THAILAND:
HEALTH MANAGEMENT AND FINANCING STUDY PROJECT
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REFERRAL SYSTEM IMPROVEMENT IN THAILAND TECHNICAL REPORT

By
Somsak Chunharas, MD, MPH
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EXECUTIVE SUMMARY

Over the period from 1975 to 1995 the proportion of total outpatient visits to public health facilities shifted from 46 percent at regional and general hospitals and 29 percent at rural health centers, to 21 percent at regional and general hospitals and 47 percent at rural health centers. To a great extent this shift has been accomplished through the investment of the Ministry of Public Health in construction of additional rural facilities, and improving the health personnel posted to the facilities already in place. Nevertheless, the problem of large numbers of the rural population "bypassing" lower level facilities with minor health problems to receive services at the higher level facilities continues. In addition, good practice regarding the bi-directional flow of clinical information as patients are referred from one level to another and back again is not followed. This paper reviews prior actions on the part of the Thai government to address the referral problem, and proposes new approaches for the future.

In addition to improving the quanity and quality of services in rural areas, there have been other attempts to improve referral patterns through supply-side interventions. One example is a project aimed at improving referral patterns was the Networking of Multi-level Health Services Facilities (NHMS). This effort grouped all hospitals and health facilities into 14 groups with the regional hospitals as tertiary referral centers. Key features of the project included the development of service standards to be met by facilities at different levels, the use of supervision and support teams in each group, the provision of referral letters from district facilities to provincial/regional hospitals, and performance monitoring by the central MOPH. Evaluation of the project showed no clear improvement in reducing "bypassing" behavior, and the central MOPH's support to the project has declined. Another supply-side effort has taken place in the Bangkok Metropolitan Authority (BMA) area where health centers have been built to reduce congestion of the outpatient clinics at BMA hospitals. Studies in Ayudhaya, Nakornrashasima (Korat), and Had Yai found that the population that used urban public sector health centers were primarily the low income population, whereas the wealthier population used private clinics and hospitals.

A more recent supply-side intervention has been the experimentation with district hospitals as fund holders to manage the source of care for those registered with their hospital. Preliminary assessment of the fund holder experiment did not show any improvement in referral behavior, probably because the population knows it will still be able to obtain free or subsidized services from provincial/regional hospitals if they go directly, even without a referral slip. At the same time, it is not to the advantage of the district hospital to refer patients for whom they have to pay fee-for-service, and this may lead patients to "bypass" the district fund holder. Finally, it is unclear that providers and the affected population clearly understand the purpose and functionning of the fund holder program.

Efforts to affect consumers on the demand-side have included the setting of differential or "tiered" charges at the different levels of the health system. This effort however was not realized as it was felt that patients might believe that the services at lower level facilities were inadequate, and the tiering of fees might have the effect of discouraging them from seeking early care at any source. Another demand-side measure requires voluntary and low income health card holders to obtain referral slips from district health facilities in order to receive speedier service and avoid service fees at

provincial/regional facilities. However, these measures are also ineffective as patients realize that higher level of facilities will provide free or subsidized services depending on their ability to pay.

Recommendations to improve the referral system can be summarized as follows:

- *Create and provide more autonomy to district health systems which are more relevant to the needs of the local community*. District hospitals should play a key role in improving the quality of care provided by rural health centers, possibly under service contract. These systems should be under a district health board on which there would be community representation. Additional funds might be sought from the community where income permitted, and from the central government in districts where funds are more limited.

- *Continue to experiment and develop the district fund holding model*. It would be ideal if the fund holders could manage the financing for the civil servants and those covered under the social security scheme, as well as the financing for the voluntary and low income card scheme members. More effort has to be made to develop understanding of the principles, expectations, and assumptions behind the fund holding mechanism on the part of providers and patients.

- *Create a provincial mechanism that functions like a managed care organization*. This proposal has a larger scope that those mentioned above to create district health systems, each type of which might exist under the provincial system. The province would receive a block grant budgetary allocation, instead of a line item budget, to be allocated to priority programs and population groups. The Provincial Health Office would be reconfigured into a Provincial Health Board, with community representation, and which would play a purchasing, regulatory, and monitoring and evaluation roles in addition to their more traditional public health functions.

- *Development of Provincial Provider Networks.* This option is like that directly above in that it organizes the service delivery providers in the province into a coherent network. This option however has the development of the provider network arising out of the current development to make hospitals autonomous. In order that transforming hospitals into autonomous entities not make health systems more fragmented (e.g. autonomous hospitals "cream skim" in order to make profit, and the poor are left with greater travel distances to non-autonomous facilities), it is desirable that the health providers in an area develop a network to provide comprehensive services cost-effectively. This network will automatically create mechanisms for patients to be seen and treated at the appropriate level of service provider. The autonomous network would be administered under a Board including the community and other stakeholders.

- *Revive the NHMS Project on an even bigger scale* (the 75 provincial systems would be under the 14 regional groups), however, several measures would have to be introduced. First, a set of "carrots and sticks" has to be developed to provide strong management support for administration of the networks, including the evaluation of key management staff according to standards of services tied to the determination of their salary and promotion opportunities. In addition, each network would be required to prepare a three year plan with targets identified for

each year. The plan would help determine the level of central support, and serve as a management guide for key network staff.

- *Development of Universal Coverage*. The development of universal health insurance coverage for the Thai population will lead to an improvement in the referral system when the financing mechanism can negotiate with service providers and monitor the quantity and quality of care provided. One approach would be to use prospective payment to provide providers with an incentive to control costs. Another approach would be to provide retrospective payment with global capping, if there are first contact requirements to influence patient demand. Whatever mechanism is selected effort will be needed to control administrative costs.

I. BACKGROUND ON THE HEALTH SYSTEM IN THAILAND

The modern Thai health care system developed from the establishment of large government hospitals in Bangkok as far back as 1883. Around 80 years ago, the infrastructure of health services for the rural population was established with health centers providing services at the tambol (sub-district) level. They were expected to provide certain preventive and health promotion services, e.g. focusing on maternal and child health, immunization, and sanitation. These two systems of health services developed gradually both in the urban and rural areas, somewhat in parallel. By 1906 the central town in each province also had a hospital. Health centers, on the other hand, gradually covered more and more tambols, with Level 1 health centers introduced in the central tambol of each district. Each Level 1 health center was staffed by a medical doctor and a few auxilliary health personal. Starting in 1975, these health centers were transformed into community hospitals with a substantial changes in their roles and staffing patterns.

More and more large hospitals were established in the capital - Bangkok. They originally belonged to the Ministry of Public Health (MOPH) but some were later separated and placed under the responsibility of the Ministry of University Affairs (MUA), and the Bangkok Metropolitan Authority (BMA - the local government in Bangkok). The Ministry of Interior (MOI) and Ministry of Defense (MOD) also have their own hospitals in Bangkok and some in other large cities in the country. With the establishment of universities in regions of the country, other large hospitals were constructed in cities where the medical schools are located.

In most urban areas there are also local administrations which have been expected to play active roles in health and health services. However because of the historical, significant role of the MOPH, local governments did not have much to contribute except for a few health centers in their boundaries. Bangkok is an exception as it has health services facilities of various levels, health centers staffed with doctors, as well as large hospitals focusing on secondary and tertiary medical services.

The private sector has also been an active player in health service provision. Generally speaking, the private sector cannot be clearly differentiated from the public sector as most of the health personnel working in the private hospitals also work in public facilities. Many of the big private hospitals make use of health personnel working in the public sectors (see Table 1.1). Thus there are complex relationships between the various sectors which are actively providing health services in the country. The overall picture of health service providers, according to the ownership or direct control over their operation, can be seen in Table 1.2.

Table 1.1: *Average Number of Full time vs Part time Manpower in Different types of Private Hospitals, Thailand*

	1*		2*		3*		4*		All Types		No. of Samples	
	F	P	F	P	F	P	F	P	F	P	F	P
1. Doctors												
• BMA	8	37	23	113	39	143	2	15	12	50	58	46
• Other Provinces	4	17	6	16	15	123	1	3	4	16	158	134
• Whole Country	5	21	11	40	33	137	1	6	6	24	216	180
2. Dentists												
• BMA	2	13	7	6	4	15	1	4	3	11	36	29
• Other Provinces	2	3	2	2	2	9	1	0	2	3	30	24
• Whole Country	2	8	4	3	4	14	0	4	2	7	66	53
3. Pharmacists												
• BMA	3	5	3	7	8	15	2	3	4	7	38	28
O Other Provinces	1	2	1	2	4	12	1	1	1	2	91	67
• Whole country	2	3	2	4	7	15	1	2	2	4	129	95
4. Nurses												
• BMA	18	38	92	19	160	74	3	6	43	35	54	42
• Other Provinces	7	28	22	18	40	117	2	5	9	25	139	112
• Whole Country	9	31	45	19	134	84	2	5	18	28	193	154

Notes:
1* = general private hospitals
2* = private hopsitals operated by not-for-profit foundations
3* = private hospitals listed in the Thai stock exchange market
4* = small private hospitals and poly-clinics
F = Full time, P = Part time

Table 1.2: *Number of Health Facilities in Thailand, Public (1995) and Private (1996) Sectors*

Public Sector (1995)

Administrative Level	Health Facility	Number	Coverage
Bangkok and Periphery	Medical school hospitals	5	-
	General hospitals	29	-
	- MOPH	5	-
	- Ministry of Interior (excluding BMA)	5	-
	- Ministry of Defence	6	-
	- BMA	7	-
	- State enterprises	5	-
	- Ministry of Transport & Communications	1	-
	Specialized hospitals/ Institutions	24	-
	Public health centers/ Branches	61/85	All districts in BMA
	30-bed hospitals (BMA)	3	
Regional (4 regions)	Medical school hospitals	5	
	Regional hospitals (1997)	24	
	Specialized hospitals:	25	
	- Maternal & child health Hospitals	8	
	- Psychiatric hospitals	8	
	- Neurosis hospitals	2	
	- Leprosy hospital	1	
	- Communicable disease Hospital	1	

Administrative Level	Health Facility	Number	Coverage
	- Chest hospital	1	
	- Cancer Institute	1	
Provincial	General hospitals (1997)	68	100%
(75 provinces)	Under the MOPH		
	Military hospitals under the Ministry of Defence	51	
District	Community hospitals(1997)	*703	96.43%
(729 districts	Extended hospitals (1997)	3	
and 81	Municipal health centers	132	
Subdistricts)			
Tambol	Health centers (1997)	9,108	100%
(7,195			
Tambol)			
Village	Community health posts	523	
(65,277	(1996)		
villages)	Community PHC centers		
	(1996)		
	- Rural	**63,443	
	- Urban	**1,389	
	Village drug funds	27,566	42.23%
	Nutrition funds	5,688	8.71%
	Sanitation funds	16,149	24.74%
	Health card funds	10,837	16.60%

Notes: * Include only those that have been operational.
** Office of Primary Health Care, MOPH, 1996.

