CHAPTER 4

RESULTS

An Evaluation of the Health Card Fund Allocation Project for Health Centers: Case Study in Namphong District, Khon Kaen provided information about planning to create organization efficiency, management controlling to create organization efficiency, and policy awareness and understanding in the four activities:

1. Model and Criteria of Fund Allocation to Health Care System
2. Medical Record Audit and Health Service Review
3. Health Card Information System
4. Development of Network and Quality of Primary Care Service

Following is the details of the four mentioned activities.

1. Model and Criteria of Fund Allocation to Health Care System

1.1 Planning to create organization efficiency

In 1997, Khon Kaen Health Care Financing Reform Project, which was a sub-project in Khon Kaen Health Care Reform Project, set up a new model of Health Care System in the experimental areas by making Community Hospital a Main Contractor. Health Card Fund was allocated for the Main Contractor by Khon Kaen Health Office and responsible for providing health service to people in its responsible area in terms of health promotion, prevention, cure, and rehabilitation. Health Center, on the other hand, was Sub Contractor responsible for the people in the area. In case, it was beyond Community Hospital's ability, patients had to be referred to Supra Contractor. Money used in management came from Health Card Fund and Low-income Fund. However, Khon Kaen Public Health Office supported Low-income Fund to Health Center in forms of medicines and medical supplies, so there was only Health Card Fund left to be managed.

Dr. Wichai Atsawapark, Director of Namphong District Hospital and Chairman of Namphong District Cooperative Committee at that time, proposed his opinions on Health Care Financing Reform as follow.

1. Health Budget Allocation would lead to changes in service behavior of service providers. This should be done upon workload payment and community participation.

2. Allocating direct incentives to personnel would motivate them more than allocating only to Health Center.

3. Changes in payment from Lump sum to workload payment either in office or non-office hours under an efficient control would motivate the personnel' service development.

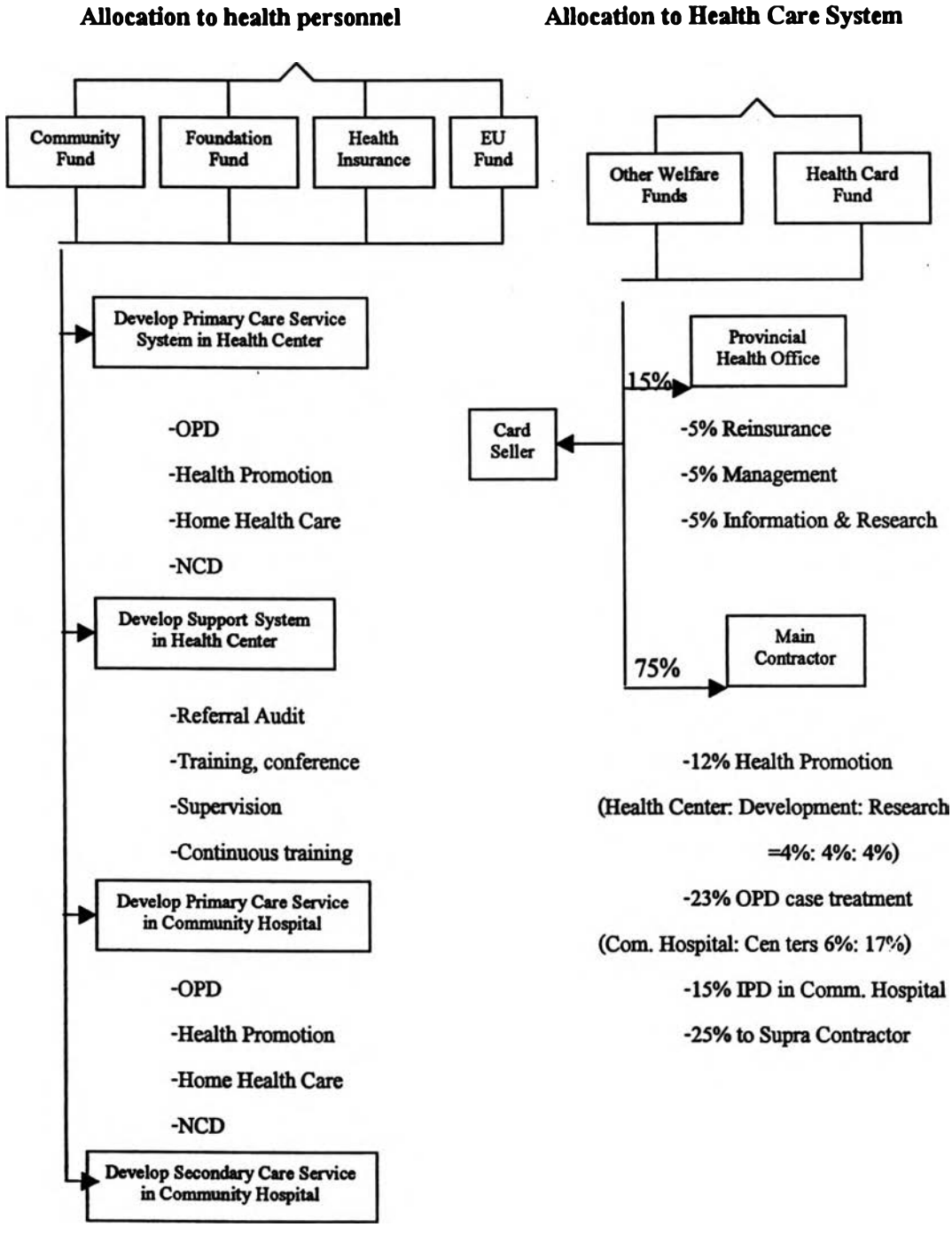
4. Funds to be allocated directly to Health Center and personnel were:

-Low-income Fund and Health Card Fund to Health Center

-European Union Fund, Social Insurance Fund, Foundation Fund, and Community Fund directly to Health Center according to the overall success of each project either routine or non-routine, emphasizing on health promotion (See Fig.5 for details)

Dr. Wichai Atsawapark, in cooperation with Mr. Soodta Prakirakay, the chairman of Namphong District Health officer, planned Namphong Health Financing Reform by adopting Ubonrattana District Health Cooperative Committee's workload payment scored in point system to create and develop model and criteria of fund allocation to Health Center.

Figure 5 Concept of Fund Merging and Allocation to personnel and Health Facility (Wichai Atsawapark, 1998)



-Workload payment to doctors and personnel in ER, OPD, IPD, and LR

-Payment for achievement of projects

-Developing Specialist Consultant system (hiring specialists at OPD & round ward)

1.2 Management Controlling to Create Organization efficiency

The concept of financing reform was expanded to Namphong District Health Cooperative Committee when the Director of Namphong Hospital and Namphong Health Office called for a meeting of all Health Center personnel. The purpose of this meeting was to enable the personnel to participate in planning the project and have sense of ownership. It was a brainstorming session to develop the model and criteria of fund allocation. It was agreed that the former model in 1997 was not suitable, fair, or motivating. The meeting resolved to set up a committee of 11 persons, including the Director of Namphong Hospital, Head of the Nursing Department, Head of the Health Promotion Department, 6 representatives from Health Center, and 2 representatives from the District Health Office. This committee was assigned to study the data in detail and present them to the meeting. The Chairman of Namphong District Health Cooperative Committee proposed the guideline in creating model and criteria of fund allocation as follow.

1. Use financing system in supporting Primary Care Service.
2. Set up the ratio of fund allocation to each group of works and set up budget ceiling in percentage.
3. Set up basic essential cost (water, power, and management) for Health Center.
4. Set up activities and point system. The more difficult, the higher point.
5. Having health personnel fully participate in developing and improving fund allocation system.
6. The more services a Health Center completes, the more fees it gets (Fee for Service).
7. Appointing an effective team to outline fund allocation system.

