

CHAPTER 5

THE RESULTS



5.1 Cost Estimating of Sonikum and Kralanh Hospitals

5.1.1 Capital Cost

1) Cost of Building

Table 5.1 shows the annual economic cost of different types of buildings of the two hospitals selected in this study. The total annual cost of building was approximately US\$ 26,620 for Sotnikum hospital and US\$35,570 for Kralanh hospital. The components of building cost of Sotnikum hospital were 12.7% for space related cost, 11.4% for administration, 72.9% for IPD, and 2.9% for OPD services. In the same way, for Kralanh hospital, the cost of building was 7.9% for space related cost, 3.7% for administration, 84.5% for IPD, and 3.9% for OPD services.

The distribution of these building costs to different cost centers, NRCC and RCC, is presented in Table 5.2. The detail of these cost allocations of the two hospitals was calculated and presented in Table C2 and Table C3. These results explained that the building cost of Sotnikum hospital was less expensive than Kralanh hospital, because Sotnikum hospital has more wooden buildings than Kralanh hospital.

2) Cost of Equipment

The annual equipment cost of Kralanh hospital with 79 hospital beds costs about US\$24,633, whereas Sotnikum hospital with 120 beds costs about US\$30,989. Finally, the annual equipment cost of the two hospitals is shown in Table 5.2, and the detail of this calculation is also displayed in Tables C4 and C5. The proportion of equipment cost per hospital bed between Sotnikum and Kralanh hospitals was \$258 vs \$312. But, these values did not reflect the true one because some equipment items, especially the old items, did not have enough information to calculate its value. On the contrary, those equipments still in use, but under bad conditions were not included in this calculation.

Table 5.1 Annual Building Cost of Sotnikum and Kralanh Hospitals

No	Building	Sotnikum Hospital			Kralanh Hospital		
		Type of Building	Space (m ²)	Annual Economic Cost (\$)	Type of Building	Space (m ²)	Annual Economic Cost (\$)
1	CFDS	Wooden	26.04	135.5			
2	Kitchens	Concrete	28.36	210.6			
3	Toilets	Concrete	123.29	1,349.2			
4	Warehouses	Wooden	195.09	641.6			
5	Water-Keeper	Concrete	13.82	98.2			
6	Death body house	Wooden	14.00	54.7			
7	Incinerator	Concrete	29.44	292.9			
8	ICU & Reception	Concrete	167.44	1,646.7			
9	Med. & Pediatrics	Concrete	384.00	5,421.7			
10	Phar. + Dent. + Chronic disease	Concrete	94.86	1,347.3			
11	Workshop	Concrete	72.25	590.1	Concrete	84.70	1,087.2
12	Administrator	Concrete	261.00	3,045.5	Concrete	112.00	1,306.9
13	X-Ray + OT (+Lab + US + BB)	Concrete	442.47	6,247.2	Concrete	264.04	3,728.0
14	GO & Surgery	Concrete	169.40	2,894.0	Concrete	304.70	3,911.0
15	TB	Wooden	299.46	1,869.4	Concrete	352.00	5,600.6
16	OPD & Reception	Concrete	39.15	502.5	Concrete	28.00	373.4
17	OPD Pharmacy	Concrete	16.00	273.3	Concrete	32.00	1,025.9
18	Food store				Wooden	87.50	1,729.1
19	ICU & Laboratory				Concrete	218.40	3,083.6
20	US & Pediatrics				Concrete	260.00	9,526.3
21	Medicine				Concrete	80.00	933.5
22	GO				Concrete	231.24	3,264.9
TOTAL =				26,620.3	35,570.3		

Note: The detail of these calculations, see Table C2 and Table C3.

3) Cost of Vehicles and machinery

The summary of total vehicle and machinery cost of the two hospitals is presented in Table 5.2. The result showed that the vehicle and machinery cost in Sotnikum hospital in 2002 was \$11,528 vs \$1,424. The figures indicated that Sotnikum hospital spent 8 times higher on vehicles and machinery than Kralanh hospital. Furthermore, this proportion means that Sotnikum hospital was equipped with more vehicles that is used as ambulances and more machinery such as water pumps, generators, etc. to provide the hospital with good quality services. The detail of the vehicle and machinery cost calculation of Sotnikum and Kralanh hospitals is presented in Table C6.

5.1.2 Recurrent Cost

1) Cost of Personnel or Labor Cost

Three main different components of labor cost of Sotnikum and Kralanh hospitals for year 2002 is shown in Table 5.3. The result showed that Sotnikum hospital costs about US\$ 85,989 where 15.4% (= \$13,225) for salary and allowance, 65.6% (= \$56,396) for bonuses, and 19.0% (= \$16,368) for overtime & temporary staff. The results also showed that the labor cost for Kralanh hospital was about US\$12,392 where 61.6% (= \$7,635) for salary and social allowance, 23.3% (= \$2,886) for bonuses, and 15.1% (= \$1,871) for overtime and temporary staff.

The average labor cost per staff at Sotnikum hospital was \$1,387 while the average labor cost per staff at Kralanh hospital was \$12,392. This means that Sotnikum hospital spent 4 times expensive on labor cost than Kralanh hospital. The high proportion of labor cost in Sotnikum hospital revealed that the New Deal offers “better income for the staff as an entry point for higher accountability in order to break down the vicious cycle of under-payment of health staff and under-utilization of the hospital health service”.

