

## CHAPTER III

### RESEARCH METHODOLOGY

#### **Research Design**

This is a comparative analytical study comparing source data (at the health centers) to reported data (as received at the District Health Office), over a one-year period.

#### **Target Populations**

This study involves primary and secondary target populations. The primary target population is patients diagnosed with reportable illnesses at health centers, for whom epidemiologic surveillance report form 506 should be completed at the health center and sent to the district health office. This population has 2 types of data for comparison: (1) outpatient records of reportable diseases at the studied health centers (the "gold standard") and the report forms 506 as completed and sent by health center personnel (the comparison data). The secondary target population is public health officials of health centers, who are responsible for completing report forms 506 (and 507).

#### **Sample**

In Muang District, Nakhonsithammarat Province, a total of 25 health centers prepare and send report form 506 and 507 to the district health office. Each health

center has one person with responsibility for this, for a total of 25 people in the secondary target population. This study included all of these 25 people. Therefore, this study has a saturated sample, and the researcher has not calculated sample size requirements. (The 25 health center staff people included in my study are the same as were responsible for completing and sending report from 506 and 507 in 2004.)

My study considered all of the report from 506 that the District Public Health Office received from health centers in Muang District for one year, starting January 1, 2004, and ending December 31, 2004. During this year, a total of 831 report forms were received at the District Health Office from the 25 local health centers in the district.

### **Data Collection Instruments**

This study used data collected from 2 sources, as follows:

1. Information on reportable diseases as recorded at the 25 health centers (the "gold standard"); information on reportable diseases as reported in the report forms 506 received from these 25 health centers in 2004. (the comparison group)
2. A standardized questionnaire developed by the researcher, administered to the 25 health center workers mentioned above.

This questionnaire included:

1. Questionnaire for health center personnel

Part 1: Personal data

Part 2: Questions on knowledge

(Data 0, 1. Test reliability with Kr 20 = 0.75)

Part 3: Questions on attitude

(Data rating scale. Test reliability with Alpha = 0.83)

Part 4: Perceived problems and suggestions

2. Recording forms for completeness, accuracy, and promptness

(The questionnaire is contained in appendix B)

### **Questionnaire's completion and accuracy examination**

Finding out content validity of questionnaire by bringing the developed questionnaire to consultant and expert to consider its accuracy. I pre-tested the questionnaire with 30 public health officials who are responsible for epidemiologic in Health Center of Lansaka and Ronpiboon District, Nakhonsithammarat Province. The questionnaire was revised according to the experience of this pre-test.

### **Data Collection**

1. Researcher was send letters to the Chief of Muang Nakhonsithammarat District Office and Chief of Public Health Office of Muang Nakhonisthammarat District to inform research objectives and ask for cooperation.
2. I was administer the revised questionnaire to the study group of 25 health center workers in Muang Nakhonisthammarat District.
3. I was then examine and assess data quality. I expect that it was possible to assess accuracy, completion, and timeliness with both continuous and categorical variables. Specific construction of categorical scores depended on specific frequencies in the data that I collect.

4. Collect all questionnaire forms, examine their accuracy and completion. Then code them and record in computer.

### **Data Analysis**

Data collected were processed by software program (SPSS/ PC) as follows: -

1. Descriptive Statistics
  - a. Continuous Data were summarized by summary statistics, mainly mean, standard deviation, and range.
  - b. Categorical data were summarized by frequencies and proportions.
2. Inferential Statistics

The main purposes of data analysis were to ascertain whether there are associations between dependent and independent variables. Each type of dependent variable (completeness, accuracy, promptness, and overall data quality) were analyzed against each type in independent variable (patient characteristics, type of illness, health center characteristics, location of health center, and calendar time). Dependent variables were analyzed as both continuous and categorical data. Continuous data analysis included independent-samples t-tests if the data are normally distributed, Mann-Whitney tests if the data are not normally distributed, and Pearson correlation analysis when independent and dependent variables were both continuous. Categorical data analysis included chi-square tests.

### **Ethical Considerations**

This research is analytical research (testing for associations or relationships). This research includes only record searching and questionnaire administration. It has

no clinical or physiological testing. It is expected that results of this study can be used in public health personnel development. Data got from research were presented as a whole picture and hope that it was not cause any problem on the performance of health officials. Study procedures were explained to all prospective subjects, who was free to decline to participate. All data were kept confidential.

**Limitation**

This research is study only Health Centers in Muang District, Nakhonsithammarat Province, not study in hospital and non government hospital. Also, study results may not be applicable outside Nakhonsithammarat Province.