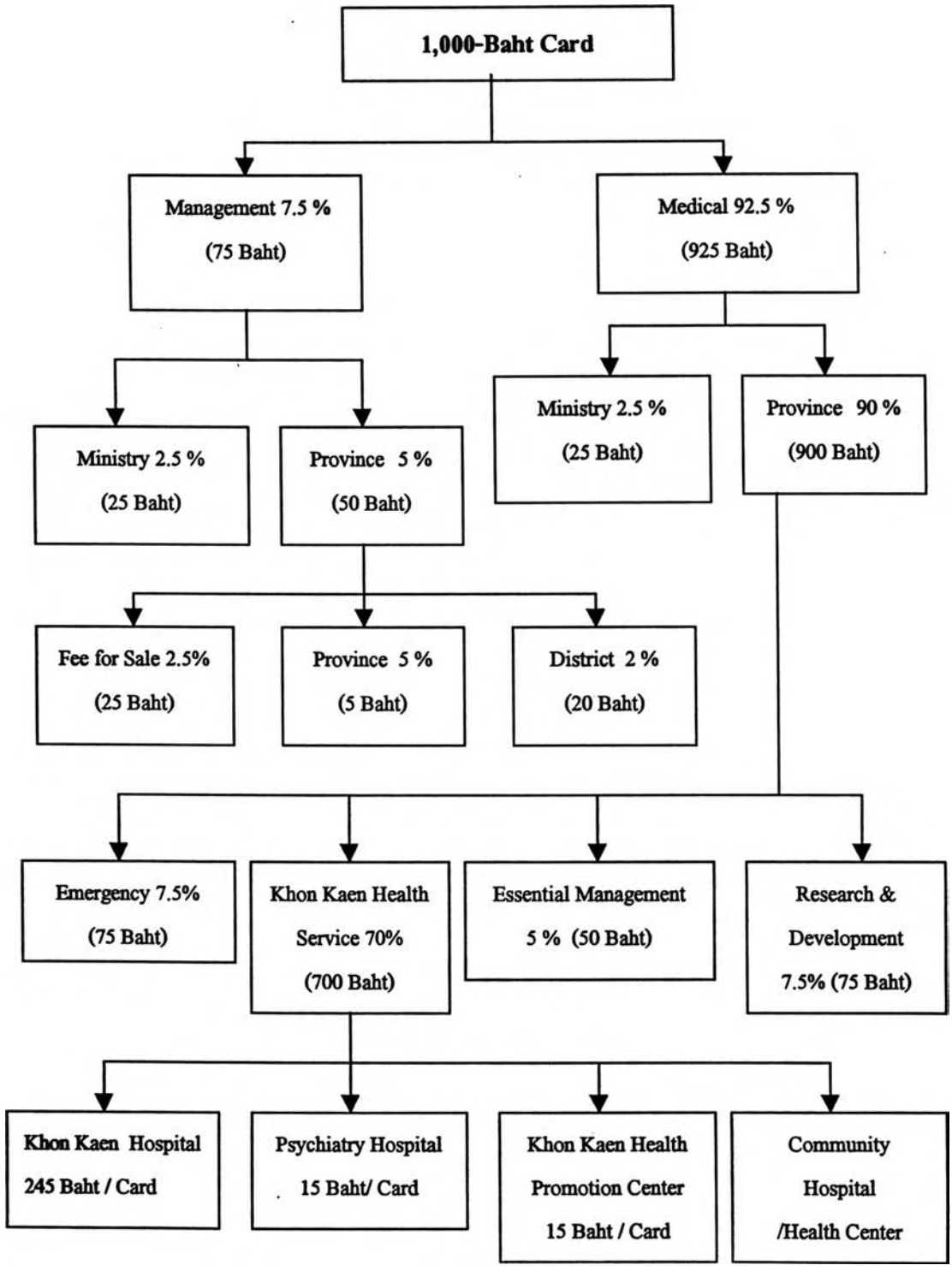
The committee studied the data in detail and presented the outline of fund allocation system to the meeting. After the outline had been approved, it was used in practice.

1.2.1 Model and Criteria of Fund Allocation

Concerning the former fund allocation system (in 1998), Khon Kaen allocated Health Card Fund for medical service in lump sum directly to Khon Kaen Hospital, Khon Kaen Psychiatry Hospital, and Health Promotion Center, and in merging fund to Community Hospital and Health Center.

In district level, Health Card Fund was derived from 1) Management Fee 20 Baht/card and 2) Medical Care Fees, including Basic Essential Care 5%, Research and Development Support 7.5%, and payment for Community Hospital and Health Center 425 Baht/card. At first the fund was put to Community Hospital's account. Then, the District Health Cooperative Committee called for a conference to allocate fund to each Health Facility according to agreement made in each year. The allocation was made upon appropriation, however, Health Center had to receive not less than 30% of the overall fund (see Fig. 6).

Figure 6: Health Card Fund Allocation Model of Khon Kaen in 1998 (general districts)



From Figure 6, there were 4 sources of Health Card Fund in general districts: Basic Essential Care 5% (50 Baht/card), Research and Development Support 7.5% (75 Baht/card), Medical Care Fees for Community Hospital and Health Center 425 Baht/card, and Management Fee 20 Baht/card. That was totally 570 Baht/card.

However, in 1998 Khon Kaen Health Financing Reform Project, there was new fund allocation and service structure in the experimental areas. The province paid Main Contractor in lump sum, including Management Fee 20 Baht/card and Medical Care Fee 750 Baht/card. The new structure was that Community Hospital was Main Contractor and responsible for administrating fund allocation in three sections: 1) health promotion and prevention, 2) cure, and 3) incentive or bonus for health personnel. Concerning the third section, the payment system for Supra Contractor was fee for service and for the Sub Contractor was according to the agreement of each district. (Model and Criteria of Health Card Fund Allocation in Khon Kaen Health Financing Reform in 1998 were shown in Figure 7).

Health Card Fund Allocation: One Health Card cost 1,000 Baht. This amount was allocated into:

1). Management Fee 7.5% (75 Baht/card)

- Ministry 2.5% (25 Baht)
- Province 5% (50 Baht) for seller 25 Baht, province 5 Baht, and district 20 Baht

2). Medical Care Fees 92.5% (925 Baht/card)

- Ministry 2.5% (25 Baht) for Case Refer over 30,000 Baht
- Province 15% (150 Baht) for Health Promotion Incentive, Transferal from Khon Kaen Hospital to Srinagarind Hospital, Referral to other provinces, emergency patients, data management, and research. (Money left from this section, was returned from the province to the district in the last period of the allocation)
- District 75% (750 Baht) paid to Community Hospital as Main Contractor in periods allocated from the Ministry of Public Health

Concerning Namphong District, in 1997 (before the reform project) it used the old model and criteria of Health Card Fund Allocation (see Figure 8).

*1). The price of one Health Card was 1,000 Baht. 39.4% (394 Baht/card) was maintained at the Ministry and the Province whereas 60.6% (606 Baht) was allocated to Namphong District Health Cooperative Committee.

*2). Namphong District Health Cooperative Committee divided the money into 3 sections.

2.1 Research and Development 12.38% (75 Baht/card)

2.2 Basic Essential Care 8.25% (50 Baht/card)

2.3 Medical Care 79.37% (481 Baht/card)

-70% for Community Hospital (336.70 Baht/card)

-30% for Health Center (144.30 Baht/card)

Shared by 14 Health Centers according to OPS cases of Health Card holders.

Followed is the model and criteria of Health Card Fund Allocation in Namphong in 1998-1999 (a sub project in Khon Kaen Health Financing Reform).

1) Medical Care Budget was clearly divided between Namphong Hospital and District Health Office for convenience in management.
2) Health Center received higher ratio of Medical Care Budget because of the hospital's dedication. The hospital's director wished to upgrade the quality of Health Center especially in term of basic essential care, which would lead to a decreasing number of such work in hospital. As a result, Community Hospital would have more time to develop its service.
3) The fund for Health Center in term of Medical Care was allocated into 3 sections:

   3.1) Basic Essential Care was equally shared to every Health Center on the principle of the basic need of budget.

   3.2) Fee for Sale was used to promote Health Card sale in order to cover the group of people who did not have health insurance and were able to afford the card.

   3.3) Fee for Service was considered and decided from works in health promotion, prevention, and cure. Incentive was used for motivation by giving different weight for each service. Therefore, difficult or advantageous works would have high weight, but the weight could be changed where appropriate.

4) Budget for Supra Contractor in case of referral to the Health Care System beyond Community Hospital: This section of money affected the development of Secondary Care Service because if Community Hospital was able to enhance its service, the number of referral to would be reduced. Moreover, the expenditure would also be reduced and that would be budget left at the district, which could be used in developing services in the district level.

5) Research and Development: In order to encourage the financing reform together with health care reform and to support various projects in the District Health Cooperative Committee, fund was separated into 3 sections as follow.

   5.1 Support Development Research: People who aimed to conduct a research study were allowed to submit their project for supportive budget.

   5.2 Support Family Care Center in the hospital which was a research study aiming to form the model of Family Care in the community.

