

CHAPTER IV

RESULTS

Results of the study were presented in two parts as follows;

- I. Descriptive data of the sample
- II. Factors influencing client loyalty to primary care units.

I. Descriptive Data of the Sample

1. Response Rate

374 samples were collected and 350 (93.6%) questionnaires were completed. Table 6 presents number of sample classified by primary care unit and patient type.

Table 6 The number of samples classified by type of primary care unit and disease condition

Primary Care Unit	Provider Type*	Number of Sample		
		Overall	Patient Type	
			Chronic	Non-chronic
Klongtamrhu	1	32	-	32
Napa	1	41	-	41
Sansuk	2	25	11	14
Banpeuk	2	20	12	8
Huaykapi	3	60	27	33
Tongkung	3	26	13	13
Angsila	3	37	19	18
Nongmiadang	4	38	19	19
Bangsai	4	71	35	36
Total		350	136	214

* 1 physician service is not available
3 physician visit two times per month

2 physician visit monthly
4 physician visit weekly

2. Reliability of the questionnaire

The reliability of the questionnaire, as directed by Chronbach alpha values ranged from .812 to .975. Chronbach alpha values of perceived service quality part, satisfaction emotions part and loyalty part were .975, .860 and .812 respectively.

3. Demographic data of the sample

The sample consisted of 104 (29.7%) male and 246 (70.3%) female. Ages of the sample were ranged from 16 to 82 years, with the mean age of 47.83 years and a standard deviation of 15.22. More than half (63.1%) highest education level of the sample was primary school. The majority occupation of sample was temporary employee and house wife almost equally (34.9% and 30.0% respectively). Average income of the sample was 5,917.26 Baht per month.

The sample with non chronic disease was more than half (61.1%). About three-quarters (76.3%) of source of health expenditure were come from the universal health coverage scheme. 90.6% of the sample using the universal health coverage scheme obtained service from health care provider as indicated in the UC Card. The sample had average experienced in the Health Center for 5.86 years and visited 5.71 times per year. Average waiting time of the sample visiting with non chronic disease was 38.41 minutes while visiting with chronic disease was 133.46 minutes. The mean total expenditure per visit including travel cost was 40.10 Baht. The details of demographic data of the sample were shown in Table 7 and Table 8.

Table 7 Demographic data of the samples (Categorical data)

Demographic data (N=350)	Number (%)
Gender	
Male	104 (29.7)
Female	246 (70.3)
Highest education level	
Less than primary school	21 (6.0)
Primary school	221 (63.1)
Secondary school	61 (17.4)
High school	23 (6.6)
Undergraduate	14 (4.0)
Bachelor's degree	10 (2.9)
Occupation	
Temporary employee	122 (34.9)
Housewife	105 (30.0)
Business owner	69 (19.7)
Unemployed	34 (9.7)
Other (Retired, Farmer, Governmental or state enterprise officer and Student)	20 (5.7)
Type of disease	
Non chronic	214 (61.1)
Chronic	136 (38.9)
Source of health expenditure	
Universal Health Coverage Scheme	267 (76.3)
Out of pocket	49 (14.0)
Social Security Scheme	26 (7.4)
CSMBC	8 (2.3)
Using Health care provider as indicated in the UC Card (N=267)	
Yes	242 (90.6)
No	25 (9.4)

Table 8 Demographic data of the samples (Continuous data)

Demographic data (N=350)	Mean	S.D.	Mode	Min	Max
Age (years)	47.83	15.22	43	16	82
Income per month (Baht)	5,917.26	4,320.49	5,000	300	30,000
Years of experience in health center	5.86	6.17	1	1	30
Number of visit per year	5.71	4.21	6	1	48
Waiting time (minutes)					
Non chronic (N=214)	38.41	38.98	30	5	180
Chronic (N=136)	133.46	61.09	180	20	240
Average	75.34	67.26	30	5	240
Total expenditure per visit* (Baht)	40.10	48.73	10	5	350

* including travel cost

4. Perceived Service Quality

Perceived service quality was client's judgment of health service obtained from primary care units regarding structure quality, process quality and outcome quality. It was assessed with a 9-point scale questionnaire ranging from "strongly disagree" to "strongly agree".

