

## CHAPTER I

### BACKGROUND AND RATIONALE

The implementation of public health in Thailand has been aimed at promoting good health for all, and has used epidemiologic surveillance as a significant tool since 1959. The Epidemiologic Division, Office of the secretary of the Ministry of Public Health is the responsible agency at central level. It is recognized that epidemiologic is an effective instrument in indicating problems related with public health of the country, which enables in prioritizing and solving them respectively. Surveillance findings can also be applied to other related efforts, e.g. policy and planning, monitoring and evaluating public health-related plans and projects. (Chockwiwat & Suwanpunyaleat, 2000)

In planning for effective administration, information is necessary for finding fact and rationale, decision making and problem solving. At present other sector development leads to crucial change in public health problems. Thus public health information becomes more and more important. It does not only help in monitoring for effective service provision, being instrument for public health resource examination and control which are direct benefit but also informs the quality of public health service and status of public health resources which are indirect benefit, Administrators have to use more information for decision making, the study to develop information system should, therefore, be done to make the information more accurate and reliable. In addition information should be collected and processed as

promptly as possible. (Sukhothai Thummatirat Open University,1991)

Public health data, especially on epidemiologic aspects such as details of persons, and times and places of diseases, help us to know what disease occurs, to whom, where, when and how it occurs which enables each country to establish epidemiologic surveillance network in order to collect complete and accurate data as much as possible. Even though the collected data is only a part of the diseases occurred since not all the patients received services at the public health centers. (Ministry of Public Health, 1992) One component used for continual study to accurately know about the occurrence of disease in community is the in report on epidemiologic surveillance diseases of public health offices using the report form 506. These reports are prepared at local health centers, and then sent to district health offices. Emphasis has been placed on illness report since it occurred continually and enables us to immediately consider trend and changing of illness before severe unusual situation occurs and is difficult to control. Furthermore, epidemiologic can also be used for analyzing illness report in order to predict the occurrence and characteristic of epidemiologic diseases which will be very much useful for administrators, public health personnel and persons who receive services. If people immediately receive this type of information; they may use it for self-prevention or cooperate with public health office in effective prevention of diseases. (Ministry of Public Health, 1999)

It is obviously that instrument used for data collection is very significant. Data can be useful only when it is correct, complete, and prompt and enables users to promptly find more data and reasons why disease occurs. However, such data currently has little response to planning, monitoring and evaluating process due to

problems in its accuracy, completeness and promptness. Problems in data collection are time consuming in collection process from provincial to central level, processing and analyzing of data will be undertaken at central level, and then it will be finally submitted back to provincial level. The data hasn't yet been fully applied. The spread of it leads to difficulty in finding. There are also problems in inaccuracy, incompleteness and lateness of data at the local health center level. There are also some mistakes in reporting due to various types and complexity of registration and report forms. The study about accuracy, completeness, and promptness of data on patients from report found that it is necessary to improve reporting in some places. (Wattanasurakit, 1985) At tambon level reporting is the second activity which takes much more time than other activities. The average percentage of health center work time required by this activity 14.93 %. (Suksud, 1984) Officials who collected data at tambon level sometimes had a negative attitude towards data collection since it took a long time. In addition, they also didn't realize the importance of data due to lack of knowledge and never getting analyzed data back for planning. The lack of instrument for data processing at the beginning and improper distribution of human resources leads to lacking adviser on data processing and analyzing for decision making at different levels. (Tosakul, 1984)

Muang District is a district in Nakhonsrithammarat Province, which has to make report of epidemiologic surveillance results at every public health center in the District. In 2001, 33% of health centers submitted report to the District Public Health Office. (Nakhonsithummarat Province Public Health Office, 2002) The average number of reportable cases received from each health center was only 6 per month. There was not any report from some centers in some months. The data of the Public

Health Ministry show that data collection started from health officials. Since they had many things to do, public service was the most important thing to handle first, reporting would be done later so the data become incomplete. The mistake of the data collected by local health officials leads to mistakes at district, provincial, regional and national level. It is unable to inform right situation.

The researcher realized the importance and the need to improve the quality of data on epidemiologic at tambon level, therefore, undertook the study on "Factors Related to Quality of Epidemiologic Surveillance Data (Report Form 506) from Health Centers in Muang District, Nakhonsithammarat Province," to bring results from this study to develop effective epidemiologic surveillance work.