Sources: 1. Summary of Important Health Statistics, 1994-1995, Health Statistics Division, Bureau of Health Policy and Planning.
2. Department of Local Administration, Ministry of Interior
3. Provincial Hospital Division, MOPH.
4. Rural Health Division, MOPH.

Private Health Facilities, 1996

Type	No. of facilities		
	Bangkok	Provincial	Total
1. Pharmacies			
1.1 Modern pharmacies	2,461	2,262	4,723
1.2 Pharmacies selling only Readily packaged drugs	710	4,437	5,147
1.3 Traditional medicine Pharmacies	395	1,854	2,249
2. Clinics (without inpatient beds)			
- Modern	7,597	2,804	10,401
- Traditional	152	309	461
- Total	7,749	3,113	10,862
3. Private hospitals			
- No. of hospitals	136/	316/	452/
- No. of beds	14,211	21,656	35,867

Sources:
1. The Food and Drug Administration, MOPH.
2. Medical Registration Division, MOPH.

Ownership of health services facilities may not necessarily lead to problems with patient referral (e.g. between public and private sector facilities) if other effective mechanisms are in place. For example, financing mechanisms could be developed to allow access to health services regardless of sector the providers belong to. Previously under the Civil Servants Medical Benefit Scheme (CSMBS), and currently under the Social Security Scheme (SSS), the insured have had access to both private and public providers. In addition, the SSS has some requirements about the point of first contact. However there has not yet been a systematic attempt to reinforce effective referral systems and it is left to each contractor to organize their own internal referral system. In Thailand, the fact that health care financing has been quite fragmented and not well coordinated, has meant that the majority of health service consumers pay out of their own pocket and are therefore entitled to go and seek services anywhere they like.

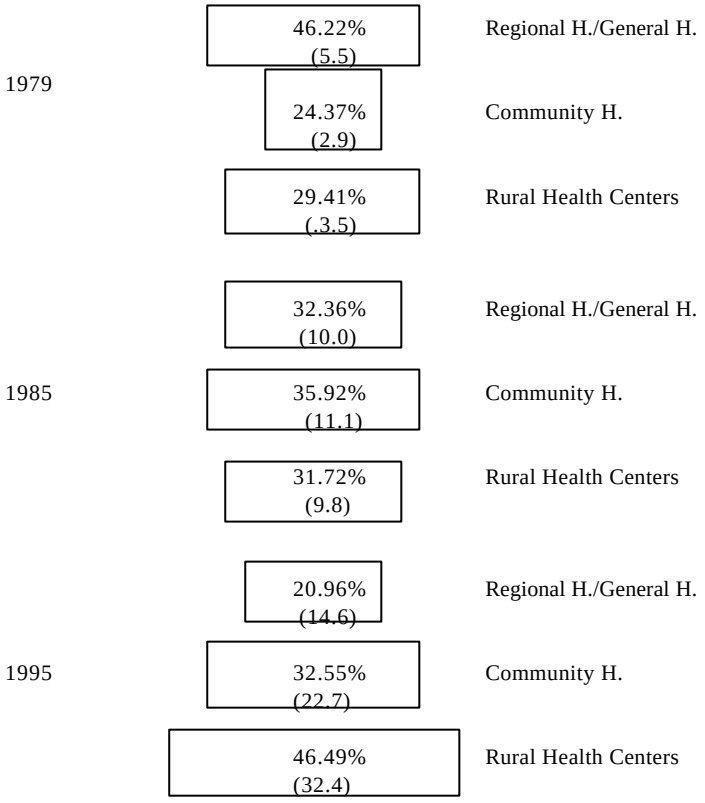
II. PAST ATTEMPTS IN THAILAND TO IMPROVE THE REFERRAL SYSTEM

A. Establishing District Health Services and Changes in Service Utilization

As mentioned earlier, the Thai government has continuously endeavored to expand health service coverage for the rural population. Although the first modern hospital was established in Bangkok, more and more of them were later built in the rural provinces along with the health centers at the sub-district or tambol level. It was intended that the health centers would provide preventive and promotive services while the hospitals in the provincial towns would provide curative services. However, consumers primarily utilize health services when they are ill, and utilization of the health centers was low. The budgets of the health centers was small, and unless income could be generated from user fees, the centers could not offer curative services, nor serve a the point of first contact for the rural population when they needed care. Most patients "bypassed" the health centers and went straight to the large hospitals in the provincial towns. This started to change after 1975 when the government decided to upgrade the health centers in the central tambols of each district to become district hospitals. These hospitals received quite a significant budget for curative services when the government started the program of free medical care for the poor.

With the gradual expansion and improvement of the health service delivery system in rural areas, physical access to health services for the majority of the Thai population has improved. Although there is no systematic way of reinforcing the patients to make use of the nearest health facilities, or to set up a system of primary medical care gatekeepers, the pattern of health service utilization observed among the rural population has moved from use of hospitals to greater use of rural health facilities (see Figure 2.1).

Figure 2.1: *Number and Proportion of OPD visits at Public Health Facilities, Thailand, 1979 - 1995*



( ) : Number of OPD visits (millions)

Source: Rural Health Division, MOPH.

Figure 2.1 suggests that the first contacts of the rural population were mostly to the provincial hospitals before the 1980s. With the establishment of district hospitals, and more health centers, the trend has been reversed. More and more outpatient contacts have been shifted to the district level and below. This suggests that the strengthening of the district level health service system allowed people to choose not to travel long distances if there were acceptable health care providers close to their homes. The trend has improved even through the 1990s, which coincides with the continuous efforts of the MOPH to improve the services and facilities of community hospitals along with the improvement of health centers. This changing pattern of health service utilization to a more pyramid-like shape with more contacts being made at lower level health facilities can be taken as a move towards a more cost-effective health care delivery system, which is the aim of the establishment of a good referral system.

However, there are still many things that need to be put in place if a really effective referral system is to be established. Evidence of the need for further action includes the fact that there are still many outpatient contacts at the higher levels of health services that could be well attended to by health

personnel close to their homes. Studies in Khon Kaen Hospital, which is a regional hospital, showed that 47 percent of outpatient contacts came from districts where community hospitals are present (see Table 2.1) and that more than 55 percent of these cases could be well taken care of by community hospitals (see Table 2.2). The same finding was demonstrated by community hospitals in Ayudhaya which showed that over 52 percent of outpatient contacts at the hospitals could have been taken care of by health center staffs.

Table 2.1: *Place of Residence of Outpatients seen in Khon Kaen Hospital's OP Departments*

Place of Residence / OP Departments	Inner City		Suburb		Other Districts		Outside Khon Kaen		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
GP	31	20.5	56	37.1	35	23.2	29	19.2	151	100.0
Medicine	22	18.3	60	50.0	22	18.3	16	13.3	120	100.0
Paediatrict	16	26.7	25	41.7	12	20.0	7	11.7	60	100.0
Ob-Gyn	21	19.1	36	32.7	24	21.8	29	26.4	110	100.0
Surgery	13	21.0	4	6.5	27	43.5	18	29.0	62	100.0
Orthopaedics	8	14.0	19	33.3	19	33.3	11	19.3	57	100.0
Eye	13	17.3	25	33.3	23	30.7	14	18.7	75	100.0
ENT	12	26.1	8	17.4	18	39.1	8	17.4	46	100.0
Special Clinics in Medicine	12	19.4	21	33.9	15	24.2	14	22.6	62	100.0
Special Clinics in Pediatrics	12	15.0	17	21.3	31	38.8	20	25.0	80	100.0
Subspecialty in Surgery	10	12.5	2	2.5	37	46.3	31	38.8	80	100.0
ANC	17	22.7	45	60.0	8	10.7	5	6.7	75	100.0
WBC	11	45.8	9	37.5	3	12.5	1	4.2	24	100.0
Total	198	19.8	327	32.6	274	27.3	203	20.3	1001	100.0

Table 2.2: *Types of Health Personnel who could Care for Illnesses of Outpatients at Khon Kaen Hospital, Thailand, 1997*

Departments	Total OP visits		Types of Possible Care Providers (%)				
	No.	%	Health Center Staff	Nurse	GP	Specialists	Others
GP	51,484	21.96	5.01	1.77	11.05	3.83	0.29
Medicine	46,540	19.85	1.35	0.67	11.61	6.22	0.00
Pediatrics	30,787	13.13	5.03	0.88	3.72	3.50	0.00
General Surgery	37,946	16.18	0.00	0.53	5.31	10.35	0.00
Ob-Gyn	18,147	7.74	3.49	0.00	2.35	1.59	0.30
Orthopedics	15,848	6.76	0.00	0.23	0.12	6.29	0.12
Eye	21,776	9.29	0.00	0.00	0.74	8.54	0.00
ENT	11,954	5.10	0.00	0.00	1.22	3.88	0.00
Total	234,482	100.00	14.88	4.08	36.11	44.21	0.71

With the illness pattern of the Thai population shifting more to chronic conditions, it is even even more crucial to have an effective referral system that works in both directions (from the district to the province and back). Patients should be able to be referred back and forth between the various levels of health

services when needed. This is different from the acute care model when care is needed for a limited period of time after which continuity of care will be less of a problem to the well being for the patients.

