

CHAPTER III

Research Methodology

Design Architecture

This study was a cross sectional descriptive study, which employed survey research to analyze a number of factors influencing the drop-out in HCP.

Sample Specification

1. **Target Population:** The target population was intended to include those households who bought family treatment card in the previous cycle (1989-1991) in Maerim district.

In this study, the household was used as the unit of observation because a decision to drop out from the HCP effected the entire family.

2. **Population Sampled:** Target population was sampled by multistage sampling technique.

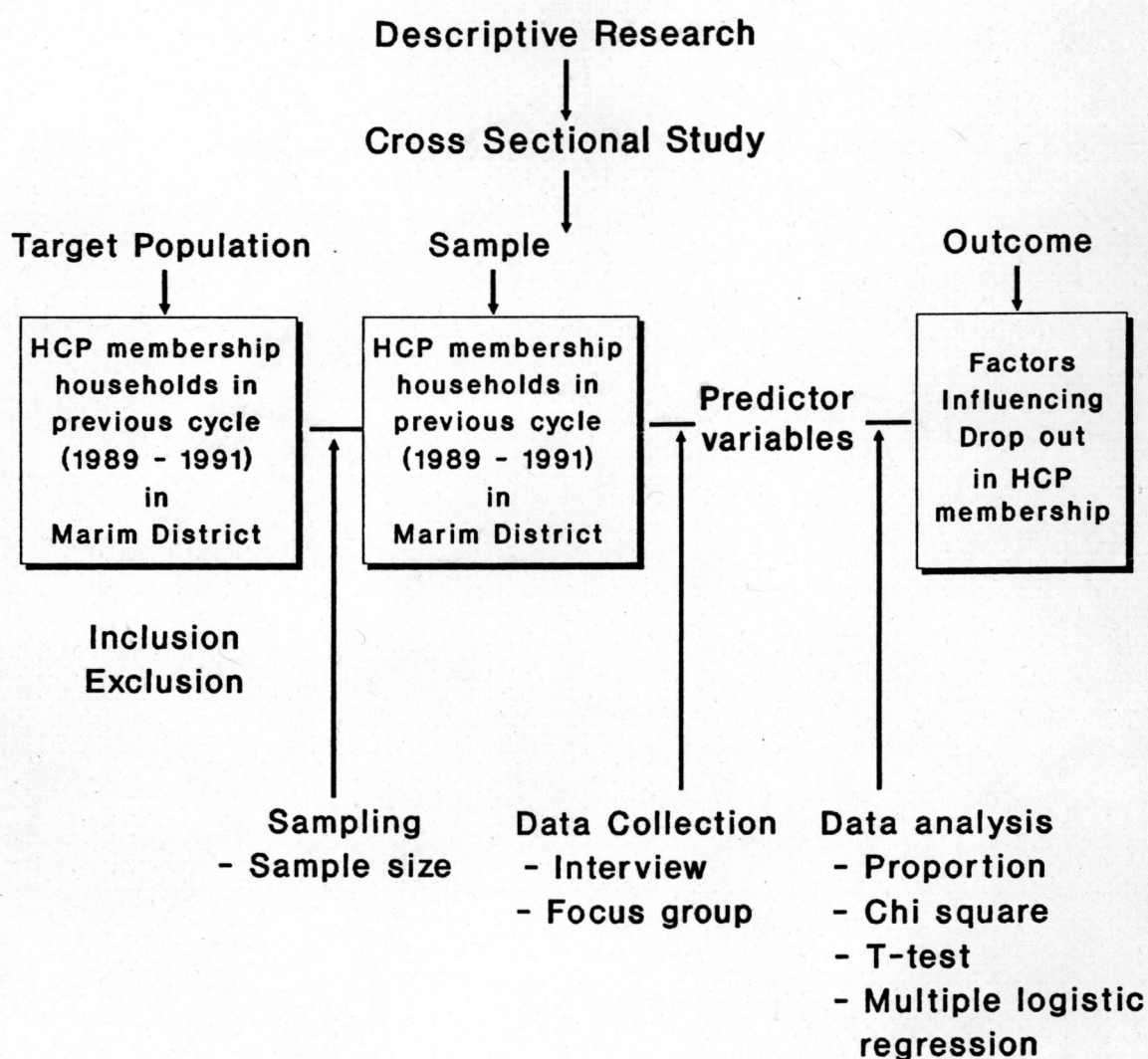
There are 11 subdistricts with the HCP in Maerim district. One village which operates HCP was selected from each subdistrict randomly. The number of household samples in each village depended on the proportion of health card holders in that village, and was randomly selected from a name list of households who had been HCP members in the previous cycle.

