interesting to point out, however, that whereas the visits to these traditional doctors at the first sign of illness are quite small, the tendency to resort to these doctors increases when modern medications fail to cure a patient of his illness.

3. Magic or spiritual healers.

In the rural areas, these types of "magical" services are still available, and are apt to be quite popular in the case of neuroses or psychogenic symptoms. But otherwise, their number is quite small and insignificant.

4. Injectionists

A group of medical practitioners who are not themselves licenced medical doctors or pharmacists but who know a little about modern medicine and are able to administer injections are called injectionists, or in a more pejorative term, quacks. However, people in the rural areas have come to depend a great deal on these injectionists for the delivery of health services. This is because these injectionists make frequent visits to the people in rural areas, administering powerful medicines to rural patients at reasonable costs. Despite the danger of this unauthorized use of drug mainly through injection, these injectionists have become quite popular as health care delivery agents in many areas today.

5. Traditional midwives

Most of childbirths in the rural areas today are still attended by these numerous traditional midwives who still use the ancient techniques of childbirth deliveries and post partum care. They are usually elderly women who serve their neighbours when the occasion arises, or they may establish a regular practice if there is enough demand for their services.

6. Private drugstores or local drug sellers

In large pharmacies located in town, various sophisticated medicines may be purchased without prescriptions. This gives rise to a

situation whereby the drug seller, who is not a proper pharmacist, is able to give medical advice to those who come to buy medicines for themselves by themselves. In a sense, then, these private drugstores provide both a source of medicine and medical services. Similar situations occur in rural areas with local drug sellers who have even smaller range of pharmaceuticals, but may offer medical advice or even give injections.

7. Other private organizations

There are few other private organizations which provide various health services. For example, the Community-based Family Planning Services (CBFPS) have extensive family planning network throughout the country. The Thai Red Cross operates two hospitals, blood banks, serum and vaccine services, and so on.

Distribution of Health Services

A well-known fact about health care delivery system in Thailand is the unequal distribution of health services expressed in terms of health institutions and health personnel between Bangkok and other regions of the country as well as between each region in the country. This section discusses these two main points of concern: distribution of health institutions and distribution of health personnel.

Distribution of health institutions

Distribution of various health institutions between Bangkok Metropolis and four other regions for 1977 is presented in

Tables III-1 and III-3. Tables III-2 and III-4 show such distributions in percentages. From these tables, one can immediately see that Bangkok Metropolis received a lion share of both public and private important health institutions such as numbers of hospitals, hospital beds, private clinics, and so on. The BMA's share may be small as regards such institutions as health centers and midwifery centers. This is understandable because these centers specifically belong to rural health system.

Although Bangkok received the largest shares of both public and private health institutions, these shares seem to be declining during the period from 1972 to 1977. The said event is depicted in Tables III-2 and III-4 where one can see that the percentage share of public hospitals in Bangkok dropped from 26.0 percent in 1972 to 22.8 percent in 1977, and of private hospitals from 78.6 percent to 39.8 percent for the same period. The same falling trend is also seen in the share of both public and private hospital beds for Bangkok. This movement is a desirable one as Bangkok always dominates the rest of the country in terms of availability of health facilities. But even with this reduction, the share of Bangkok is still very high. Moreover, health facilities only moved out of Bangkok to other provinces in the surrounding central region, not spread out throughout all regions. Also, the change in the number of health institutions alone may be misleading if the size of those health institutions is changed too. It would be more appropriate to supplement a change in distribution of health facilities with

Table III-1: Distribution of Public Health Institutions, by Region,
1972 and 1977

Type of Institutions		Whole Kingdom	Bangkok	Center	North	Northeast	South
Hospital							
- No.	1972	131	34	34	22	21	20
	1977	206	47	69	32	30	28
- Beds	1972	34455	12753	6682	4708	6016	4296
	1977	54650	13377	17730	8577	8725	6241
First class health centers^a							
- No.	1972	248	7	70	55	64	52
	1977	333	43	86	73	83	48
-Beds	1972	2488	78	700	550	640	520
	1977	4942	66	1596	968	1549	874
Second-class health centers^b							
- No.	1972	2593	62	763	525	919	324
	1977	3832	62	1163	824	1121	662
Midwifery centers							
- No.	1972	1542	26	313	356	464	383
	1977	1570	8	309	287	661	305

Source: HPD [11] and [12]

Note: ^aAt present, these become district hospitals or medical and health service centers.

^bAt present, these are called simply health centers.

Table III-2: Percentage Distribution of Public Health Institutions,
by Region, 1972 and 1977

Type of Institutions		Whole Kingdom	Bangkok	Center	North	Northeast	South
Hospitals							
- No.	1972	100.0	26.0	26.0	16.8	16.0	15.3
	1977	100.0	22.8	33.5	15.5	14.6	13.6
- No. of beds	1972	100.0	37.0	19.4	13.7	17.5	12.5
	1977	100.0	24.5	32.4	15.7	16.0	11.4
First-class health centers							
- No.	1972	100.0	2.8	28.2	22.2	25.8	21.0
	1977	100.0	12.9	25.8	21.9	24.9	14.4
- No. of beds	1972	100.0	3.1	28.1	22.1	25.7	20.9
	1977	100.0	1.3	32.3	19.6	31.3	17.7
Second-class health centers							
- No.	1972	100.0	2.4	29.4	20.2	35.4	12.5
	1977	100.0	1.6	30.3	21.5	29.3	17.3
Midwifery centers							
- No.	1972	100.0	1.7	20.3	23.1	30.1	24.8
	1977	100.0	0.5	19.7	18.3	42.1	19.4

Source: HPD [11] and [12]

Note: see note of Table III-1.

Table III-3: Distribution of Private Health Institutions by Region,
1972 and 1977^a

Type of Institution		Whole Kingdom	Bangkok	Center	North	Northeast	South
Hospitals							
- No.	1972	112	88	6	6	- -	12
	1977	113	45	24	15	9	20
- No. of beds	1972	2786	1916	224	323	- -	323
	1977	5395	3022	592	866	171	744
Modern medical clinics							
- No.	1972	3157	1593	633	324	314	293
Traditional doctors' clinics							
- No.	1972	747	442	184	44	41	48
Dental clinics							
- No.	1972	780	352	189	72	59	108
Modern maternity centers							
- No.	1972	263	58	96	39	25	45
Modern drugstores							
- No.	1972	6313	2148	1630	948	1031	556
Traditional drugstores							
- No.	1972	7495	2002	2258	1350	1264	621

Source: HPD [11] and [12]

Note: ^aData for 1977 for some type of institutions are not available.

Table III-4: Percentage Distribution of Private Health Institutions,
by Region, 1972 and 1977^a

Type of Institutions		Whole Kingdom	Bangkok	Center	North	Northeast	South
Hospitals							
- No.	1972	100.0	78.6	5.4	5.4	-	1.0
	1977	100.0	39.8	21.2	13.3	8.0	17.7
- No. of beds	1972	100.0	68.8	8.0	11.6	-	11.6
	1977	100.0	56.0	11.0	16.1	3.2	13.8
Modern medical clinics							
- No.	1972	100.0	50.5	20.1	10.3	9.9	9.3
Traditional doctors' clinics							
- No.	1972	100.0	59.2	24.6	5.9	5.5	6.4
Dental clinics							
- No.	1972	100.0	45.1	24.2	9.2	7.6	13.8
Modern maternity centers							
- No.	1972	100.0	22.1	36.5	14.8	9.5	17.1
Modern drugstores							
- No.	1972	100.0	34.0	25.8	15.0	16.3	8.8
Traditional drugstores							
- No.	1972	100.0	26.7	30.1	18.0	16.9	8.3

Source: HPD [11] and [12]

Note: ^aData for 1977 for some type of institutions are not available.

a change in distribution of health personnel, which is the subject of the following section.

Distribution of health personnel

Four tables, Tables III-5 to III-8 in the following pages, summarize the distribution of health personnel by region throughout the country. In Table III-5 and III-6, the absolute numbers of different health personnel working in Bangkok and in other regions, both in public and private health institutions, are presented, whereas in Table III-7 and III-8 such distributions are shown in percentages. Again, the preponderance of Bangkok Metropolis as the area where most health personnel are located. For example, almost 60 percent of government's physicians and more than 64 percent of private physicians work in Bangkok (see Tables III-7 and III-8). Equally large or even larger percentage shares are found in almost all other types of health personnel: pharmacist, dentist, nurse, scientist, and technician. With a possible exception of government health workers and midwives, and private health volunteers, communicators and traditional midwives, the Northeast, as expected, is the poorest region in terms of availability of health personnel.

This inequality in health service distribution is so obvious from the aforementioned tables that it would seem redundant to explain it any further. However, to facilitate quick comparison, the ratios of major types of personnel to total population for Bangkok and for the rest

Table III-5: Distribution of Government's Health Personnel, by Region, 1977

Type of Personnel	Whole Kingdom	Bangkok	Center	North	Northeast	South
Physician	5320	3180	745	599	487	309
Nurse	13676	7018	2321	1707	1477	1153
Pharmacist	976	727	92	80	43	34
Dentist	765	503	95	81	49	37
Nurse-aide	11388	3080	3150	1973	1836	1349
Dental hygienist	134	15	49	20	40	10
Health worker	6970	1017	1743	1222	2005	992
Midwife	7288	197	2285	1536	2126	1144
Scientist	1032	757	123	49	59	44
Technician	359	277	43	16	15	8
Physiotherapist	94	64	13	4	6	7
Dietician	358	211	60	27	34	26
Health educator	96	82	8	4	2	-
X-ray operator	257	127	59	27	24	20

Source: EPD [11]

of the country are shown side by side in Table III-9.

From Table III-9 it is seen that BMA has one medical doctor for every 1289 population in 1977 where the rest of the country has only one doctor for every 17280 population, a difference of more than ten times. Even worse situation is found in pharmacist and dentist with the ratios of 1 : 2372 and 1 : 8336, respectively, for BMA as against the ratios of 1 : 120431 and 1 : 143726, respectively, for the rest of the country.