B. Primary Health Care and the Early Design of the Voluntary Health Card Scheme as a Means to Improving Patient Referral

With the introduction of the primary health care program in the early 1980s, the MOPH became more concerned about patient referral and building up linkages between communities and the health service system. The first linkage was between the village health volunteers with the health centers or community hospitals. However the need for services do not stop at the level of community hospitals. Some cases need to be referred further to higher levels of health facilities, the general and then regional hospitals. The MOPH started to try to better involve higher level hospitals to create a better referral linkages with the lower level health service facilities. This became one of the key features of the community health card funds which was the first phase of the present Voluntary Health Card Scheme (see Table 2.3).

Table 2.3: *Key Features of the Community Health Card Funds*

Type of Card	Key Feature of the Community Health Card Funds
(1) Maternity Card	- used for free maternity care including ANC and free delivery - priced at 100 baht per card - valid for one pregnancy (not limited by calender year)
(2) Health Card	- cover members in one family (maximum 4 persons) - free medical care for 6 episodes - first contact at health centers referral slip required - priced at 300 baht per year, "green channel" provided - chronic conditions excluded - can be used for 10% discount of service fees - maximum coverage 20,000 baht per admission

Under the community health card funds, the health card holders paid an annual fee for health services in the provinces where they lived. The total amount of fees collected was managed by village committees and used as health revolving funds for each village. The funds could be used for health development purposes such as building of latrines, nutrition improvement, etc. At the end of the year, the remaining funds were used to pay various levels of health services in the province with a fixed proportion for health centers, community hospitals and provincial hospitals. The health card holders were also expected to make use of health centers as their first point of contact and could use higher levels of health facilities only when referred by the health centers, otherwise they would have to pay the user fees charged by the facility. If they purchased the card but decided to use higher level of health services without being referred they could also ask for a discount of 10 percent of the users' fees charged to them. If they were referred to the higher level of health facilities they would not have to wait in the queue.

It was expected that these measures would help improve health services utilization by the health card holders and create a better referral system. Unnecessary patient visits to higher level of health services would also be lowered, and thus a subsequent lower proportion of fees from the cards was allocated to the higher level of health facilities. However those expectations were not met due to many weaknesses in the health service system in the rural areas. The most crucial factor seemed to be the relatively weak services at the health center level. They were inadequately equipped to provide curative services of good quality and thus tended to be less well accepted by the population. Second they were not expected to work 24 hours and thus had inconvenient hours when they were open for services. Third the queue by-pass (or green channel) was not properly organized and managed. Financially there were few incentives to patients to use the card and referral system, and negative incentives for providers at the district and provincial level which received lower financial allocations from the card than from user fees.

C. Networking of Multi-level Health Services Facilities in the Ministry of Public Health (Por-Bor-Saw or NMHS)

The MOPH observed that many of the patients seen at the higher level of health facilities, namely the regional, general and community hospitals could be better taken care of by the lower level facilities. At the same time there were increasingly more patients being seen at the provincial level despite the increases in the number of community hospitals during the mid 1970s to mid 1980s. The MOPH then started the project of creating network of health service facilities under the MOPH with an aim of improving service quality and building closer working relationships among different levels so that there will be efficient patient referral. All hospitals under the MOPH were grouped into 14 networks with one regional hospital serving as the tertiary referral center in each group. The grouping was based on provincial demarcations rather than an actual traveling distances or transportation routes thus making it inconvenient for some referred patients as they might reside closer to another network.

The major strategies adopted by the MOPH in the Networking of Multi-level Health Services (NMHS) consisted of the following:

1. Setting service standards for each level of health services facilities including health centers, community hospitals (10-120 beds), general hospitals (120-500 beds) and regional hospitals (over 500 beds). Such services were classified into three lists: required, suggested and optional. For services on the required list each hospital was expected to provide these to all patients and the MOPH would estimate and provide the necessary manpower and equipment. For the suggested list, health facilities were encouraged to provide as much of the service as they saw fit and they were to receive supports from the MOPH if they establish provision of those services. For the optional list, the health facilities are to provide them only if they are really well equipped. The listing of service standards for each level of health facility allowed the MOPH to have a plan to better support the health facilities at each level. It also served to have the facilities in each group interact and help each other to fulfill the service standards, especially those in the required list. Altogether there are 14 guidelines produced to guide services

development for various departments of each level of health facilities, such as laboratory services at community hospitals, community medicine at general and regional hospitals, etc.

2. The regional, general, and community hospitals and health centers in each grouping organized their own supervision and service support teams at each level. Each team visited health facilities at lower levels as well as monitored the patient referral practices both at its own level and other levels. The teams also held workshops and meetings to discuss problems of health service delivery within their own networks. Guidelines developed by the central MOPH were used as frameworks to improve services.

3. With regard to patient referral there was a requirement that all referred patients needed to be accompanied by a referral slip and that the receiving facilities were expected to give response or feedback only to those who were referred. It was expected that this would help to improve the quality of patient referral as many of the referrals among various levels of health facilities were done with no justifiable indications and/or incomplete information to guide proper planning of care by the receiving facilities.

4. The MOPH monitored the performance of each group through a reporting system and presentations at annual meetings. It used indicators such as: the number of health facilities at each level fulfilling the minimal set of required services, the rate of patient referrals at each level, and the rate of response or feedback given to lower level facilities.

The NMHS received quite a strong emphasis when it was first introduced. However the emphasis from the central MOPH weakened, although the networks persisted even up to the present. The supervision, visits, and interaction between the various levels are now very much up to each grouping to plan and implement. There is no clear cut support for the networking activities nor equipment for service improvement. Allocation of budget for equipment is not based on the service standards. When there are problems of unnecessary or inappropriate patient referral within each group there is no system to ensure that they will be rectified.

Evaluation of the NMHS gave mixed findings. On the one hand it was found to increase the interaction and thus mutual support among the health facilities of different levels in the same network. It was quite clear that this was made possible because of the attention paid by the central MOPH. However, there was no clear cut budget for this purpose once the interest at the central level decreased. In terms of patient referral there was no clear evidence that patient referral improved, as self-referral was still quite common despite the project. Moreover, many of the referred cases were found to be inappropriate as they could have been handled adequately by the lower level facilities if compared to the service standards in the NMHS. More recent studies in the Khon Kaen and Ubol Rachathani regional hospitals showed that the percentage of improper referral could be as high as 48.5 percent in Khon Kaen and 51.4 percent in Ubol Rachatathani (see Table 2.4).

Table 2.4: *Referral of Patients from Community Hospitals to Regional Hospitals in Khon Kaen and Ubol Rachathani according to NMHS Standards*

Province	Referral Case		
	Total Case	Improper Case	%
Khon Kaen	375	182	48.5
Ubol Rachathani	522	271	51.4

The NMHS, focused on supply side measures, has had very little impact on self-referral. It might have had some indirect impact by improving the quality of health services rendered at lower level facilities. However such an impact has not been evident. Improving quality of health services delivery at lower level facilities may need more than technical supports and provision of equipment. Besides technical inputs and hardware, there is a need also to address the issue of manpower and financial resources management at each level of health services facilities. The best the NMHS achieved was to create a period of intensive attention on service provision through the interaction of various levels of the health system. If this effort had been accompanied by efforts to improve the management of health facilities a better outcome might have been achieved.

D. Differential Users' Charges in the Public Sector

During the period of the community health card funds, the policy of introducing users' charges to those bypassing the health service referral chain was established. Due to the relatively low price of the health card, and the conditions of the fund management under the initial phase of the project, the issue of charging bypassing patients who were otherwise expected to receive free care was not an issue of concern. Moreover health personnel at higher level facilities had to accommodate those who came for service but who could not pay the fees.

In the mid-1980s, when the first health care financing study was carried out, it was determined that public sector financing for health might not increase at a rate sufficient to absorb the additional costs of the health sector plan. It was suggested that inefficient use of public health services facilities should be curbed through the introduction of differential users' charges for those bypassing lower level health facilities. It was expected that the patients charged higher fees would be more likely to use lower level health facilities, thus lowering the number of unnecessary contacts at the higher level of health facilities, and bring greater efficiency to the system.

The MOPH was reluctant to implement the suggested differential users' fees One of the reasons was that patients who bypassed did so because they believed they faced unacceptable health services at the lower level. Thus charging them with higher fees would not help them to change their care seeking but might deter them from seeking care at all. It was believed that a better approach would be to improve the quality of health services at the lower level to attract people to use facilities closest to their homes. This conclusion was supported by the finding in evaluations of the community health card scheme that people went to higher level health facilities without referral slips only because the lower level facilities

were not functioning well. The proposal of introducing differential users' charges for those paying out of their own pocket was never implemented. Likewise, the policies of charging those bypassing lower level facilities by those covered by the low income health card (LICS) and the voluntary health card (VHCS) schemes have been attempted several times but have never been sustained. Hospital staff do not wish to place additional financial burdens on those already in economic difficulty.