First dimension, perceived structure quality was client's judgment of material resources, human resources and operational system related to health care providing. The result showed that the client perceived structure quality ranged from 7.06 to 8.10 at 9-point scale except items related to number and operation hour of the doctor which means score were 5.57 and 5.90 respectively.

Second dimension, perceived process quality was client's judgment of health service delivered by provider consisting of attitudes, behaviors and expertise of service provider. The client's perceived process quality ranged from 8.03 to 8.64 at 9-point scale as shown in Table 9

The last dimension of perceived service quality, outcome, was client's judgment of changes in health status that can be attributed to health care and changes in knowledge or behavior that may influence future health. The result showed that the client perceived outcome quality ranged from 8.17 to 8.24 at 9-point scale except the

item of “You can change bad health habits after obtaining service” which mean score was 7.76. The details of client’s perceived service quality mean score were presented in Table 9

Table 9 Mean scores of client perception of service quality

Perceived Service Quality	N	Mean	S.D.	Min	Max
1. Structure					
Material resources					
Diagnostic room in the Health Center is privacy.	350	7.57	1.72	1	9
The Health Center has enough facilities.	350	7.56	1.80	1	9
The Health Center is clean.	350	8.05	1.41	1	9
The Health Center has enough diagnostic equipment.	350	7.37	1.95	1	9
The Health Center has enough curative equipment.	350	7.28	2.02	1	9
The Health Center has enough medicine and medicinal supplies.	350	7.76	1.79	1	9
Human resources					
Types of health personnel at the Health Center are suitable.	350	8.09	1.50	1	9
The Health Center has enough doctors.	277	5.57	3.16	1	9
The Health Center has enough health personnel.	350	7.06	2.56	1	9
Operational system					
Operating hour of the Health Center is appropriate.	350	7.52	2.19	1	9
Operating hour of the doctor at the Health Center is appropriate.	277	5.90	3.17	1	9
Method of obtaining care is easy.	350	8.10	1.48	1	9

Table 9 Mean scores of client perception of service quality (Continue)

Perceived Service Quality	N	Mean	S.D.	Min	Max
2. Process					
Provider attitudes					
The doctor is friendly.	187	8.56	1.02	2	9
The health personnel is friendly	350	8.43	1.02	1	9
The doctor is willing to provide service.	187	8.64	0.93	2	9
The health personnel are willing to provide service.	350	8.41	1.06	1	9
The doctor pays attention to your health problem.	187	8.55	1.02	2	9
The health personnel pay attention to your health problem.	350	8.29	1.17	1	9
Provider behaviors					
The doctor provides service politely.	187	8.58	0.97	3	9
The health personnel provide service politely.	350	8.37	1.15	1	9
The doctor provides service actively.	187	8.27	1.50	1	9
The health personnel provide service actively.	350	8.03	1.56	1	9
The doctor has tried best to solve your health problem.	187	8.44	1.16	2	9
The health personnel have tried best to solve your health problem.	350	8.25	1.21	1	9
Provider expertise					
The doctor can solve your health problem.	187	8.42	1.11	2	9
The health personnel can solve your health problem.	350	8.16	1.17	1	9
The doctor provides service expertly.	187	8.42	1.14	2	9
The health personnel provide service expertly.	350	8.12	1.25	1	9
The doctor has informed you thoroughly of what you should know.	187	8.45	1.22	2	9
The health personnel have informed you thoroughly of what you should know.	350	8.16	1.36	1	9

Table 9 Mean scores of client perception of service quality (Continue)

Perceived Service Quality	N	Mean	S.D.	Min	Max
3. Outcome					
Health status change					
Your disease or sickness is better after obtaining service.	350	8.19	1.14	3	9
Your health status is better after obtaining service.	350	8.17	1.16	3	9
Your mind is better after obtaining service.	350	8.20	1.26	1	9
Knowledge change					
Knowledge about your disease or sickness is better after obtaining service.	350	8.24	1.28	1	9
Knowledge about preventive and promotive care is better after obtaining service.	350	8.23	1.23	1	9
Behavior change					
You can change bad health habits after obtaining service	350	7.76	1.70	1	9
Your preventive and promotive care is better after obtaining service	350	8.17	1.29	1	9