Table III-6: Distribution of Private Health Personnel, by Region, 1977

Type of Personnel	Whole Kingdom	Bangkok	Center	North	Northeast	South
Physician	526	337	53	75	15	46
Nurse	1532	1015	115	247	29	126
Pharmacist	1259	1185	59	9	3	3
Dentist	53	41	7	5	-	-
Nurse-aide	2057	973	437	423	29	195
Midwife	443	363	47	16	7	10
Scientist	158	87	18	36	4	13
Technician	89	73	3	11	-	2
X-ray operator	58	37	7	5	-	9
Health communicator	31571	-	3351	4200	18024	5996
Health volunteer	3332	-	365	420	1993	554
FP volunteer	2271	-	494	265	1209	303
Traditional midwife	14163	-	3048	1709	6520	2886

Source: HPD [11]

Only in nurse-aide and health worker that the rest of country has better health personnel to total population ratios than BMA, but then such ratios are not much higher.

Table III-7: Percentage Distribution of Government's Health Personnel,
by Region, 1977.

Type of Personnel	Whole Kingdom	Bangkok	Center	North	Northeast	South
Physician	100.0	59.8	14.0	11.3	9.2	5.8
Nurse	100.0	51.3	17.0	12.5	10.8	8.4
Pharmacist	100.0	74.5	9.4	8.2	4.4	3.5
Dentist	100.0	65.8	12.4	10.6	6.4	4.8
Nurse-aide	100.0	27.0	27.7	17.3	16.1	11.8
Dental hygienist	100.0	11.2	36.6	14.9	29.9	7.5
Health worker	100.0	14.6	25.0	17.5	28.7	14.2
Midwife	100.0	2.7	31.4	21.1	29.2	15.7
Scientist	100.0	73.4	11.9	4.7	5.7	4.3
Technician	100.0	77.2	12.0	4.5	4.2	2.2
Physiotherapist	100.0	68.1	13.8	4.3	6.4	7.4
Dietician	100.0	58.9	16.8	7.5	9.5	7.3
Health educator	100.0	85.4	8.3	4.2	2.1	-
X-ray operator	100.0	49.4	23.0	10.5	9.3	7.8

Source: HPD [11]

In conclusion, therefore, the present health care delivery system has been clearly shown to be much biased in favour of Metropolitan Bangkok as against the rest of the country, especially the Northeast. This is a most unsatisfactory health care system which needs to be improved or rectified as soon as possible. Literature abounds on why most health personnel especially medical doctors do not want to work in the rural areas but prefer

Table III-8: Percentage Distribution of Private Health Personnel, by Region, 1977.

Type of Personnel	Whole Kingdom	Bangkok	Center	North	Northeast	South
Physician	100.0	64.1	10.1	14.3	2.9	8.7
Nurse	100.0	66.3	7.5	16.1	1.9	8.2
Pharmacist	100.0	94.1	4.7	0.7	0.2	0.2
Dentist	100.0	77.4	13.2	9.4	-	-
Nurse-aide	100.0	47.3	21.2	20.6	1.4	9.5
Midwife	100.0	81.9	10.6	3.6	1.6	2.3
Scientist	100.0	55.1	11.4	22.8	2.5	8.2
Technician	100.0	82.0	3.4	12.4	-	2.2
X-ray operator	100.0	63.8	12.1	8.6	-	15.5
Health communicator	100.0	-	10.6	13.3	57.1	19.0
Health volunteer	100.0	-	11.0	12.6	59.8	16.6
FP volunteer	100.0	-	21.8	11.7	53.2	13.3
Traditional midwife	100.0	-	21.5	12.1	46.0	20.4

Source: HPD [11]

to practise in big cities or even overseas, creating the famous (or infamous) brain-drain or brain-overflow phenomenon. Economic returns, convenience,

Table III-9: Ratio of Total Health Personnel to Total Population:
Bangkok Metropolis Versus the Rest of the Country, 1977

Major Types of Health Personnel	BMA	Rest of the Country
Physician	1 : 1289	1 : 17280
Nurse	1 : 565	1 : 5488
Pharmacist	1 : 2372	1 : 120431
Dentist	1 : 8336	1 : 143726
Nurse-aide	1 : 1119	1 : 4120
Health Workers	1 : 4429	1 : 6609
Midwife	1 : 8098	1 : 5478

Source: DHP (11)

opportunity for advancement, comfort, security, all may account for this urban/rural maldistribution of health facilities and services.

Health Expenditures and Health Benefits

Earlier, the extent of health services was shown by the size and distribution of health institutions and personnels. This section further analyzes health care system through government's health expenditures, individual or household expenditures on health, and estimated health benefits accrued to individuals or households by income class.

Government's Health Expenditures

As the Ministry of Public Health is the largest health provider in the country, it also receives the largest health budget allocation each year. Together with allocations to other government agencies and state enterprises, these public expenditures on health, as shown in Table III-10, can be used as an indicator of public concern over health issues in general.

Table III-10 depicts several important characteristics of public health expenditures such as the appropriations for the Ministry of Public Health and other health-related government organizations, ratios of health expenditures to total government expenditures, the share of government expenditures in GDP, and the public health expenditure per capita. There are several important points in this Table. Take for example, Line 5: total government expenditures on health as a percentage on total government expenditures. This share seems to fluctuate around 4.8 percent to 7.0 percent during 1973 and 1978. The trend appeared to increase somewhat in 1976 but fell back again in 1978. The public health expenditures of this size are not unreasonable but is still considered too low for an effective social spending. A casual check with the 1977 UN Statistical Yearbook revealed that, in 1975, the share of health expenditures to total government expenditures in the Philippines was 7.5 percent, and in Singapore was 10.8 percent. In terms of public health expenditures per capita, this health indicator shows

Table III-10: Total Government Expenditures on Health, 1973-1978

(Unit: millions of baht)

Agencies	Fiscal Year					
	1973	1974	1975	1976	1977	1978
1. Ministry of Public Health	1023.2	1113.6	1547.4	2696.1	3520.6	3417.0
2. Other agencies of which:	573.3	630.0	792.1	1090.8	1306.8	1434.6
- State University Bureau	412.4	455.9	568.8	823.8	921.6	1101.1
- Ministry of Interior	137.6	147.4	204.8	243.2	351.7	297.4
- Ministry of Defence	13.5	16.1	18.5	23.8	33.5	36.1
3. Total Government Expenditure on Health	1596.5	1743.6	2339.5	3786.9	4827.4	4851.6
4. Total Government Expenditures	31600	36000	48000	62650	68790	81000
5. Total Gov't Expenditures on Health as a Percentage of Total Gov't Expenditures	5.1	4.8	4.9	6.2	7.0	6.0
6. MOPH Expenditures as a Percentage of Total Gov't Expenditures	5.2	3.1	3.2	4.3	5.1	4.2
7. GDP (billions of baht)	216.5	271.4	297.2	337.5	383.1	444.2
8. Total Gov't Expenditures as a Percentage of GDP	14.6	13.3	16.2	18.6	18.0	18.2
9. Total Gov't Expenditures on Health Per Capita (baht)	40	42	55	87	108	105

Sources: Boonyuen [4], BOB [5], NESDB [49]

a distinct increasing trend, but it may not have much meaning if the distributions of health facilities and health personnel are still very inequitable between the rich and the poor areas.

Household Expenditures on Health

Whereas the increase in government's per capita expenditure on health may indicate greater public interest and concern over the health of the people, the same thing cannot be said for the increase in private health expenditures by individuals and households. The latter increase more likely reflects greater incidence of ill-health of the people in question, or difficult or costly access to public health services so that more expensive private health services (including purchasing of drugs for self treatment) must be resorted to, or both. If the end-result of public spending on health is the improved health status of the population, one would expect private expenditure on health to fall if the health policies have been effective. Whatever the argument, it might be equally interesting just to know the pattern of household or individual spending on health: how much of the consumption expenditures is for health purposes? What is the difference between urban and rural households?

Table III-11 compares monthly expenditures on medical and health care by households by region and location of domicile in 1970 and 1975. The 1970 data were obtained from the 1970 National Health Survey, while the 1975 data were obtained from the 1975-76 Socioeconomic

Table III-11: Medical and Health Care Expenditures of Households by Region and Location, 1970 and 1975

Region and Year	Amount of Expenditures (baht/family/month)		
	Urban	Rural	Whole Region
North 1970	43	30	34
1975 (current price)	84	69	71
1975 (1970 price)	48	40	41
Northeast 1970	58	39	45
1975 (current price)	87	60	61
1975 (1970 price)	56	39	40
Center 1970	136	75	96
1975 (current price)	136	107	109
1975 (1970 price)	85	67	68
South 1970	70	62	64
1975 (current price)	88	70	73
1975 (1970 price)	53	42	44
Bangkok 1970	108	-	108
1975 (current price)	112	-	112
1975 (1970 price)	74	-	74
Whole Kingdom 1970	96	54	62*
1975 (current price)	100	74	80
1975 (1970 price)	63	46	50

Source: HPD [12], NSO [35], POT [2]

Note: * adjusted by proper weight of urban/rural population.

Survey, and the consumer's price adjustments between 1970 and 1975 were obtained from Bank of Thailand's Monthly Bulletin.

From Table III-11, one can see that household health expenditures have all increased in 1975 from 1970 in absolute terms. But when adjusted by the increase in consumer price index between 1970 and 1975, the average household expenditures on health seemed to have fallen across the board in all regions except the North. In the Bangkok Metropolitan area, for example, the average household health expenditures fell from baht 108 in 1970 to baht 74 in 1975 in 1970-constant price. Overall, the average health expending by all households in the whole kingdom fell, in constant terms, from baht 62 to baht 50 between 1970 and 1975, or about 20%. The North, however, is the only region where private health expenditures did not fall in constant terms between 1970 and 1975.