The distribution of labor cost to outpatient and inpatient services in Sotnikum and Kralanh hospital for the year 2002 is shown in Table 5.4. The results revealed that labor cost of the two main cost centers at both hospitals were divided into two parts:

1. NRCC: 33.9% (= \$29,124) was allocated to Sotnikum hospital and 25.7% (= \$3,185) to Kralanh hospital,

Table 5.2 Total Capital Cost for Sotnikum and Kralanh Hospitals

Capital Cost Item	Sotnikum Hospital		Kralanh Hospital	
	US\$	%	US\$	%
Total Building Cost (TBC)	26,620	38.5	35,570	57.7
1 – NRCC	6,418	9.3	4,123	6.7
2 – RCC	20,202	29.2	31,447	51.0
2-1 – IPD services	19,426	28.1	30,048	48.7
2-2 – OPD services	776	1.1	1,399	2.3
Total Equipment Cost (TEC)	30,989	44.8	24,633	40.0
Total Vehicle Cost (TVC)	11,528	16.7	1,424	2.3
Total Capital Cost (TCC)	69,137	100.0	61,627	100.0

Note: The TCC of Sotnikum and Kralanh hospitals were calculated by using the common formula as expressed in section 4.5.2 & 1), page 52. The calculation consists of two steps:

- 1) Calculate the current value (value in the period of the study: 2002)

$$C_{2002} = C_t (1 + r)^{2002-t}$$

- 2) Calculate the annual economic cost using annualization factor

Table 5.3 Labor Cost of Sotnikum and Kralanh Hospitals

Labor Cost Item	Sotnikum Hospital		Kralanh Hospital	
	US\$	%	US\$	%
Salary and allowance	13,225	15.4	7,635	61.6
Bonus	56,396	65.6	2,886	23.3
Overtime & temporary staff				
salary	16,368	19.0	1,871	15.1
Total Labor Cost (TLC)	85,989	100.0	12,392	100.0

Table 5.4 Detailed Distribution of Sotnikum and Kralanh Hospitals

Cost Center	Sotnikum Hospital			Kralanh Hospital		
	Staff	%	US\$	Staff	%	US\$
1 Non-Revenue Cost Center (NRCC)						
1.1 Administration/Accounting	09			2		
1.2 Housekeeping/transportation	12			7		
Total 1	21	33.9	29,124	9	25.7	3,185
2 Revenue Cost Center (RCC)						
2.1 In-patient Services						
2.1.1 Medicine/Pediatrics	10			5		
2.1.2 Gynecology/Obstetric	3.5			4		
2.1.3 Surgery	7.8			4		
2.1.4 ICU	4.9			1.5		
2.1.5 X-Ray/Lab/US	4.8			3		
2.1.6 TB	3			3		
2.1.7 Pharmacy	2			2		
2.1.8 Cook	2			2		
Total 2.1	38	61.3	52,703	24.5	70	8,674
2.2 Out-patient Services						
2.2.1 Reception/Consultation	2			0.5		
2.2.2 Dentist	1			1		
Total 2.2	3	4.8	4,162	1.5	4.3	533
Total 3	41	66.1	56,865	26	74.3	9,207
Grant Total	62	100	85,989	35	100	12,392

Notes: 1. Total 3 = Total 2.1 + Total 2.2

2. Grant Total = Total 1 + Total 3

2. RCC: 66.1% (= \$56,865) was allocated to Sotnikum hospital, while 74.3% (= \$9,207) to Kralanh hospital.

In addition, RCC was broken up into two more important parts that were directly involved in service provision. They were inpatient (IPD) and outpatient (OPD) departments. The results of this allocation of the two hospitals are presented as follows:

1. IPD: 61.3% (= \$52,703) was allocated to Sotnikum hospital, and 70% (= \$8,674) to Kralanh hospital
2. OPD: 4.8% (= \$4,162) was allocated to Sotnikum hospital, while 4.3% (= \$533) to Kralanh hospital

These allocations showed that both Sotnikum and Kralanh hospitals spent similar proportion on IPD and OPD services. The summary of these allocations is shown in Table 5.5.

2) Material Cost

The material cost of Sotnikum and Kralanh hospitals for year 2002 is displayed in Table 5.6. The two major categories of material cost were drugs and medical supplies, and non-drugs and medical supplies were grouped, calculated and analyzed. Drugs and medical supplies of Sotnikum vs Kralanh hospitals averaged 41.1% vs 53.9%. The difference may be due to an abnormally high consumption or inappropriated use of certain medication in Kralanh hospital. In contrast, non-drugs and medical supplies used in Sotnikum hospital comprised up to 58.9% of total costs. This proportion was higher than Kralanh hospital that consisted of only 46.1%.

5.1.3 Total Costs of Health Care Services Delivery

Total costs of health care service delivery of the two hospitals in year 2002 were the summation of capital cost, labor cost, and material cost. For Sotnikum hospital, it costs about \$340,445 and \$156,033 for Kralanh hospital. The proportions of the main cost components such as capital cost, labor cost, and material cost of Sonikum and Kralanh hospitals were calculated using the results from Tables 5.2, 5.3, and 5.6. These proportions are presented in Table 5.7.