When analyzed each dimension, client perceived service quality ranged from 7.06 to 8.24 at 9-point scale. Structure perceived service quality was the lowest dimension ranged from 7.06 to 7.60. The highest dimension was perceived process quality ranged from 8.19 to 8.41 while perceived outcome quality ranged from 7.96 to 8.24 as shown in Table 10

Table 10 Mean scores of perceived service quality categorized by dimension

Perceived Service Quality (N=350)	Mean	S.D.	Min	Max
Structure				
Material resource	7.60	1.44	1.83	9.00
Human resource	7.06	1.88	1.00	9.00
Operational system	7.32	1.67	1.00	9.00
Process				
Provider attitude	8.41	0.88	4.00	9.00
Provider behavior	8.24	1.11	1.67	9.00
Provider expertise	8.19	1.08	3.17	9.00
Outcome				
Health status change	8.19	1.10	3.00	9.00
Knowledge change	8.24	1.15	1.00	9.00
Behavior change	7.96	1.35	1.00	9.00

5. Satisfaction Emotions

Satisfaction emotions were emotions of client developed during a service experience composed of positive emotions and negative emotions. The study found that the mean scores of positive emotions including happy, hopeful and surprised were 8.03, 7.88 and 7.68 at 9-point scale respectively. The mean scores of negative emotions including angry, depressed, guilty and humiliated were 2.97, 2.47, 2.35 and 1.64 respectively as presented in Table 11.

Table 11 Mean scores of satisfaction emotions

Satisfaction Emotions (N=350)	Mean	S.D.	Min	Max
Positive emotions				
Obtaining service here makes you feel happy.	8.03	1.36	1	9
Obtaining service here makes you feel hopeful.	7.88	1.53	1	9
Obtaining service here makes you feel surprised.	7.68	1.60	1	9
Negative emotions				
Obtaining service here makes you feel angry.	2.97	2.56	1	9
Obtaining service here makes you feel depressed.	2.47	2.25	1	9
Sometimes service provider makes you feel guilty.	2.35	2.30	1	9
Obtaining service here makes you feel humiliated.	1.64	1.82	1	9

6. Client Loyalty to Primary Care Units

The result of mean scores of client loyalty on utilization intension and positive-word-of mouth dimension were higher than price sensitivity and complaining behavior as shown in Table 12. The mean scores of utilization intension and positive-word-of mouth were 7.83 and 7.90 at 9-point scale respectively while the mean scores of price sensitivity and complaining behavior were 5.95 and 5.88 at 9-point scale respectively. The mean scores of client loyalty to primary care units each item was presented in Table 13.

Table 12 Mean scores of loyalty categorized by dimensions

Loyalty (N=350)	Mean	S.D.	Min	Max
Utilization intension	7.83	1.54	1	9
Positive-word-of mouth	7.90	1.53	1	9
Price sensitivity	5.95	2.56	1	9
Complaining behavior	5.88	2.75	1	9

Table 13 Mean scores of client loyalty to primary care unit

Loyalty (N=350)	Mean	S.D.	Min	Max
Utilization intention				
Will come to this Health Center in the next ill.	8.19	1.37	1	9
Consider this Health Center your first choice to seek health care.	7.71	1.97	1	9
Don't want to obtain service from this Health Center if can choose.	2.41	2.51	1	9
Positive-word-of mouth				
Have only positive things to tell other people about this Health Center.	7.81	1.83	1	9
Recommend this Health Center to other people who seeking for health service.	7.89	1.70	1	9
Encourage friend and relatives to obtain service from this Health Center	7.98	1.67	1	9
Price sensitivity				
Switch to other health care providers if you are charged for services.	3.87	3.09	1	9
Continue to obtain service from this Health Center although charge more expensive than other.	5.77	3.06	1	9
Complaining behavior				
Complain to other people if you are dissatisfied with the service.	4.39	3.38	1	9
Complain to related office if you are dissatisfied with the service.	3.19	3.04	1	9
Switch to other health care provider if you are dissatisfied with the service.	4.81	3.44	1	9

Clients were classified as loyalty if the mean scores of every dimensions of loyalty including utilization intention, positive word-of-mouth, price sensitivity, and complaining behavior were more than 5. Table 14 showed numbers and percentage of loyalty clients.