   5.3 Incentive for personnel to motivate them to change service behavior to become more qualitative and effective. Namphong Hospital's director believed that "incentive for personnel will motivate them more than only fund for Health Care System". What to be considered in allocation included services in terms of cure, prevention, and health promotion. Personnel exchanged Health Card Fund with Health Insurance Fund at Namphong Hospital because the Health Insurance Fund

The first and second models of fund allocation of Namphong District Health Cooperative Committee in 1998 were not very different. The only changes were with the amounts of money paid to each activity and the more clarity (see Figure 9-10).

In financial year 1999, the government changed the value of the Health Card from 1,000 Baht/card to 1,500 Baht/card. Khon Kaen office called for a conference to have a new model in allocating Health Card Fund. The conference considered and adapted medical care fee for both IPD and OPD in all level of Health Care System in Health Care Reform Project in 1998. As a result, model and criteria of Health Card Fund Allocation in Khon Kaen were changed in 1999 (see Figure 11).

Namphong District Health Cooperative Committee adopted new model and criteria of Health Card Fund Allocation in Namphong District in 1999 by merging three sections of budget: Research and Development, Basic Essential Care, and Medical Care into Namphong District Health Card Fund and reallocated it (see Figure 12). It was found that the main structures of the allocation in 1998 and 1999 were similar, but a little different in details. In 1999 structure, Namphong Hospital did not pay to Supra Contractor or Khon Kaen Hospital, Psychiatry Hospital, and Khon Kaen Health Promotion Center.

Figure 7 **Health Card Fund Allocation Model of Khon Kaen Financing Reform Project in 1998**

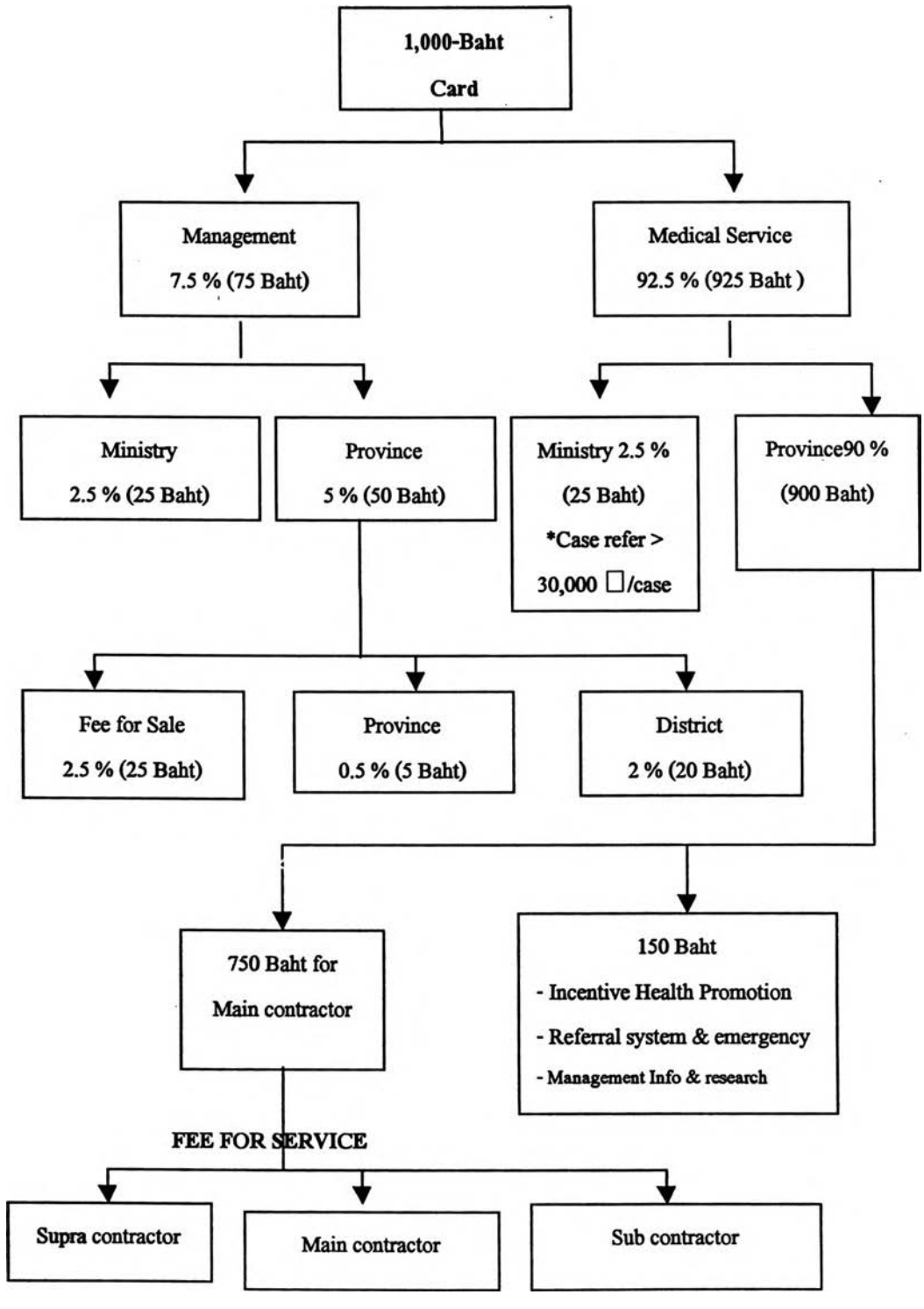


Figure 8 Health Card Fund Allocation Model of Namphong District in 1994-1997 (before being put in Khon Kaen Health Financing Reform)

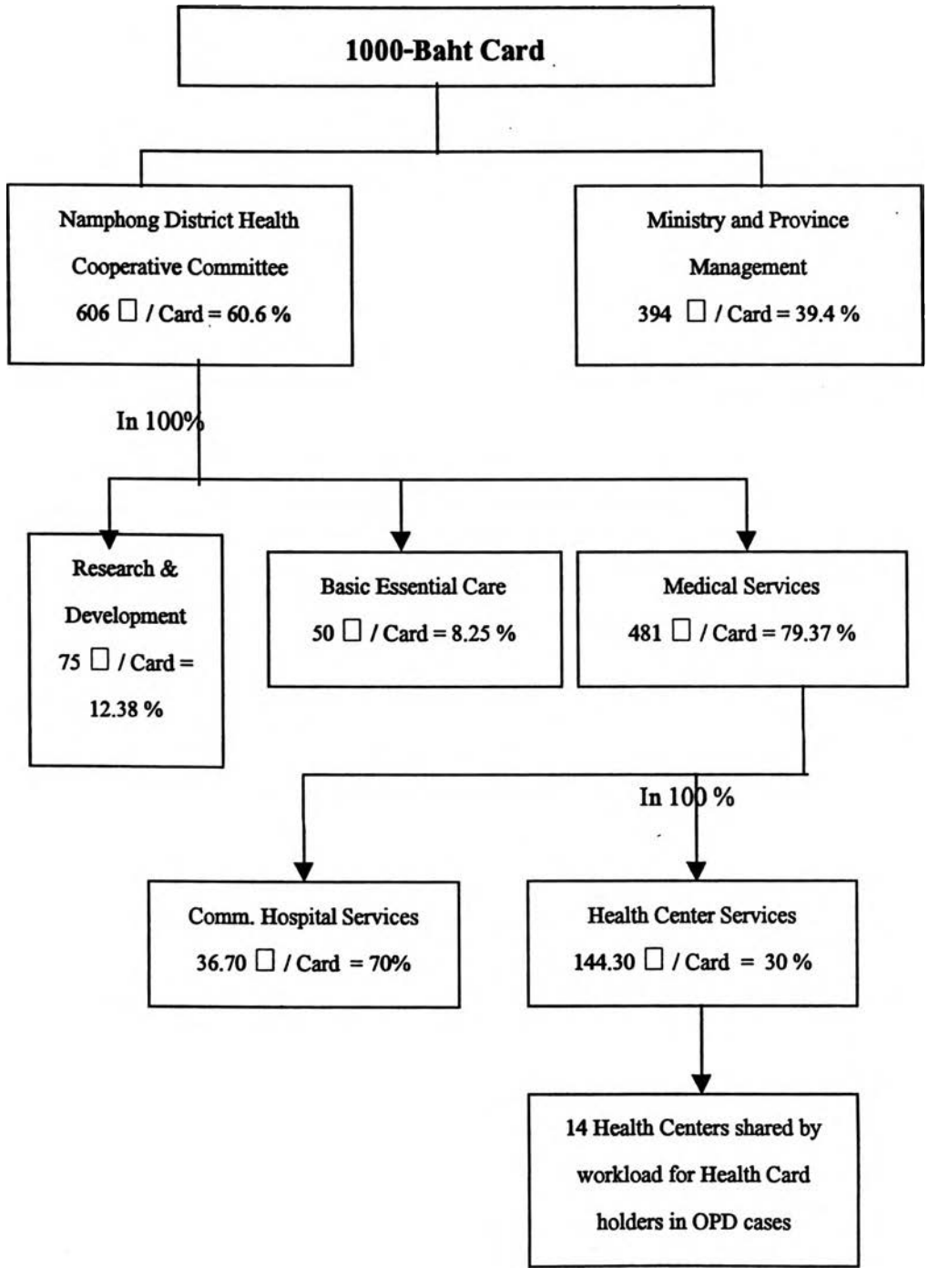


Figure 9 **Model and Criteria of Health Card Fund Allocation of Namphong District 1998 (1st)**