Table 5.5 Distribution of Labor Cost of Sotnikum and Kralanh Hospitals

Cost Center	Sotnikum Hospital		Kralanh Hospital	
	US\$	%	US\$	%
1 Non-revenue cost center (NRCC)	29,124	33.9	3,185	25.7
2 Revenue cost center (RCC)	56,865	66.1	9,207	74.3
2.1 IPD	52,703	61.3	8,674	70.0
2.2 OPD	4,162	4.8	533	4.3
Total	85,989	100.0	12,392	100.0

Table 5.6 Material Cost of Sotnikum and Kralanh Hospitals

Running (Material) Cost Item	Sotnikum Hospital		Kralanh Hospital	
	US\$	%	US\$	%
1-Drugs and medical supplies	76,237	41.1	44,181	53.9
2-Non-drugs and medical supplies	109,082	58.9	37,833	46.1
2-1 Food and patient supplies	10,251	5.5	6,077	7.4
2-2 Stationary and photocopy	3,132	1.7	954	1.2
2-3 Repair and maintenance	3,541	1.9	5,696	6.9
2-4 Other operating costs	92,158	49.8	25,106	30.6
Total Material Cost	185,319	100.0	82,014	100.0

Table 5.7 Total Costs of Sotnikum and Kralanh Hospitals

Cost Center	Sotnikum Hospital		Kralnh Hospital		Ratio 5 = 1 / 3
	US\$	%	US\$	%	
	1	2	3	4	
Total Capital Cost (TCC)	69,137	20.3	61,627	39.5	1.1
Total Labor Cost (TLC)	85,989	25.3	12,392	7.9	6.9
Total Material Cost (TMC)	185,319	54.4	82,014	52.6	2.3
Total Cost (TC)	340,445	100.0	156,033	100.0	2.2

Note: US\$ 1 = 4000 Riels

The total costs of IPD and OPD services of each hospital using the allocation criteria are shown in Table 5.8. Total costs of IPD for year 2002 were \$324,370 for Sotnikum hospital and were \$149,207 for Kralanh hospital. The ratio of Sotnikum and Kralanh hospitals in terms of IPD costs was about 2.2. This ratio meant that Sotnikum hospital consumed resources more than two times higher than Kralanh hospital.

The higher ratio in Sotnikum hospital was in general due to higher labor cost and material cost. The high ratio in Sotnikum hospital also reflected on the greater number of beds and staff. Alternatively, total costs of OPD in the same year were \$16,075 in Sotnikum hospital and \$6,826 in Kralanh hospital. The ratio between these two hospitals was about 2.4. Thus, the distribution of costs to IPD and OPD between these hospitals was similar.

5.2 Effectiveness of Sonikum and Kralanh Hospitals

The effectiveness of health care service delivery provided by these two hospitals was determined as number and coverage rate of hospital's service volumes for both IPD and OPD. Quantitative data of intermediate outcomes was not enough to measure the effectiveness of these services.

In this study, the effectiveness of the New Deal seemed to be better in quality of care in Sotnikum than in Kralanh hospitals because some outcome measures at Sotnikum hospital with New Deal showed better quality than Kralanh hospital with conventional system. The different implications at Sotnikum hospital included:

- The patients transferred from health center with ambulance service system were prompted and better than Kralanh hospital.
- The existence of operation theatre provided local operation without referring to provincial level increased value of effectiveness (or intangible cost) to patients.
- New Deal offers some improvement in quality of care through better income in exchange for a better service to the population. The results of this improvement were indicated in patients' satisfaction survey and hospital monthly evaluation.
- Some more factors such as patient compliance to treatment prescribed, diagnostic accuracy, and compliance of physicians with established protocols under the New Deal internal regulation contributed to the effectiveness outcomes in Sotnikum hospital.

- The step-by step process mentioned above, in which basic inputs were transformed into health impacts via intermediate outcomes, was clearly a simplification. Average length of stay in Sotnikum hospital was shorter than in Kralanh hospital (9.7 vs 10.5). Moreover, the cured rate of 98% at Sotnikum was higher than that of 85% at Kralanh hospital was the significant effectiveness of the New Deal.
- The sequence of event of the New Deal offers both more comfortable and effectiveness to patients who used services under the New Deal than conventional system. This meant that the patients gained in terms of intangible and opportunity costs.

According to the variety of effectiveness measures, at least four main indications were examined. They were number of discharged patients, number of patient days, number of new OPD cases, and number of OPD visits.

At Sotnikum and Kralanh hospitals, the effectiveness in terms of number of discharged patients, number of patient days, number of new OPD cases, and number of OPD visits were 3,628; 35,192; 2,826; and 3,532; and 969; 10,175; 2,095; and 2,619 respectively. These results showed that Sotnikum hospital was more effective than Kralanh hospital throughout the four effectiveness dimensions presented in Table 5.9.

Likewise, the effectiveness in terms of proportion was different between IPD and OPD outputs. For IPD, Sotnikum hospital was still more effective than Kralanh hospital by 17 vs 10 in terms of discharged patients, by 168 vs 101 in terms of patient days per 1,000 target populations. In this case, the results showed that New Deal was still more effective than the conventional hospital. In terms of OPD, Sotnikum hospital became less effective than Kralanh hospital. The effectiveness figures of new OPD cases and OPD visits per 1,000 target populations were about 13 and 17 at Sotnikum hospital, and about 21 and 26 at Kralanh hospital (see Table 5.9).

One main reason that the New Deal was less effective than conventional system was the introduction of New Deal at all health centers in Sotnikum operational district. Thus, the service charge at health center was cheaper, the variety and quantity of drugs was almost the same as well as quality of care compared to Sotnikum hospital. So most of the people enjoyed OPD services at health center rather than at Sotnikum hospital.