E. Referral Chain in the Bangkok Metropolitan Authority (BMA)

The provision of health services by the BMA is highly complex both from the perspective of consumer and provider behavior. The BMA, the local governmental administration authority, has taken charge of providing services for those residing in the BMA by establishing a network of health services facilities. This network consists of health centers with at least one medical doctor providing ambulatory curative services and preventive and promotive health services within regular working hours. There are also two community hospitals in the suburbs of Bangkok where there are few hospitals, private or public. The BMA also has its own hospitals which are general and tertiary referral hospitals, despite the fact that there are also quite a number of general and referral hospitals in Bangkok under public administration or the private sector.

Health services provision in the BMA was quite chaotic. Poor people are left to the mercy of various public facilities. These same facilities are also overloaded by large numbers of patients referred from various parts of the country. Those who can to pay usually seek care at the private sector. The health department of the BMA was determined to ensure that they provided more efficient services for those in the BMA. Starting from the early 1990s the BMA tried to work with the MOPH to establish a network of referral hospitals so that patients could be easily referred between the two major health services providers in the BMA. At the same time it tried to establish networks of health centers that could be linked up with some hospitals so that they could have more efficient patient referral from lower level facilities. Efforts were also made to increase the quality of health services rendered to those coming to health centers and they could be referred to higher level of care when needed.

There was no systematic effort to evaluate the attempt of creating such networks. It was believed that with an improved network of health centers providing good primary medical care, the needs for health services of those living in BMA, especially the lower income group, would be better met. The establishment of a good referral chain with hospitals under public administration, and even with the private sector, could then help to improve the quality of patient referral without having to rely on hospitals operated by the BMA which have a low number of beds. However, establishment of this network would be next to impossible if all of the patients referred were expected to pay for services out of pocket payment rather than under a more coherent system of financing.

III. EFFORTS TO IMPROVE THE REFERRAL SYSTEM UNDER VARIOUS FINANCING SCHEMES

The efforts mentioned above are those which have been carried out on the supply- side and mainly by national or local health services authorities who tried to improve the networking of various levels of health facilities under their direct control, or under the control of parts of the administration from which cooperation was easily achieved. There were few attempts to address the issue of the patients bypassing or shopping around for care which is another important aspect of the needs to improve the patient referral system. However there are a few examples where populations can be well defined, and where there is a collective financing mechanism in place that could be used to influence both the behavior of providers and consumers for better patient referral.

A. Mandating First Contacts under the Low Income Card Scheme

The Low Income Card Scheme (LICS) was introduced in 1975 with no clear policy on patient referral. It was only in the early 1980s that it became mandatory to identify the first point of provider contact for each card holder. The first contact could be either at a health center, or a community hospital, or even a general hospital, depending on the exact place of residence of the card holders. The point of first contact was written explicitly on the card when issued. If the card holders went to other health facilities without a proper referral slip they would not be able to get free care. The health centers or hospitals receive budget from the MOPH in proportion to the number of card holders (Type A patients) registered with them, as well as for those receiving free care despite lack of the indigent card (Type B patients). The fact that those without cards could also be exempted from paying has weakened the implementation of this referral policy. In most cases, the health personnel give advice to patients without charging them the users' fees, even if they have bypassed their primary care provider. There was never any systematic evaluation of the effectiveness of this policy for the improvement of patients' referral. However the overall percentage of outpatient contacts by the LICS holders suggests an increase in the number of contacts made at health centers and community hospitals (see Table 3.1).

Table 3.1: *Utilization Pattern of OP visits by Level of Care by LICS Patients, Thailand, 1994 and 1996*

Types of Facitities	OP visits 1994		OP visits 1996	
	Person	Visits	Person	Visits
Total	25,812,394	41,290,658	NA	NA
Health Centers	51%	54%	57%	57%
Community Hospital	26%	27%	32%	33%
General/Regional Hospital	11%	9%	11%	10%
Other departments in MOPH	2%	2%	NA	NA
Non-MOPH	9%	7%	NA	NA

Source : 1994 Rural Health Division
1996 Health Insurance office

B. Voluntary Health Card Scheme and Reinforcement of the Referral Requirement

The Voluntary Health Card Scheme (VHCS) was designed with one of its goals to improve patient referral (the origins of the scheme as a community health card were described above). When the

VHCS was turned into a voluntary health insurance scheme in the early 1990s, the need for patient referral became one of the core issues regarding how to achieve cost containment or financial sufficiency of the scheme. An early evaluation of the health card showed that it was financially non-viable at the prices at which the cards were sold. However, to date, the MOPH has not increased the price of the card to a level sufficient to cover costs. Thus, hospitals cross-subsidize the care provided to voluntary health card holders. This gave rise to the hospitals' concern about the need to follow a strict referral chain. At the same time the central MOPH was concerned about the popularity of health cards, and did not want to raise the price or enforce requirements that would reduce the card's popularity. Unlike the low income card holders, the first contact mandated by the voluntary health card scheme was either community hospitals or health centers, while the first contact for the low income card was only with health centers. The overall level of first OP contacts of voluntary health card holders shows the highest proportion of use at the health centers, and for IP care at community hospitals (see Table 3.2).

Table 3.2: *Utilization Pattern According to Level of Care, VHC Scheme, Thailand, 1997*

Types of Provider	OP visits		In-Patients			Total Expenditure
	No.	Expense	No.	Days	Expense	
Total	16,854,684	1,667,992,614	706,242	3,657,918	2,054,983,153	3,674,337.115
Health Center	54%	21%	NA	NA	NA	NA
Community Hospital	33%	46%	65%	48%	31%	NA
General Hospital	11%	23%	75%	38%	47%	NA
Refer to GH	1%	2%	5%	5%	7%	NA
Regional Hospital	2%	5%	4%	6%	8%	NA
Refer to RH	0.4%	2%	2%	4%	7%	NA
Total	100%	100%	100%	100%	100%	NA

The proportion of first contacts made by low income card holders at various levels of health services shows that there were more contacts made at the health center level while the proportion of visits at community hospitals was higher for the voluntary health card holders. Providers tried to enforce punitive measures against low income card holders but eventually had to allow them free care if they could not really pay. However this might have had some effect on the low income card holders as the proportion of those using health centers has also been proportionally greater compared to other levels of care. The higher contacts at community hospitals in the VHC scheme showed that the people preferred community hospital to health centers for first visits. This may be due to the overall improvement of the health centers and community hospitals, aside from the introduction of the referral requirements of these two insurance schemes.

C. Urban Health Centers and Patients Referral

The MOPH undertook a research project in Ayudhaya aimed at improving health services provision and utilization in the province. During the initial phase, the project carried out studies to find out about

the pattern of health services utilization of the rural population as well as that in urban areas. It was found that most of the contacts made at either community hospitals or provincial hospitals could have been adequately handled by health personnel at lower level facilities, especially those coming to the provincial hospital from the central town of the province. The project thus set out to establish urban health centers hoping to reduce the number of unnecessary outpatient contacts at provincial hospitals.

The project was successful to a certain extent in rechanneling some outpatient contacts from the provincial hospitals to the urban health centers. This again proved the hypothesis that a system of well functioning health service facilities closer to the homes of the people is acceptable by the population, and helps to curb use of higher level facilities for simple health needs. An in-depth evaluation of health services utilization of those in the urban area of Ayudhaya showed this to be the case. The urban health center had limited capability of attracting those in the urban town as it was popular only among those in the immediate urban catchment area who were of low socio-economic status. For those of higher socioeconomic status the common contact points for ambulatory services were the private clinics of doctors. (see Table 3.3).

Table 3.3: *First Contacts in Case of Minor Illnesses in Different Groups of the Urban Population in Ayudhaya, Thailand*

	Population Group				
	(1)	(2)	(3)	(4)	(5)
1. Rest	15.8	16.0	13.0	13.9	17.9
2. Self-medication	43.9	35.8	57.4	56.6	35.9
3. Traditional Medicine	0.0	1.9	3.7	3.3	2.6
4. Health Center	0.0	0.0	0.0	0.8	0.0
5. Urban Health Center	1.8	17.0	14.8	13.1	20.5
6. Clinic	29.8	13.2	5.6	9.8	20.5
7. Community Hospital	1.8	0.0	0.0	0.0	0.0
8. General Hospital	1.8	11.3	0.0	1.6	0.0
9. Private Hospital	0.0	1.9	1.9	0.0	0.0
10. Public Hp. in adjacent province	3.5	1.9	3.7	0.8	2.6
11. Private Hp. In adjacent province	0.0	0.0	0.0	0.0	0.0
12. Others	1.8	0.0	0.0	0.0	0.0
13. Municipality facitlities	0.0	0.9	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0
	57	106	54	122	39

Notes: (1) = Commercial area (outside direct coverge of urban health centers)
(2) = Average urban devellers (in direct coverage of urban health centers 2)
(3) = Low Socio - economic (in direct overage of urban health centers 2)
(4) = Low Socio - economic (in direct overage of urban 1)
(5) = Commercial area (in direct coverage of urban health centers 3)

Urban health centers were constructed in other towns besides Ayudhaya. A similar evaluation of the service utilization patterns of the urban population were also carried out in the provinces of Nakornrashasima in northeast and Had Yai in the south. It was found that urban health centers were used more frequently by those with low socio-economic status while the middle class tended to use private clinics (see Table 3.4).