## **Research objectives**

### **General objective**

To study associations of patient characteristics, health center characteristics, location and calendar time with quality of data in epidemiologic surveillance report at health centers in Muang District, Nakhonsrithammarat Province

### **Specific objectives**

1. Factors related with quality of data in epidemiologic surveillance report at health center level in Muang District, Nakhonsrithammarat Province
2. Quality of data in epidemiologic surveillance report regarding its accuracy, completion, promptness and overall quality by health center

## **Hypotheses**

1. Patient characteristics e.g. gender, age, occupation, diseases / diagnosis, are related to quality of data in epidemiologic surveillance report at health center level.
2. Health center characteristics e.g., knowledge on epidemiology, attitude towards epidemiology, gender, age, marital status, educational attainment, birthplace, income, period working as government official, period working on epidemiology, training received on epidemiology, method in submitting report form, supporting activities in implementation, receiving supervision on epidemiology and transportation and communication are related to quality of data in epidemiologic surveillance report at health center level.
3. Locations e.g. sub district, are related to quality of data in epidemiologic surveillance report at health center level.
4. Calendar time e.g. Season, are related to quality of data in epidemiologic surveillance report at health center level.

## **Observation and Measurement**

### **Independent Variables the researcher studied are:**

1. Patient characteristics e.g. gender, age, occupation, diseases / diagnosis.
2. Health center characteristics e.g., knowledge on epidemiology, attitude towards epidemiology, gender, age, marital status, educational attainment, birthplace, income, period working as government official, period working on epidemiology, training received on epidemiology, method in

submitting report form, supporting activities in implementation, receiving supervision on epidemiology and transportation and communication.

3. Locations e.g. sub district.
4. Time e.g. month. (Some patients who come to the health center are referred directly to the hospital, where their illness is diagnosed. Information on these patients is kept in a referral registry at each health center. If the hospital diagnosis reveals a reportable disease, the hospital (not the health center) fills out a report form 506 for that patient, and submits it to the District Health Office. The diagnostic results for these patients are not sent to the health center, so the referral registry does not contain this information. Even so, I plan to record referral registry information at each health center, and analyze it as a source of potential bias in my main results.)

### **Dependent Variables**

The dependent variables were quality of epidemiologic surveillance data report regarding its accuracy, completeness, and promptness. An overall quality score or index was also developed, which combines information on accuracy, completeness, and promptness.