Table 5.8 Inpatient and Outpatient Costs of Sotnikum and Kralanh Hospitals

Cost Center	Sotnikum Hospital		Kralnh Hospital		Ratio 5 = 1 / 3
	US\$	%	US\$	%	
	1	2	3	4	
1-1 IPD services	324,370	95.3	149,207	95.6	2.2
1-2 OPD services	16,075	4.7	6,826	4.4	2.4
Total Cost	340,445	100.0	156,033	100.0	2.2

Notes: 1. The detail of cost allocation of the two hospitals was show in Table C8 and Table C9.

2. Exchange rate: US\$ 1 = 4000 Riels

Table 5.9 Critical Effectiveness Measures of Sotnikum and Kralanh Hospitals

Effectiveness Measure	Effectiveness using number of hospital's service volumes			Effectiveness using proportion of hospital's service volumes (per 1,000 target population)		
	Sotnikum	Kralanh	Ratio	Sotnikum	Kralanh	Ratio
	1	2	3=1/2	4	5	6=4/5
Inpatients	3,628	969	3.7	17	10	1.7
Patient days	35,192	10,175	3.5	168	101	1.7
New OPD cases	2,826	2,095	1.3	13	21	0.6
OPD visits	3,532	2,619	1.3	17	26	0.7

Notes: 1) $17 = (3,628 \times 1,000) / 210,027$

2) $168 = (35,192 \times 1,000) / 210,027$

3) $13 = (2,826 \times 1,000) / 210,027$

4) $17 = (3,532 \times 1,000) / 210,027$

5) $10 = (969 \times 1,000) / 101,208$

6) $101 = (10,175 \times 1,000) / 101,208$

7) $21 = (2,095 \times 1,000) / 101,208$

8) $26 = (2,619 \times 1,000) / 101,208$

5.3 Cost-Effectiveness of Sonikum and Kralanh Hospitals

The cost-effectiveness ratio (C/E) of each option (OPD and IPD services) was calculated by dividing its total cost by the numerical value of the effects chosen. The ratios were then compared to determine the most cost-effective of each option, that is, the one costing the least per unit of effect achieved. Using total costs of IPD and OPD services from Table 5.8 and the effectiveness obtained from Table 5.9, we then compare the cost-effectiveness ratio (C/E) of each option and compare further between Sotnikum and Kralanh hospitals as shown in Tables 5.10 and 5.11.

Apart from a final health output, the effectiveness can relate to an intermediate output such as cases founded or patients appropriately treated in this study. Because of the intermediate outputs themselves have some value, they can be measure both in terms of number and proportion. The cost-effectiveness in terms of cost per activity among four different dimensions was included and compared between Sotnikum and Kralanh hospitals.

On the other hand, the cost used in this analysis includes two diverse cost elements (capital cost and running cost) because the capital cost results from the calculation were assumed. Therefore, the results of the analysis were illustrated into two different parts. Tables 5.10 and 5.11 summarize the cost-effectiveness using running cost and capital cost with different effectiveness measurements for Sotnikum and Kralanh hospitals.

1) Cost-effectiveness Using Cost per Number of Hospital's Service Volumes

For IPD service, both cost per discharge and per patient day at Sotnikum hospital was lower than Kralanh hospital by about 0.8 times using running cost and about 0.6 times using total cost. These results indicated that Sotnikum hospital was more cost-effective than Kralanh hospital.

On the contrary, both cost per new OPD case and per OPD visit at Sotnikum hospital was more than two times (2.25) higher than Kralanh hospital using recurrent cost. But this ratio dropped to 1.7-1.8 almost two times lower using total cost. These end results showed that Sotnikum hospital was less cost-effective than Kralanh hospital in terms of OPD service.

Table 5.10 Cost-Effectiveness Using Running Cost of Sotnikum and Kralanh Hospitals

Effectiveness Measure	Cost-effectiveness using cost per number of hospital's service volumes			Cost-effectiveness using cost per proportion of hospital's service volumes		
	Sotnikum	Kralanh	Ratio	Sotnikum	Kralanh	Ratio
	1	2	3=1/2	4	5	6=4/5
Inpatients	71.3	93.1	0.8	15,209	9,025	1.7
Patient days	7.3	8.9	0.8	1,539	894	1.7
New OPD cases	4.5	2.0	2.25	981	198	4.9
OPD visits	3.6	1.6	2.25	750	160	4.7

Note: The details of these calculations were displayed in Table C12, Table C13, Table C14, and Table C15.

Table 5.11 Cost-Effectiveness Using Total Cost of Sotnikum and Kralanh Hospitals

Effectiveness Measure	Cost-effectiveness using cost per number of hospital's service volumes			Cost-effectiveness using cost per proportion of hospital's service volume		
	Sotnikum	Kralanh	Ratio	Sotnikum	Kralanh	Ratio
	1	2	3=1/2	4	5	6=4/5
Inpatients	89.4	154	0.6	19,209	14,921	1.3
Patient days	9.2	14.7	0.6	1,931	1,477	1.3
New OPD cases	5.7	3.3	1.7	1,237	325	3.8
OPD visits	4.6	2.6	1.8	946	263	3.6

Note: The details of these calculations were displayed in Table C12, Table C13, Table C14, and Table C15.

2) Cost-effectiveness Using Cost per Proportion of Hospital's Service Volumes

More clearly in the same table, Tables 5.10 and 5.11 reveal that cost-effectiveness ratio in Sotnikum hospital throughout the effectiveness measures was much higher compared with Kralanh hospital. The ratio of cost-effectiveness of IPD service at Sotnikum hospital using both running cost and total cost was about 1.7 and 1.3 respectively.