Table 3.4: *Service Utilization of the Urban Population in Had Yai, Thailand*

Service Utilization	Low socio-econ	Commercial Area	Residential	Total
1. Rest	25 (14.0%)	25 (16.3%)	23 (15.2%)	73 (15.1%)
2. Self-medication	50 (27.9%)	50 (32.7%)	52 (34.4%)	152 (31.5%)
3. Health Volunteer	- (0%)	3 (2%)	1 (0.7%)	4 (0.8%)
4.Traditional Medicine	3 (1.7%)	1 (0.7%)	3 (2%)	7 (1.4%)
5. Health Center	1 (0.6%)	1 (0.7%)	- (0%)	2 (0.4%)
6. Municipality Health Center	57 (31.8%)	8 (5.2%)	21 (13.9%)	86 (17.8%)
7. Clinics	42 (23.5%)	55 (35.9%)	50 (33.1%)	147 (30.4%)
8. HadYai Hospital	36 (20.1%)	11 (7.2%)	39 (25.8%)	86 (17.8%)
9. University Hospital	9 (5.0%)	2 (1.3%)	10 (6.6%)	21 (4.3%)
10.Private Hospital/ Others	10 (5.6%)	11 (7.2%)	8 (5.3%)	29 (6.0%)
Total	179 (100%)	153 (100%)	151 (100%)	483 (100%)

D. District Fund Holders and Referral Improvement in the EC Health Care Reform Project

More recently the MOPH has been experimenting with the concept of fund holding in four districts of Khon Kaen province. This is one of the provinces in the Health Care Reform Project supported by the European Community (EC). The aim of the project is to find innovative ways of health care financing with the view to introduce universal coverage for the Thai population. In the Khon Kaen province the concept of fund holding was tested with four districts acting as fundholders for the voluntary and the low income card holders registered within their districts. Previously the budget received for these two groups of population was allocated to each hospital according to their workload of the past year. The card holders were allowed to go for services to any level, with the referral requirements mentioned earlier. Under the fund holding experiment all the budget for these two population groups within each district is allocated to the district hospitals which is the first point of contact for services. If there is a need for services from a higher level of care the district hospital will refer the patients for services and pay fee-for-service to the referral hospital (in this case the Khon Kaen regional hospital). Thus, for these districts, the Khon Kaen hospital does not receive its share of VHCS/LICS budget based on the previous year's workload but are paid on a reimbursement basis based on the amount of services rendered. If the district hospitals succeed in taking care of the patients without having to refer them to

higher level facilities the remaining budget can be retained by the district hospitals to pay for other recurrent expenditure.

The experiment has been going on for about a year. A visit and preliminary assessment by the TA team showed that each district hospital had different rate of patient referral and different rate of self-referral (see Table 3.5).

Table 3.5: *Cross-boundary or Referral rate (%) of Patients from Each of the Four Fund holding Districts in Khon Kaen, Thailand, 1998*

Districts	OP	IP	IPDAY	Hospital Characteristics
Numphong	1.72	17.85	44.06	30 Km from town, 60 beds
Phol	0.61	19.69	62.55	60 Km from town, 60 beds
Phuviang	0.78	18.57	46.62	80 Km from town, 30 beds
Ubonrat	0.81	10.50	28.76	50 Km from town, 30 beds

The referral rate from each of the four hospitals was quite different and shows no clear relationship with distance. The rate of referral also did not show the same pattern for outpatient and inpatient referral. While the highest rate of OP referral rate was seen in Numphong which is closest to the town of Khon Kaen, the rate of IP referral rate was highest in Phol which is farther away. Ubonrath, the second closest district hospital, showed a lowest rate of IP referral, while Phol and Phuviang being further away showed a higher rate of IP referral. This might reflect the capability of the district hospitals in handling more complicated cases. The doctors in Ubolrath are senior and have relatively more experience and this may explain the lower rates of OP and IP referral. The high rate of referral from Numphong might be due to the combination of two factors, distance and higher socio-economic status whereby the population may be more willing to travel for services at a relatively more sophisticated health facilities.

Four other district hospitals in Khon Kaen without the fund holding intervention were chosen as controls. They were chosen based on their distance from the central town thus eliminating the confounding factor of distance. For this group, the referral rate from each hospital also had no clear relation with the distance from the Khon Kaen hospital. When comparing the case and control districts, those with the same travel distance seemed to show a large difference both in terms of OP and IP referral rates (see Table 3.6). This may also reflect the quality and capability of the district hospitals in providing services for the patients rather than the factor of distance.

The results in Table 3.6 do not show a significant pattern of higher levels of referral by the fund holding hospitals when compared to the control hospitals. There might be some slight change comparing between 1997 and 1998 (results not shown) but it is too soon to conclude with confidence what has been the result of creating fund holding status at the district level on referral patterns.

Table 3.6: *Cross-boundary Rates Comparing Fund holding and Control Districts in Khon Kaen, Thailand, 1998*

Districts	OP	IP	IPDAY
Numphong	1.72	17.85	44.06
Kranuan (Control)	0.91	11.47	37.85
Phol	0.61	19.69	62.55
Banphai (Control)	1.22	13.03	36.02
Phuviang	0.78	18.57	46.62
Sichomphu (Control)	0.56	19.96	54.59
Ubonrat	0.81	10.50	28.76
Nongrua (Control)	1.53	32.52	67.44

In-depth discussion with those involved with the project showed that the fund holding districts may have overestimated the effect of fund holding on the behavior of the consumers. Creating fund holding is an agreement between providers regarding payment for services, and will only have an effect on health service utilization when there are a better quality of health services at the district level. Even though the referral requirement was in place, its weak reinforcement, along with the lack of close interaction between the providers and consumers to create confidence in the providers closest to their homes, might have created the referral picture seen in these results.

IV. SUMMARY OF THE PROBLEMS AND ISSUES FOR IMPROVEMENT OF THE REFERRAL SYSTEM

Although there have been more and more outpatient contacts at the health center and district levels relative to general and regional hospitals, the issue of patients bypassing the lower level of health services facilities is still a problem. People still bypass the lower level health facilities because they lack confidence in the quality of care provided.

The various attempts at improving patient referral within the health service delivery system has had little impact on the utilization behavior of the people. This could be due to many different factors. As mentioned above the lower level facilities have not had the same attention paid to improving their quality of service. In addition, most efforts have strived to improve technical support without addressing the real issue of management improvement or creating the right kind of incentives among the providers.

Financial incentives were expected to lead to substantial change among the providers' and consumers' behavior regarding strengthening of the referral chain. However the change in the financial practices so far has been quite weak or incomplete. The introduction of differential users' charge was never implemented. The enforcement of referral patterns under the VHCS and LICS have not been properly monitored nor reinforced. The innovative approach of district fund holding has not been fully understood by patients and thus its potential impact on referral patterns cannot be determined from the current experiment.

Patterns of patient referral between the various levels of health care providers could benefit a lot from better communication and proper planning of patient care to ensure a smooth transition between providers. This is particularly true and crucial when considering the needs for bi-directional referral that will be useful for those with chronic conditions that require services to be provided closest to their homes with periodic visits to the more specialized providers.

V. GOALS OF IMPROVING THE REFERRAL SYSTEM

The efforts of creating a good referral system should be measured against the following goals that encompass both health and economic concerns.

- *Cost-effective use of limited resources.* The more common and simple health problems should be handled by the health services facilities that are staffed and equipped to take care of such problems. The less common and high cost health resources should be reserved for the more complicated problems and service needs. This requires an effective referral system that will ensure a seamless continum along the spectrum of health care provision.

- *Good quality of patient care services*. A good referral system will result in a decline in the travel and waiting time of patients. Such as system will also allow better patient participation in care through better communication with providers and more effective information exchange and dissemination. The patient should feel confident with the services received.

- *Good preventive practices at all stages of health needs.* Access to good primary and preventive care services should allow for early detection and early referral of significant health problems, and to a reduction in unnecessary disability.

VI. RECOMMENDATIONS FOR THE IMPROVEMENT OF THE REFERRAL SYSTEM

Given that appropriate functioning of the referral system involves providing quality and continuous care between different levels of the health system it seems clear that the improvement of the referral system cannot be viewed separately from other strategies to reform the health sector. From the experiences of past efforts and some of the major reforms to be introduced in the future, especially in the light of the attempt to improve HRH deployment at the district level and the creation of new autonomous public hospitals, some of the measures that need to be included and highlighted to improve patient referral include the following:

A. Creation of Effective and Efficient First Contacts in the Health Care Delivery System

Although the experiences in Thailand have been with urban health care (i.e. Ayudhaya, Korat, Hadyai, or even the BMA) future efforts should aim at the rural population. District hospitals should serve as the

entry points and be held responsible for such development of effective first contacts for the rural population. This recommendation is based on the fact that people prefer to use health service facilities closest to their homes if they found them to provide acceptable care. The number of those bypassing district health services, or preferring larger hospitals because they give them better assurance of good quality, could be minimized by a good district health system. Under the present situation and trend two different approaches might be worth trying.

1. Create a self-managed District Health System

District health systems would be changed to have more autonomy and flexibility in organizing health services in the district though working with various groups especially those in the community. There are already quite a number of districts with experienced hospital directors. However, they have been functioning according to the programs and projects established by the central MOPH but which may have limited relevance to local health needs. The experiences with the urban health centers showed that a well functioning unit covering a population of around 5000 could be expected to provide comprehensive health services to the covered population. Such a unit serves as the effective first contact to help the people deal with their health problems and concerns.