If a reduction in private health expenditures, in money as well as in real terms, is taken as an indication of better public access to the government's free or low-cost health care services, then such access seems to have improved from 1970 to 1975. But the improvement in health access is quite unequal across regions. The North, of course, was having difficulties with access to public health either in physical sense or financial sense or both. The Northeast did not fare much better as the rate of improvement was so negligible. Public health access appeared to have a disproportionately large improvement in Bangkok Metropolitan

area, Central and Southern regions. Again, this confirms earlier conclusions that Government's health services have benefited households in Bangkok and Central region more than those in the Northeast and the North.

Incidence of Health Benefits

If the amount of public expenditures on health are tied up with the amount of health benefits to be received by the population, then, assuming perfect efficiency of the delivery system, more public health spending would mean higher health benefits to the people. However, we need to think about the incidence of health benefits, or the distribution of health benefits by income class, as well as the average level of such benefits. In the previous chapters, we have seen that the interregional distribution of health spending favours Bangkok more than the rest of the country, especially the North and the Northeast. It would be interesting to know further the incidence of health benefits within each region.

A good example of the study on incidence of public health expenditures is the one study by Heller [14] for Malaysia. Heller combined the actual expenditures on health classified into various categories and the patterns of health benefits received by households. In short, he computed the unit costs of different categories of health services provided by the government and then surveyed who received what categories of health services. By assuming the health benefit equal the

unit cost of providing that health service, it is possible to estimate the amount and the distribution of health benefits by different income classes. Unfortunately, no similar study of the same scale is available in Thailand. Nevertheless, a very small-scale study of one public hospital in Bangkok and another in the North by Supachanyarak [42] may give some insights into the incidence of health benefits in Thailand.

Following the methodology just briefly described above, that is computing the unit costs of various health services and allocating them to households which receive those health services, Supachanyarak was able to estimate the distribution of benefits from hospital services received by outpatients and inpatients in various income classes. The results are shown in Table III-12

From Table III-12, one can see that the unit cost of hospital services for one outpatient visit to Rajvithi Hospital in Bangkok was estimated at baht 60, compared to baht 28 for the same service at Prae Hospital. As for inpatient services, the unit costs for one inpatient day were baht 143 for Rajvithi Hospital and baht 69 for Prae Hospital. Notice that costs at Prae Hospital were approximately half of those at Rajvithi Hospital for both outpatients and inpatients. Treating patients in a provincial hospital seems to cost the Government only half of the cost of doing so in a Bangkok hospital.

Regarding the distribution of health benefits by income class, patients were divided into three classes: those having less than

Table III-12: Estimated Benefits from Hospital Services, Rajvithi Hospital and Prae Provincial Hospital, 1977

	<u>Outpatient</u>	<u>Inpatient</u>
1. Unit cost of hospital services ^a (baht)		
- Rajvithi	60	143
- Prae	28	69
2. Distribution of health benefits by income class ^b (%)		
Rajvithi		
Low income	33.3	42.5
Medium income	36.0	33.4
High income	30.7	21.1
Total	<u>100.0</u>	<u>100.0</u>
Prae		
Low income	51.4	69.9
Medium income	31.4	20.5
High income	17.2	9.6
Total	<u>100.0</u>	<u>100.0</u>

Source: Supachanyarak [42] and additional estimation for Prae Provincial Hospital.

Note: ^a the cost is per outpatient visit or per inpatient day.

^b computed only from those who sought hospital services, not percentages of total population.

baht 5,000 per family per year; between baht 5,000-10,000, and over baht 10,000, all to be designated as low, medium, and high income groups, respectively. For outpatients at Rajvithi Hospital, the distribution of hospital benefits seems to be fairly equal among these three income groups, that is to say, benefits accrued to low, medium, and high income groups were 33.3, 36.0, and 30.7 percent, respectively, whereas for inpatients, the incidence of hospital benefits was somewhat regressive (pro-poor) as the poor appeared to have received greater benefits than the middle-income group and the rich.^{1/} Such regressive patterns of hospital benefit incidence were much more pronounced in Prae Hospital. For what little evidence that this study has shown, public hospital services outside Bangkok seem to benefit low-income households relatively more than higher-income households which fits in well with popular belief. But in Bangkok itself all classes seem to benefit equally from existing hospital services, except those outpatients who came from outside Bangkok who were likely to have come from well-to-do or medium-income families rather than poor families.

However, there are at least two qualifications to such a conclusion: (a) such incidence was estimated only from those who sought medical services at these two public hospitals; all other medical treatments were excluded, and (b) the higher-income households in Bangkok received relatively larger hospital services than those outside Bangkok, especially with regard to outpatient services, which of course did not help the already unequal distribution of health services in the country.

Conclusion

This chapter described the access to health services of Thai individuals or households in terms of availabilities or distributions of health institutions, personnel, and expenditures throughout the country. The available data have shown that the present health care delivery system has concentrated in Bangkok Metropolitan areas much more than all other regions. Although low-income families in each region seem to benefit from public hospital services relatively more than higher-income families, this does not imply that the poor have better access to existing health services. There are many problems concerning popular access to official health services which will be the subject of the next chapter.

IV. Problems and New Prospect of Official Health Services

This chapter discusses the problems of access to, and utilization of, official health services, new innovations that have been devised to promote basic health services; and the overall assessment of official health services, new and old.

Problems of Health Access and Utilization

As discussed in the last chapter, there are several levels of health services which individuals can get access to, namely midwifery center at village level, (second-class) health center at subdistrict or district level, district hospital at district level, and so on until one reaches specialized hospitals or institutes in Bangkok. But availabilities of access may be different from actual utilization of health services. One way to know if individuals or households have made adequate use of official health facilities available to them is to see how they first treat themselves in case of illness. The National Health Survey of 1970 had asked this question to more than 4000 respondents, and the findings are reported in Table IV-1.

Table IV-1 shows the rate of utilization of various types of medical treatment of 4272 respondents in all regions both in urban and rural areas. Upon quick inspection, one will immediately see that most people preferred to purchase drugs for their own self-treatment when ill. The rate of utilization of local drugstores as sources of medicine for

Table IV-1 Rate of Utilization of Medical Treatment Services, by Region and Location, 1970

	North		Northeast		Center		South		Bangkok	Whole Kingdom
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural		
1. Buy drug for self-treatment	44.1	52.7	51.6	62.6	44.4	58.4	49.0	55.9	37.1	51.4
2. Health centers	0.6	1.2	2.2	7.8	1.7	7.0	5.1	8.3	1.3	4.4
3. Provincial and other public hospitals and clinics	20.2	19.2	14.6	2.4	15.8	6.9	8.7	8.8	13.0	11.1
4. Private hospitals and clinics	27.8	7.1	26.7	4.0	29.7	10.2	28.1	14.0	43.3	22.7
5. Verbal, magical doctors and native midwives	0.6	4.7	3.4	7.6	4.4	3.8	5.6	5.5	1.3	3.9
6. Injectionists	2.5	12.7	0.9	9.8	0.9	3.9	2.0	4.4	0.3	3.8
7. No treatment, no answer	3.8	2.8	0.9	4.0	3.0	1.7	1.0	1.2	3.7	2.7
8. Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: HPD [12]

self-treatment was highest in the rural Northeast (62.6%) whereas the lowest was in Bangkok (37.1%). Other than buying drugs for self-medication, 22.7% of total respondents would go to private hospitals or clinics for treatment, followed by the choice of visiting provincial and other public hospitals (11.1%). However, such patterns of utilization may differ widely between and within regions. For example, the majority of the people of Bangkok would prefer going to private hospitals or clinics for medical treatment rather than buy drugs for self-treatment (43.3% versus 37.1%) which was very much opposite the case of the Northeast where private hospital or clinic services were very scarce.

Overall, the rate of use of provincial hospitals by rural population was lower than the rate of use of private hospitals and clinics in all regions except in the North. This does not mean, however, that provincial hospitals were underutilized. On the contrary, as the largest and most modern public health institutions in the provinces, these provincial hospitals had to provide medical services to several hundreds of patients each day. Rather, it was the rural midwifery and health centers which were underutilized. Located nearest to the people in the rural areas, yet only 4.4 percent of the whole population would consider going there to seek first medical treatment. This rate of use was only slightly higher than the utilization of traditional or herbal doctors and injectionists (3.9 percent and 3.8 percent, respectively). Anyone who used to visit rural areas where these midwifery and health centers are located might recall having seen some of these health centers

closed down, unattended, or in a state of inactivities due to a lack of local patients. At this juncture, it might be appropriate to ask the question: why these midwifery and health centers are underutilized whereas the provincial hospitals are overutilized?

There are several factors that could be used to explain this underutilization of the lowest forms of health unit. These factors will be discussed as follows:

1. Trust or confidence factor

Although the government's midwives and health workers are often addressed to as "doctors" by the local people in the rural areas, they are not perceived as the same doctors as those who work in provincial hospitals. By law and regulation, these midwives or health workers can only perform simple first-aid treatments, prescribe simple drugs, and refer those patients who are beyond their treatment ability to district or provincial hospitals. As we know, the role of these health workers is to perform preventive and promotive services more than curative services. Patients who can get only minor or simple treatments from health centers tend to lose confidence in the "curing" ability of these midwives or health workers. It is not unusual, therefore, to see that those who have time and money will bypass health centers to go direct to district or provincial hospitals or even to Bangkok to seek medical treatment. Or they may resort to private sources or institutions which they have greater confidence in their ability to cure.

2. Location factor

The access to health center may be difficult because it was located so far away from the patient's village. The travel time may be so great that the patient is deterred or discouraged from going to the health center. Instead, he may seek treatment from local traditional doctors, or itinerant injectionists, or if he should decide to take a long trip at all, he will go to big hospitals in the city. However, a recent study by Day and Leoprapai [7] has shown that distance is of minor importance in influencing the use of health stations within a sizable intermediate range, say, one hour of travel time. But this only applies to those who already come to health centers not those who have a choice of going to health centers and other health facilities from the same distance away. Day and Leoprapai argued that the health station's problems at this stage of development of health system seemed to be the lack of attractive service which contributed much more to their present underuse.