As regard to OPD service, cost required covering each-effectiveness of new OPD case and OPD visit at Sotnikum hospital was quite higher than Kralanh hospital at almost 5 times (4.9 and 4.7) using running cost. But, these ratios crashed down below 4 times (3.8 and 3.6) between the two hospitals using total cost. These results reveal that Sotnikum hospital was less cost-effective than Kralanh hospital in terms of coverage.

5.4 Patients' Satisfaction on New Deal

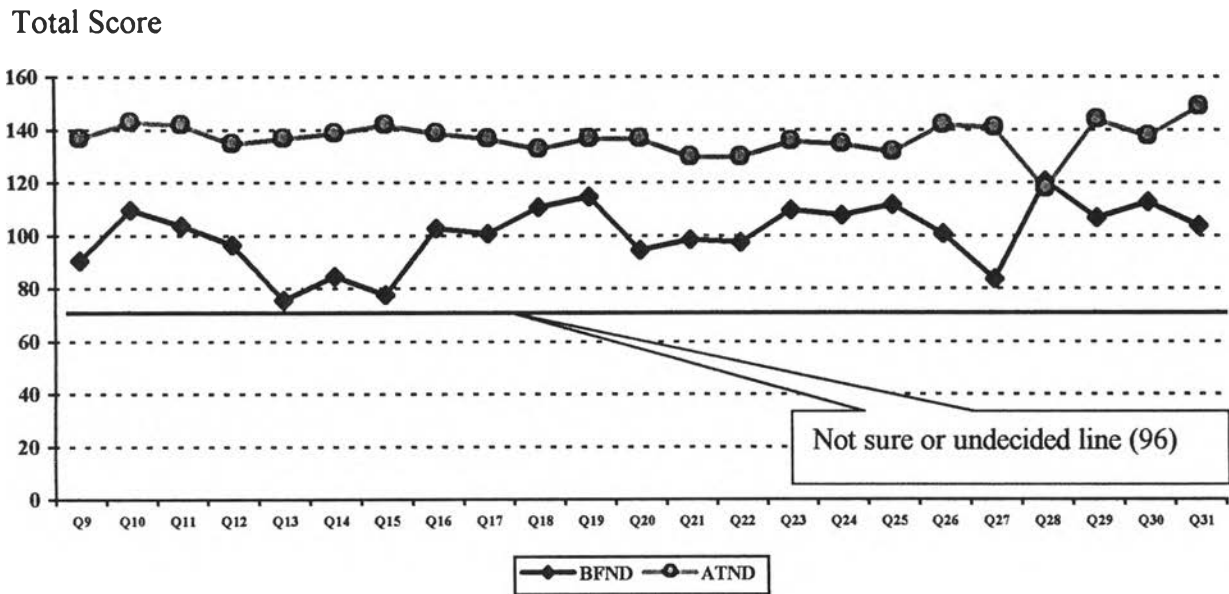
A small-scale survey was carried out to assess patients' satisfaction on the New Deal. The results of the assessment showed a significant improvement in terms of quantitative indicators. The results were analyzed using simple descriptive statistics. Summary measures were based on the value reported by those who completed the questionnaires. The measure of central tendency was used as the threshold for comparison. The characteristics of respondents were not used in this analysis only questions that have the relationship to the critical indicators of service quality were analyzed and compared.

5.4.1 IPD Patients' Satisfaction

Detail scores that represent the level of patients' satisfaction to each question were presented in Table C10. The total score and mean for each question indicated that patients were more satisfied with the New Deal than the convention system as shown in Figure 5.2 except question 28 that mentioned about the hospital service charge. Some of the respondents complained that price of services were relative expensive compared to their income. On the other hand, the standard deviation of satisfaction levels before and after the New Deal was also likely to be decreased at all questions.

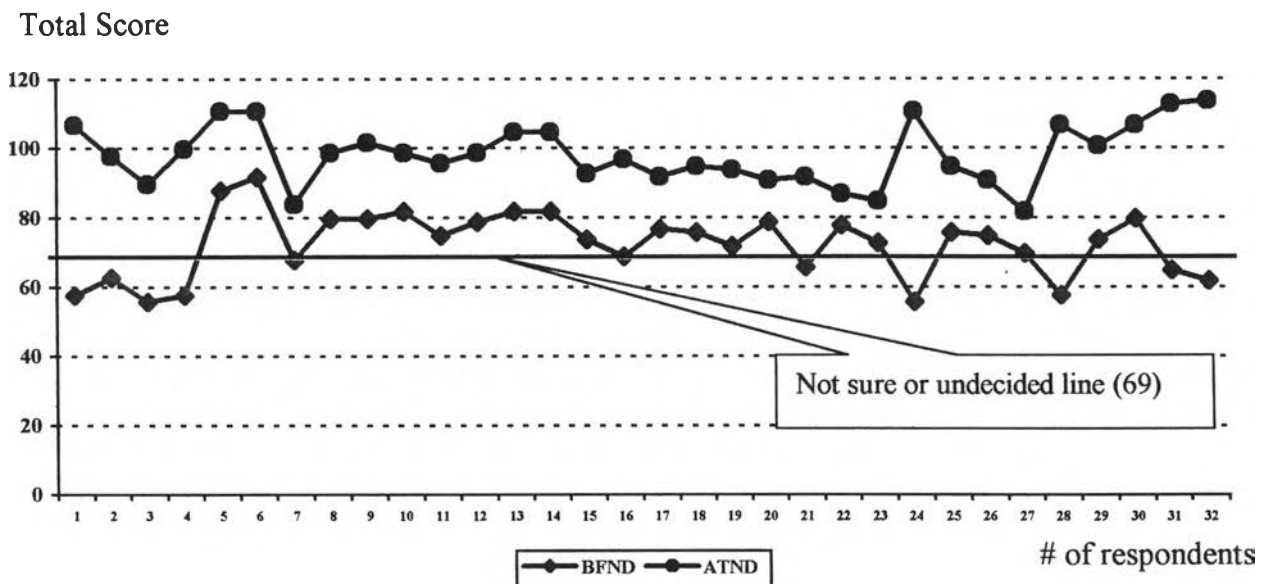
The level of patients' satisfaction by each individual is displayed in Figure 5.3. Before the New Deal, 11 respondents or 34% stayed below the undecided line. This means that they were not sure or undecided with the hospital services whereas 21 others, equivalent to 66% reported satisfaction with the hospital services.

