# Chapter 5

Analysis and Results

There are two methods of data collection which have been carried out. The satisfaction of clients is based on primary data. The clients' characteristics and financial analysis are based on secondary data. The clients' satisfaction of the day-time clinics and the evening clinic were interviewed during February 20-28, 1998. Secondary data related to financing systems are: 1) the revenue of the evening clinic from various source of finance i.e. user fees payment, the Health Card Scheme, the Health Welfare Scheme, and the Social Security Scheme; 2) total costs of the evening clinic in terms of total direct cost; capital cost, labor cost, and material cost; 3) utilization of the evening clinic related to the clients' characteristics. The revenue and cost of evening are difficult to obtain due to the information systems of hospital. For the incomplete data, clarification has been sought from the responsible hospital staffs and other sources, especially, some revenues and costs of hospital and evening clinic, which are provided from the Division of Provincial Hospitals (MOPH) and the Office of Health Insurance (MOPH). Data on characteristics of the clients and its affects utilization of the evening clinic are obtained from the individual records of the computer system of hospital. Unfortunately, these data are incomplete due to files, financial data of each individual records are from the actual drug prescriptions and receipts.

Figure 5.1   Work flow of the day-time clinic and the evening clinic
in Khon Kaen Hospital
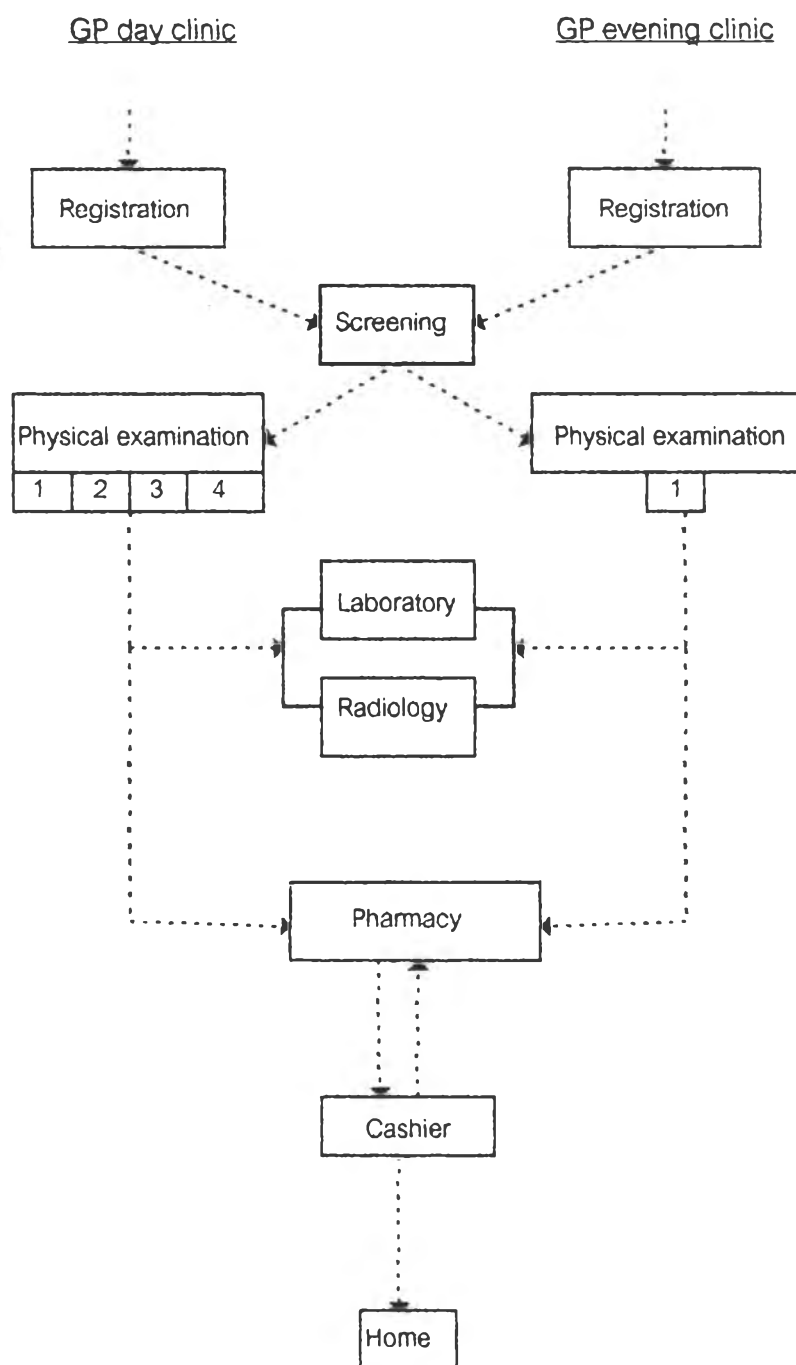
Work flow of day-time clinics and evening clinic in Khon Kaen Hospital are quite similar, and are shown in Figure 5.1. The outpatient department for general practitioners (GP) during the official hours is operated from 8.00 a.m - 04.00 p.m and extends to be the evening clinic (4 hours in the evening of official days and 4 hours in the morning of holidays). Physicians who work for the evening clinic, rotated from various department (1 physician, 1 nurse, and 1 clerk). ·

Both of clinics start at a registration unit. The clients have given general information, including demographic, geographic to medical record unit, and then move to screening units as show in Figure 5.1. Nurses at a screening unit will ask about their symptoms and signs for physical examination units which have about 16 units, e.g., internal medicine, surgery, pediatrics, eye, ear/nose/throat, dental, etc. From the screening unit, the clients will wait for physical examination, and other services (laboratory, radiology) that are requested by physicians, or pay for drugs and return home. For those clients who are covered by health insurance coverage will finish quickly because of they do not to pay for services, and they can go directly to receive drugs.

In day-time clinics, there are four rooms for GP examination. The clients are always on a long waiting line flow due to the crowded, but those who come the evening will spend less time than the day-time clinics. However, there is only one physical examination room for the evening clinic at Khon Kaen Hospital.

Data analysis and results of this study will be begin with costs, revenues and financial sustainability; the clients' characteristics and its effect on utilization, equity of service provision among different health insurance coverage, and the clients' satisfaction.

According to the research question whether financial situation of the evening clinic in Khon Kaen Hospital was sustainable or not, the total direct cost and total revenue during the period 1997 had collected for analysis, the results were as follows.

5.1 Financial Sustainability

This study has collected the total revenue and total cost based on its definitions during the period 1997 to examine its financial sustainability of the evening clinic in terms of cost-recovery ratio. The study results was illustrated as the follows.

5.1.1 Total Revenue

There are four important sources of finance: the Social Security Fund; the Health Card Fund; public subsidy for the Health Welfare Scheme, and the patient by out-of-pocket payment. The total revenue from these sources were divided into two type of services, the outpatient and inpatient services and are based on their proportion of both services charged. This proportion are based on the price of service or charge, the proportion of outpatient and inpatient of the study by source of finance. Tables 5.1 and 5.2 show the estimated total revenue of both services, and the distribution criteria through each services, based on the proportion of charges.

Table 5.3 showed the total charges and revenue and the average charge and revenue, which were estimated on the basis of utilization. The total revenue of each source was distributed through outpatient and inpatient services, based on its proportion, as shown in Table 5.2. Then, the average revenue was calculated by dividing the total revenue by the number of visits.

Table 5.1 Distribution of total charge through outpatient and inpatient services
in Khon Kaen Hospital: 1997

Unit: thousand Baht

Sources of finance	Total charges	Charges distribution		Proportion OP:IP	Remark
		Outpatient	Inpatient		
1.Out-of-pocket	-	-	-	-	
2.Social security fund	3,596.58	2,947.32	649.26	82:18	
3.Health card fund	94,199.61	20,753.06	73,446.54	22:78	
4.Budget subsidy for health welfare scheme	115,540.24	27,122.40	88,417.84	24:76	
5.Donation	-	-	-	-	

Source: Khon Kaen Hospital (1998).

Table 5.2 Distribution of total revenue through outpatient and inpatient services in Khon Kaen Hospital: 1997

Unit: thousand Baht

Sources of finance	Total revenue	Revenue distribution		Proportion OP:IP	Remark
		outpatient	inpatient		
1.Out-of-pocket	-	-	-	-	
2.Social security fund	11,295.38	9,750.21	649.26	82:18	
3.Health card fund	34,690.00	7,631.80	27,058.2	22:78	
4.Budget subsidy for health welfare scheme	57,080.00	13,413.80	43,666.2	24:76	
5.Donation	-	-	-	-	

Note: Total revenue of each sources are based on its proportion of total charge.