3. Convenience and attractiveness of service

If distance is not a problem, the patient may still face the inconvenience of waiting for medical services in case he goes to a large provincial hospital. One whole day may be spent for a brief medical attention and more waiting for medicine. And more often than not, those hospital officials tend to have less-than-kind attitude toward patients who come from rural areas, and treat them rather rudely. This is a part

of "public official mentality" which is still pervasive throughout the country at present. The patient may find out eventually that private medical service not only is more courteous, but also takes less waiting time and sometimes even more effective.

4. Cost factor

Contrary to many beliefs, public health services in Thailand are not so inexpensive as they should be considering the majority of low-income households in the country. Of course if a patient using official health services could not pay for such services he can claim to be "destitute," in which case he would be exempted from doing so if the health authorities are convinced. But this present charity allowance is obviously unpleasant to say the least. Although a patient who visits a health center is expected to pay no more than baht 20 on the average for one visit, this amount is considered high for an average rural patient, and especially if he suffers only from minor respiratory infection, say, a common cold where the prescribed medicine consists of few aspirins, a cough mixture, and some anti-histamines costing all together no more than two or three baht at most. Until very recently, the practice of doctors in prescribing brand-name medicine over generic-name medicine also contributed to high cost of medical treatment.

5. Superiority of other treatments

From Table IV-1 we have seen very clearly that more than half of the people who become ill in 1970 first bought medicine from

drugstores for self-treatment. This could be out of convenience as well as of expectation that the medicine they bought was the strongest or the most effective for their illnesses or symptoms, which could be correct as all kinds of drugs can be purchased liberally from private drugstores or druggists. Where the service of injectionists is sought, this could be because it is delivered right in the patient's home, befitting the classic ideal: health to the people, not the people to health; the fee is quite reasonable (for example, about 12 to 15 baht for a shot of analgesics); and a most potent drug is used via the fastest route (injection). Strictly speaking, this practice is against the law, and therapeutically, there are many dangers associated with such practice: overdose, chance of addiction, harmful side-effects, and the like. But from the user's point of view, the quick result of the medical treatment delivered by these injectionists is sufficient to enhance the image of these illicit healers.

6. Private practices of official health personnel

It is not unusual for official health personnel of all levels from a village midwife to a provincial chief medical officer to have private practices after official hours if he or she has the licence to do so. But private practices of official health personnel could result in underutilization of public health facilities: the doctor may encourage some patients to see him at his private clinic so that a closer examination could be performed, or some may want to profit from the sale

of certain medicines, and so on. The effect of this private practices on public health care utilization is more apparent at midwifery and health center levels where the rate of underutilization is highest. On their study about the variegated medical system in Thailand as a context for birth control services, Riley and Sermsri [38, p. 46] had this to say about the Government Midwife:

"In spite of formal rules to the contrary, giving injection is main activity, perhaps the main activity, of the Government Midwife, even in her (presumably official) activities carried on at the health station. Midwifery is only a very minor part of her activities. Formally, pre-natal and post-natal examinations of pregnant and parturent women are supposed to be a major responsibility of the Government Midwife; actually, very few are performed. Formally the Government Midwife's responsibility is prevention of disease; actually, her major activity is treatment. In addition, there are economic motivations for the Government Midwife to concentrate on curing: there is no charge for preventive services, and the government salary is meagre compared to what she can earn selling medicines. There are several categories of medicines available from the health station. Formally, "dangerous drugs" --those which are supposed to be sold by prescription -- are not available at the health station, although they can be provided in "emergency situations." The health station medicines are supposed to be given free, or sold according to different schemes of financing and accounting. But there is little reason to believe that these rules are followed, and in actuality a Government Midwife can make a profit from medicines sold at the health station."

Certainly Riley and Sermsri's account of Government Midwife is not true of all government midwives. But at least the above passage will demonstrate the severity of the problem regarding private practices

of public health personnel in relation to the underutilization of official health services at present.

New Innovations in Health Care Delivery System

As we have seen above, the result of the 1970 national health survey showed very conclusively that there was a great deal of underutilization of rural health centers by rural population. Such revelation prompted central health administrators to increase their efforts in improving the rural health services delivery system. A new concept of integrated rural health care system was formulated and put to operation on an experimental basis at a Northern province of Thailand, Lampang. This project which later becomes known as the Lampang Health Development Project, however, was not the first attempt at improving rural health care system; there were few earlier attempts in that direction, but the Lampang Project apparently is the most promising one.

1. Earlier attempts at integrated rural health care

Ten years before the conceptualization and development of the Lampang Project in 1974, the Ministry of Public Health Planned and implemented two projects aimed at strengthening the rural health services delivery system and extending basic health services which, in the MOPH's words, would be "available, accessible, affordable, and acceptable" to the rural population. It was claimed that the experience gained in these projects had a direct influence in conceptualizing and

planning the Lampang Project. These projects were the Pitsanuloke Project and the Saraphi Project.

The Pitsanuloke Project

This project was launched in Pitsanuloke province in 1964 to strengthen rural health services through the construction of rural health centers, recruitment of additional health personnel, and training of all existing health personnel. At the subdistrict level, voluntary health workers were selected by local people themselves to be trained and hired as sanitarians of the health centers. The overall aims of the project were (1) to strengthen rural health services facilitated by integration of health and medical services at the peripheral service units; (2) to extend rural health services by mobilizing local volunteer health workers; (3) to establish a revised record-keeping and reporting system based on family folders; and (4) establish a patient referral system between rural health centers and the provincial hospital. Regular supervision and a patient referral system were attempted but could not be maintained. After four years, this project was terminated and was considered only a partial success.

The Saraphi Project

More or less as a continuation of the Pitsanuloke Project, the Saraphi Project was implemented in Chiangmai province in 1968 to find a model for rural health services, emphasizing mother and child health,

family planning, nutrition and communicable disease control services. Like the Pitsanuloke Project, active participation of community and village health volunteers and health communicators was an important feature of the Saraphi Project. A series of health centers were constructed and staffed by newly-recruited government health workers, but the highlight of the project was the recruitment and training of health post volunteers (HPV) and health communicators (HC). Other activities of the project included the establishment child nutrition centers through community participation, village health posts, well-child clinics, and a patient referral system between the village health post and the government health centers. The project was concluded in 1971 with a strong belief that the future improvement in rural health care delivery must rely on village health post volunteers and health communicators.

2. The Lampang Health Development Project

A) Background

Although the Pitsanuloke Project and the Saraphi Project were policy efforts in the desired direction, they lacked facilities for close supervision and the follow-up of main activities. The interest in reforming the health care delivery system was kept alive, and in fact was given the needed push, by the involvement of the U.S. Agency for International Development (USAID) in its program to develop and evaluate new approaches for integrated rural health care delivery systems for improved health, population, and nutrition services in the

developing world. After the inception of the idea in 1971, the USAID, in cooperation with the American Public Health Association and the School of Public Health, University of Hawaii, had reached an agreement with the Ministry of Public Health in 1973 to plan a Development and Evaluation of an Integrated Health Delivery System (DEIDS) project at the MOPH. In 1974, the DEIDS/Thailand project was finalized and inaugurated in September, 1974. Lampang province was chosen as the site of this DEIDS/Thailand project because it satisfied all the criteria of the selection of site, that is it had over 500,000 population, had fair communication system within the province, was not in an insurgent area, attained moderate economic status, and its provincial officials endorsed the project. Today the DEIDS/Thailand Project at Lampang is better known as the Lampang Health Development Project, or simply the Lampang Project. The Department of Health of the Ministry of Public Health is given the responsibility to implement the project through Lampang provincial health administration, and the Director-General of the Department of Health becomes the Director of the Project.

B) Goal and Objectives

According to the MOPH [25], the ultimate goal of the Project is to improve the health status of the population of Lampang province. The specific objectives of the Lampang Health Development Project in reaching the overall goal are:

- (1) To expand health care coverage to at least two-thirds of the rural population, especially women of the child-bearing ages and pre-school-age children, with an emphasis on family planning, nutrition, and maternal and child health services;
- (2) To establish a model of an integrated provincial health services delivery system which extends integrated curative - preventive - promotive health services to every subdistrict health center, and to establish preventive - promotive health services in every village through trained village health volunteers; and
- (3) To establish a provincial health care system that is cost-effective, that is having low-cost per service unit, the key features of which can be replicated throughout the country within reasonable budgetary constraints.

Behind these rather straight forward objectives lie a basic philosophy for a good "integrated primary health care delivery system." The health care is "primary" because it consists of simple and effective measures, in terms of cost, technique and organization, which easily accessible to the people requiring relief from pain and suffering and which improves the living conditions of individuals, families, and communities. And the health delivery system is "integrated" because

it provides under one single administration all health services -- curative, preventive, promotive, and rehabilitative -- for a defined population within a defined area. To make this system work, community effort, involvement and participation are essential ingredients in the process of health service integration and health system reorganization.

C) Key Features of the Project

To accomplish the goal and objectives set above, the Lampang Project has developed a series of innovative strategies as follows: (1) development of community health volunteers for primary health care; (2) involvement and cooperation of the community and private sector; (3) training and deployment of Wechakorn paraphysicians; and (4) reorganization and integration of provincial health service infrastructure.

(1) The development of community health volunteers

The development and training of community health volunteers for the purpose of primary health care is a promising feature of the Lampang Project. This strategy is based upon the notions of local self-reliance, mobilization of all forms of local resources, utilization of appropriate health technology, and provision of relevant health information and services. The obvious benefit of this community health volunteer is the extension of primary health care coverage to every village in the province beyond the health services of the rural health

centers. Community health volunteers are chosen from and controlled by the communities which they serve. They are under the general direction and control of the village health coordinating committees and, indirectly, the tambon health coordinating committees. They are provided technical and logistical support, supervision, and referral facilities by the official health delivery system, mainly through local health workers.

There are three categories of community health volunteers under the Lampang Project: health post volunteers (HPV), health communicators (HC), and traditional birth attendants (TBA).