Figure 5.2 Graph Shows the Different Total Score for IPD, by Question



Notes: Vertical axis represents the total score of each question ranged from the lowest (32) to the highest (160) and horizontal axis represents number of questions starts from Q9 to Q31. The detail score of each question was shown in Table C10.

Figure 5.3 Graph Shows the Different Total Score for IPD, by Respondent



Notes: Minimum and maximum score that each respondent dissatisfied or satisfies to the IPD services was 23 to 115 separately. 69 are the undecided total score to indicate that each respondent satisfied or not satisfied to IPD services of Sotnikum hospital before and after New Deal.

On the contrary, the satisfaction level after the New Deal has significantly improved. The graph, in general, stayed above the previous one, and 9 respondents (or 28.1%) scored between 70 and 92 (are equal to scale 4), which means that they were satisfied with the hospital services, and 23 others (equivalent to 71.9% scored between 93 to 115) were strongly satisfied with the New Deal.

The satisfaction level improvement before and after the New Deal using scale ranged from 1-5 among 32 respondents that use IPD service is shown in Figure 5.4. The five possible responses, ranged from 1-5, showed significant improvement between the two systems throughout the scale.

- Comparing before and after New Deal, the rate of satisfaction level indicates that nobody was strongly dissatisfied with the hospital services after the New Deal. On the other hand, about 87.1%⁵ improved for scale 2, and only 12.9%¹ was still dissatisfied.
- As regard to scale 3 or undecided level, 33.6% of respondents were undecided with Sotnikum hospital service before the New Deal, and afterward only 3.7% among 32 respondents were still undecided. This means that 89.0%⁶ of them understood that the New Deal was good for them.
- Moreover, the satisfaction level improved about 31.7%⁷ from 38.6% before the New Deal to 56.5% after the New Deal. The remarkable progress revealed that about 91.6%⁸ of respondents were strongly satisfied with the New Deal.

The specific scoring of different individual general satisfaction level before and after the New Deal to IPD services is displayed in Figure 5.5. Before the New Deal, respondents attained only scales 2, 3 and 4:

- Before the New Deal, 5 respondents (or 15.6%) dissatisfied, 14 respondents (or 43.8%) concurred to undecided scale, and 13 others (or 40.6%) concurred to satisfied level.
- Quite the opposite after the New Deal, only 1 respondent (or 3.1%) among 32 was still undecided with the hospital services, 9 others (or 28.1%) stayed at scale 4, and 22 other respondents (about 68.8%) were strongly satisfied with the hospital's services.