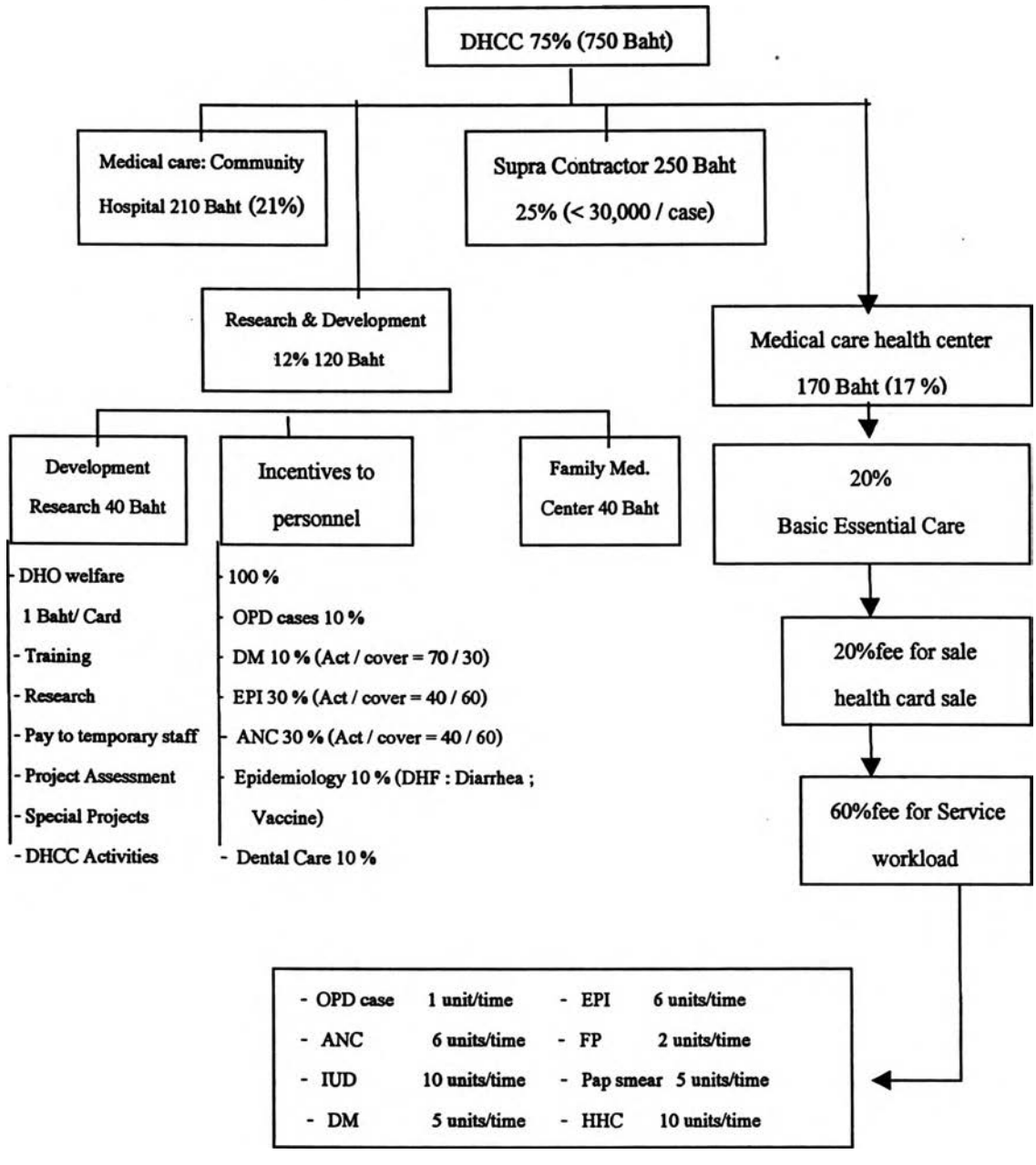


Figure 10 Model and Criteria of Health Card Fund Allocation of Namphong District 1998 (2nd)

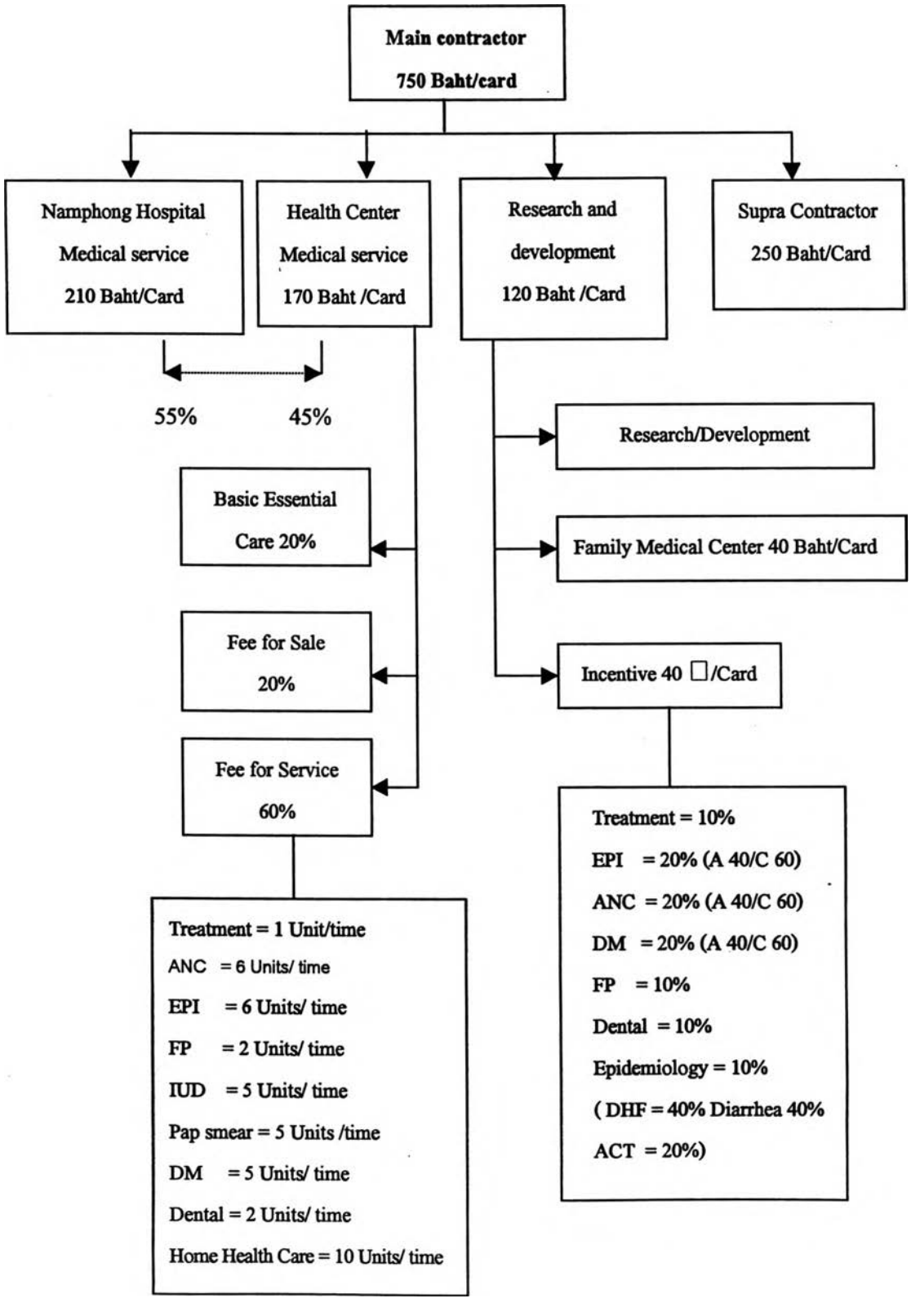


Figure 11 **Model and Criteria of Health Card Fund Allocation of Khon Kaen Province in 1999**