## Conceptual Framework

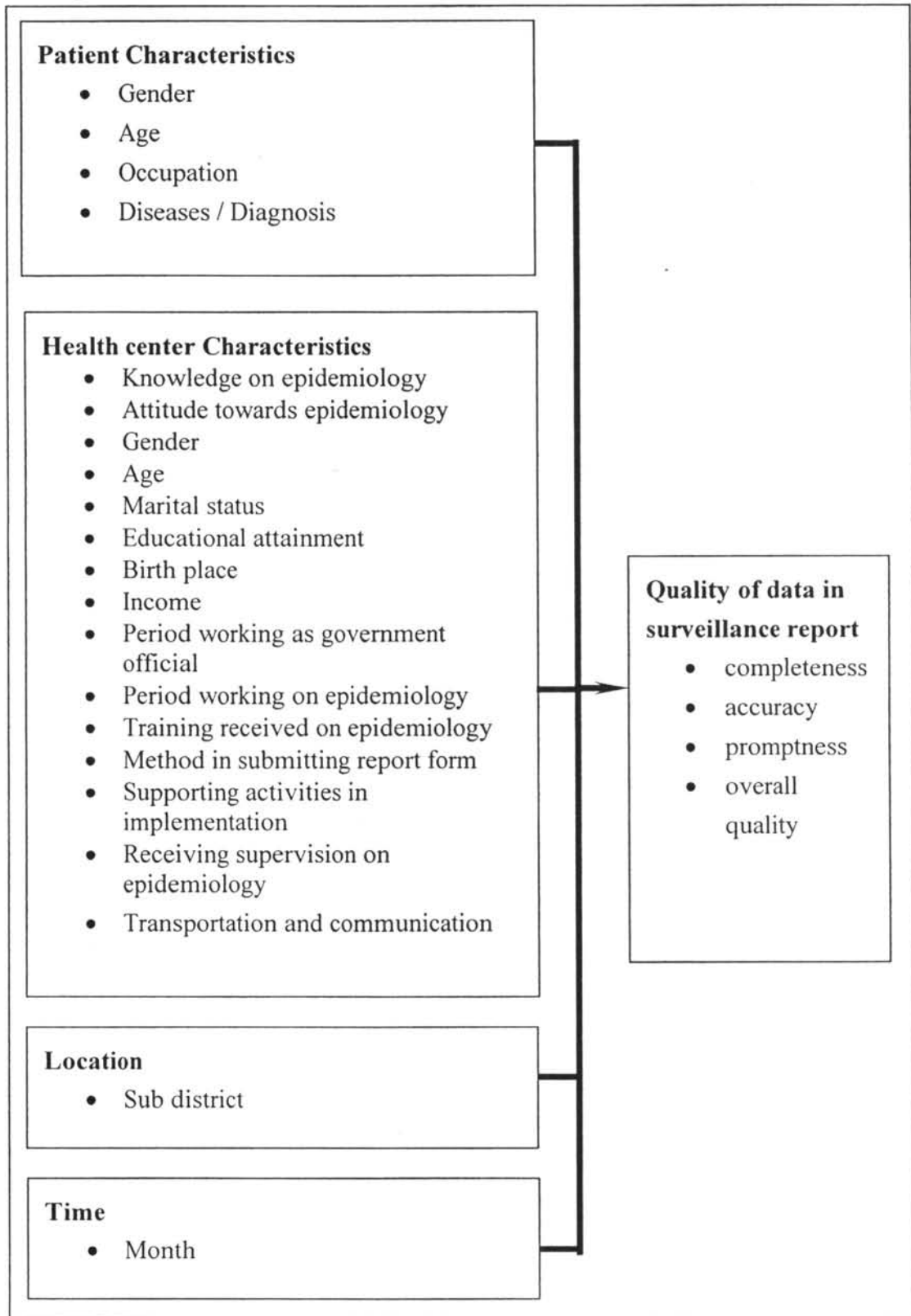


Figure 1: Diagram of Conceptual Framework.

### **Assumption**

Data of patients recorded in O.P.D. Card or patient registration form is assumed to be correct.

### **Operational Definitions**

1. Public Health Official at tambon level means Public Health Official who works at health center and responsible for epidemiologic work
2. Income means regular monthly salary and special income from other job, average per month
3. Receiving training on epidemiologic means received training on epidemiologic from involved agencies at any level, e.g., District Public Health Office, Provincial Public Health Office, Regional Epidemiologic Center, Epidemiologic Division of MOPH
4. Model in submitting report form means method in submitting report form e.g.
  - a. Sending report forms
  - b. Sending diskettes
  - c. Sending E – mails
5. Supporting on report forms means received support on report forms related with epidemiologic e.g. report forms 506 and 507, consolidation form: E1, E2, E4 and Daily Record Form.
6. Receiving Supervision on epidemiologic means received advice on implementation of epidemiologic from supervisors at all levels.
7. Completeness is the degree of correspondence between diagnoses in the



health center records and those in the received report forms 506. Completeness is satisfied when a report from 506 is received, and its recorded diagnosis is the same as that in the center records. The numerator of the completeness rate is the number of complete forms received, and the denominator is the total number of reportable diagnoses in the health center records.

8. Accuracy: A received report from 506 is considered accurate when its information for all of the following 8 items is the same as that in the health center records: (1) name; (2) diagnosis; (3) age; (4) gender; (5) occupation; (6) address; (7) date of illness onset; (8) date of visiting the health center for the illness. The numerator of the accuracy rate is the number of accurate forms received, and the denominator is the total number of forms received
9. Promptness: A report from 506 is considered prompt when it is received no more than 7 days after the date when the patient came to the health center for the reported illness. The numerator of the promptness rate is the number of forms received promptly, and the denominator is the total number of forms received.
10. Overall quality refers to the completeness, accuracy, and promptness of the report forms 506, as well as the presence or absence of required summarization of information from these forms (consolidation) at the health centers. All four of these components are given equal weight in calculating the overall completeness score.