Table 14 Numbers and percentage of loyalty clients

Status	Number	Percentage
Loyalty	125	35.7
Utilization intention loyalty	325	92.9
Positive word-of-mouth loyalty	324	92.6
Price sensitivity loyalty	186	53.1
Complaining behavior loyalty	203	58.0

II. Factors Influencing Client Loyalty to Primary Care Units.

1. Hypothesis Testing

There were 4 groups of independent variables including perceived service quality, satisfaction emotion, accessibility factors and sociodemographic factors. It was found that 2 groups of variables, perceived service quality and satisfaction emotions had significantly moderate correlation with client loyalty.

It was found that overall perceived service quality significantly and positively correlated to client loyalty. ($r = .562, p < .01$) When analyzed perceived service quality as perceived structure quality, perceived process quality and perceived outcome quality, it appeared that all three aspects of perceived service quality significantly and positively correlated to client loyalty. Pearson's correlation coefficients were $.448 (p < .01)$, $.417 (p < .01)$ and $.454 (p < .01)$ respectively.

It appeared that satisfaction emotions had significant correlation with client loyalty as well. Positive emotions positively correlated to client loyalty ($r = .556, p < .01$) while negative emotions negatively correlated to client loyalty ($r = -.324, p < .01$).

Significant correlations between accessibility factors and clients loyalty were not found in both waiting time and cost of money. Similarly, sociodemographic factors consisting of age and income were not related to client loyalty.

Table 15 The mean scores, standard deviation, and correlation coefficient between independent variables and client loyalty

	Mean	S.D.	r	p-value
Overall perceived service quality	7.93	.95	.56	.000
Perceived structure quality	7.38	1.31	.45	.000
Perceived process quality	8.24	1.10	.42	.000
Perceived outcome quality	8.14	1.00	.45	.000
Positive emotions	7.86	1.33	.56	.000
Negative emotions	2.36	1.81	-.32	.000
Waiting time	76.63	67.18	.00	.946
Cost of money	40.10	48.74	.05	.360
Age	47.83	15.22	.10	.062
Income	5917.26	4320.49	-.03	.621

One way ANOVA indicated that the mean of loyalty of clients with primary school education or lower was not different from the mean of loyalty of clients with higher education. The mean of loyalty of clients with chronic disease was not different from the mean of loyalty of clients with non-chronic disease.

Table 16 The results of One way ANOVA of client loyalty categorized by education and chronic disease condition

	Sociodemographic factors	Mean	S.D.	F	p-value
Loyalty	Primary school or lower education	7.00	1.47	.11	.740
	Higher education	6.94	1.52		
Loyalty	Chronic disease	7.15	1.56	2.86	.092
	Non chronic disease	6.87	1.43		

2. Logistic regression results

Logistic regression analysis was employed to determine factors influencing client loyalty to primary care units. 9 sub-dimensions of perceived service quality were included the logistic equation with other 3 groups of variables including satisfaction emotions, accessibility factors and sociodemographic factors. A Pearson correlation was conducted and no highly correlated between variables resulted ($r > .9$). (53) Correlation matrix was shown in Table 17.