- Health post volunteers (HPV)

Health post volunteers are the primary link between the network of local community health volunteers and the official government health system. Each volunteer is selected by the village health coordinating committee and given a two-week training course. The training program is conducted by local health personnel and other government officials under the direction of the Lampang Project. Major functions of these health post volunteers include:

- (i) providing first-aid, medical services for minor illnesses, and family planning supplies;
- (ii) directing referrals from village health post to appropriate health facilities;

- (iii) assisting health workers in local health programs and activities;
- (iv) reporting vital events (i.e. birth, death, migration) in a new system for vital events monitoring, and
- (v) supervising health communicators and village health activities organized by the village health coordinating committee.

A lucid account of the usual activities of a HPV is given in the following passage, quoted from MOPH [25]

"Upon completion of training, the HPV returns to his village and established a small area in his home which will serve as a consultation area when neighbours come for help. This consultation area usually has a bed where patients can rest while being examined by the HPV. It also has a small medicine cabinet to store simple non-prescription medicines which the HPV sells to his patients. Everyday at least one sick villager comes to visit the volunteer. Some of the more successful volunteers may see as many as two hundred patients each month. The medicines provided by the HPV are sold as inexpensively as possible, but with an allowance for a small profit, the only monetary incentive allocated to the volunteers. After treating the patient, the HPV enters a record of the contact in his daily log. This record assists the local health worker to review whether the HPV has given the proper treatment for the symptoms."

- Health communicators (HC)

Health communicators are ordinary villagers selected from their communities by village health coordinating committee. Two

days of training are given to these health communicators by provincial health staff after which they are expected to serve four functions:

- (i) recognize the health problems that are common in their areas and report them to the HPV;
- (ii) report all vital events in their neighbourhood.
- (iii) refer any villager who becomes ill to HPV or other appropriate entry points of the health delivery system;
- (iv) help facilitate communication from and between villagers, HPV's, and health officials.

- Traditional birth attendants (TBA)

These traditional birth attendants or "traditional midwives" who do most village deliveries are identified in their respective villages and invited for a two-week government midwifery training by professional staff at the Lampang Midwifery School. They are taught aseptic techniques and modern methods of normal delivery, recognition of abnormal pregnancies for referral, personal hygiene, good child care practices, and nutrition for mother and child.

- (2) The development of a community health paraphysician: the Wechakorn.

As mentioned earlier, one of the reasons for the under-utilization of local health centers is the inability of health center personnel to provide curative medical services and/or the lack of

confidence that the villagers have upon these health personnel. If these health workers could be trained to acquire greater knowledge of medical and health services and the arts of healing, they could perhaps attract local villagers to make more use of local health centers.

This could be construed as a second-best solution to the implausibility of having a medical doctor stationed at every health center. And, indeed, this is what the Lampang Project is doing at present.

Health services personnel mostly from rural health centers throughout Lampang (nurses, nurse-aides, government midwives and health workers) are selected and given an intensive one-year training at the Lampang Provincial Hospital, the Midwifery School, and the rural health center. Those who passed this one-year training course will become Wechakorns or community health paraphysicians who normally will go back to their respective rural health centers with an added responsibility and competency. Now a Wechakorn could:

- (i) provide general clinical treatment for infections, wounds, and common diseases of the skin, respiratory, gastrointestinal, and genitourinary system;
- (ii) carry out such preventive and promotive health education, immunigation, environmental sanitation, family planning, and nutrition surveillance of all pre-school children in the subdistrict;

- (iii) refer any serious case to a physician at an appropriate health facility;
- (iv) supervise the activities of the HPV, TBA and subdistrict health center staff, as well as assist village health coordinating committee in organizing local health activities.

Wechakorn who are deployed at rural health centers are supervised by the rotating hospital physicians and physicians from the Community Health Department of the Lamphang Provincial Hospital (discussed below). There are a small number of Wechakorn who work in the hospital who are thus supervised by hospital physicians in the OPD to which they are assigned. Although ongoing physician-supervision of Wechakorn and the Patient Referral System provide opportunities for continuing professional development, Wechakorn also rotate back to the provincial hospital on a periodic basis for refresher courses and special skills development. Wechakorn supervise HPVS at the village-level and health workers and midwives at the subdistrict level.

- (3) The reorganization and integration of the provincial health service infrastructure.

There are at least four important aspects of the reorganization and integration of provincial and rural health services. First, with the establishment of provincial chief medical officer position in

the provincial health administration system, the hospital and rural health services functions which previously were under full authority of the provincial hospital director and the provincial health officer, respectively, are now brought under one administrative unit which should make the integration of medical and health services at the provincial level much more effective. Secondly, this reorganization and integration process required several interventions beginning with the reorientation and reeducation of all health service personnel, supervisors and administrators of the principles of integrated health services and primary health care, and the strategies of the new health delivery system. Thirdly, the patient referral system between the rural health centers and the provincial hospital was developed. And fourthly, the Community Health Department was established at the Lampang Provincial Hospital which was reorganized to serve as the nucleus of all government clinical services in the province. The responsibility of this department includes sending hospital-based physicians to rural health centers on a rotation basis; dispatching mobile health teams to distant rural health centers to provide mainly vasectomy services, but also all sorts of medical and health services to villagers as well as to give the opportunity for the peripheral health personnel including Wechakorn to discuss or consult with field supervisors about a wide range of local medical and health problems.

(4) The development of community and private sector involvement

In the discussion above, reference was made to village and subdistrict health coordinating committees without explaining what they really were. Indeed, these committees are one of the most outstanding features of the Lampang Health Development Project because without their active support, the extension of basic health services to rural areas is quite impossible. These health coordinating committees generally are composed of influential members of the community whether it be village or subdistrict. Their functions are to participate in health planning and management decisions as well as to select community health volunteers. In Lampang, many committee leaders have become very active in organizing local health activities and have helped persuade their neighbours to take advantage of appropriate services offered at nearby health facilities.

Involvement of the private sector is another important aspect of mobilizing local resources. In the Lampang Project this involvement takes the form of willingness on the part of local drugstores to re-supply health post volunteers with simple household medicines when their stocks are depleted and they could not get resupply from the government sources in time.

D) Operation and Evaluation

The operation of the Lampang Project is divided into three phases. The first phase of operation (1974-1976) covered just one experimental area, that is Hang Chat district, and two control areas: Mae Tah district in Lampang province and Mae Tha district in the adjoining Lamphoon province. During the second phase of operation (1976-1978) seven more districts were added into experimental areas; and during the third phase (1978-1979) all four remaining districts including Mae Tah which was one of the control areas during the first phase of operation will added into experimental areas, thus completing the whole coverage of Lampang province.

As the goal of the Lampang Project is the improved health status of the population of Lampang province, some base-line information about health conditions of individuals or households in the province before the commencement of the project must be known so that it could be used to compare with the health conditions after the end of the project. Therefore, the Community Health Survey was conducted during 1974 in the first experimental area (Hang Chat) and two control areas (Mae Tah and Mae Tha) (Major results are reported in Pradith Siddhichai [40].) Then the system of community participation was set in motion: village and subdistrict health coordinating committees were formed, community health volunteers and Wechakorn candidates selected, and various training began. The summary of Lampang Project training activities as of August, 1978 is presented in Table IV-2.

Table IV-2: Summary of Lampang Project Training Activities

Training Category	Length of Training	Number Trained as of August 1978	Estimated Number Yet to be Trained	Total Trained at End of Project
Wechakorn	1 year	96	30	94
Health Post Volunteers	2 weeks	572	100	672
Traditional Midwives	2 weeks	244	100	342
Health Communicators	2 days	4846	1000	5846
Trainers	2 weeks	133	-	133
Supervisors and communicators	1 week (half days)	72	-	72
Service Personnel	1 week	195	75	270

Source: LHDP [19, P. 30]

The training approach used for Wechakorn deserves some special mentioning. Adapted from the so-called Medex model originated in the United States in 1960's, the training approach is problem - oriented and the methods are competency-based. During this one year of training, less than one-third of the time is spent on theoretical or classroom material; major emphasis is placed on practical clinical experience or "learning by doing." Therefore, when the training is completed, these Wechakorn would help expand the provincial and district hospital's

capacity of dealing with routine medical care patients, thus freeing the physicians for more serious and complicated cases. In case where these Wechakorn have returned to rural health centers, competent clinical care which has previously been unavailable to the rural population is now possible in addition to the usual preventive and promotive services. These points have already been discussed above.

Other major activities of the Lampang Project include family planning, which it succeeded remarkably well in terms of numbers of sterilization cases and new acceptors of birth control techniques, and nutrition surveillance of pre-school children. Together with the expanded role of Wechakorn, the participation of community health volunteers, the administrative changes at the provincial hospital and provincial health system, the Lampang Project has created a powerful case for a new concept of primary health care in Thailand. When the project implementation is completed in 1980, it is expected that an integrated provincial health delivery system will be fully operational for the entire province, and 700,000 rural residents will be provided with regular access to basic health services. If this is true, and if the Project is sufficiently cost-effective, this integrated health services delivery system including primary health care services at the village level may be replicated in other provinces throughout the country. As a matter of fact, integrated health care delivery system in the mold of the Lampang Project are being replicated in Samerng District of Chiangmai Province and in Jana District of Songkhla Province at present.