Source: Khon Kaen Hospital (1998).

Table 5.3   Utilization and the average of charges and revenues of outpatient

by source of finance in Khon Kaen Hospital: 1997

Unit: thousand Baht

Source of finance	Visit	Fiscal Year 1997			
		Charge	Average [1]	Revenue	Average [1]
1.Out-of-pocket	-	-	-	-	-
2.Social security fund	14,797	2,947.32	199.2	9,750.21	658.9
3.Health card fund	90,404	20,753.06	229.6	7,631.80	84.4
4.Bedget subsidy for health welfare scheme [2]	130,349	27,122.40	208.1	13,413.80	103.0
Total	235,550	50,822.77	-	21,055.35	-

Notes: [1] Unit: Baht

[2] Global budget subsidy for the vulnerable group, e.g., low income people, the elderly,

children aged 0-12, the disabled, the veterans, and the religious leader etc.

Source: Khon Kaen Hospital (1998).

Total revenue of evening clinic was calculated, using the following formula:

$$TR = TR1 + TR2 + TR3 + TR4$$

where TR = total revenue

        $TR1$ = total revenue from out-of-pocket

        $TR2$ = no. of visit of social security insured X average revenue of outpatient.

        $TR3$ = no. of visit of health card insured X average revenue of outpatient.

        $TR4$ = no. of visit of health welfare group X average revenue of outpatient.

The total revenue of evening clinic were calculated from various sources as (see Table 5.4).

The results found that health insurance systems was the most important factors affecting revenues. Due to the problems of its complicated systems, some patients were covered by health insurance more than one scheme. Table 5.4 shows that the utilization of each schemes can affect their total revenue. Clients who were covered by the Social Security Scheme was the main sources of revenues (658.9 Baht per visit). On the contrary, the Health Card and the Health Welfare Schemes generated the lowest revenue (84.4 Baht and 103 Baht per visit, respectively). This result affected the strategy to promote health card project by the Khon Kaen Provincial Public Health Office, and lead to the adverse selection problem.

On the other hand, the results indicated that the vulnerable groups could get more benefits, and more accessibility to services that were provided by the evening clinic. However, this results should be re-examined again if more information was available.

Table 5.4   Total revenue by source of finance of the evening clinic

in Khon Kaen Hospital: 1997

Unit: thousand Baht

Sources of finance	Proportion by source	Fiscal Year 1997			
		No. visit	Average charged [1]	Average revenue [1]	Total revenue
1.Out-of-pocket	41%	7,637	na	271.6	2,074.52
2.Social security fund	8%	1,469	199	659	968.07
3.Health card fund	17%	3,142	229.6	84	263.93
4.Budget subsidy for health welfare scheme	35%	6,489	208.1	103	668.37
Total	100%	18,737	-	-	3,974.88

Note: [1] Unit: Baht.

Source: Khon Kaen Hospital (1998).

5.1.2 Total Cost

Although the costing of Khon Kaen Hospital had already been carried out in 1996 by other researchers, it was unfortunately applied to the study because the infrastructure and management within hospital had considerably changed.

Total cost of the evening clinic was defined as total direct cost according to the terms and operational definitions of the study. The total cost identification and the allocation to the evening clinic is show in Table 5.5. Because of the individual database by the computer systems could not reveal the individual data on the use of resources, this data e.g. drug price as well as the average price of drugs per visit had to be estimated. The average price of drugs would was estimate by using the actual receipts of client who paid directly to hospital during July - October 1997.

Table 5.5   Total direct cost identification and allocation criteria of

the evening clinic in Khon Kaen Hospital: 1997

Cost identification	Allocation criteria
1.Capital costs:	
1.1 Rental cost for building	- Actual rental costs to embody both depreciation and opportunity cost by reference rent rate of the urban health centre.
1.2 Equipment - Medical equipment - Non-medical equipment	- Total direct cost of medical and non-medical equipment that assigned to outpatient department in 1998 and allocation to evening clinic by space used and time operated.
2.Material costs: 2.1 Drugs 2.2 Material - Medical material - Non-medical material 2.3 Laboratory and Radiology 2.4 Facilities and maintenance	- Average cost of drugs are calculated by census the actual receipt of out-of-pocket sources for 6 month in 1997 and estimated average price for the other payers with assumption that there has one standard pricing policy. Material costs for medical and non-medical material are allocated from budget plan of OPD in 1998 and allocated to evening clinic by number of visits. Laboratory and radiology are the actual price from individual database. Facilities e.g. water, electric, telephone, etc. and maintenance are estimated by reference rate of the urban health centre and the budget plan of hospital for OPD and allocated to evening by number of visits provided
3.Labor costs: 3.1 Personnel 3.2 Additional cost for workload	- Labor costs set by the central administrative office as a fixed cost by types of professional contributed to operate as well as the additional costs for workload of physician.

Capital costs included: 1) rental cost of building, this cost was fixed per during the contacting period and was based on the actual rental rate of urban health centre; 2) medical equipment; and 3) non-medical equipment which was estimated from the budget allocated to outpatient department which stated in a annual budget plan of hospital. In 1998, 57,000 Baht is allocated for the medical and non-medical equipment of 25 outpatient rooms. So the budget allocated to GP's room is 2,280 Baht per 8 office hours. The estimated budget for the evening clinic is only 1,140 Baht per session per day.

Labor costs are identified and allocated following the implementation guideline. They include both fixed and variable cost for the workload of physicians.

Material costs included: 1) aggregate drugs price, estimated by multiplying number of visits with average drugs price (152.50 Baht); 2) medical and non-medical material are also estimated from a annual budget plan of hospital allocated to outpatient department(800,000 Baht in 1998); 3) laboratory and radiology charge are the actual price obtained from individual database in 1997; 4) facilities and maintenance costs were estimated from a annual budget plan 1998 allocated to outpatient department (152,000 baht per year). Table 5.6 shows the total direct cost of the evening clinic in Khon Kaen Hospital in 1997.

The proportion of cost structure of evening clinic as mentioned above are: capital cost (2.07%); material cost (88.9%); and labor cost (9.06%). The average cost of the evening clinic per visit is 188.12 Baht and the average price of drugs is 152.50 Baht per visit, thus, Thus, the drug prices accounting for 81.07% of total cost.

Table 5.6   The total direct cost estimation of the evening clinic

in Khon Kaen Hospital: 1997

Total direct cost estimation	Baht/year	Available information
1.Capital costs:		
1.1 Rental cost for building	72,000	- rate 6,000 Baht/month
1.2 Equipment	1,140	- total direct cost allocated to
` - Medical equipment		OPD GP 2,280 Baht per 8
- Non-medical equipment		hrs operated.
2.Material costs:		
2.1 Drugs	2,857,392.5	- average drugs price per
2.2 Material	56,211.0	visit by census the receipt
- Medical material		152.50 Baht. All material
- Non-medical material		costs of OPD allocated
2.3 Laboratory and Radiology	215,850.2	800,000 Baht/year and
2.4 Facilities and maintenance	3,040.0	allocated to evening clinic 3
		Baht x 18,737 visit Baht
		per year. Laboratory and
		radiology are actual price.
		There has 152.000 Baht for
		OPD allocated by time
		operated to OPD GP
		6,080 Baht per room.
3.Labor costs:	306,600.0	- remunerable rate for:
3.1 Personnel	12,600.0	physician 400 Baht; nurse
3.2 Additional cost for workload		300 Baht; and clerk 140
		Baht. Additional cost for
		physician workload 30 Baht
		per case that over 20 cases
		per session(4 hrs operated)
Total	3,524,833.7	

Source: Khon Kaen Hospital (1998).

5.1.3 Financial Sustainability

According to research methodology, financial sustainability will be assess in terms of cost recovery ratio as defined by the operational definitions. The analysis and results of cost recovery ratio was illustrated as follows.

5.1.3.1 Cost Recovery Ratio

The denominator should includes capital cost, labor cost, and material cost, while the numerator should also included all source of finance.

Cost recovery ratios of each source are subject to the utilization of evening services, average cost and average revenue. The results of average cost and average revenue of evening clinic are illustrated in Table 5.7. The average revenue from the Social Security Fund is the highest (658.9 Baht per visit), while the average revenue from the Health Card Fund (84.4 Baht per visit) is the lowest .

Table 5.7   The average revenue and cost by health insurance coverage
of the evening clinic at Khon Kaen Hospital: 1997

Source of finance	Average revenue		Average cost	
	Mean	SD	Mean	SD
1.Out-of-pocket and CSMBS	211.3	219.5	236.0	232.7
2.Social security fund	658.9	0.00	176.6	4.4
3.Health card fund	84.4	0.00	188.7	49.9
4.Buget subsidy for health welfare scheme	103.0	0.00	184.2	38.9

Sources: Health Insurance Office of Khon Kaen Hospital (1998).