Those households involved in the study would fit the following criteria:

Inclusion criteria: 1) Households in villages which have implemented HCP for at least 2 cycles.

- Exclusion criteria:**
- 1) Households in hilltribe villages: because of traveling and language problems.
 - 2) Households who have no head of the family or a spouse or adult child over 20 years old staying at home during the interview period.

Figure 3.1 Overview of the Study Design



3. **Sample Size:** The statistic formula for sample size with its calculation was shown as following (Chitr Sitthi-amorn et al., 1987):

$$N = \frac{Z_{\alpha}^2 PQ}{\Delta^2}$$

where

Z_{α} = Z value standard normal cumulative probability table = 1.96 when α error = .05

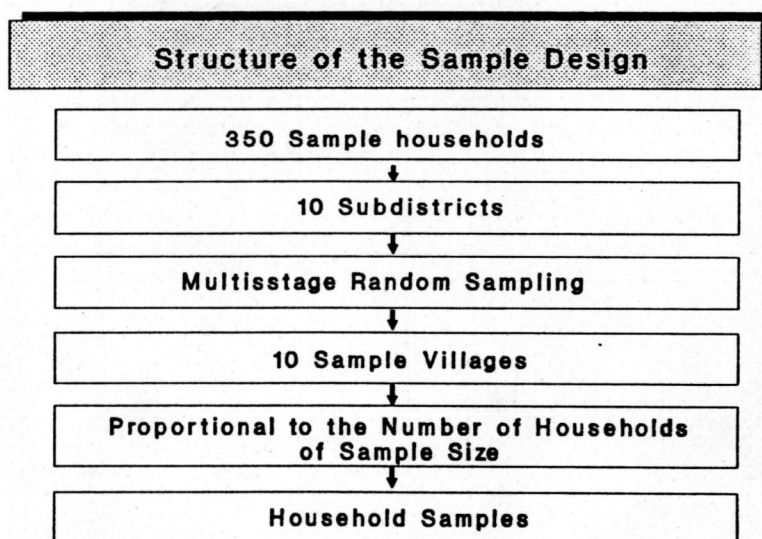
P = .35 (A pilot study, showed that 35 % of health card holders were not repurchased in the following cycle)

Q = 1 - P = .65

Δ = Acceptable error = .05

$$\begin{aligned} N &= \frac{(1.96)^2 (.35)(.65)}{(.05)^2} \\ &= 350 \end{aligned}$$

Figure 3.2 Structure of the Sample Design



Method of Study:

In order to gather the answers and to fulfill the objectives, this study employed both quantitative and qualitative methods. For quantitative measurement, structured interview questionnaires were formulated based on information which were obtained through review of literature and selected throughout the frame of consumer behavior. The questionnaire formulation frame consists of 4 parts:

Part 1 *Demographic data and Socio-cultural factors*

- age
- marital status
- religions
- education level
- household size
- household income
- other health insurance or free medical care privilege
- transportation

Part 2 *Sociological factors*

- Buying roles
- Friendship groups

Part 3 *Psychological factors*

- knowledge about HCP
- attitudes toward HCP
- Health services satisfaction
- Motivation

Part 4 *Marketing stimuli*

- Price of health card
- Distribution of health card
- HCP information sources

The factors influencing drop out of health card holders might have a complex interrelationship, only a quantitative method may confront with unexplained problems. In order to get more understanding and insight at the reasons of drop out, a qualitative method is designed by using the focus group discussion technique. Focus group discussion guiding questions include:

1. The differences between Health Card and Low Income Card or other free medical care privileges.
2. The villagers' need for health card and their perceived reasons for need.
3. Channel of health card distribution and its strategies.
4. Reasons for repurchase and drop out.

Before extensive survey of the HCPs actual operation, the questionnaire had been consulted by experts for content validity and suggestions.