Table 17 Matrix of Correlations (two-tailed test)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1.Loyalty	1.00																	
2.Material	.370**	1.000																
3.Human	.361**	.483**	1.000															
4.Operation	.379**	.335**	.662**	1.000														
5.Attitude	.492**	.499**	.389**	.383**	1.000													
6.Behavior	.534**	.468**	.430**	.402**	.834**	1.000												
7.Expertise	.497**	.469**	.345**	.352**	.748**	.809**	1.000											
8.Health status change	.405**	.387**	.304**	.332**	.533**	.615**	.664**	1.000										
9.Knowledge change	.429**	.468**	.359**	.347**	.606**	.622**	.732**	.628	1.000									
10.Behavior change	.329**	.396**	.299**	.241**	.456**	.476**	.561**	.437**	.712**	1.000								
11.Positive emotions	.556**	.526**	.440**	.408**	.671**	.659**	.659**	.573**	.612**	.482**	1.000							
12.Negative emotions	-.324**	-.239**	.093	-.070	-.370**	-.374**	-.288**	-.283**	-.224**	-.144**	-.357**	1.000						
13.Waiting time	.004	-.037**	-.237**	-.256**	.060	.013	.073	.064	.025	.058	.004	.002	1.000					
14.Cost	.049	-.279**	-.102	-.033	-.022	-.035	-.056	-.078	-.049	-.006	-.054	.004	-.055	1.000				
15.Age	.100	.173**	-.008	-.045	.183**	.185**	.224**	.138**	.163**	.142**	.164**	-.187**	.373**	-.219**	1.000			
16.Education	.018	.089	-.101	-.097	.061	.071	.165**	.111*	.117*	.061	.094	.043	.272**	-.219**	.435**	1.000		
17.Income	-.027	-.130*	-.095	-.080	-.056	-.030	-.105	-.081	.001	.007	-.010	.024	-.148**	.189**	-.314**	-.224**	1.000	
18.Chronic disease	.090	.134**	-.072	-.145**	.197**	.178**	.217**	.077	.137*	.149**	.114*	-.074	.675**	-.176**	.540**	.321**	-.194**	1.000

*p<0.05, **p<0.01

The result of stepwise logistic regression analysis indicated that perceived operational system, perceived provider attitude and negative emotions were significantly influencing client loyalty to primary care units. For every one point increase in perceived operational system quality, the odds of loyalty increased by a factor of 1.201 with all other factors being equal. For every one point increase in provider attitude, the odds of loyalty increased by a factor of 1.708 with all other factors being equal. For every one point increase in negative emotions, the odds of loyalty decreased by a factor of .777 with all other factors being equal. Pseudo R-square (Nagelkerke R^2) was 0.149.

Table 18 The results of stepwise logistic regression analysis using sub-dimensions of perceived service quality as independent variable

Factors	B	S.E.	Wald	Sig	Exp(B)	95% CI	
						lower	upper
Operational system	.184	.080	5.308	.021	1.201	1.028	1.404
Provider attitude	.536	.209	6.564	.010	1.708	1.134	2.574
Negative emotions	-.253	.082	9.443	.002	.777	.661	.912
Constant	-5.971	1.809	10.891	.001	.003		
-2LL = 415.901			Percentage correct = 65.7				
Nagelkerke $R^2 = .149$							

Additionally, loyalty dimensions were analyzed to determine what factors influence client loyalty in each dimension. The results were shown in Table 18. It appeared that utilization intention was positively affected by positive emotions (OR = 2.504, $p < 0.01$) and perceived human resources quality (OR = 1.343, $p < 0.05$). Positive word-of-mouth was positively influenced by perceived provider behavior quality (OR = 1.757, $p < 0.01$) and positive emotions (OR = 1.525, $p < 0.05$), and negatively influenced by waiting time (OR = .993, $p < 0.05$). Price sensitivity was positively determined by perceived provider attitude quality (OR = 1.506, $p < 0.05$) and perceived operational system (OR = 1.293, $p < .01$) and negatively determined by negative emotions (OR = .802, $p < 0.01$). Complaining behavior was positively

affected by positive emotions (OR = 1.317, $p < 0.05$) and perceived operational system quality (OR = 1.314, $p < 0.01$) and negatively influenced by negative emotions (OR = .844, $p < 0.05$) and chronic disease client (OR = .558, $p < 0.05$)

Table 19 Odds ratio of factors influencing client loyalty each dimension

Loyalty dimension	Perceived structure quality		Perceived process quality		Emotion		Waiting time	Chronic disease
	Human resources	Operational system	Provider attitude	Provider behavior	Positive	Negative		
Utilization intension	1.343*				2.504**			
Positive word-of-mouth			1.757**		1.525*		.993 _a *	
Price sensitivity	1.293**		1.506*			.808 _a **		
Complaining behavior	1.314**				1.317*	.844 _a *		.558 _a *

a negative relation

* $p < 0.05$, ** $p < 0.01$