The results indicate that the Health Card Scheme and the Health Welfare Scheme have the lowest cost recovery ratios (Health Card Fund 44.5%, Health Welfare Scheme 55.9%). The important issues in the Thai health care financing is health insurance systems, the results show that health insurance scheme in Thailand reflects both inequity and inefficiency.

Table 5.8. shows the cost recovery ratio of evening clinic in Khon Kaen Hospital. The cost recovery of Social Security Fund is the highest (373.1%), while the cost recovery of Health Card Fund is the lowest (44.5%).

Table 5.8   Cost recovery ratios of the evening clinic by source of finance

in Khon Kaen Hospital: 1997

Unit: thousand Baht

Source of finance	Total revenue [1]	Total cost [2]	Cost recovery ratios (%)
1.Out-of-pocket and CSMBS reimbursed	2,074.5	1,802.3	115.1
2. Social security fund	968.1	259.4	373.1
3. Health card fund	263.9	592.8	44.5
4. Budget subsidy for the vulnerable groups	668.4	1,194.9	55.9
Total	3,974.9	3,849.5	103.3

Notes: [1] Total revenue = average revenue X number of visits

[2] Total cost   = average cost X number of visits

5.1.3.2 Simulations of Cost Recovery Ratio

The study has illustrated cost recover ratios of evening clinic, based on different assumption of the various scenarios. The assumption for simulation the cost recovery ratio are divided into three scenarios (see Table 5.9).

Changing the source of revenue could be done by both demand and supply side. Usually, payment mechanisms which link the components of the financing aspects of health care providers (Bennet, 1997) and the user charge or user fees at point of service would decrease demand and exclude the unnecessary utilization, but there is argument concerning about the poor and the vulnerable protection.

The measurement of pharmaceutical provided and to promote essential drugs can be applied to reduce unnecessary drugs, and may be reduced costs (Brudon et al, 1994) and affects financial sustainability.

Table 5.9 Scenarios under possibility assumption

Scenarios	Variation parameters
1. Optimistic scenarios	- The premium of health card increased 100% - The utilization of health card decreased 30% by strategy of proactive prevention and the chronic diseases management - The budget subsidy for health welfare increased 25% by the World Bank supported - The others are constant
2. Semi-optimistic scenarios	- The premium of health card increased 100% and utilization increased 50% - The budget subsidy for health welfare increased 25% by the World Bank supported and their utilization also increased 25% - The other are constant
3. Pessimistic scenarios	- Only utilization of health card and health welfare increased 25% due to the demand shift from private sector to public hospital - The budget subsidy for health welfare were cut 10% in order to support prevent and communicable diseases control programme. - Utilization of CSMBS decrease 15% due to payment mechanisms. - The drugs price increasing 25% affects by exchange rate

Optimistic Scenario

Assume that the premium of Health card is increasing 100% but the utilization of Health card is decreasing 25%. The revenue of evening clinic would be increase 100% per visit. The utilization will decrease 25%. In addition, revenue from the Health Welfare Scheme will increase 25%, and if other factors remain constant.

Table 5.9 shows simulation of cost recovery ratio of optimistic scenario based on assumption, that if the premium of the Health Card Scheme is increasing 100%, revenue from Health Card Fund will increase 100% and the utilization will decrease 30%. Therefore, cost recovery ratio at the aggregate level will increase from 103.3% to 115.7% (see Tables 5.8 and 5.9). Cost recovery ratio of the Health Card Scheme increase from 44.5% to 89.5%, and that of the Health Welfare Scheme rises from 55.9% to 69.9% (see Table 5.9). Besides, cost recovery of revenue has increasing from 103.3% to 115.7%. This scenario may suggests that two types of health insurance were under financed and may affect to the financial situation of the evening clinic.

Assume that if the premium of the Health Card Scheme is increasing 100% and its utilization is also increasing 50%, either revenue of the evening clinic will increase 100% per visit or the utilization increase 50%. In addition, revenue from Health Welfare Scheme will increase 25% and its utilization will rise 25%, and if other factors remain constant .

Table 5.10 shows simulation of cost recovery ratio of semi-optimistic scenario based on assumption, that if the premium of Health Card Scheme is increasing 100%, revenue from Health Card Fund will increase 100%, while its utilization increase 50%. With This scenario, cost recovery ratio at the aggregate level will go up from 103.3% to 109.8% (see Tables 5.8 and 5.10). Cost recovery of the Health Card Scheme move up from 44.5% to 89.5% and

that of the Health Welfare Scheme rises from 55.9% to 69.9% (see Table 5.10). Besides, cost recovery of revenue has increasing from 103.3% to 109.8%, except for the out-of-pocket payment and the Social Security Scheme. The simulation of this scenario suggests that two types of health insurance are under financed and affect to financial situation of evening clinic.

Assume that if utilization of the Health Card and Health Welfare Scheme increase 25% and subsidy for the Health Welfare Scheme are cut 10%, revenue from the Health Welfare Scheme will decrease 10%. In addition, utilization of the CSMBS will decrease 15%, due to the effect of the change in payment mechanisms, and if other factors remain constant.

Table 5.11 shows simulation of cost recovery ratio of pessimistic scenario based on assumption, that drug prices increase 25%, the utilization of the Health Card and Health Welfare Scheme increase 25%, subsidy for the Health Welfare are cut by 10%, and the utilization of the CSMBS is decreasing 15%. Under these events, cost recovery ratio of the Health Card Scheme will increase from 44.5% to 74.4% and that of the Health Welfare Scheme will decrease from 55.9% to 52.3% (see Table 5.11). Besides, cost recovery of all sources of revenue will decrease from 103.3% to 89.5% ,especially, for the out-of-pocket payment will decrease from 115.1% to 95.7% and the Social Security Scheme from 373.1% to 310.2%. This simulation suggests that if costs of services has increased, they may affect the financial situation of evening clinic.

Table 5.10   Simualtion of the cost recovery ratio of optimistic scenario

Unit : Baht

Health insurance Scheme	Before events		After events						Remark
	Utization	Cost recovery	Average	Average	Utization	Total revenue	Total cost	Cost recovery	
	No. of visit	ratio (%)	revenue	cost	No. of visit	Baht	Baht	ratio (%)	
1. Out- of- pocket and CSMBS	7,637	115.1%	271.6	236.0	7,637	2,074,209.2	1,802,332.0	115.1%	
2. Social Security Fund	1,469	373.2%	658.9	176.6	1,469	967,924.1	259,425.4	373.1%	
3. Health Card Fund	3,142	44.5%	84.4	188.7	2,199	371,258.7	415,026.8	89.5%	
4. Budget subsidy for Health Welafre Scheme	6,489	55.9%	103	184.2	6,489	835,458.8	1,195,273.8	69.9%	
	18,737	103.3	212.1	188.1	17,794	4,248,850.8	3,672,058.0	115.7%	

Notes: 1. Premium of Health Card Scheme increase 100%

2. Utilization of Health Card Scheme decrease 30%

3. Budget subsidy for Health Welfare Scheme increase 25%

Table 5.11 Simualtion of the cost recovery ratio of semi-optimistic scenario

Unit : Baht

Health insurance Scheme	Before events		After events						Remark
	Utization No. of visit	Cost recovery ratio (%)	Average revenue	Average cost	Utization No. of visit	Total revenue Baht	Total cost Baht	Cost recovery ratio (%)	
1. Out- of- pocket and CSMBS	7,637	115.1%	271.6	236.0	7,637	2,074,209.2	1,802,332.0	115.1%	
2. Social Security fund	1,469	373.2%	658.9	176.6	1,469	967,924.1	259,425.4	373.1%	
3. Health Card fund	3,142	44.5%	84.4	188.7	4,713	795,554.4	889,343.1	89.5%	
4. Budget subsidy for Health Welafre scheme	6,489	55.9%	103	184.2	8,111	1,044,323.4	1,494,092.3	69.9%	
	18,737	103.3	212.1	188.1	21,930	4,882,011.1	4,445,192.8	109.8%	

Notes: 1. Premium of Health Card scheme increase 100%

2. Utilization of Health Card scheme increase 50%

3. Budget subsidy for Health welfare scheme increase 25%

4. Utilization of Health welfare scheme increase 25%

Table 5.12 Simualtion of the cost recovery ratio of pressimistic scenario

Unit : Baht

Health insurance Scheme	Before events		After events						Remark
	Utization	Cost recovery	Average	Average	Utization	Total revenue	Total cost	Cost recovery	
	No. of visit	ratio (%)	revenue	cost	No. of visit	Baht	Baht	ratio (%)	
1. Out- of- pocket and CSMBS	7,637	115.1%	271.6	283.8	6,491	1,763,077.8	1,842,435.8	95.7%	
2. Social Security fund	1,469	373.2%	658.9	212.4	1,469	967,924.1	311,997.2	310.2%	
3. Health Card fund	3,142	44.5%	84.4	226.9	3,928	662,962.0	891,306.9	74.4%	
4. Budget subsidy for Health Welafre scheme	6,489	55.9%	92.7	221.5	8,111	939,891.1	1,796,864.9	52.3%	
	18,737	103.3	208.6	226.2	19,999	4,333,855.0	4,842,604.8	89.5%	

Notes: 1. Drugs price increase 25% by floating exchange rate

2. Utilization of Health Card scheme and Health welfare increase 25%

3. Budget subsidy for Health welfare scheme were cut 10%

4. Utization of CSMBS decrease 15% due to payment mechanisms changed

5.2 Utilization and Characteristics of the Clients

This study is also intended to: 1) identify the clients of the evening clinic in Khon Kaen Hospital; and 2) to describe characteristics of the clients of evening clinic in term of age, sex, occupation, residence, disease profile, and health insurance coverage.