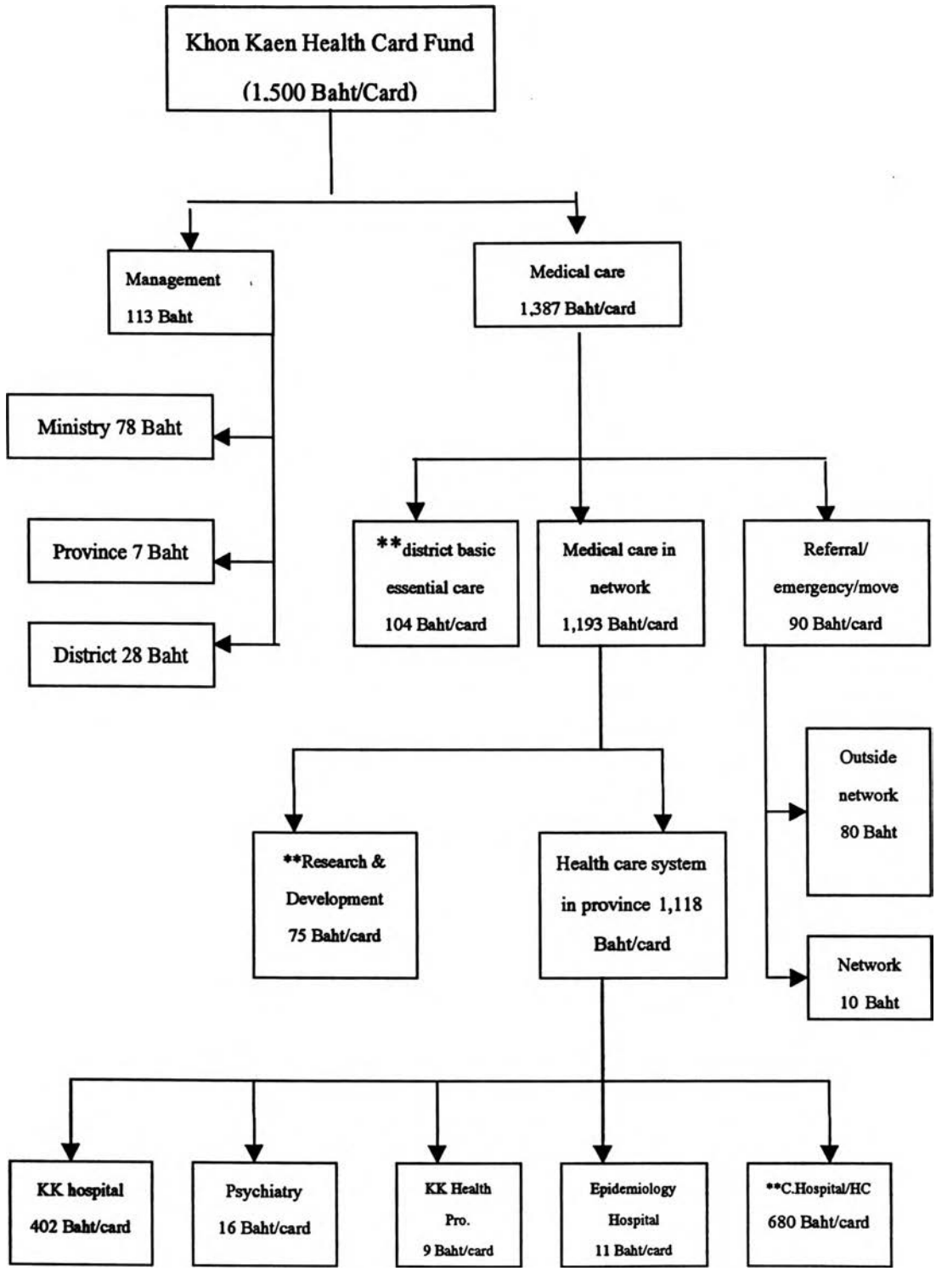
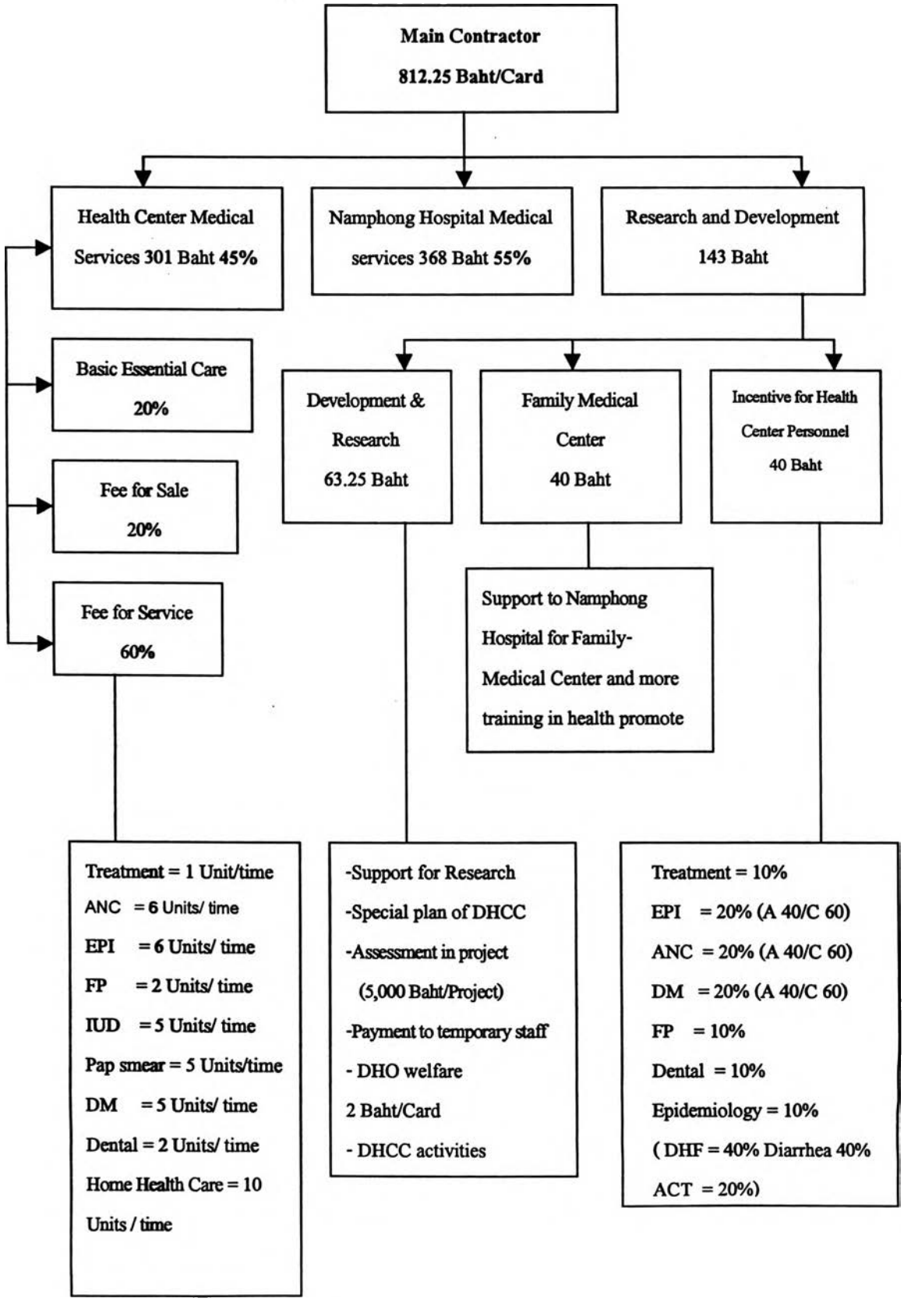


Figure 12 Model and Criteria of Health Card Fund Allocation of Namphong District in 1999



1.2.2 Point System

In 1998, there was an improvement of point system of activities used in Health Card Fund Allocation to motivate the health personnel to work on the Primary Care Service that did not meet the goal, was problematic, or was the need of the community at that point of time. There were three times of improvement in Medical Care Budget of 170 Baht/card.