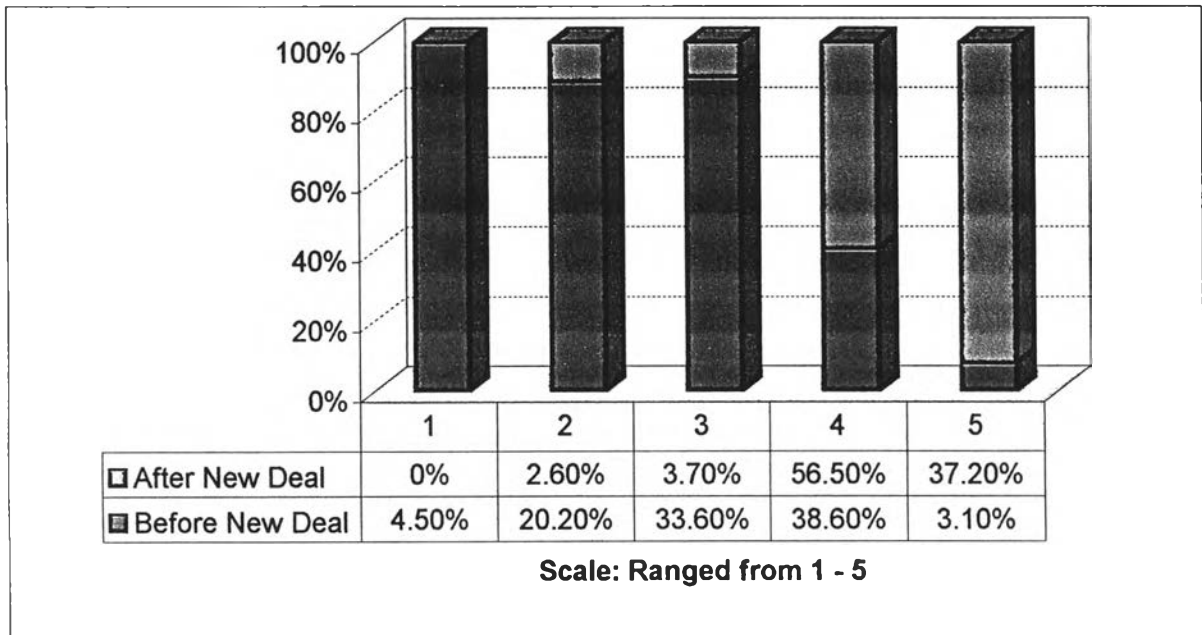
⁵ 87.1% = [(20.2 - 2.6)*100] / 20.2,

⁶ 89.0% = [(33.6 - 3.7) * 100] / 33.6,

⁷ 31.7% = [(56.5 - 38.6) * 100] / 56.5,

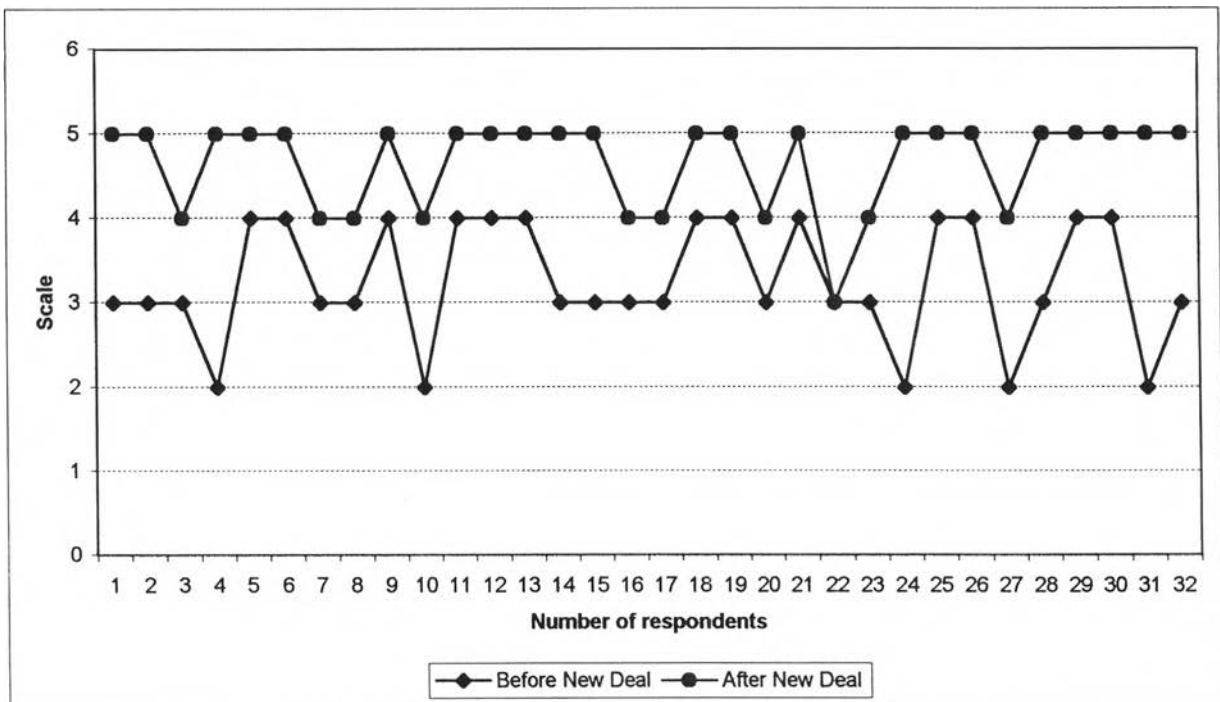
⁸ 91.6% = [(37.2 - 3.1) * 100] / 37.2,

Figure 5.4 Graph Shows the Total Satisfaction Improvement for IPD, by Percentage



Note: For detail results, see Table C10

Figure 5.5 Graph Indicates the General Satisfaction Improvement for IPD, by Respondent



Note: The overall detail scale was displayed in Table C10, question 31.

- In short, Figure 5.5 shows significant improvement between the New Deal and the convention system at Sotnikum hospital. Before the New Deal, all of the respondents were satisfied with the Sotnikum hospital at the level ranged from 2-4, but after the New Deal, they showed a satisfaction level that ranged from 4-5.