Characteristics of clients in terms of age are divided to be three main groups: 1)children 0 - 12 years; 2) 13 - 59 years; and 3) 60 years and according to the types of health insurance scheme in Thailand. From the 18,737 individual records of the clients of the evening clinic in 1997, 1,699 records are selected by the stratified random sampling based on the proportion of payment mechanisms. These proportion include various groups as follows: the out-of-pocket payment and the CSMBS for the government officials, 40.7%; the Social Security Scheme, 7.8%; the Health Card Scheme (MOPH), 16.8%; and the Health Welfare Scheme and others, 34.7%. Utilization and the clients characteristic in terms of age, occupation, residence, insurance coverage, and disease profile are shown in Figure 5.2 - 5.6.

Clients aged 0-12 years are 28%; 13-59 years are 61%; and 60 years are 12% (see Figure 5.2). The proportion of male and female clients are 46% and 54%, respectively.

The occupation of clients are as follows: students/child, 38%; agriculture, 1%; abor,16%; civil servants or state enterprise employees, 10%; and business, 3% (see Figure 5.3). For the residence of clients, 35% come from urban areas, 19% from other district in Khon Kaen province, and 17% from other provinces, and 29% from rural areas in Muang District (see Figure 5.4).

For health insurance, clients from the Health Welfare Scheme, the out-of-pocket payment and the CSMBS for the government officials, the Health Card Scheme, and the Social Security Scheme are 38%, 37, 18, and 7 (see Figure 5.5).

Characteristics of clients in terms of disease profile is illustrated in Figure 5.6. The most common diseases are the diseases of respiratory system (ICD code J00-J99) 22%, undefined diagnosis (code 999 and 000) 18%, certain infectious and parasitic diseases (ICD code A00-B99) 14%, diseases of the digestive system (ICD code K00-K93) 9%, diseases of the musculo-skeletal system and connective tissue (ICD code M00-M99) 6.3%,

Figure 5.2   Clients' characteristics of the evening clinic by age group

in Khon Kaen Hospital: 1997
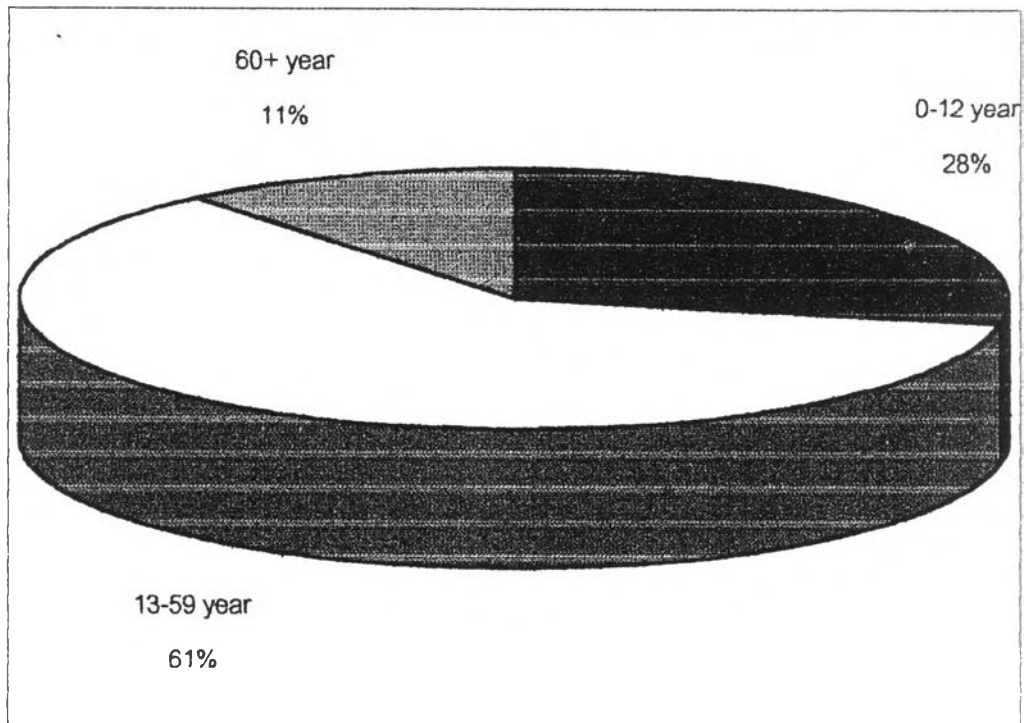
Figure 5.3   Clients' characteristics of the evening clinic by occupation