First Time: The allocation of Medical Care Fees 170 Baht/card was as follow.

1. Fee for Sale 20%
2. Fee for Service 80%

Activities	Weights (Units/time)
OPD case treatment	1
Expanded Program on Immunization	2
Ante Natal Care	4
Family Planning	1
Intra Uterine Device	2
Pap smear	1
Diabetes Mellitus	2
Home Health Care	5

From the criteria of fund allocation in the first time, the committee calculated how much money each of the 14 Health Centers would receive. Then, the result was presented to the District Health officials in the conference at Namphong District. The conference resolved that change should be made because in the first time the fundamental facility such as water supply and power was not taken into account. The conference agreed that every Health Center should receive the same amount of fund for fundamental facility. Concerning medical care point, though some activity weighed only one unit, some Health Center had many patients receiving the service, so the weight was at treatment. The conference needed to increase point weight for health promotion and prevention especially Intra Uterine Device and Home Health Care, which

were most desirable. Therefore, medical care fees needed to be improved and were not used in the actual allocation.

Second Time: The allocation of Medical Care Fees 170 Baht/card was as follow.

1. Basic Essential Care	20%
2. Fee for Sale	20%
3. Fee for Service	60% (see weight below)

Activities	Weights (Units/time)
OPD treatment	1
Expanded Program on Immunization	6
Ante Natal Care	6
Family Planning	2
Intra Uterine Device	10
Pap smear	5
Diabetes Mellitus	5
Home Health Care	10

Note: Only service consumers with Health Card, Health Volunteer Card, and Community Leader Card were counted.

In this time, weight for those activities as Expanded Programd on Immunization, Ante Natal Care, Family Plan, Intra Uterine Device, Pap smear, Diabetes Mellitus, and Home Health Care was increased. This outline was brought into practice (see Figure 9), and it was found that the desirable activities occurred except Home Health Care, which was not clear.

Third Time: The allocation of Medical Care Fees 170 Baht/card

There were changes in Fee for Service 60%. The weight of each activity was revised.

Activities	Weights (Units/time)
OPD treatment	1
Expanded Program on Immunization	6
Ante Natal Care	6
Family Planning	2
Intra Uterine Device	5
Pap smear	5
Diabetes Mellitus	5
Home Health Care	10
Dental Care	20

In this time, Dental Care was added in order to promote the activity. Weight for Home Health Care was also increase to promote the activity. The outline was brought into practice (see Fee for Sale in Figure 10).

1.2.3 Research & Development and Incentives in 1998

The incentive of 40 Baht/card, shared by work, was given to 44 personnel in Health Centers during two times of allocation, aiming to motivate them to work. The activity weight was as follow.

	First Allocation (Figure 9)	Second Allocation (Figure 10)
1. OPD Treatment	10%	10%
2. Diabetes Mellitus	10%	20%
3. EPI	30%	20%
4. Ante Natal Care	30%	20%
5. Epidemiology	10%	10%
6. Dental Care	10%	10%
7. Family Planning	0%	0%

Those activities as Diabetes Mellitus, Expanded Program on Immunization, Ante Natal Care, and Epidemiology needed to be considered both in terms of coverage and work for fairness to the personnel. Ratio of 1998 incentive fund allocation considering coverage and work was shown below.

Activities	Coverage	Work	Criteria of consideration/verification
DM	70%	30%	-medical record/ nurse's notes
			-activity assigned
			-consistency of service consumer
			-coverage from case refer from hospital
			-activity from times of services
EPI	40%	60%	-record
			-coverage from vaccination/age
ANC	40%	60%	-activity from record
			-coverage from maternal health record
Epidemiology	-	DHF 40%	-health prevention activities (50%)
		Diarrhea 40%	-Incident rate, Prevalent rate (50%)
		Other 20%	

1.2.4 A Comparison of Fund Allocation Model: pre-operation and post-operation (1997 and 1999)

1. In 1999, Health Center shared higher fund in the ratio of Medical Care Fee with Community Hospital.
2. In 1999, there was a clear dividing of Health Care Fee between Community Hospital and Health Center.
3. Formerly, the District Health Office allocated Medical Care Fee according only to treatment for OPD Health Card holders at Health Center. In 1999, the allocation was made in three sections:
   - 3.1 Basic Essential Care – every Health Center got the same amount of money.
   - 3.2 Fee for Sale – considering from work
   - 3.3 Fee for Service – considering from work

Table 3: A Comparison of Fund Allocation Model in 1997 and 1999

Fund Allocation Model in 1997	Fund Allocation Model in 1999
1. Ratio of budget for medical services between hospital and Health Center was 70:30.	1. Budget ratio for medical services between hospital and Health Center was changed to 55:45.
2. Medical care budget allocated from services for OPD with Health Card so the emphasis was only on treatment.	2. Clear division of medical care budget between Community Hospital and District Health Office. The district divided the budget into 3 sections - Basic essential care 20% - Fee for sale 20% - Fee for services 60%
3. Weight of OPD service activity shared by the amount of patients. Other activities were not taken into account.	3. Other activities were determined weight. High weight was put upon the activities needing to be promoted.
4. No incentive for personnel.	4. Incentive for personnel according to weight determined by the district. If the district needed to promote any activity, the weight of that activity was higher than the other activities.

1.2.5 Financial Evidence Maintenance for Audit

Health Card Fund is a great amount of money. The budget supported in each year depended on the total sale of Health Card. In 1997, the total sale was 5,708 cards, valued 1,000 Baht/card. In 1998, the total sale was 5,342 cards, valued 1,000 Baht/card. In 1999, the total sale was 5,776 cards, valued 1,500 Baht/card.

*Medical care budget allocated from Health Card Fund for Health Center was put in its bank account.

*Incentive budget for Health personnel was received through exchange with Health Insurance Fund of Namphong Hospital. There were some limitations of this budget. When receiving money, the staff had to sign for official evidence.

1.3 Policy Awareness and Understanding

From qualitative data obtained from Focus Group discussion with Data Collection Team and representatives of Family Medical personnel, it was found that both of them accepted and understood the policy well because it was clear and many aspects of information were considered in the allocation. Every staff took part and proposed their opinions about the allocation process. One of the personnel thought, "The new model is better than the former one because the fund allocation does to emphasize only on treatment, but includes health promotion work such as Ante Natal Care and Family Plan."

An evaluation of personnel' awareness and understanding declared that every Health Center official knew that Namphong District participated in Khon Kaen Health Care Reform, but did not know that details of the project. The Health Center officials who were also members of Namphong District Health Cooperative Committee had more understanding in detail because they did join in the monthly conference. However, every Health Center official took part in the operation as a service provider.

Most of the health personnel agreed with the fund allocation. They thought that one who worked more should get more paid. They agreed with the ratio of the allocation. However, some personnel from small Health Center did not agree with the ratio. They thought that small Health Center lacked both personnel and medical supplies. Moreover, the transportation was not convenient so there was a small amount of clients, which led to a small amount of works. As a result, they would receive a little budget, which would result in a worse financial situation and difficulty in administration. Therefore, there should be a greater amount of the basic essential care.

The advantages of this project were incentives to personnel, fund allocation to Health Center, and knowledge and skill development. They agreed that this project was advantageous to

the work. It enabled quality of work, increased quantity of work, and enhanced data reliability. This project was beneficial to personnel because it motivate them to work willingly. It was beneficial to Health Care System because the fund allocation was fair. Moreover, it was beneficial to people because they received better services.

Concerning the punishment, when one broke the rule, most personnel agreed that he had to be fined.

2. Medical Record Audit and Health Service Review

2.1 Planning to create organization efficiency

Medical record audit and health service review was very important because Health Card Fund allocation depended on number of works reported in the medical record. It was necessary to ensure that the record was actual and reliable. Namphong District Health Cooperative Committee appointed a Data Collection Team, including representatives from Health Center and Namphong Hospital and the secretary was official responsible for Health Card Fund in the District Health Office. This team was appointed by the chairman of the committee and assigned to collect data concerning works of Health Center, to control the operation, and to evaluate the project outcome.