In rural areas there are already health centers but they might not be functioning well. District hospitals have a higher potential to provide quality services and may be entrusted to oversee the overall services delivery in the district including services rendered at the health center level. However, rather than working in the conventional way of creating coordinating district committee and leaving the rest of the management aside, the new approach should aim at holding the district hospitals responsible for the comprehensive service delivery in the district and allow them flexibility in mobilizing the health centers to join in, most likely through service contracts. The total budget of the district health system should then be allocated to the district level with the formation of a District Health Board consisting of community members and health service managers and providers in the district. This Board will formulate plans to make use of the available budget with an aim to achieving good quality, comprehensive health services to the total population in its catchment area.

The district hospitals will also provide curative health services with no financial barriers to those protected by the government budget. Districts might introduce innovative approaches to resolve health problems. To finance these efforts additional funds might be sought from the local government or community. For the communities with lower socio-economic status the central government may need to provide additional budget. It is expected that such budget would be available from the present level of government spending once the districts have gradually achieved better efficiency in the provision of services.

Based on detailed delineation of the various types of services needed, a district of average size of 50,000 population will require about 55 million baht per year to provide a package of comprehensive services. The present level of government spending for an average population of that size it is about 35 million baht per year. Considering the potential for revenue generation of the district hospitals through curative services provision it would not be unrealistic to expect that the new ways of financing for district

health system based on the present level of government spending will be feasible, even while achieving a new type of relationship between the providers and the community regarding better services utilization and patient referral. In this model there is no need to introduce the fund holding concept as the higher level of health facilities will still receive a financial allocation based on the amount of workload they provided to various population groups of priority concern. The details on the types of services to be rendered along with budget and HRH requirement for a district of around 50,000 population can be found in Appendix A. This can be used as a basis for monitoring the agreement between the district team and the government in terms of expected outputs.

2. *Introduce Fund Holding for Certain Population Groups*

The other possible model is to *Introduce Find Holding for Certain Population Groups*. Based on the present system of collective financing, it would be possible to expect 3 to 4 population groups to be covered by the fund holding where the district hospital is the fundholder. These population groups include low-income card holders, health card holders, civil servants, workers in the social security system. However it should be noted that it may be difficult to shift the latter two groups (CS and SS workers) from their present arrangements to a system which they may perceive as providing lower quality. Another issue with adopting this approach is that it will separate population into various groups rather than working for a more equitable system for most of the population regardless of their insurance coverage. However this segmentation will be necessary as the concept of fund holding can only be implemented under schemes of collective financing. Since at present there is not a unified system of financing nor complete coverage of the total population, there are limitations to introducing the fund holding concept as a means to improve the referral system for the majority of the population.

There is a need to clearly define the model of district hospital fund holding if they are expected to effectively bring about good quality health services for the target population along with efficient use of health services provided by the various levels of the health system. First, district hospitals have to understand that the funds allocated to them at the district levels are meant for providing comprehensive services to the target population. The better they perform in terms of reducing the unnecessary use of health services while keeping the target population healthy, the less expenses they will have to bear. Second, the district hospitals along with their health center counterparts, have the advantage of being close to the population with a reasonable ratio of health staff to the target population and thus should establish good contacts and communication for effective provision of information and services for good health, rather than creating limitation to access as the means to minimize their health care cost. Third, they will be responsible for the health care costs of those registered beneficiaries when there is a need to refer them for care at a higher level of the health care system. The district hospitals should be responsible for communicating with the target groups that any unreferred cases will have to bear the costs of the medical care they receive at provincial or regional hospitals. District hospitals should work closely with higher levels of health facilities to ensure that there will be the optimal level of care provided within a reasonable cost. They should also ensure that the needs for care will be provided by the best use of resources mix between the various levels of service providers. In order to implement an effective fund holding scheme there is a need to clarify some of these principles, expectations and assumptions among those involved rather than merely changing the resource allocation methods.

B Create a Provincial Mechanism(s) that Functions Like an Effective Managed Care Organization

Create a provincial mechanism(s) that functions like an effective managed care organization. This proposal is based on the belief that the present level of government budget allocated to a province through the existing health services delivery system might be used more efficiently if the budgetary line items could be pooled and reallocated to give incentives to provide the right kind of health services to the various population groups in the province. In this model, the province will receive the same level of budgetary allocation but the operating budget will be allocated on a lumpsum basis. There will be a new provincial mechanism that will function to identify priority programs and priority population groups with an aim of creating as many effective first contacts as possible using the models described above for the new district health system. The two different approaches to create first contacts with district hospitals will be established in each province. However, the advantage of a provincial approach is that it can be selective and can choose to combine the two approaches described above in order to introduce better quality of care while ensuring better service utilization by the population.

The provincial mechanism will develop the contractual agreements as well as provide the necessary support and carry out crucial monitoring functions. It will also assess the final output and outcome according to the plan agreed upon with each district. In this case it would mean that there may be certain districts with block grant allocation as in A.1, while some districts may choose to implement only fund holding for low-income population as described in A.2, while some other districts may be implementing fund holding for both the low income and voluntary health card holders. Districts that choose not to adopt a new district financing mechanism may do so, but would not have the possibility of receiving additional financial rewards compared to the other two groups of districts (i.e. the self-managed and the fund holding).

There is a need to identify the provinces where such a programs could be tried out as they will be important steps towards a more decentralized provincial health system. At the initial stage the functions of the provincial health mechanism are expected to be filled by the provincial health office (PHO) but these might turn into a more elaborated form of provincial mechanism such as provincial health board (PHB) which would be managed with more community input. To move in this direction there should be more representatives from the local communities, and external resource persons, assisting the PHO to better perform new functions related to creating effective first contacts. The PHO might create a new office to provide guidance on the proper mix of various groups of stakeholders in each province.

C. Development of Provincial Autonomous Networks

These networks will evolve from the development of autonomous hospitals. It was clearly spelled out by the MOPH that the creation of autonomous public hospitals should not lead to more fragmented health service delivery system. It is therefore highly desirable that the health facilities within a well-defined area form a network of providers that will be able to provide comprehensive services cost-effectively. Such a network will automatically pay attention to creating mechanisms to allow consumers

proper access to various levels of health services within the resources available. However these networks will also be closely monitored by the government who will ensure that service delivery within the network will benefit the population and not merely minimize services and cost. The autonomous facilities' networks, operating under guidance of a governing board consisting of representative from the community and other groups of stakeholders, are expected to be less profit oriented but rather aiming to achieve the best health outcome based on available resources by linking providers and the people with health needs.

D. Revival of the NHMS Project.

Another option for creating better patient referral for the rural population is to revive the NMHS project. However certain specific objectives and approaches need to be introduced or better managed. These include:

1. Linking Performance to "Carrots and Sticks"

Linking the performance of each level of health facilities with regards to the improvement of referral system with some carrot and stick measures. Rather than introducing the networking of health facilities and managed them on a purely technical basis there is a need for strong management support from the administration at various levels. An example of a specific action in this respect would be the inclusion of performance assessment of key management staff according to the standard services and link this assessment to determination of annual salary increases and promotion. Specific tools for data collection to carry out the performance assessment include: routine reports, and supervision by inspector-general teams. There should be specific funds allocated to support the activities for NMHS based on the planned activities developed for each network. Ten (10) percent of the budget could be added as a reward for the good performing networks.

2. Designate a Network Manager

The management within each provincial network should be firmly established with a designated network manager who would oversee the operation of the NHMS project within each province and communicate with the central level for necessary support (i.e. technical, financial and administrative). The regional hospitals within each network should be entrusted with this job, and it should be the main job description of the deputy director for technical development of each regional hospital. His/her performance should be assessed based on the achievement of targets set for each network.

3. Develop a Three Year Plan

Each network should develop a three year plan with specific targets being identified in each annual plan. This plan would be the basis for negotiation of supports from the central level as well as serve as a framework for the network managers and other concerned key staffs in each health services facilities. The plan should also include the establishment of fund holding districts or self-managed districts as part

of the NMHS development, if they are seen as crucial development to the networking process. Performance assessment and feedback will form a crucial component of the network activities.

E. Development of Universal Health Insurance Coverage

Development of universal coverage for health financing for all Thai population, will lead to improvement of good referral systems only when the collective financing mechanism involved has the capability to negotiate and monitor services delivery as well as service utilization. One approach would be to use prospective payment based on capitation along with effective monitoring of both service provision and utilization as well as costs incurred. Another may be the use of retrospective reimbursement with global budget capping. These options all require that providers establish effective first contact requirements for the covered population and close monitoring of the system to ensure that there is not unnecessary limitation of access to services when needed. The reimbursement mechanism selected should operate on behalf of the target population, and there may be a need to provide some control over administrative costs. Otherwise the introduction of a referral requirement may be counterproductive and detrimental to patients' health rather than bring about the efficient use of resources.

APPENDIX A

EXPECTED SERVICE PACKAGE IN A DISTRICT HEALTH SYSTEM

APPENDIX A:

Expected service package in a district health system

Services that should be provided in a district health system can be grouped into 4 categories as follow.