in Khon Kaen Hospital: 1997
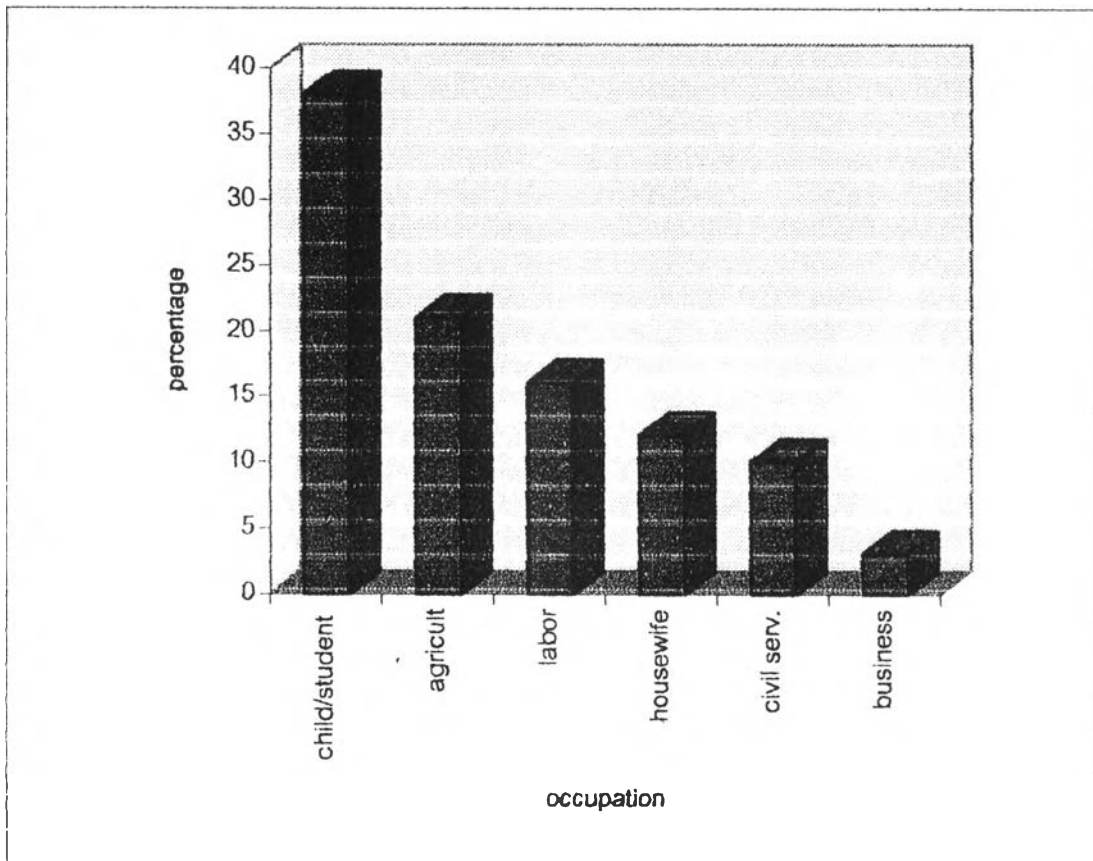
Figure 5.4   Clients characteristics of the evening clinic by residence
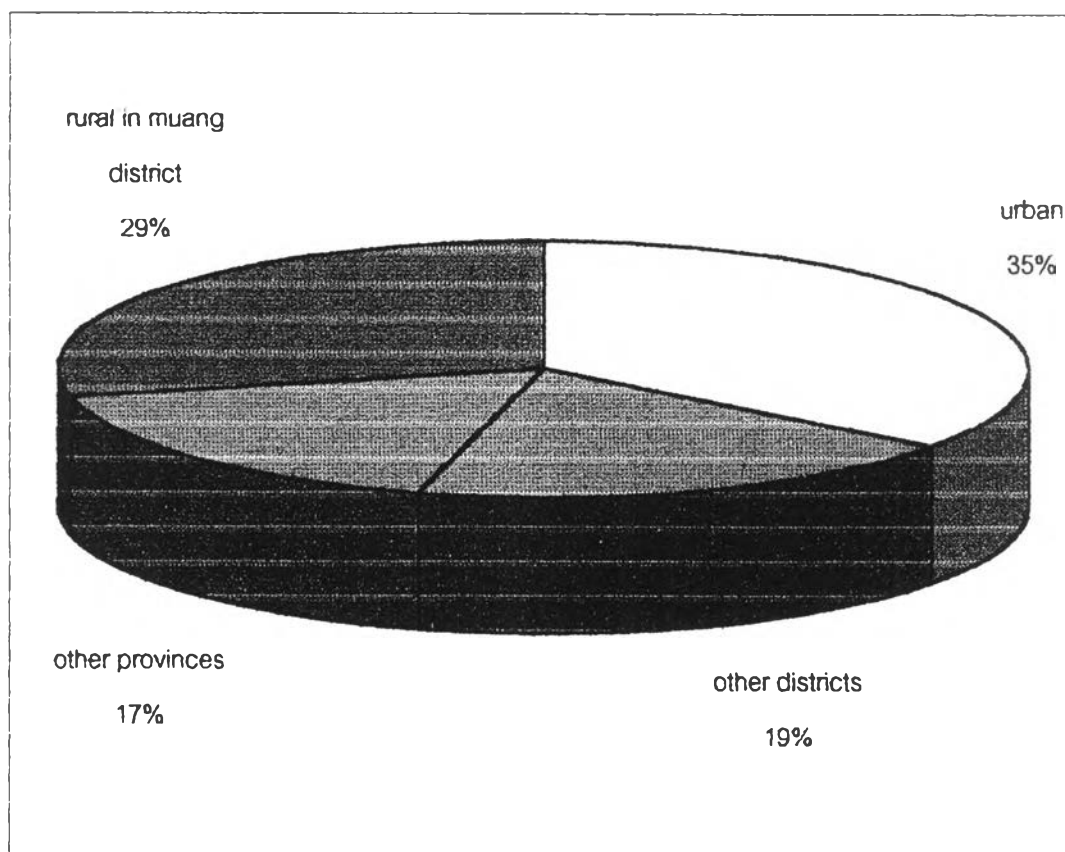
in Khon Kaen Hospital: 1997

Figure 5.5   Clients characteristics of the evening clinic by insurance coverage
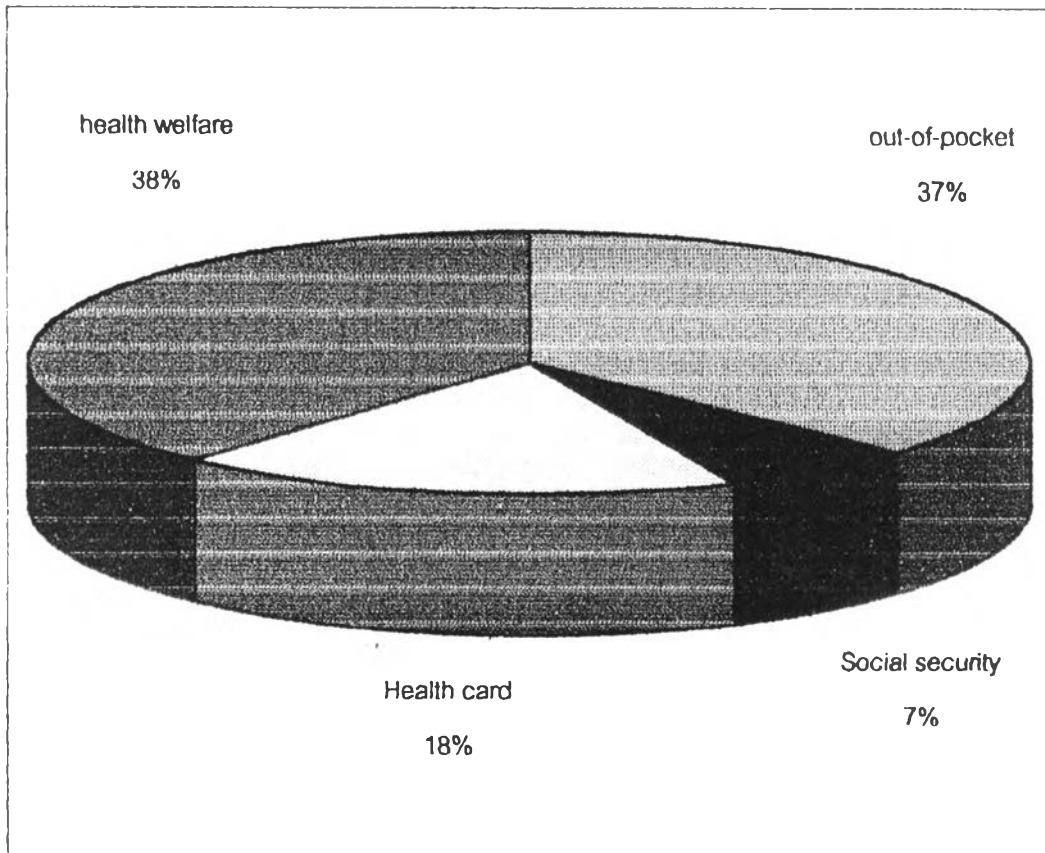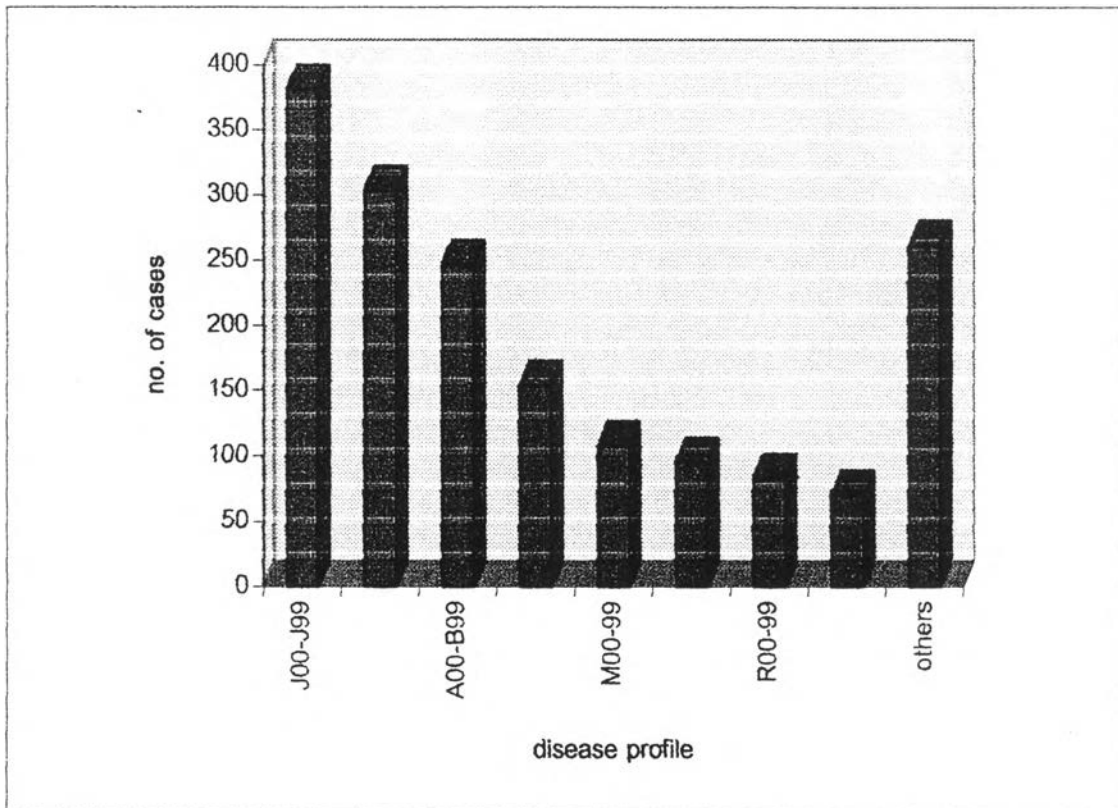
in Khon Kaen Hospital: 1997

health welfare
38%

out-of-pocket
37%

Social security
7%

Health card
18%

Figure 5.6   Clients characteristics of the evening clinic by disease profile

in Khon Kaen Hospital: 1997

Notes: - J00 - J99, N=381

- A00 - B99, N=246

- M00 - M99, N=107

- Others, N=261

5.3 The Clients Satisfaction

The satisfaction of clients who visited the evening clinic and day-time clinic was measured by observing the activities of both clinics and interviewing their clients during February 20-28, 1998. The questionnaire for interview covered the following aspects: 1) general information about the clients; 2) service perception; 3) impression; and 4) suggestion for improving services.