The pretest questionnaire was carried out in 10 samples in village 9 (Mung-kaew subdistrict). The purpose was to examine the flow of the interview questions, and the comprehensibility of information. The pretest questions were reviewed and finalized before doing the pilot study.

Pilot study was done for two objectives. Firstly, to identify the prevalence of drop out in the previous cycle among the health card holders. In the pilot study it was found that the prevalence of drop-out was 35 percent. From the study survey, the prevalence of the drop-out was 34 percent. Secondly, to determine the logistic of conducting the survey such as transportation for interviewers, determination of the suitable time and ways to conduct interview at the sampling locations and as a basis to plan and implement the field survey.

The pilot study was also held in the same village, but with different clients than in the pre-test. 30 samples were interviewed. The time spent for each interview was approximately 23 minutes. Cronbach's Alpha Coefficient Method (Boontham Kitpredaborisuthi, 1990) was employed to assess reliability in attitude toward the HCP. The high-low 25 percent group method of item analysis was used to examine the power of item discrimination by following formula:

$$t = \frac{X_1 - X_2}{\sqrt{\frac{S_1^2}{N_1} + \frac{S_2^2}{N_2}}}$$

where

X_1 = Mean of high group

X_2 = Mean of low group

S_1^2 = Variance of high group

S_2^2 = Variance of low group

N_1 = Number of respondents of high group

N_2 = Number of respondents of low group

Items found to have low or no power (t less than 2.0) of discrimination were eliminated from the questionnaire or were revised in wording. Then reliability was estimated by following formula:

$$r = \frac{k}{k-1} \left(1 - \frac{\sum Si^2}{St^2} \right)$$

where

k = Number of questions

Si = Variance of each items

St = Variance of all items

The result of the reliability achieved an internal consistency reliability of .60.

Training of Interviewers

One of the master degree student of Sociology, and four of Sociology-anthropology students of Chiangmai University, with experience in social field training were trained to conduct field interviews. The training covered the general knowledge of the HCP, the purpose of the study, the contents of the instrument, and the quality of data collection. The interviewers became familiar with the questionnaire by practicing in the real setting during the pilot study. The investigator was incharge of the supervision and also did interviews.

Data Collection

The implementation of the field survey and the focus group discussion were conducted between August and September, 1991, for a total fifteen days. Each interviewer carried out approximately six interviews per day.

All 360 participants were interviewed but only 352 sets of questionnaire could be analyzed after eight were excluded because of incompleteness of the questionnaire. The interviews were held to assure the completeness of responses and helped to overcome the difficulties respondents might have had because of poor reading or poor writing skills.

Even though the survey was held in the middle period of the cultivating season when most villagers had more time to stay at home during daytime, the research team had to work in the early morning before those villagers, who work outside the village, left for their job, or sometimes in the evening when they could not be contacted in the morning. There were 19 households hit to exclusion criteria because of uncontact with the head of the family or a spouse or adult child with over 20 years old during interview period. Regarding the interview procedure, all questionnaires were required to be submitted daily for immediate editing. A discussion on the interviews and errors detected between was held each morning prior to field surveys.

The focus group discussion with the health card holders were held in four villages/four subdistricts. Each group consisted of 5-7 villagers. The group discussions were processed in temples, a village hall, or a villager's house.

Data Processing

Data was enter from the interview questionnaires into the coding forms and the verification was done, using DBase III Plus. Verification of the data in diskettes with the coding also operated.

Data processing was computerized with a personal computer using the statistic package for Social Science (SPSS-PC +) and also had been entered into a multiple logistic regression analysis program.

The information obtained from the focus group discussion was hand written by translation from radio cassettes.

Statistical Analysis

The analysis of data consists of two parts:

(1) Description of the baseline data

Statistical analysis in the form of descriptive summarizing data is made by means of the descriptive statistical methods, including frequency distribution, proportion, and mean. Inferential statistics is used to compare variable between drop-out and continued membership groups.

(2) The factors influencing drop out in health card members

Multiple logistic regression is used to estimate analyze the relative importance of each independent variable.

Hence, the variables whose Chi-square statistic or T-test has a p-value of less than or equal .05 are included in a multiple logistic regression analysis.