(Note: IC = individual care, FC = family care, CC = community care, T1 = primary level treatment, T2 = hospital level treatment, PH1 = basic public health, PH2 =Supprotive activities in the wider context, M1 = basic management in primary care, M2 = management at the district level)

1. Basic services according for the target population (IC + FC +CC+ T1 +PH1+ M1)		**2. Hospital care and primary care support (T2 + A1+ M2)**	**3. Special health programme according to local health needs (CC + PH 1_)**	**4. Health Management and Intelligence as well as Technical Supports in the wider context of community (PH2 + A1 + M2)**
Type of services	**activities**			
curative service	Out patient care + counseling	treatment of complicated cases	needs assessment of community	* planning, monitoring and evaluation
	(acute and chronic)	child deliveries	planning	* techanical support and quality assurance
	minor surgery	surgical operation	implement the plan according to the needs	* coordinate the district information network
	home care	emergency care	with community participation	* district health problems surveillance
	refer	care of admitted patients	monitoring and evaluation	
preventive services	vaccination for pregnant women	rehabillitative services	Health promotion	* coordiante with other relating units to execute health programs
		laboratory services	Disease prevention	
promotive services	antenatal care	diagnostic procedurres	Mental health care	*oversee and coordinate the overall health programs i.e. consumer protection, disease prevetion and control, public health promotion , drug abuse
	vaccination for 0-5 yrs children	blood bank	Alternative health	
	child development check up	sterilization	consumer protection	
	family planning		HIV/AIDS preveention and control	
	educative services in centers	* support primary care units	Drug abuse prevention and control	* technical support and development for some specific isuues i.e. alternative health care
	educative services in community			
		* technical development and modification to local		
schools health	health screening and surveillance	* establish district information network	others acccording to local problems	* others according to local health needs
rehabilitative services	basic physical therapy counselling		* coordinating with other sectors to execute the planned helaht programs	* monitor and assure the quality of overall services in the responsible district
Home visit	visit the risk group and households according to the plan for care and prevention,, promotion program			*general administration and personnel management *budgeting and financial managment * Logistic Support
Type of health personnel needed		**Type of health personnel needed**	**Personnel needed**	**Personnel needed**

1. Basic services according for the target population **(IC + FC +CC+ T1 +PH1+ M1)**	**2. Hospital care and primary care support** **(T2 + A1+ M2)**	**3. Special health programme according to local health needs** **(CC + PH 1_)**	**4. Health Management and Intelligence as well as Technical Supports in the wider context of community** **(PH2 + A1 + M2)**
Registered nurses or anothers who have medical and nursing knowledge with psycho-social concern and good communication * have ability to work with communities * can assess the situation of individual , family and communities of their catchment.	hospital manager medical doctors, nurses laboratory technicians general administrators health system specialists public health specialists	personnel for implement this part should be integrated with the basic services according to population in part 1.	Public health managers Technical experts for health promotion, disease prevention, health service management, consumer pretection, information system, qualtiy assuarance, and evaluation. clerks and financial staff

Budgeting method for supporting a district health system

1. Basic health services by groups of population	**2. Hospital care**	**3. Local health needs**	**4. Public Health Programs and district health management**
* The budget support of these services should be based on capitation of the responsibled population with age and risk adjustment. * Additional remuneration for those who can execute good outcome * Budget for service and personnel development	* Minimum bloc budget for basic hospital services as defined by contracts. * Budget for addtional services based on DRG system * Other bloc budget for supporting primary care development under the network with this hospital should be calculated based on the number of primary care units and adjusted with their performance.	* Minimum bloc budget i.e 50 baht per capita or 2.5 millions baht for 50,000 population and then adjust by the detail proposal of local health units for 1, 3, and 5 years plan * Additional budget according to approved proposals	* Minimum bloc budget for basic minimum services in a district * Addtional budget can be requested through the detailed proposal approved by the provincial and central level. * Budget for health promotion and local health needs is included in the proposal of part 3. which should be differentiated for primary care units and district health units * Budget for research, service development, evaluation and personnel development. * Special bloc budget for solving personnel shortage in some remote areas

HRH required for primary care services

By calculating total time used for each service and full time equivalent per one personnel, then the number of total health personnel required in a primary unit is estimated as detail in the followed table.

Type of services	services	Target population	Target services/yr	Time used/visit	time used for		no of hrs/FTE	FTE required	
					5,000 pop.	50,000 pop.		5,000 pop.	50,000 pop.
curative service	Out patient and counseling	every population	2 visits/person/yr	10 minutes	1,666.7	16,666.7	8 x 240	0.9	8.7
	minor surgery						1,920		
	home care	prev. of chronic diseases							
	refer	5 % of OPD cases							
preventive services	vaccination to pregnant women, antenatal care	birth rate 1.7%	4 times/pregnant	40 minutes	226.7	2,266.7	1,920	0.1	1.2
promotive services	vaccination to 0-5 yrs children	birth rate 1.7%	4 times/child	1 hour	340.0	3,400.0	1,920	0.2	1.8
	check child development								
	family planning	50% of fertility women	4 times/person	15 minutes	400.0	4,000.0	1,920	0.2	2.1
	educative services in center	50 % of sick		3 minutes	250.0	2,500.0	1,920	0.1	1.3
	educative services in community		one/com/month	integrate with community work					
schools health	health screening and suveillance	40 elementary schools, 2 secondary schools	1 time/semester /schoool .	6 days 3 person per school	720.0	6,048.0	1,920	0.4	3.2
consumer protection									
rehabilitative services	basic physical therapy counselling	prev. of disease * ave.days 10 % of users		integrate with OP					
Home visit	visit the risk group and households		1 /house/month						
	according to the plan								
community work	needs assessment	2 per year	1 time/week /com.	4 hrs/com./wk	2,080	20,800.	1,920	1.1	10.8
	planning	1 per year		8hrs./com./wk	4,160.	41,600.	1,920	2.2	21.7

Type of services	services	Target population	Target services/yr	Time used/visit	time used for		no of hrs/FTE	FTE required			
					5,000 pop.	50,000 pop.		5,000 pop.		50,000 pop.	
	implement the plan according to the needs with community participation monitoring and evaluation	~5 programs/yr every 1, 3 months									
office management	information, HRH management, finance, stock			2 hrs / day	530.0	5,300.0	1,920	0.3		2.8	
Grand total					6,213.3	60,981.3	1,920	3.2	4.3	31.8	42.6
	vacation 2 days per month										
	10 % more for rotation							0.3	0.4	3.2	4.3
Total HRH required								3.5	4.7	34.9	46.9
		50 % of total are register nurses						1.8	2.4	17.5	23.4
		the other are technical nurses or similar qualification						1.8	2.4	17.5	23.4
		Total HRH required for 45 millions pop.									
			RN					16,019	21,381	15,722	21,084
			other staff					16,019	21,381	15,722	21,084

HRH required in a district hospital

Nurses

Table Number of nures required in a district hospital with various population covered

population covered		30,000-50,000				60,000-80,000			
		30 beds				**60 beds**			
Services	**Rotation**	**GN**	**TN&PN**	**other**	**Total**	**GN**	**TN&PN**	**other**	**Total**
In patient ward	4 for morning session , 3 for afternoon and night 5 person for rotation and 1 GN for every session	10	5		15	20	10		3(
Delivery room	birth rate 1.7%, therefore 2-3 deliveries/day 1 person per session	3			3	3	1		4
Emergency room	2 person per session, 1 GN 1 TN	3	3		6	5	5		1(
Major operation room	1 GN 1 TN for morning, afternoon and night use on call 1 anaesthetic nure	1	1	1 anaes.	3	1	1	1-2 anaes.	4
Out patient services	30 % of total sickness of population 1 nure for management	1			1	1	1		2
General administration		1			1	2			2
Total		**19**	**9**	1 anaes.	**29**	**32**	**18**	1-2 anaes.	**5**

Doctors

Estimation number of general practitioners required in a district hospital calcuation by time used for total services and full time equivalent as follow:

	Activities	Frequencies	time used per case	FTE hours for 1 doctor	Number of GP required					
					50,000			60,000		
					OPD 50 %	OPD 30 %	OPD 10 %	OPD 50 %	OPD 30 %	OPD 10 %
1	Curative services									
	1.1 Out patients	total sickness = 2 visits/pop/yr	5 minutes	1920	2.17	1.30	0.43	2.60	1.56	0.52
	1.2 In patients	7 % of total sickness per year		(8 x 240 days)						
		3 hospital day / 1 IP	10 min./pt-day							
	1.3 Care before death	Death rate 6.7/1000 pop.								
	Out patient	60 % of these go to hospitals	20 mins.							
		80 % of these admitted	60 mins/1 pt-day							
		use 7 hospital days								
	1.3 Major operations	3 / 1000 pop.	2 hours							
	1.4 Complicated deliveries	5% of births(17/1000)	1 hour							
	total 1.2 - 1.4				2.01	2.01	2.01	2.42	2.42	2.42
	total			1,920	4.18	3.32	2.45	5.02	3.98	2.94
2	Health promotion and disease prevention									
	2.1 Antenatal care	5 % of total preganants								
		(5 % of 1.7 %)	10 mins		0.015	0.015	0.015	0.018	0.018	0.018
	2.2 Well baby clinics	5 % of total children								

	Activities	Frequencies	time used per case	FTE hours for 1 doctor	Number of GP required					
					50,000			60,000		
		(5 % of 1.7 %)	10 mins		0.015	0.015	0.015	0.018	0.018	0.018
	2.3 other health promotion	4 days/month			0.20	0.20	0.20	0.20	0.20	0.20
3	primary care support and development									
	supervision	1 visit/month x no.of primary care units	1 day							
	general administration	10 days/month								
		Total			1	1	1	1.1	1.1	1.1
4	Academic and training	30 days/person/yr								
	Grand total				5.41	4.55	3.68	6.36	5.31	4.27
	**** Add 1 more doctor for rotation and replacement during vacation and sickness**				6	6	5	7	6	5
	Total GP required									
			number of beds (ave. stay 3 days)		36	36	36	43	43	43
			number of beds (ave. stay 5 days)					72	72	72