5.3.1 Characteristics of the Clients

The proportion age groups of both clinics were 3.3% for children 0-12 years; 76% for 13-59 years; and 20.7% for 60 years. The largest groups of both clinics (aged 13-59) are similar, 81.3% for the day-time clinics and 60.0% for the evening clinic, but the age group of 60 years and over 60 at the evening clinic (26.7%) was more than the day clinic (18.7%) .

The proportion of male and female was almost similar, e.g. 33:67 at the day-time clinics and 20:80 at the evening clinic, respectively. Regarding to the education background in both clinics; 78% and 60% of clients at the day-time clinic and the evening clinic had primary school or below. Clients from urban areas at the evening clinic (23.3%) were much more than those at the day-time clinic (16.5%). Most of them come from other district of Khon Kaen Province(i.e. 72.5% for the day-time clinic and 56.7% for the evening clinic.

Characteristics of clients of both clinics by age group and educational background are shown in Figure 5.7, and by sex and residence are in Figure 5.8.

Figure 5.7   Clients characteristics of the day clinic and evening clinic

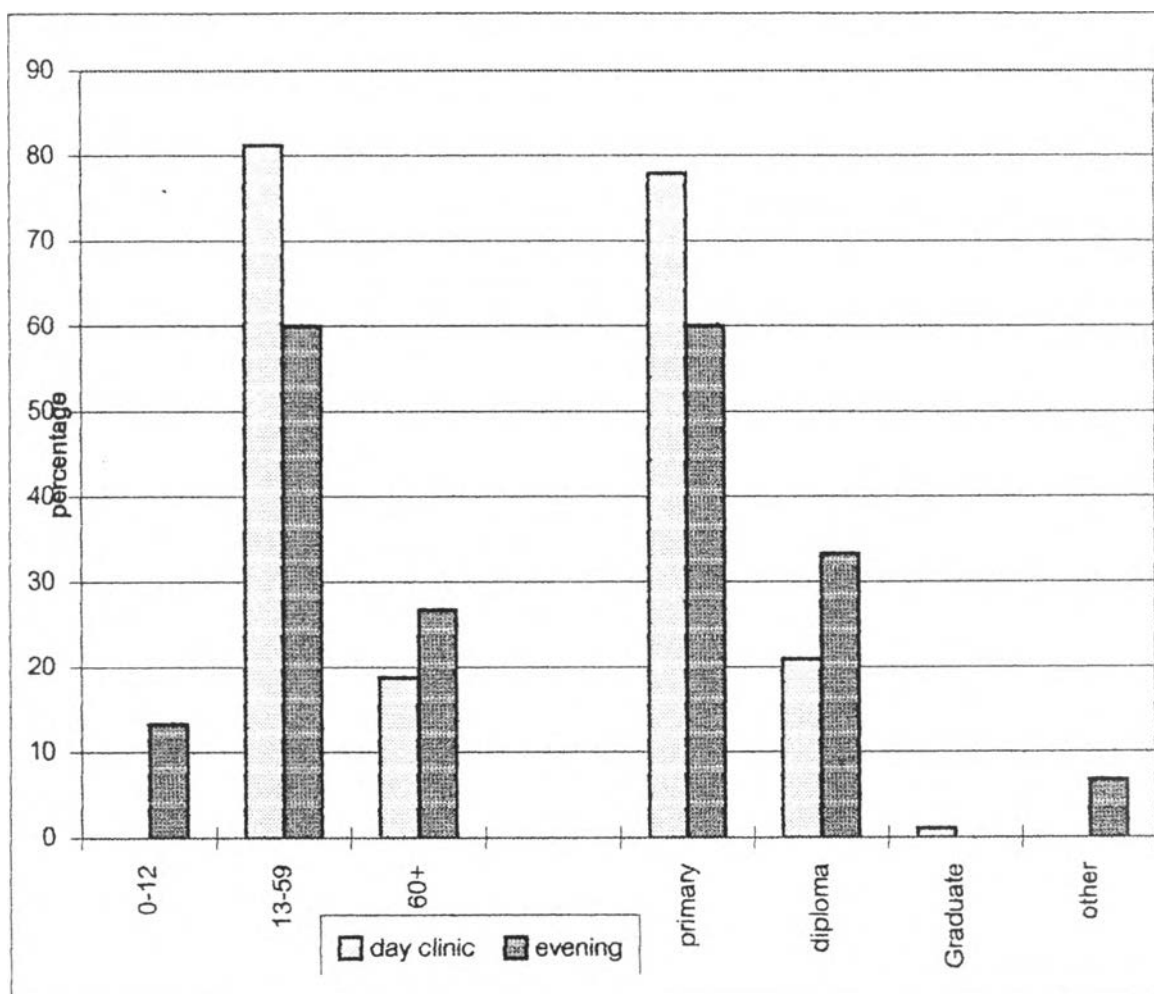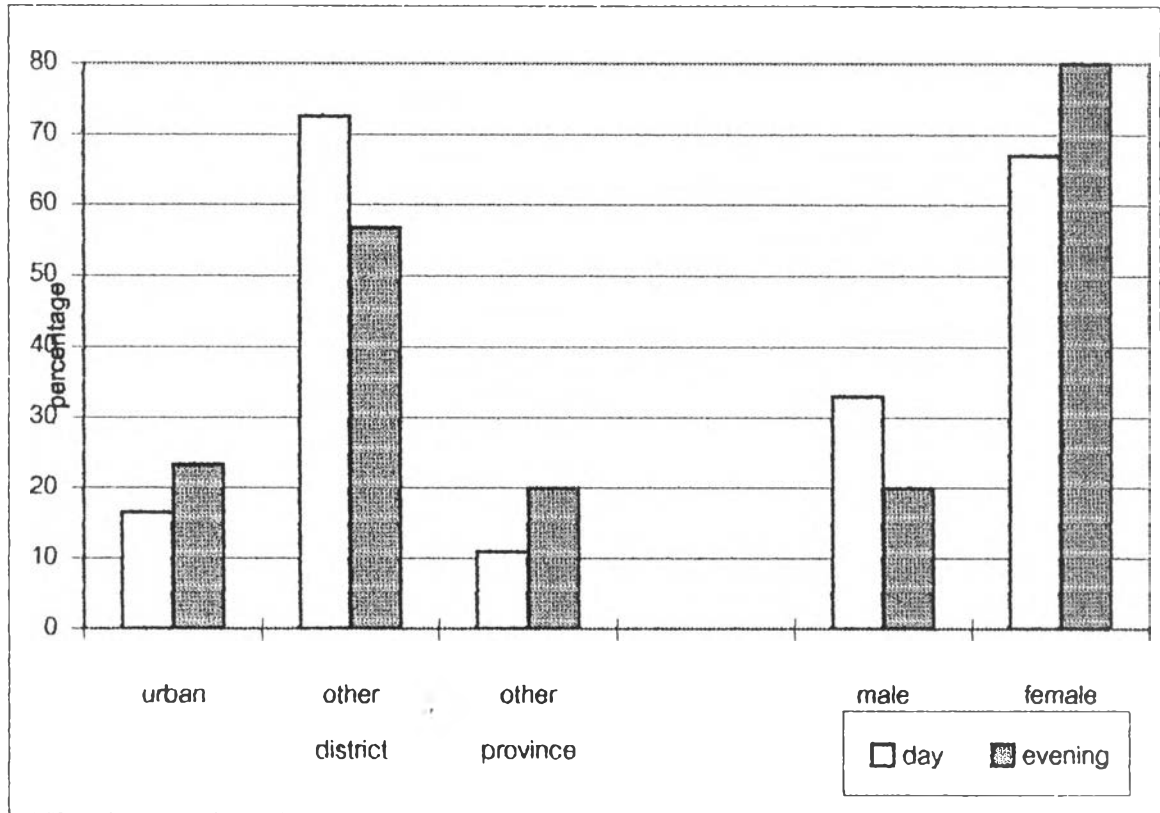in Khon Kaen Hospital by age groups and education: 1997

Figure 5.8   Clients characteristics of the day clinic and evening clinic

in Khon Kaen Hospital by sex and residence: 1997

With regard to the occupation of both clinics, the proportions of them among occupation were different. In the evening clinic, the proportion of laborers (16.7%), housewives, and student groups (50.0%) were higher than those at the day-time clinic, which were 13.2% and 24.2% respectively. Regarding to household income, clients at the evening clinic had a higher income than those at the day-time clinics. The proportion of health insurance at both clinics were quite different: the CSMBS at the evening clinic (20.0%) was higher than those at the day-time clinics (5.5%); but the Health Card and Health Welfare Scheme of the day-time clinics were higher than those at the evening clinic.

