CHAPTER III

METHODOLOGY

Study Design

This study was a descriptive, cross-sectional survey. It was designed aiming to identify factors influencing client loyalty to primary care unit in Muang district, Chonburi province. Quantitative data was collected through a nine-point Likert scale questionnaires.

Population

The research setting in this study was in Muang district, Chonburi province, where there are 17 primary care units available at Community Health Center. Population was clients obtaining primary care service at Community Health Center in Muang district, Chonburi province.

Sample

Sample was clients obtaining primary care service from 9 selected Community Health Center primary care units in Muang district, Chonburi province.

Sampling Design

There are 17 Community Health Center primary care units in Muang district, Chonburi province. One Community Health Center, Huagrok, was excluded because there were too few clients to be collected. The remainders Community Health Centers were categorized into 4 groups based on the availability of a physician service. First group, a physician service was not available. Second group, a physician visited monthly. Third group, a physician visited 2 times per month and the last group, a physician visited weekly. Then, two Community Health Centers in each group were selected by simple random except group three. There were more Community Health Centers in group three than other groups, thus, three Community Health Centers were

selected. Therefore, a total sampled Community Health Centers was 9 as below. Finally, the sample was selected by accidental selection from 9 sampled Community Health Centers.

Table 2 Responsible population of sampled primary care units

Group	Primary Care Unit	Responsible Population
1	Klongtamrhu	5338
	Napa	9944
2	Sansuk	21105
	Banpeuk	4375
3	Huaykapi	14644
	Tongkung	12770
	Angsila	4825
4	Nongmiadang	9985
	Bangsai	11505

Sample Size

Sample size was calculated by the following formula; (50)

$$n = 20p$$

when, n = sample size

p= number of independent variables

In this study, the numbers of independent variables were 17 variables. Therefore, sample size was 340 and plus 10% excess, so that the final sample size was 374. The number of sample required for each primary care unit was calculated according to the proportion of the average clients per month as shown in Table 3

Table 3 Proportion of samples per primary care unit

Primary Care Unit	Average Clients per month*	Sample
Klongtamrhu	572	34
Napa	774	46
Sansuk	432	26
Banpeuk	356	21
Huaykapi	1071	64
Tongkung	449	27
Angsila	656	39
Nongmiadang	668	40
Bangsai	1287	77
Total	6265	374

(*Data from March 2007-August 2007)

Inclusion Criteria

1. Clients age 15 years or more who can make own decision making in answer question.
2. Clients who were literacy, coming to seek care at the sampled primary care unit during the data collection period.

Exclusion Criteria

Clients obtaining service at primary care unit for a first time was excluded.

Operational process

1. Develop the questionnaire according to the objectives and conceptual framework.
2. Review and assess the content validity of the questionnaire.

3. Try out the questionnaire with 30 clients obtaining service at Bansuan Community Health Center, Muang District, Chonburi Province to test reliability and revise the questionnaire.
4. Clients visiting to seek care at the sampled primary care units were asked to self-administer questionnaire by accidental selection in both physician visit days and non-physician visit days until all total target samples in each primary care unit were collected.

Variable in the Study

Independent variables:

Independent variables includes

1. Perceived service quality which was classified into three dimensions
- Structure quality
    - Material resources
    - Human resources
    - Operational system
- Process quality
    - Attitudes
    - Behaviors
    - Expertise
- Outcome quality
    - Health status chances
    - Knowledge chances
    - Behavior chances
2. Satisfaction emotions
- Positive emotions
- Negative emotions
3. Accessibility which included two aspects
- Waiting time
- Cost of money

4. Sociodemographic factors which consisted of

- Age
- Income
- Education
- Type of disease

Dependent variable:

- Client loyalty
    - Utilization intention
    - Positive word-of-mouth
    - Price sensitivity
    - Complaining behavior

Study Instrument

Data was obtained using a nine-point Likert scale questionnaire. The questionnaire was developed according to the objectives and conceptual framework as the following steps; firstly, creating the item statements for each variable; secondly, reviewing and assessing the content validity; then pre-testing with 30 primary care unit clients; and finally, revising the questionnaire.

The developed questionnaire consisted of 4 parts. The first part was multiple choice and open end questions asking about sociodemographic data and accessibility information of clients. The latter 3 parts was a nine-point Likert scale ranging from 1 "strongly disagree" to 9 "strongly agree". The second part was used to evaluate perceived service quality composing of 37 items in 3 dimensions: perceived structure, process and outcome quality. Each dimension was further divided into three sub-dimensions as showed in Table 4

Table 4 Number of items in each sub-dimension of the perceived service quality questionnaire

Perceived service quality	Sub-dimension	Number of items
Structure quality	Material resources	6
	Human resources	3
	Operation system	3
Process quality	Provider attitude	6
	Provider behaviors	6
	Provider expertise	6
Outcome quality	Health status change	3
	Knowledge change	2
	Behavior change	2

The third part was used to measure satisfaction emotions. There were 3 items of positive emotions and 4 items of negative emotions.

The last part, client loyalty was measured in 4 dimensions proposed by Zeitheml et al. It composed of 3 items of utilization intension, 3 items of positive word-of-mouth, 2 items of price sensitivity and 3 items of complaining behavior.

Pre-testing

The questionnaire pre-testing was conducted at Bansuan Health Center. 30 clients obtaining service were asked to administer the questionnaire. Then Chronbach alpha was employed to evaluate the internal consistency among items within each part. Table 5 presented Chronbach alpha in each part.

Table 5 Chronbach alpha of the questionnaire

Questionnaire	**Chronbach alpha**	
	Overall part	**Min-Max of each item**
Perceived service quality	.975	.973 - .977
Satisfaction emotions	.812	.750 - .848
Client loyalty	.860	.825 - .869

Data Collection Method

The questionnaires were distributed to clients obtaining primary care units service by accidental selection and collected by researcher directly. The Clients were asked to self-administer the survey questionnaire. In the Community Health Centers which a physician service was available, data was collected in both physician visit days and non-physician visit days. The data was collected between January to March 2008.

Data Analysis

Data was analyzed using SPSS 13.0 for Windows software package. Descriptive statistics were used to describe sociodemographic data, perceived service quality, satisfaction emotions, accessibility and loyalty. Pearson's correlation was employed to find relationships between each pair of continuous variables and client loyalty. One Way ANOVA was employed to compare the means of client loyalty between clients with primary school education or lower and clients with higher education, and between clients with chronic disease and clients with non chronic disease.

Client loyalty was measured as behavioral outcome combined with attitudinal and cognitive components, and interpersonal relationships. In this study, client loyalty was measured in four dimensions including utilization intension, positive word-of-mouth, price sensitivity, and complaining behavior. To decide who was loyalty, the criteria were composed of 1) he or she performed all four properties and 2) the loyalty scores of all dimensions must be exceed than the mid point between one and nine that was five. Then, to examine what factors were significantly associated with client loyalty to primary care units, Logistic regression analysis was employed.