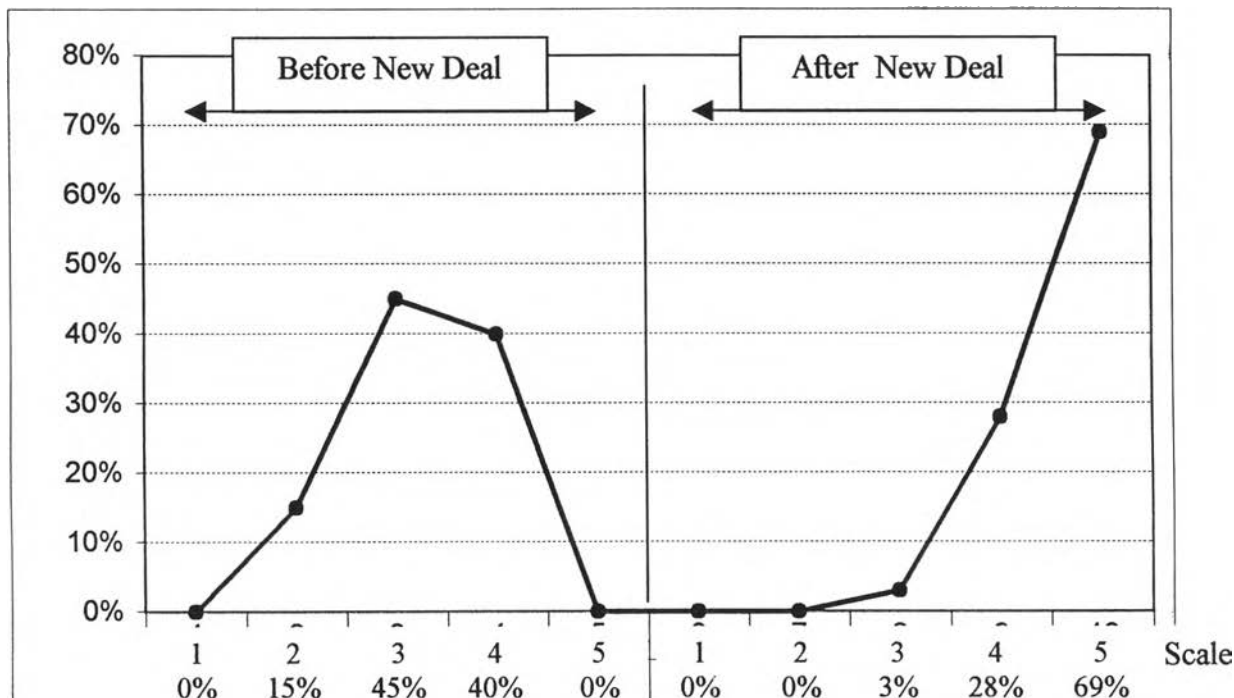
The percentage of general satisfaction level of IPD respondents compared to the conventional system and the New Deal is displayed in Figure 5.6. This figure shows that 15.6% of respondents were dissatisfied, 43.8% had no idea, and 40.6% others were satisfied with the conventional services. The satisfaction decreased by about 12.5% from 40.6% to 28.1% after intervention. It dramatically swelled from 0% regarding to conventional system to 68.8% after intervention.

5.4.2 OPD Patients' Satisfaction

Similar to IPD respondents, patients' satisfaction with OPD services showed considerable change in total score among 17 questions. The mean scores for satisfaction suggested that respondents had strong satisfaction with the New Deal.

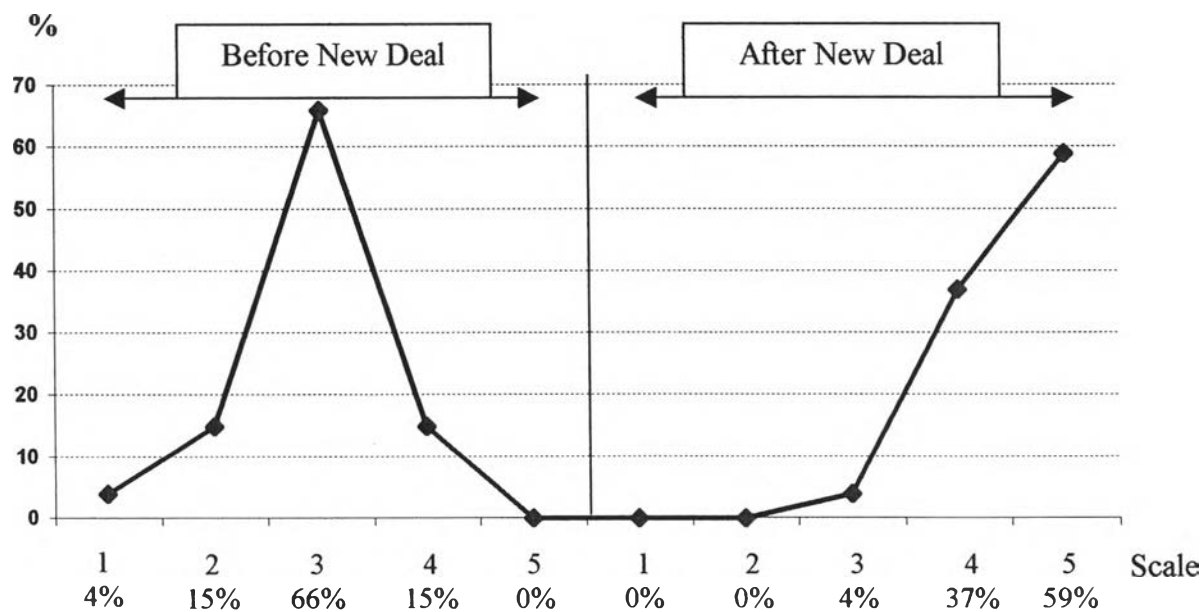
Figure 5.7 showed the general satisfaction level of OPD users before and after New Deal. The graph indicates that 14.8% of OPD patients were dissatisfied and satisfied with hospital services where 66.7% others were not sure. On the contrary, the respondents showed noticeable increase at scale 4 (satisfied level) by about 22.2% from 14.8% before the New Deal to 37.0% after the New Deal. Additionally, the strong satisfaction level was the most considerable improvement of the New Deal. The critical figure changed from 0% to about 59.3% before and after the New Deal.

Figure 5.6 Graph Summarizes the General Satisfaction for IPD



Note: For detail, see Table C10

Figure 5.7 Graph Summarizes the General Satisfaction for OPD



Note: For detail, see Table C11