Figure 5.9-5.11 compare the general information about the clients at the day-time clinics and evening clinic in terms of occupation, household income, and health insurance coverage.

Figure 5.9   Clients characteristics of the day clinic and evening clinic

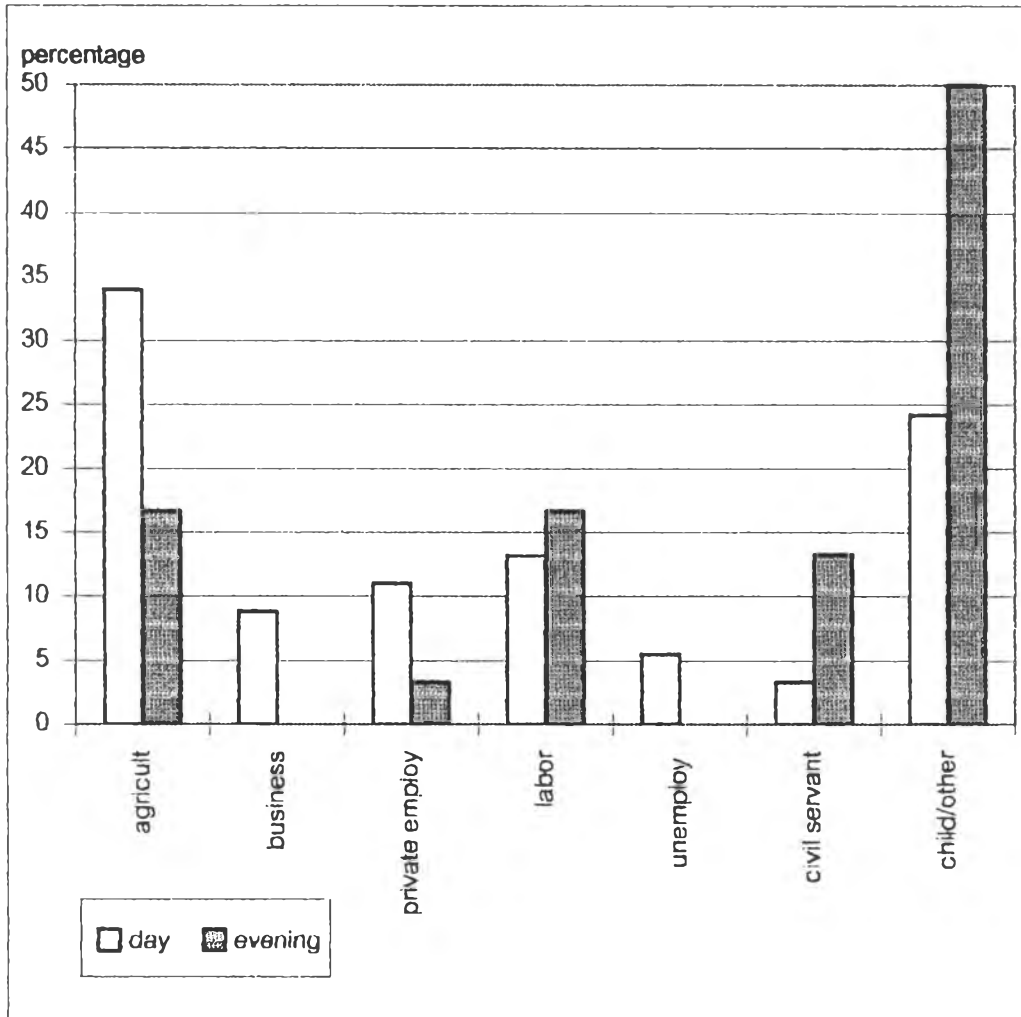in Khon Kaen Hospital by occupation: 1997

Figure 5.10   Clients characteristics of the day clinic and evening clinic

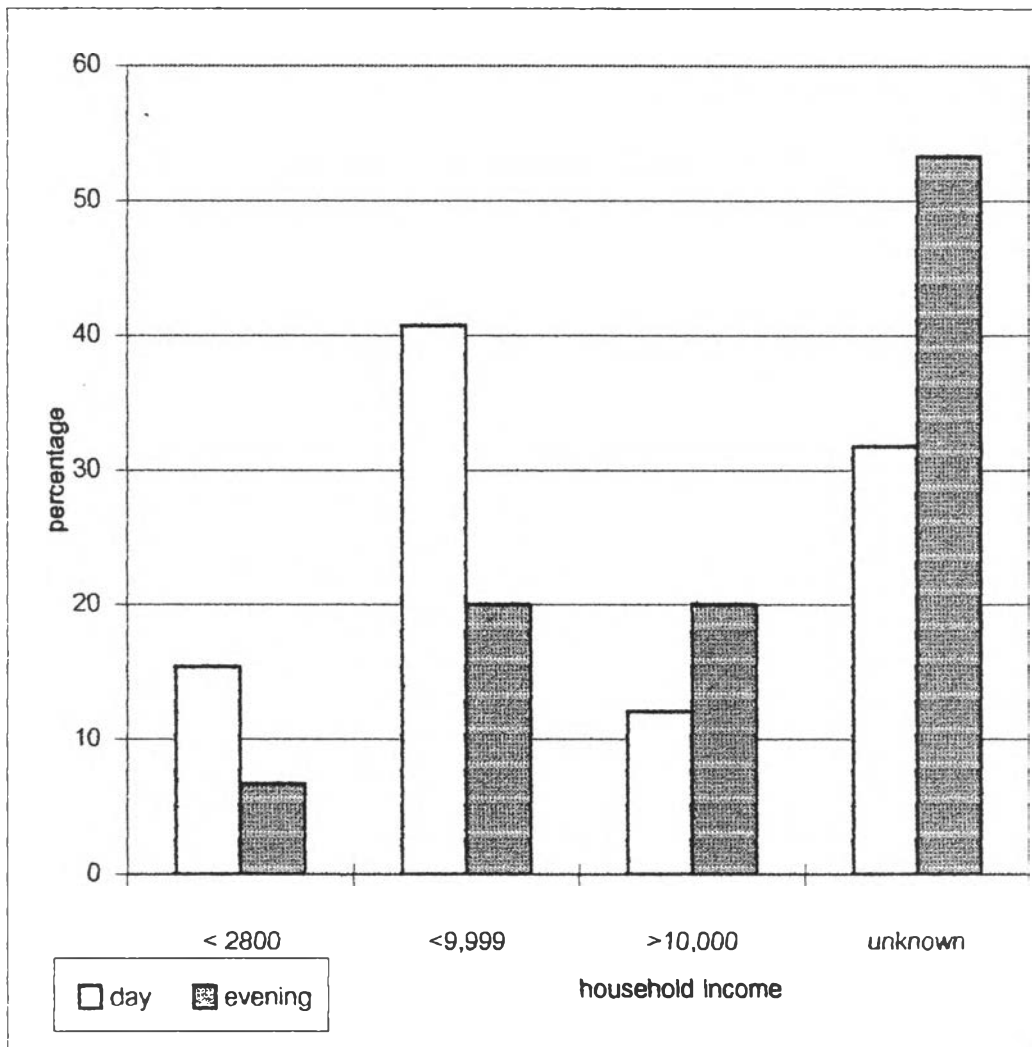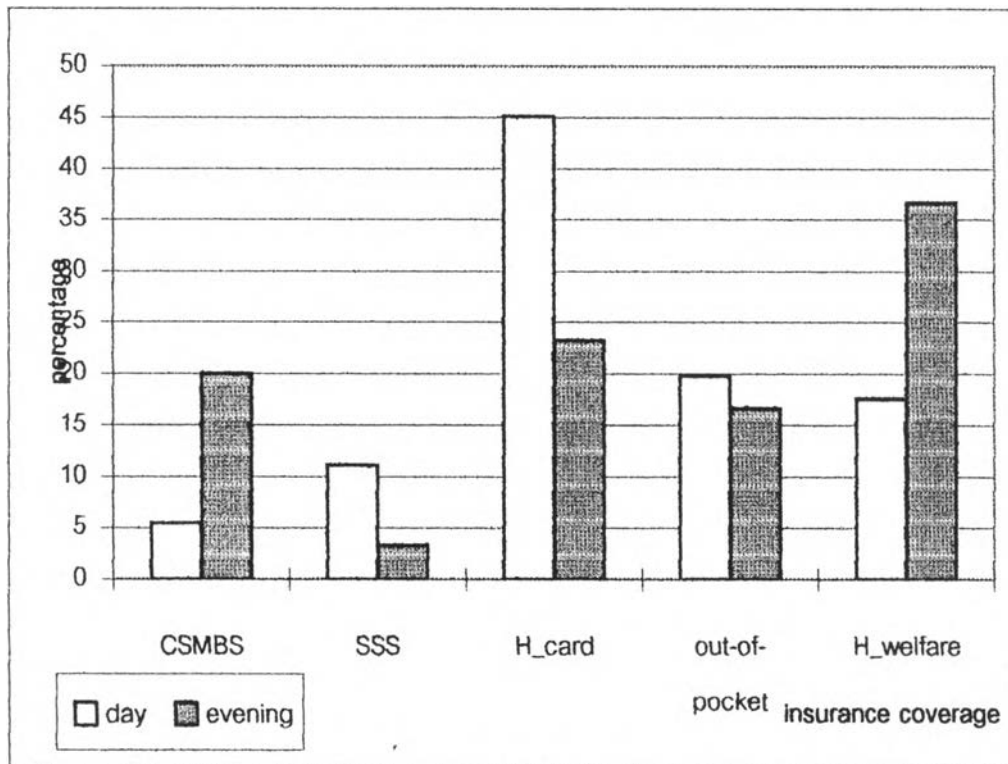in Khon Kaen Hospital by household income: 1997