HRH required in a district health management unit

Number of health personel and remuneration needed for a district health management unit

				population	
Activities	Frequencies	person-time	no. of FTE	50,000	60,000
supervision	1 visit/primary care/month	1*12/240*PMC.*2person	0.1		
planning	2 months/yr-2 person	2/12 *2	0.33		
evaluation	2 months/yr-2 person	2/12*2	0.33		
implementation the programs	3 days/wk - 2 person	(3*52)/240*2	0.87		
research and service development	1 day per wk	(1*52/240)*2	0.43		
general administration	2 hrs/days- 2 person	(2*2*240)/1920	0.5		
meetings	5 days/month	5*12/240	0.25		
			2.72		
	Total	2.72+0.1*no.of PMC		3.7	3.9
number of personnel required				4	4
Type of personnel	monthly remuneration (baht)				
Public health manger	30000			1	1
Assistant manger	20000			1	1
technical experts	15000			1	1
supporting staff	8000			1	1
Budget required for personnel remuneration					

Public health manger	30000	30000
Assistant manger	20000	20000
technical experts	15000	15000
supporting staff	8000	8000
Total	73,000	73,000

Total number of personnel needed in each level of services

The number of personnel needed in each unit is calculated based on types of services and the size of population under responsibility as follow:

	Number of responsibled population										
	10,000	**20,000**	**30,000**	**40,000**	**50,000**	**60,000**	**80,000**	**100,000**	**120,000**	**140,000**	**160,000**
1 **Pimary care unit**											
*registered nusrse / technical nusres /or similar capabilities Total (minimum-maximum)	8,10	16-20	21-24-30	32-40	35-40-50	42-48-60	64-80	70-80-100	84-96-120	98-112-140	107-128-160
2 **Hospital care and supporting servies by hospitals**											
*doctors (OPD 10-30-50 %)	2, 2,3	3,3,4	3, 4, 5	4, 5, 5	5, 6, 6	5,6,7	6,8,9	8,9,11	9,11,13	10,12,15	11,14,17
*register nurses	11	11	19	19	19	32	32-45	45	57	57-69	69
*technical nusres	8	8	9	9	9	18	18-25	25	32	32-38	38
* others (anaesthetic nurses)	0	0	1	1	1	2	2	2	2	2	2
total nuses (only for curative)	19	19	29	29	29	52	52-72	72	91	91-109	109
* dentists	1	1	1	1	1	2	2	2	2	2	3
* dental nurses	1	1	1	2	2	2	2	2	2	2	3
*number of hospital beds (length of stay 3-5 days)	7	14	22	29	36	43-72	58-96	72-120	86-144	101-168	115-192
3 **Public health management**											
*Public health managers		1	1	2	2	2	2	2	2	2	2
*Technical experts (1)		1	1	1	1	1	1	2	2	2	2
*supporting staff		1	1	1	1	1	1	1	1	1	2

Note: (1) technical experts for health promotion, disease prevention, consumer protection, health service management, evaluation and information system.

Buget for primary care services

Based on the unit cost of the urban health center (1 medical doctors 3 nures) that heve been implemented in Thailand, the total cost for primary care services is calculated as follow.

Table: Cost of basic services by groups of population (IC + FC +CC+ T1 +PH1+ M1)

Type of services	**services**		unit cost (Urban health center)	cost for 5,000 pop.	cost for 50,000 pop.
curative service	Out patient and counseling	LC	50	500,000	5,000,000
	minor surgery	MC	40	400,000	4,000,000
	home care	Total	90	900,000	9,000,000
	refer		baht/visit		
preventive services	vaccination for pregnant women	LC	122	41,480	414,800
promotive services	antenatal care	MC	28	9,520	95,200
		Total	150	51,000	510,000
	vaccination for 0-5 yrs children	LC	48	16,320	163,200
	child development check up	MC	92	31,280	312,800
		Total	140	47,600	476,000
	family planning	LC	70	112,000	1,120,000
		MC	65	104,000	1,040,000
		Total	135	216,000	2,160,000
	individual and family education	LC	1	5,000	50,000
	in the centers	MC	5	25,000	250,000
	community education	Total	6.00	30,000	300,000
School health	heath screeing and education	LC	14	14,000	140,000
Rehabilitation	physical therapy and basic rehab.	MC	14	14,000	140,000

Type of services	services		unit cost (Urban health center)	cost for 5,000 pop.	cost for 50,000 pop.
	counselling	Total	28	28,000	280,000
Community work	home visits according to the plan	LC	85	42,500	425,000
		MC	2	1,000	10,000
		Total	87	43,500	435,000
Total cost for basic primary care services		LC		731,300	7,313,000
		MC		584,800	5,848,000
		Total		1,316,100	13,161,000

Budget for a district hospital

Table :**Cost for hopital services and supporting services by hospitals**

services	frequencies			unit cost	cost per1 capita	total cost for 50,000 pop.	total cost for 60,000 pop.
1 Curative services							
1.1 Out patients	30 % of total sickness seen by health	0.6	LC	68	40.8	2,040,000	
	institutions (.3*2 visit/yr)	0.6	MC	74	44.4	2,220,000	
1.2 In patients	7 % of total sickness per year	0.21	LC	414	86.94	4,347,000	
	3 hospital day / 1 IP	0.21	MC	303	63.63	3,181,500	
1.3 Care before death	Death rate 6.7/1000 pop.						
Out patient	60 % of hospital visits	0.00402	LC	128	0.51456	25,728	
		0.00402	MC	83	0.33366	16,683	

services	frequencies			unit cost	cost per1 capita	total cost for 50,000 pop.	total cost for 60,000 pop.
In patient	80% of out patient admitted	0.022512	LC	414	9.319968	465,998	
	7 hospital days	0.022512	MC	303	6.821136	341,057	
1.3 Surgical operation	3 / 1000 pop.						
1.4 Complicated deliveries	5% of total births						
2 Health promotion and disease prevention							
2.1 Antenatal care	5 % of total preganants	0.00085	LC	134	0.1139	5,695	
	(5 % of 1.7 %)	0.00085	MC	24	0.0204	1,020	
2.2 Well baby clinics	5 % of total children	0.00085	LC	40	0.034	1,700	
	(5 % of 1.7 %)	0.00085	MC	23	0.01955	978	
3 Dental care	dental nurese care 42 % of elementary students	0.132	LC	108	14.256	712,800	855,360
depending on number of	Dentists care 10 % of pop.	0.132	MC	79	10.428	521,400	625,680
available personnel							
	Total		LC		152.0	7,598,921	9,118,706
	Total		MC		125.7	6,282,637	7,539,165
Total		0.970			277.6	13,881,559	16,657,870
4 Support primary care		0.004167	LC	100000	416.67	50,000	60,000
supervision and development	1 time/month x number of priamry care units		MC		25,000	250,000	300,000
5 Technical support and information	5 days per month		LC	30000 bht/month		180,000	180,000
General administration	5days per month		MC	2 % of basic budget	55,526	277,631	333,157

services	frequencies		unit cost	cost per1 capita	total cost for 50,000 pop.	total cost for 60,000 pop.
Grand total		LC			7,828,921	9,358,706
		MC			6,810,268	8,172,322
Grand total		TC			14,639,190	17,531,028
6 Additional budget for extra services					x	x

Note * budget for primary care services under the responsibility of the hospital is calculated seperately in budget for primary care services

Total Amount of Budget Required for a District Health System

Amount of budget required for a district health system is summed up from buget for each group of expected services in a district system i.e priamary care services, hospital care, primary support and development by a hospital and public health management at the district level.

Level of services / type of services			Number of responsibled population		
			5,000 pop.	50,000 pop.	60,000 pop.
1 **Primary care**					
1.1 Basic services for every group of population		**Total Cost**	**1,316,100**	13,161,000	15,793,200
		Labor cost	720,000	7,200,000	8,640,000
		Material Cost	584,800	5,848,000	7,017,600
1.2 local problem solving program 20 %		LC+MC	263,220	2,632,200	3,158,640
1.3 Administration and Information system 5 %		LC+MC	65,805	658,050	789,660
	Total	LC	720,000	7,200,000	8,640,000
	Total	LC+MC	913,825	9,138,250	10,965,900
Total		TC	1,633,825	16,338,250	19,605,900
2 **Hospital care and supporting services by hospitals**					
2.1 Basic hosptial care		MC		6,282,637	7,539,165
2.2 support primary care		MC		250,000	300,000
2.3 administration and information system		MC		277,631	333,157
2.4 Additional hospital services					
				30 beds 4 drs.	60 beds 4 drs.
2.5 Total labor cost for a hospital	Total	LC		13,002,000	18,528,000

Level of services / type of services			Number of responsibled population		
			5,000 pop.	50,000 pop.	60,000 pop.
* Total material cost for a hospital (2.1-2.4)	Total	MC		6,810,268	8,172,322
Total		TC		19,812,268	26,700,322
3 **Public Health Services (PH2+M2+A1)**					
3.1 basic personnel		LC		73,000	73,000
3.2 planning	1% of total expense	LC+MC		361,505	463,062
3.3 evaluation and quality assurance					
3.4 local problem solving programme	5 % of total expense	LC+MC		1,807,526	2,315,311
3.5 Research, service and personnel developement	1% of total expense	LC+MC		361,505	463,062
3.6 general administration and support	1% of total expense	LC+MC		361,505	463,062
	Total	LC		73,000	73,000
	Total	LC + MC		2,892,041	3,704,498
Total		**TC**		2,965,041	3,777,498
Grand Total		**TC**	1,633,825	39,115,560	50,083,720
	Total	**LC**	720,000	20,275,000	27,241,000
	Total	**MC**	913,825	18,840,560	22,842,720
Average expense per capita per year			327	782	835