2.2 Management Controlling to Create Organization efficiency

The Data Collection Team was assigned to audit medical record and review health service. The duration of work was 1 year and they also received incentive. The first team in 1998 included 5 members. In the later year, it was found that a team of 5 members was too small to fit the task, so the number was increased to 8.

2.2.1 Duties of Data Collection Team

1.) Collecting and Checking Data

-Coordinating with each department

-Informing the conference of District Health Cooperative Committee and informing Health Center

-Giving out data collection forms

-Examining the reliability of collected data

-Randomly examining the suspicious data

-Describing to personnel when there was mistake found in the report and correcting them.

-Reporting results to the conference

2.) Controlling the Allocation

-Proposing fine rate to the conference of District Health Cooperative Committee

-Fining Health Center who infringed the agreement (such as non-factual information, sending unpunctual report)

-Allocating fund according to works

-Coordinating in transferring budget, sending evidences and reports

-Controlling the transparency in fund management

3.) Evaluating the Project

-Studying the strengths and weaknesses of model and criteria of fund allocation

-Encouraging personnel to take part in developing model and criteria of fund allocation

-Surveying personnel' satisfaction at the model used

-Hearing the reflects from other departments who studied the model and criteria of fund allocation in Namphong District

-Coordinating in evaluation with the ministry and the province

-Summarizing the academic evaluation

2.2.2 The Principle in Health Card Fund Allocation

In one year, the budget was given 3 times, once 4 months as follow:

1) October – January
2) February – May
3) June – September

2.2.3 Working Steps in Collecting and Checking Data for Fund Allocation

1.) In the monthly conference of the District Health Office, the team informs Health Center to hand in the 4-month-period work report.

2.) The team prepares the report forms and sends to every Health Center.

3.) Health Center gathers work report.

4.) Head of the Health Center proofs the report before handing in.

5.) Health Center sends the report to the zone for proof.

6.) Health Center sends the report to the Data Collection Team.

7.) The team compiles and concludes the results before presenting to the conference for proof.

8.) The conference checks the report for possibility and unusual data and considers the unusual data.

9.) The team investigates the Health Center where the data is unusual either in quantitative or qualitative. When the mistake is found, the team reports what and how the mistake is and how to correct it. In case, the agreement is invaded, the fine must be made.

10.) Health Center corrects the mistakes as suggested by the team. Then, the team presents the corrected report to the conference for proof and reconsideration.

11.) When the conference agrees that the report is reliable and approves it, this report will be used for the allocation.

12.) The team prepares financial evidence and transfer budget to Health Center's account.

13.) The team concludes the problems found and their solutions.

The team faced with problems and tried to solve them, for instance, the personnel did not understand the process of operations. Changes in methods and forms of data collection for fund allocation caused problems to the team in a way that they could not proof the report efficiently enough. They also did not dare to fine the personnel when they made mistakes. Moreover, there was lateness in transferring Health Card Fund from the province.

Beside proof made by the team, the report was also proofed for reliability by the conference of officials who experienced in the operation and knew the fundamental information

of the nearby district. Therefore, when the data was approved, they became more reliable. Besides, there was the punishment to those reporting false data and were late in handing in the report. As a result, the data were more reliable and there was no lateness in gathering them.

Concerning health service review was made by evaluating annual work to see if the desirable activities occurred or increased. Also, there was standard for unclear activities to be made clearer.

2.2.4 Verification and Punishment

Data of Health Center works for fund allocation was collected monthly, using database of all clients with all cards. There was a form created especially for collecting data. There was punishment for those who were unpunctual in handing in the report or those who reported false or exaggerated data. The punishment was made in fine. Concerning the punishment, at first it was warning, then, the doer was fined as regulated in the agreement.

The continuous meeting resulted not only in the development of fund allocation model, rules, and operation methods, but only in staff development because the meeting gave every member chances to offer their opinions. The personnel gradually become less hesitating in showing their opinion.

2.3 Policy Awareness and Understanding

From qualitative data gathered from Focus Group, it was found that the Data Collection Team and representatives of Family Medical personnel accepted the medical record audit and health service review. They agreed that the process was more transparent. For instance, they were allowed to examine works of personnel in other Health Centers. When the representatives of Health Centers participated in the conference, personnel did not dare to hand in false data. However, the new model was more complicated to collect the data because the new form was added and there were more activities to report. The team had good understanding and responsibility in proofing data for the allocation. The Health Center personnel understood the policy but there were some mistakes in recording and reporting data at the beginning. Some Health Centers were late in sending the report and fined, so the personnel were upset.

From the data obtained from questionnaire, the personnel agreed that it was necessary to review and report medical record. They thought that it did not give them more burdens.

3. Health Card Information System

3.1 Planning to create organization efficiency

Khon Kaen Health Care Reform Project attempted to develop databases and links in the network by using computer programs in order to be able to register population and to issue patient's card by using Bar Code system in Community Hospital. Moreover, the project encouraged computer access in every Health Center and supported computer program development as appropriate in each area. It allowed the Health Center where there was no computer to borrow Namphong Hospital's loan to buy computer. The Health Center had to pay back when receiving allocation from Health Card Fund.

3.2 Management Controlling to Create Organization efficiency

Like other districts, Card Pro Program was also used in Health Card Fund Information System.

However, there was development in health care information system in Health Center. From manual database and monthly report, computer took place in the tasks. In 1998, there were only 7 Health Centers using computers. In 1999, there were 13 Health Centers. In 2000, it was a goal to have all of the 16 Health Centers use computers.

Program Basic Pro V.3.0, by Dr. Winit Fa-amnuaypon, was used at Watboat Hospital, Phitsanuloke Province. Besides, a Programr in the area designed a program to record health service in Health Center. The program was called Program Health Information Center (HIC). Both of them could be linked to each other. The details of them were presented below.

Program Basic Pro V.3.0

This program was created by Dr. Winit Fa-amnuaypon at Watboat Hospital, Phitsanuloke Province. The Office of Khon Kaen Health Care Reform Project asked for permission to use this program in the project areas in 1998. The data collected were population

database and health services in prevention and health promotion such as vaccinated children and the mothers.

Advantages of Basic Pro V.3.0

-If data are recorded completely, the program can compile the results correctly and rapidly. There is no need to do a new survey every half year in July. The data contained in the program include Basic Essential Care, Sanitation, Immunization, Nutrition, Family Planning, Antenatal Care, Post Patum Care data, Elderly and Chronic Disease, and owners of all types of health insurance.

-Evaluation: The program can provide data in smaller area such as village and tambon. It can classify and summarize such data as population in each age group, immunization, nutrition, family planning, personal malady, handicapped in each type, medical rights, sanitation, and basic essentials.

-The data can be used in the actual operations daily.

Problems found in Basic Pro V.3.0

-Population's age did not match with what Khon Kaen Health Office wanted to survey.

-The program could save only 6 digits of house number. If a house number had more than 6 digits, the computer could not record it.

-The program was designed to save education level and careers, but those data did not exist in the report and evaluation.

-Card's expiration could not be determined in the program.

-The program was designed to code only 20 villages. If there were a village which had more than 20 villages, the program was unable to record it.

-Age rank was from 00-99, so it was impossible to record one who was over 100 years old.

-The program was suitable to use in the tambon level because the results could be compiled in villages. It was not possible to classify the data from district into tambon.

-The Programr was not in the area, so it was inconvenient to contact him when problems found.

Summary

The program can serve user's needs for fundamentals databases. It also can compile data in almost all activities. As a result, Health Center officials can follow failure and know the progress. The problems found are small and do not cause disadvantages to the whole process. If Health Center officials use this program continuously from month to month, it will be very useful to them in preparing annual fundamental databases.

Program Health Information Center (HIC)

Namphong District Health Cooperative Committee encouraged area personnel to create computer program that meets the needs in their area. This program was written by Mr. Samak Sornpirom, a Namphong Hospital official. HIC was created to record health service in Health Center. It was developed from Program NamPhongMiss (NPMISS-November 1999). It was used for the first time in January 2000 at Tagraserm Health Center to record patients' profile, diagnosis, procedures, Lab, medication, nursing care, family planning, and appointment.

Advantages of Health Information Center (HIC)

-The program can continuously be upgraded, depending on personnel' interests and needs.

-Programr is in the area so it is convenient when any problem arises.

-It is supported by Namphong District Health Cooperative Committee

-When the data are gradually recorded, they can be printed out automatically at the end of the month. There is no need to do a monthly report.