Figure 5.11   Clients characteristics of the day clinic and evening clinic

in Khon Kaen Hospital by health insurance coverage: 1998

Note: 1. CSMBS: Civil servant or Enterprise employees

2. SSS : Social security scheme

3. H_card : Health card (MOPH)

4. H_welfare : Health benefit for vulnerable group e.g. cild 0-12, elderly, etc.

5.3.2 Perception about Service Provision

The scores for perception analysis were shown in Table 5.9 1) 5=received explanation and clearly understand; 2) 3=received explanation but did not understand; and 3) 1=no. The results show that clients perception about information on their illness, diagnosis, treatment and drug prescription at both clinics were the same as. Clients could clearly understand these information given by personnel only at the levels of 2.60 for the day-time clinic and 2.53 for the evening clinic. For information about treatment and drug prescription, the scores of perception at the levels 2.3 for the day-time clinics and 2.5 for the evening clinic. The perception of information on illness, diagnosis, treatment, and drug prescription of both clinics were statistically significantly different. The long waiting time for both clinics was at the point of physician examination. The day-time clinic require significantly longer time than the evening clinic. Most of the services provided by the evening clinic was considerably faster than the day-time clinic.

Regarding to their intention for the next visit at both clinics, the clients preferred to come back again (mean=4.6 for the day-time clinics and evening clinic). Most of them would also recommend to their relatives in high level (mean=4.2 for the day-time clinics and 4.3 for the evening clinic). The perception about both clinics were not different. (see Table 5.9).

Table 5.13   Perception of service provision at the day-time clinics

and the evening clinic in Khon Kaen Hospital: 1998

Service provision	Score	Day clinic(N=90)		Evening clinic(N=30)		t *
		Mean	SD	Mean	SD	
Information:						
1. About illness and diagnosis	5	2.6	1.7	2.5	1.8	0.1
2. About treatment and drugs prescription	5	2.3	1.9	2.5	1.8	- 0.2
Waiting time of service:						
1.Registration	5	2.3	1.9	1.9	2.2	0.4
2.Physical examination	5	4.3	0.5	2.6	1.7	1.7 **
3.Cashier	5	1.2	2.7	1.4	2.6	- 0.2
4.Drug received	5	2.5	1.8	2.1	2.1	0..4
5.Radiology	5	0.7	3.1	0.3	3.3	0.4
6.Laboratory	5	0.7	0.3	0.4	3.3	0.3
Service perception:						
1. Certainly come back	5	4.6	0.3	4.6	0.3	0.0
2. Suggestion their relatives for the next contact	5	4.2	0.6	4.3	0.5	- 0.1

Notes: 1. Day-time clinics n=90, the evening clinic n=30

* p value > 0.05

** p value < 0.05

5.3.3 Impression of Clients with Service Provision

Five levels of scaling were applied: 1) 5=very good; 2) 4=good; 3)3= fair; 4) 2=poor; 5) 1=poorest. The impression consists of: general convenience of infrastructure; cleanliness of rest room; waiting time; co-operation of service unit; advertising of serviceto be provided; attention of physician; staff concentratation on physical examination; and attention of nurse.

·Regarding to the impression of the clients about general convenient, it was found that the clients satisfaction were at the levels of 4.0 for the day-time clinics and evening clinic. The impression about cleanliness of rest room at both clinics was at the levels of 3.5 for the day-time clinics and 4.0 for the evening clinic. The impression at the evening clinic was significantly higher than at the day-time clinics. The impression about waiting time of both clinics were on average but the clients, impression at the evening clinic was slighly higher than at the day-time clinics. For the impression with co-operation of service unit, the average are 3.8 at the day-time clinics and 3.6 for the evening clinic, respectively.

The impression on advertising were averaged of 3.6 at the day-time clinics and 3.5 for the evening clinic, respectively. The average impression on physician attention was the same at 3.8 at both clinics. For the staff concentration on physical examination, the impression scores of clients were 3.7 and 3.6 for the day-time clinics are evening clinic.

Finally, for nurse attention, the average scores of impression were 3.9 for the day-time clinics and 3.7 for the evening clinic.

It should be noted that only 9.1% of clients at both clinics indicated the long waiting time was the most serious problem which should be improved. Some of clients were doubtful about the capability of young physicians,

especially in the evening clinic. The overall clients impression under this study was shown in Table 5.10 as the follows.

Table 5.10 Comparison of clients impression of service provision at day-time
clinic and evening clinic in Khon Kaen Hospital: 1998

Impression aspect	Maximum	Day clinic		Evening clinic		t *
		Mean	SD	Mean	SD	
1.General convenience	5	4.1	0.6	4.0	0.7	0.1
2.Cleanliness of rest room	5	3.5	1.1	4.0	1.7	0.1
3.Waiting time	5	3.2	1.3	3.2	1.5	0.1
4.Co-operation of service unit	5	3.8	0.9	3.6	1.8	0.1
5.Advertising of service	5	3.6	1.0	3.5	1.7	0.1
6.Attention of physician	5	3.8	0.9	3.8	1.8	0.1
7.Staff concentrate on physical examination	5	3.7	0.9	3.6	1.7	0.1
8.Attention of nurse	5	3.9	0.8	3.7	1.8	0.1

Notes: 1. Day-time clinic, n=90; evening clinic, n=30.

2. * p value > 0.05

4.4 Equity of Service Provision

The study on this aspect is incomplete due to the limitation of data available. Due to the problem of data collection, only data of the most common illness i.e. the diseases of respiratory systems, 381 cases will be used to assess the cost under different health insurance scheme.

Table 5.11 shows that the average cost of 381 clients who were diagnosed as diseases of respiratory systems (Code J00-J99) and covered by various health insurance scheme. The examination of resources consumed by different health insurance related to the diagnosis could not be examined, due to the limitation of available information.

Table 5.15   Average cost of the clients who were diagnosed as diseases of
respiratory systems and covered by different health insurance
in Khon Kaen Hospital: 1997

| Health insurance | Average cost | | t |
coverage	Mean	SD	
1. Out-of-pocket [1]	220.3	111.7	- 25.6 *
2. Social security	178.3	43.5	16.4 *
3. Health card	195.3	71.0	- 0.6
4. Health welfare	185.4	100.7	9.3 *

Notes: N= 381 cases; average mean, 194.7; average SD, 0.4

[1] Out-of-pocket included CSMBS group

* p value < 0.05