Despite its very promising potential as a model for future basic health care development in the country, the Lampang Project is not without its conceptual and administrative problems. Few major problems may be summarized as follows:

a) Active community participation is one of the most important features of the Lampang Project which contributed much to its apparent success so far. But it may be difficult to keep this community participation constantly active long into the future if the provincial health administration is not competent or has lost its interest in this approach of primary health care delivery system. Cooperation and coordination between village and subdistrict health committees and the provincial health authority must constantly be reinforced and encouraged.

b) Even if the provincial health authority is receptive to the idea of health administration reorganization for the purpose of effective, low-cost, basic health delivery system, higher authorities in the Ministry of Public Health may not be so agreeable with present or future reorganization, especially reorganization which stresses greater local autonomy and decision-making process. If so then policy implementation may be delayed.

c) Not all health volunteers are equally capable of carrying out their respective duties once they graduated from their training and returned to their villages. Perhaps only about half of the trained

health post volunteers would have very active service contacts with the villagers; others were not so active. This may have something to do with the personality and social popularity of each HPV in his village. But supervision from Wechakorn and other provincial health personnel could improve the performance considerably; when supervision has been regular, performance has been good. As for the health communicators, these volunteers seem to be relatively inactive, possibly because of uncertainty over their role and the lack of clear directive from the village health committee. The same is true with the trained traditional birth attendants. It has been observed that beyond carrying out midwifery activities at a higher level of skill than before, these TBAs seem relatively inactive. Like HCs, for instance, they are not even helpful in reporting vital events. Perhaps by providing these health volunteers with more substantive rewards for their services than just a privilege to have free medical services at the district or provincial hospitals, say, some monetary returns for their services, they would be induced to put more efforts toward their jobs.

d) The cost of services at rural health centers remains high in comparison with private sources of treatment. If Wechakorn or health workers at these health centers could be provided with adequate low-cost standard medicines and other measures adopted to reduce incentive to profit from sales of medicines and private practices, then utilization of health center services is likely to increase greatly.

e) The question of local drug sellers and injectionists will have to be dealt with more effectively within the ideal framework of basic health care delivery to rural areas. In Lampang as in most other provinces, many kinds of medicines including those in dangerous drug list can be acquired from drug sellers in the village or in town. What is more important, however, is that many rural residents have been using many habit-forming, pain-killing medicines for so long so that they are more or less addicted to them. Strict control of advertisement and reeducation of local drug users should be a part of new system of basic health care delivery. As for the injectionists, since the strict suppression of their activities is neither possible nor popularly warranted, some compromises may have to be meted out by giving them tacit recognition in exchange for their willingness to receive proper training in modern medicine and greater caution in using powerful drugs. This sounds like a defeatist policy, but short of a massive, expensive and probably not very effective, drive against these popular injectionists, this may still be considered a realistic policy.

V. Conclusions and Policy Recommendations

This chapter sums up the findings of the last three chapters, namely on health conditions of the country, on health delivery systems, and on problems of official health services and new innovations to deal with such problems. On the bases of these findings, some policy recommendations will be made after careful considerations of the relevant factors.

Conclusions

A. On health conditions

Demographically speaking, the vital conditions of the Thai population are improving rapidly in the last two decades. The death rate in fallen; the birth rate has been more or less controlled; and the infant mortality rate was reduced substantially from the last decade. However, these demographic variables could be improved even further. For example, the death rates both general and infant, though falling rapidly, are still too high even by our neighbours' standards.

On nutrition, although Thailand is a food surplus country, eating habits of the people coupled with general poverty conditions of households in both urban and rural families, have caused malnutrition of various severity throughout the country. It was estimated that around 40,000 to 48,000 of Thai children between 0 - 5 years of age would die of

malnutrition or malnutrition-related diseases in 1974 [30, p. 24-26], and these figures were expected to continue unabated unless urgent food and nutrition policies are conscientiously implemented on a national scale.

The two most prevalent groups of diseases which caused the highest number of deaths are diseases of the respiratory tract and diseases of the digestive systems, respectively. This mortality situation reflects deficiency in health conditions in the sense that such deaths could be prevented or reduced by immunization and/or sanitation and environmental controls. The severity of these two groups of diseases was also shown in the morbidity situations of the country as large proportions of the population were shown to have suffered from various respiratory tract diseases and diseases of the digestive systems. The majority of Thai population were also suffering from parasitic infestation and dental diseases. Morbidity measured in terms of number of days a patient is out of work due to illness was also reported. But since the data were available only for one year (1970), no comparison of this aspect of the incidence of ill-health with other times period is possible. However, available statistics could be used as a benchmark upon which a future change in this aspect of morbidity situations could be compared.

On the whole, therefore, it would not be too easy to say that the overall indices of health in Thailand are favourable or satisfactory.

Health conditions certainly are improving, but its present status seems to indicate that a great deal of improvement is still needed.

B. On health access and delivery

Like other aspects of government's administration, health administration in Thailand is highly centralized. Health authorities flow down from the Ministry of Public Health in Bangkok to provincial health systems then to district, subdistrict and village health administration. The smallest unit of health provider in the present structure of health delivery system is the government's midwifery center which is intended for mother and child care service at a village level. Next comes the subdistrict health center which is found in at least one out of every two subdistricts in the country at present. Medical and Health Service Center, district hospital and provincial hospital form the remaining part of the provincial health delivery system. All of these, however, could not match the health facilities both in terms of health institutions and health personnel that are available in Bangkok Metropolitan area. The population of Bangkok always receives more and better health services than those in the rest of the country. Problems regarding health personnel at various locations are deep-rooted in the physical as well as financial, incentive systems. This is a major reason why many medical doctors prefer to work abroad or in Bangkok, not in the remote rural areas.

The Government's general policies toward health in Thailand are partly to blame for this maldistribution of health services. Public

spending on health services consistently forms a very small part in the total budgetary allocations each year. No substantial improvement in health services is expected unless the Government has changed its basic policies regarding health problems in Thailand. Had it not been for the opportunity to profitably carry on private practices, the number of medical doctors working for the Government would not be so high even in Bangkok.

C. Problems and New Prospect of official health services

A major problem of official health care delivery systems can be characterized as overutilization of provincial and Bangkok hospitals and underutilization of rural midwifery and health centers. The causes of this problem appear to consist of the lack of faith that local residents have upon rural health personnel, inconvenient location of health centers, not so inexpensive cost of medical services, and limited health services that these health centers could provide for local patients. Partly, this is a problem of health access, that is, health centers are not found in every village or at location easily accessible by local patients. But mainly, it is a problem of shortage of medical doctors who could provide curative treatments desired by those rural patients.

Realizing that shortage of physicians cannot be rectified within a short period of time, and that curative health services are not the most important aspect of health care system (prevention of diseases and promotion of individual well-being and good health are), the

Ministry of Public Health has tried to devise a new health care delivery system which emphasizes curative, preventive, promotive and rehabilitative measures in one package. Moreover, local resources will be exploited and local participation be made one of the main features of this new health delivery system. This is a case of "integrated" health care delivery system which is being experimented on a rather large scale in Lampang through the Lampang Health Development Project. The four main features of the Lampang Health Development Project are (1) the involvement of local population in process of health service planning and health policy implementation; (2) the establishment of health post volunteers and health communicators from among the local population, the former to administer some basic medical treatments and other health services, the latter to record vital events as well as to propagate other health information; (3) the upgrading of former government's health worker and midwives to the position of Wechakorn or paraphysicians through one-year intensive training and returning them to work in their old health centers; and (4) the reorganization of provincial health system where all aspects of health services are now under one provincial authority plus the setting up of community health department in the provincial hospital which sends out hospital-based physicians on a rotation basis to station at rural health centers performing vasectonny service as well as other medical treatments to the local residents.

So far, the strategies envisioned in this project seem to work well as expected. The Wechakorn have earned more confidence from local

patients as effective healers; some health post volunteers have established themselves as popular first-stop health providers; the idea of rotating hospital-based physicians to rural health centers is really very useful; and so on. But some cautions remarks were raised concerning the evaluation of the project: local participation is a good thing, but may be difficult to keep it from waning; some of the health post volunteers and health communications are not able to discharge their duties fully due to uncertainties about their new roles as well as their incompetence; the cost of medical service from a patient's point of view is still considered too high. In order to retain the momentum of the project, a system of incentives, financial and otherwise, should be devised for volunteer health workers as well as the Wechakorn and those mobile hospital-based physicians.

Policy Recommendations

Having summarized the main theme of the paper, we now turn to the final part of the study: recommendations regarding policies that should improve the distribution of and access to basic health services in Thailand. Before doing so, it should be mentioned at the outset that these recommendations have taken into considerations certain rigidities inherent in the present health administration in Thailand, the feasibilities of certain policy changes which impinge upon some structural changes, the expected economic, social and political repercussions following certain policy changes, and so on, so that what are recommended are within

the realm of possibility to be implemented immediately or within a short preparatory stage.

The six areas of the above policy recommendations can be described as follows:

1. General health expenditures

The most important policy recommendation concerning the improvement of basic health services in Thailand, perhaps, is a change in policy direction toward greater role of the public sector in the provision of basic health services. If it is admitted that the health conditions in Thailand have rooms for improvement, and that the Government is the most effective agent that could effect such improvement upon the population as a whole, then one is expected to see an increase in general health expenditures in overall government's budget. Because the present health expenditures proper, that is the annual budget of Ministry of Public Health are quite small by any standard, a doubling of these expenditures from the present level within a few years should not be considered excessive. Such an increase in health expenditures would enable the public health authorities to implement certain policies which would not be possible with marginal increase in budgetary allocation such as a restructuring of present health administration; creating new incentive systems for various health personnel as well as providing for medical and health equipment, infrastructure, and medicines. Some of these specific policy changes may be discussed below, but the purpose of this

recommendation is mainly to clear away budgetary constraints which may obstruct some of these specific policy changes.

2. Decentralization of health administration

Being highly centralized, the Thai bureaucratic system is often blamed for the slowness and inefficiency in policy implementation. As regards the health administration, practically all major health policies are decided at the Ministry of Public Health in Bangkok, then policy directives flow down to provincial health administrators and lower. Recently, however, there have been serious attempts in the Ministry of Public Health especially at the Health Planning Division of the Office of the Under-Secretary, to encourage health planning at the provincial level, thus trying to revert the usual "top-down" to "bottom-up" type of planning. These attempts have so far been met with limited success, first because provincial health administrators are still unfamiliar with health planning at the local level, and secondly because even if local health authorities are given some autonomy in deciding local health plans, they are still bound by rigid financial control systems as well as other administrative control of the provincial administration systems (through provincial governors as well as district officers).

At present, several suggestions have been offered regarding the strengthening of local governments through increased autonomy in terms of local taxation and budgeting. This type of autonomy should cover

health services as well in such a manner that the local health authorities shall have major control over the use of funds for local health purposes such as special remuneration for health personnel, purchase of drugs and other medical equipment, and so on. This does not imply, of course, that local health authorities have a free hand in doing everything, but at least this kind of autonomy would for example, end the present system of allocating only baht 10,000 to each district hospital and baht 500 to each health center, to buy drugs.