-The program can be linked to Basic Pro V.3.0 and Program Epidem of the province. They can use the same databases so it is very convenient to do a monthly report.

-HIC can use NPMISS databases.

Problems found in HIC

The program is under an experiment. The user has to contact the Programr at times to solve problems. The problems found and solved are 1) data cannot be printed out and 2) problem

in linking with other programs. At this point of time (April 2000), there are 7 Health Centers using HIC: Namphong, Buayai, Tagraserm, Tamadeua, Wangchai, Sa-ard, and Goodnamsai.

3.3 Policy Awareness and Understanding

Every Health Center needs to develop its information system by using various computer programs. The development of such new technology enables Health Center personnel to improve their skills in using those programs.

4. Development of Network and Quality of Primary Care Service

4.1 Planning to create organization efficiency

The goal of Namphong District Health Cooperative Committee's development of network and quality of Primary Care Service is to enhance Health Center capability with assistance from Namphong Hospital. Problems and needs of the personnel are surveyed. Annual plans and activities such as standard of treatment and health promotion, essential drug list (ED), Diabetes Clinic at Health Center, development of referral system, and Home Health Care are set up. Later, there was new model in fund allocation to use money as incentive to promote Health Center work especially health promotion and prevention by providing high incentive. The Data Collection Team was assigned to collect data, proof data, and evaluate the success.

4.2 Management Controlling to Create Organization efficiency

In order to control the management to Create Organization efficiency, the District Health Cooperative Committee and Namphong District Health Cooperative Committee supervised the project twice a year. There was also supervision for specific work such as the project of Diabetes Clinic at Health Center. There was personnel development to enhance personnel' capability in the desirable projects such as IUD training, Pap smear training, and computer training. There was also a development in Family Medical Care by supporting professional nurses in the Health Center to have the training in Nursing Medical Care at the Faculty of Nursing, Khon Kaen University for 3 months. The result of this training was that there was holistic care and so on. Besides, technician nurses were supported to continue study

and become professional nurses. There was also monthly conference to discuss various subjects such as Referral Audit and Antenatal Care in Health Center. There was support for the insufficient supplies such as IUD. Service quality was developed such as DM and ANC. New activities were arisen. The indicator was made in 2000, which was Home Health Care.

The development of personnel' capability in Nursing Medical Care enabled such activity in the Health Center. There was home health care in case of chronic patients, handicapped, and patients with mental illness. Family File was also made with the purpose to be able to take family continuous care and to know health history of family members, as well as family's environment. Family File had to always be updated. It also enabled the better relationships between clients and personnel. It was desirable to enable client participation by being the file owner and responsible for finding his family file and for filling and updating data of his family members. In 1998, there was Family File in 7 Health Centers, including Sa-ard, Bua-yai, Tagraserm, Tamadeua, Wangchai, Namphong, and Laoyai.

Concerning the activities that had incentive, comparing works from 1997-1999, it was found that it was continuously more reliable and actual. The works were of more quality and quantity (see Table 3). It indicated that the new allocation system urged the competition in work development.

Table 4 Number and Percentage of Health Center Activities (1997-1999)

No	Activities	Health Center works			Note
		1997	1998	1999	
1	Treatment (times)	132,486	155,959	158,876	
2	Dental Care	1,858	2,031	2,486	
3	Family Planning District goal (persons) Work (persons) Work (times) % Coverage	 15,248 13,177 11,107 86.42	 15,417 13,599 9,631 88.21	 15,476 14,744 11,696 93.64	*Goal is 20% of MWRA *Number of times is less than that of persons because the report indicated how many people got the service in each campaign
4	IUD District goal (persons) Work (persons) % Coverage	 3,050 2,750 88.68	 3,083 2,504 81.22	 3,149 2,540 80.66	*Goal is 20% of MWRA
5	Pap smear District goal (persons) Work (persons) % Coverage	 3,050 2,478 81.26	 3,083 2,676 86.79	 3,149 2,810 89.25	
6	EPI District goal (persons) Work (persons) Work (times) % Coverage	 1,207 1,207 12,847 100	 1,163 1,163 16,016 100	 1,226 8,846 - 100	In 1999, one child was counted one time, not separated by types of vaccines like in 1997 and 1998.
7	ANC District goal (persons) Work (persons) Work (times) % Coverage	 1,210 1,210 6,871 100	 1,163 1,116 4,409 96.00	 1,335 1,335 4,154 100	In 1998, it was the first time that work report was checked for truth, so data was more reliable than they were in the past year.

No	Activities	Health Center works			Note
		1997	1998	1999	
8	DM				
	District goal (persons)	0	231	264	In 1997, there was no
	Work (persons)	0	223	245	DM case refer from
	Work (times)	0	476	1,645	Namphong Hospital
	% Coverage	0	96.40	93.00	
9	Home Health Care: chronic disease, handicapped, cancer, and post patum visit				Health Center began
	District goal (persons)	0	0	0	holistic care in 1999.
	Work (persons)	0	0	-	
	Work (times)	0	0	43	
	% Coverage	0	0	-	

4.3 Policy Awareness and Understanding

The study revealed that the personnel understood the policy and took part in developing the service. They presented projects to enhance their capability such as IUD training, Pap smear training, and computer training. The personnel among the zone gathered into group to help with activity that had low works or in case of lacking campaign staff. This was to help the Health Center to have works and the people to have whatever service they wanted. An official said in Focus Group, "After giving weight to works, the Health Center personnel who could not do IDU or Pap smear wanted to practice because they wanted to have works like other Health Centers. Their behaviors also changed. That was to say that heath personnel often complained when there were a lot of clients. They were not willing to work especially during non-office hours. They were upset because they worked hard but they got unfair allocations. When the fund allocation

changed, personnel were happy to serve clients because they wanted to works more works for the allocation.

Besides, it was also found from Focus Group that the new fund allocation was encouraging to the personnel. This met with the questionnaire for health personnel. They were happy to receive incentive according to services though it was a big deal of money. They were proud to have more chances in proposing their ideas and be heard by the director who brought their ideas into practice. A member of the Focus Group said that, "Incentive motivated the personnel to work harder and more willingly. They got more income though it was just a little, it was better than getting nothing. The personnel did not have to work part-time or corrupt the budget. They were proud to present their ideas either positive or negative."

It was found that the main obstacles in operation was an insufficiency of personnel and equipment.

Summary

In studying the project of Development of Health Card Fund Allocation for Health Centers: Case Study in Namphong District, Khon Kaen, it was found that the project put the importance to all of the four activities. There were developing and problem solving continuously in terms of planning to create organization efficiency, management controlling to create organization efficiency, and policy awareness and understanding. This project was correlated with the Condition of Success in Creating Model and Criteria of Fund Allocation to Health Care System of Social Investment Project Fund by International Bank for Reconstruction and Development.

1. Model and Criteria of Fund Allocation to Health Centers in Namphong District

It was found that all personnel took part in setting the model and this model could be modified where appropriate.

The model and criteria of fund allocation to Health Centers in Namphong District before and after the operation was different as discussed below.

1.1 The ratio of medical care budget between Community Hospital and Health Center from 70:30 was changed into 55:45. The Health Center received higher budget and was able to develop its services.

1.2 There was clear share of medical care budget between Community Hospital and Health Center. Concerning Health Center, the budget was divided into 3 sections: Basic Essential (every Health Center received the same amount of money), Fee for Sale (depending on total sale of each center), and Fee for Service (more work, more money).

1.3 There was point system for each activity. If there was need to promote any activity, the weight was put higher than other activities. For instance, an OPD case was given one unit whereas EPI was given 6 units.

1.4 Incentive was paid directly to the personnel according to their works.

2. Medical Record Audit and Health Service Review

It was shown that there was a Data Collection Team appointed to gather and proof data. The monthly conference of the personnel also participated in the proofing. There was penalty by fine when agreement was infringed.

3. Health Card Information System

It was found that Health Card Information System in Health Centers in Namphong District was not different from Health Centers in other districts. The programs used were fixed by Provincial Health Office. The differences were only with the development of client database and change of report done manually to being recorded by computer. Officials in the district developed computer program to use n their works.

4. The Development of Network and Quality of Primary Care Service

It was found that Namphong District Health Cooperative Committee attempted to enhance Health Center capability with assistance from Community Hospital in developing personnel' knowledge and work skills and in supporting insufficient equipment. Incentive was used to motivate personnel to work harder. There were also new activities arising, which were Diabetes Mellitus at the Health Center and Home Health Care.