3. Health personnel

As maldistribution of health personnel across regions is the main problem facing health administrators today, a redistribution of health personnel becomes a crucial policy which could alleviate the problems of lack of access to local health services and the underutilization of local health centers. This redistribution policy means both the increased, assignment of the old personnel in rural areas, and the recruitment of new personnel who live in the rural areas. Despite the greater importance of preventive and promotive aspects of health services, curative services probably have greater impact upon the rural patients when they become ill and are seeking medical help. As pointed out earlier, it was the shortage of physicians at rural health centers which was mainly responsible for the underutilization of these centers. Therefore, by increasing more physicians and stationing them at these health centers, the underutilization problem certainly would be reduced.

Relocating existing medical doctors from Bangkok and other urban areas to rural health centers would be difficult but not impossible provided new incentive systems are instituted such that these doctors received adequate compensations for hardship and protection from danger while working in the rural areas. Other incentives may be built into this rural assignments such as better chance for promotion, or permission to take leave abroad, or the rural assignments need not be too long, even a short-term regular rotation of hospital-based physicians can be envisaged. At the same time, administrative flexibilities regarding the use of funds and other medical activities should be accorded.

Expanding medical training to get more health personnel is probably an easier way to get a physician posted at a rural health center. At present, formal medical education in Thailand is often criticized for preparing doctors who would become medical specialists rather than general practitioners, and who would likely to go abroad after graduation or, if not, prefer to work in or near Bangkok because it is nearer to home, or the chance for lucrative private practices is great. Apart from changing the emphasis from medical specialization to general medicine which would equip the medical students with better perception of public health in general, the system of selecting students to enter medical schools should also change. At present, only the brightest students who are likely to be those living in or near Bangkok would get admitted to medical schools. These students do not normally experience the life in rural areas and thus could not possibly expect to carry on

their medical practices there. If the entrance procedure could be changed so that a larger quota is given to students whose domiciles are in rural areas, then there exists a better chance that, after graduation, these new medical doctors would have little aversion in working in the rural areas. The present encouragement for medical education in regional universities such as in Chiangmai, Khonkhan, and Songkhla is the step in the right direction and deserved to be supported.

Another issue could be raised about the quality of medical doctors who graduated from medical schools. Certainly a given standard must be maintained for a satisfactory training of a medical student. But suppose that there is a great demand for medical practitioners, too great for the usual output of medical schools, would it be possible to have lower-than-standard medical training? Obviously most medical purists would object to such an idea, but it is indeed possible, and infact appropriate to recommend practical training of lower-level medical practitioners or paraphysicians. The training of Wechakorn in the Lampang Project would be a case in point where former midwives and health workers who originally could provide only the most basic forms of medical treatments such as first-aid and attending minor ailments such as common cold, cough, headache, and prescribing simple household drugs, now could diagnose a more complex symptom and could administer more powerful drugs. To a lesser extent, the training of health post volunteers also falls into the same category. Indeed, this could be conceived as a Thai version of the famous bare-foot doctors of China.

However, there are some legal niceties which render such medical practices unlawful. According to the Act for the Control of the Practice of the Art of Healing, B.E. 2479 and the Medical Profession Act, B.E. 2511, no one can practise the art of healing without proper licence (which most Wechakorn do not have) and licenced physicians are forbidden to train their assistants to treat patients by themselves. These laws often create uneasy feelings among practising parapsychicians and are obstacles to convenient expansion of medical apprenticeship. Of course, the good intention of these laws was to prevent proliferation of quacks or medical chalatans, but they should be made flexible for the expansion of medical practitioners under the supervision and control of public health authorities.

Finally, there is some need for the coordination of various mobile health units under operation at present. Visiting plans should be made well in advance and coordinated in such a way that the service in any one location is becoming regular and is spread out equally among all regions. Also the service should be standardized and always in cooperation with local health centers if possible so that the local patients could become more acquainted with local health centers in their areas.

4. Costs of medical and health treatments

In the course of our discussion on the average cost of medical treatment at a rural health center, we mentioned that such a cost is

relatively high for the level of income in rural areas. If medicinal drugs used in government's health centers or provincial hospitals are cheap, and their expenses are facilitated by the Government either through free distribution or through subsidized prices, both access to and utilization of health services will be improved. A fuller analysis of this so-called "cheap drug policy" would require another study. It is suffice to mention here that ready availability of few essential drugs at low prices (artificially if need be) could mean a much greater chance of success in promoting popular access to existing health services.

The local demand for pharmaceuticals is estimated at around baht 1000-6000 million annually. Of this amount, about half of local demand for drugs is met by local manufacturers, and the other half by import. Although the Government owns and operates a drug manufacturing firm as a state enterprise (the Government Pharmaceutical Organization or GPO) which is also the largest drug manufacturer in Thailand, the production of drugs and other pharmaceuticals by private companies still contribute the largest share of drugs used in Thailand. As a matter of fact some private drug companies have been noted for their success in manufacturing widely popular pain relieving drugs which, today, still remain one of the most widely known medical products throughout the country.

But this simple drug manufactured and sold by private drug companies can be very expensive indeed from the point of view of the

cost involved. Take an example of Tumchai, the most popular pain relieving drug among rural drug users. It is in fact a brand-name of a simple aspirin plus a small amount of sugar. For an equivalent of 2 aspirins, one package of Tumchai is sold for baht 0.5 whereas the cost of manufacturing it should not be more than baht 0.05 to baht 0.10 at most, which means a profit of 5 to 10 times the cost of production. It is not surprising, therefore, to see that the manufacturer of Tumchai is consistently the company with the largest profit to sales ratio in Thailand^{2/}

The need for cheap drugs by the Government was more apparent because they had to operate many public hospitals and health centers. Even it became a state enterprise, the Government Pharmaceutical Organization has been acting as the Government's major supplier of drugs and other pharmaceuticals. A number of drugs are produced and sold as non-prescription, household drugs to the general public. And where the prices of private company drugs are high, those of the GPO are, almost as a rule, lower. Yet, at rural health centers, the charge for service and medicine is relatively high because, firstly, some modern drugs such as antibiotics which are still expensive to produce are prescribed, and secondly the health workers are allowed to make profits out of these drugs.

Although the GPO is a state enterprise, it has not received any special treatment from the Government in its role as a pharmaceutical

producer. In fact, it was private drug producers who received special treatments from the Government in the form of investment promotion measures including income tax holidays, duty-free imports of pharmaceutical machinery and raw materials, exemption from business tax, and so on. The only major concession the GPO had received from the Government was that all public health institutions must purchase their drugs and other pharmaceuticals through the GPO. Prior to 1978, these provincial hospitals or health centers could order their drugs on brand-name basis. But since March, 1978, however, the Minister of Public Health has issued a new regulation to the effect that henceforth the drugs purchased by public health organizations using government's money must be ordered by their generic names following the list of about 700 essential drugs given in the Ministry of Public Health Formulary.

The above measure seems to be a move in the direction of eventual cheap drug policy. This is discernible in two ways: first, by de-emphasizing the dependence on, or preference of, brand-name drugs which are unnecessarily expensive, the Government through various health institutions could save a great deal of money; secondly, and as a corollary of the first point, by narrowing down to a few hundred choices of essential drugs expressed in generic terms or chemical equivalents, the GPO is expected to expand its role as a manufacturer of basic essential generic drugs for the Government, which would cut the cost of medicine even further. This is consistent with the overall

social policy objectives of the country as evidenced in the opinion of the Secretary-General of the National Economic and Social Development Board. In his letter to the Prime Minister dated December 13, 1977, supporting the plan for expansion of the GPO, the Secretary-General of NESDB stated that

"... at present prices of medicinal drugs in the market are generally very high; even the same drug that is produced cheaply by the GPO would have much higher price. The Government should encourage the GPO to increase the manufacturing of essential drugs and drugs which have high public demand and distribute them to the people in the rural areas in order to alleviate hardship of the low-income people"

However for some reasons not yet made public, the GPO has suffered a set-back in its drive to be a major producer of essential drugs in losing the bid to be the sole domestic producer of tetracycline, a widely-used antibiotic. The Government, through the Board of Investment had, earlier this year, granted promotional privileges to a private drug company to be that sole producer. Even so, it is still expected that the price of this popular antibiotic drug will be substantially reduced in the near future.

5. Private medical practitioners

In the discussion of health delivery system in Chapter III, one may recall that there were 5 major types of private medical practitioners, not counting official health personnel who carry on private

practices outside their official hours. They were magical doctors, traditional or herbalist doctor, traditional or "granny" midwives, injectionists, and some local drug sellers. There is no need to be concerned about magical doctors who must be very few in number because from various health surveys, it was shown that these doctors were never a serious source of medical treatment of the general public. This is also true more or less with traditional or herbalist doctors because most villagers have come to know modern medicine and normally have greater faith in it. It is appropriate of course to support or promote the use of traditional medicine as long as its cost is lower than modern medicine or it is more easily available. Otherwise cheap modern drug policy is better.

So far there have been few attempts at upgrading the services of traditional midwives, such as the training of these midwives in the Lampang Health Development Project. This is commendable and should be continued on a wider and more energetic scale. But there are two other categories of medical practitioners who need to be dealt with more properly at present. They are injectionists and local drug sellers. As mentioned earlier, the injectionists are highly popular among villagers because they provide medical services at the patients' homes, using powerful drugs, and charging reasonable fees. Attempt to act against these injectionists is futile as long as the villagers are still patronizing them. Since the Government could not yet provide the type of medical

services that these villagers want, namely effective curative treatments at the village level, these injectionists still serve a useful function of delivering health services to the people. To ~~subvert~~ against the misuse of drugs by these injectionists, some tacit agreements may be worked out between the public health authorities and the injectionists whereby the existence and activities of the latter are recognized de facto if not de jure by the Government in exchange for some commitment by the injectionists to be trained, supervised or controlled by the Government. It is hoped that when the public health services have improved, there will be less and less demand for the service of these injectionists.

Similarly, basic instruction and training on the type and use of drugs should be extended to local drug sellers as well. To the extent that the rural population still has to depend on the advice of local drug sellers for choices of medicine to take in time of illness, an educated, and responsible, advice would be better than misinformed or irresponsible advice. Certainly, local drug sellers could be asked by the public health authorities to cooperate in the sale of certain dangerous drugs, or told of any possible danger associated with certain drugs.

To conclude, it must be reiterated that the purpose of this recommendation is not the legalization of non-licenced medical practices, but the practical compromise with the existing conditions, having in mind the immediate well-being of the population at large.

6. Integrated primary health care delivery system

The preliminary evaluation (through task and cost analyses) of the Lampang Project has shown that this type of primary health care services is fulfilling its objectives at relatively low costs. (See Suwatthi and others [43]) Lessons learned from this experimental integrated primary health care delivery system could be used to perfect a future delivery system. Some of the policy comments regarding the Lampang Project have been made at the end of the last chapter; there is no need to repeat them again here. The last policy recommendation of this study is that vigorous, continuing, purposeful and remunerative participation by local population holds the key to the possible success of integrated basic health care delivery system in Thailand. Coupled with necessary policy changes discussed elsewhere in this paper, a satisfactory distribution of, and access to, basic health services in Thailand is within a realm of possibility in not-to-distant future. In conclusion, therefore, with good intention and determination of all concerned: the Government, health personnel, all private citizens, it is possible to have, in Thailand, health for all by the year 2000.

Footnote

1/ Strictly speaking what Suphachanyarak had done was the same as allocating identical benefits to all outpatients or inpatients. As a result, the distribution of health benefits was indeed equivalent to the distribution of patients by income class, that is to say, if 33.3% of patients have income lower than baht 5,000 per year, then they would also receive 33.3% of health benefits. This may look odd, but it is plausible because the chance of getting ill was quite random and has no income bound. For instance, the National Health Survey, 1970 [12] had found that the morbidity rates (measured as number of persons who were ill in one month per 1000 population) for low, medium, and high income were, respectively, 147.5, 147.9, and 149.8.

2/ See the list of 100 largest manufacturing companies in Thailand compiled by Faculty of Commerce and Accountancy, Thammasat University.

References

- 1 Accelerated Rural Development Office, Mobile Medical and Health Services, Bangkok, 1969 (in Thai).
- 2 Bank of Thailand, "Monthly Bulletin," current issues.
- 3 Boonyaen, Damrong, "Future of Primary Health Care in Thailand," Bangkok: Health Planning Division, Ministry of Public Health, April, 1979 (mimeographed).
- 4 _____ (ed.), "Thailand Country Information, Part I," Division of Health Planning, Ministry of Public Health, Bangkok, 1976.
- 5 Bureau of the Budget (BOB), Budget Documents, Bangkok, annually.
- 6 Division of Public Health Statistics, Ministry of Public Health, Public Health Statistics, 1975, Bangkok, 1978.
- 7 Day, Frederick A. and Boonlert Leoprapai, Patterns of Health Utilization in Upcountry Thailand: A Report of the Research Project on "The Effect of Location on Family Planning Health Facility Use," Bangkok, Institute of Population and Social Research, Mahidol University, Dec. 1977.
- 8 Faculty of Public Health, Mahidol University, Report on Integrated Rural Health Development Field Activities, 2511/12 to 2518/19 (in Thai) (8 reports).
- 10 Health Planning Division (HPD), Ministry of Public Health "Base Year Data and Background Information for National Health Planning: Thailand, January-February, 1975," Bangkok, no date. (mimeographed.)
- 11 _____, Ministry of Public Health. "Important Issues in Determining Longterm Health Development and Manpower Plan," Bangkok, Ministry of Public Health, May, 1979. (in Thai).
- 12 _____, Ministry of Public Health, "Report on Survey of Utilization of Health Personnel and Medical Care Expenditures of the Population, B.E. 2513," Bangkok, 1978. (mimeographed.)

- 13 Health Planning Division, Ministry of Public Health, "Summary Report on Public Health in Thailand," Bangkok, 1975. (mimeographed, in Thai.)
- 14 Heller, Peter S., "Issues in the Costing of Public Sector Outputs: the Public Medical Services of Malaysia," World Bank Staff Working Paper No. 207, June, 1975.
- 15 Husbumrer, Chinosoth and Thira Tanhawanit, "Is private hospital really expensive?" Journal of Health and Environment, 1 (Jan. April, 1978), pp. 37-44 (in Thai).
- 16 Husbumrer, Chinosoth, Wigrom Sengkisiri, Yuwadee Simarojana, and Thira Thunhavanija, "On the Selection of the Supervision Model for the Village Health Volunteer Programme in Thailand," Thailand Journal of Health and Environment, 1 (Sept.-Dec, 1978), pp. 17-32.
- 17 Institute of Population and Social Research, Mahidol University Comparative Social and Health Statistics for Thailand by Amphoe, Bangkok, December, 1977.
- 18 Krongkaew, Medhi, "Social Security in Thailand: Growth, Trend, and Problems," paper prepared for International Labour Organization Regional Office, Bangkok, April, 1978. (mimeographed.)
- 19 Lampang Health Development Project, Ministry of Public Health: "The Lampang Health Development Project: A Case Study in Integrated Rural Health Care," Bangkok, November, 1978. (mimeographed.)
- 20 Grand, Julian, "The Distribution of Public Expenditures The Case of Health Care," Economica, 45 (may, 1978), pp. 125-142.
- 21 Mae Klong Integrated Rural Development Program, Baseline Survey Report of Mae Klong Integrated Rural Development Program Area, 1974, Bangkok, June, 1978.
- 22 Mahler, H., "Blue Print for Health for All," address by the Director-General of the World Health Organization to the 30th Session of the Regional Committee for Southeast Asia, Bangkok, August, 1977. (mimeographed.)
- 23 Meesook, Oey Astra, "A Study of Disparities in Income and Social Services Across Provinces in Thailand," Research Report No. 7, Faculty of Economics, Thammasat University, September, 1978.

- 24 Ministry of Public Health (MOPH), Health Development Projects According to the Fourth National Economic and Social Development Plan, 1977-1981, Bangkok, 1977.
- 25 _____, "Lampang Health Development Project: A Thai Primary Health Care Approach," Bangkok, 1978.
- 26 _____, "Organization of Ministry of Public Health and Its Functions," Bangkok, 1978. (mimeographed, in Thai.)
- 27 _____, Public Health in Thailand, Bangkok, 1973.
- 28 _____, Thailand Health Profile, Bangkok, 1976.
- 29 Mushkin, Selma J., "Health as an Investment," Journal of Political Economy, 70(1962), pp. 129-157.
- 30 National Economic and Social Development Board (NESDB), Documents and Data in Support of National Food and Nutrition Planning, 1977-1981, Bangkok, February, 1977. (in Thai).
- 31 _____, The Fourth National Economic and Social Development Plan, 1977-1981, Bangkok, 1976.
- 32 _____, Thailand---Social Indicators 1977, Bangkok, 1979.
- 33 National Statistical Office (NSO), Primary Report on Survey of Population Changes, 1974-1975, Bangkok, 1976.
- 34 National Statistical Office, Survey Report on Attitudes of Low-Income Households in Municipal Areas of the Whole Kingdom, B.E. 2514, Bangkok, 1971. (in Thai.)
- 35 _____, Report on Socio-economic Survey 1975-76, in 5 volumes: Greater Bangkok Metropolitan Area, Northern Region, Northeastern Region, Central Region, and Southern Region, Bangkok, 1979.
- 36 _____, Statistical Yearbook Thailand no. 31, 1974-1975, Bangkok, 1976.

- 37 Nutrition Division, Department of Health, Food that the Thai Should Eat, Bangkok, 1973. (in Thai.)
- 38 Rily, James N. and Santhat Sermsri, "The Veriegated Thai Medical System as a Context for Birth Control Services," Institute of Population and Social Research, Mahidol University Working Paper No. 6, June, 1974.
- 39 Sangsingkaew, Vitoon, Problems and Guidelines for the Improvement of Health Services in Thailand, Bangkok, 1974. (in Thai.)
- 40 Siddhichai, Pradith, "Community Health Survey Report," Lampang: Research and Evaluation Division, Lampang Health Development Project, November, 1977.
- 41 Stevens, Carl M., "Health, Employment and Income Distribution," World Employment Programme Research Working Paper, International Labour Office, August, 1975.
- 42 Suphachanyarak, Prakaen, "Distributive Patterns of Public Hospital Services to Households in Various Income Classes: A Case Study of Rajvithi Hospital," M.A. Thesis, Faculty of Economics, Thammasat University, 1978. (in Thai.)
- 43 Suwatthi, Prachoom, Ammongkol Sirivedhin, Nikorn Wattanapanom, "Task and Cost Analyses in the Second Experimental Area E₂ of Lampang Health Development Project," School of Applied Statistics, NIDA, Bangkok, January, 1979. (mimeographed.)
- 44 Vachrotai, Somboon and Ronald G. Wilson, "New Horizons for Integrated Health Services and Primary Health Care in Thailand: The Lampang Health Development Project," Thailand, Journal of Health and Environment, 1 (May-Aug., 1978), pp. 12-29.
- 45 Vasee, Pravet, "Health Services for the Masses" in Rak-muangthai, collection of essays in honour of Professor Puey Ungphakorn, edited by Chantawongsa and Thanapornpan, Bangkok: Social Science Association of Thailand, 1976. (in Thai.)
- 46 Yoddammoen, Benja, "Beliefs and Eating Habits of the People in the Northern Region of Thailand, Lampang: Lampang Health Development Project, 1976. (in Thai.)
- 47 World Health Organization, Interrelationship Between Health Programmes and Socio-economic Development, Geneva, 1973.

- 48 Srinophakun, Sri and Chaovalit Jiradit, "Economic Losses from Parasitic Infestation," Journal of Communicable Diseases, 4(Oct.-Dec. 1978), pp. 296-310. (in Thai.)
- 49 National Economic and Social Development Board (NESDB), National Income of Thailand, 1977, Bangkok, 1978.