

CHAPTER 1

INTRODUCTION



1.1 Background and Rationale

In Thailand, during 1992-1994, breast cancer was the second most frequent cancer of women, after cervical cancer. The estimated incidence rate was 16.3 per 100,000 women, rather higher than the estimated rate for the year 1990 (age standardized rate or ASR = 13.5 per 100,000 world population). The incidence rate is highest in Bangkok (ASR = 20.6). However, breast cancer is very rare in Thai men. Among women, age-specific incidence rates show a rise to maximum at around age 50, and decline in older ages. Early detection of breast cancer has mostly been performed by means of breast self-examination, physical examination and a limited mammography. Most cases are detected at a relatively advanced stage. As a result, breast cancer treatment consists of modified radical mastectomy for the majority of cases, with breast conserving therapy only for the minority diagnosed at an early stage. (Chindavijak and Martin 1999)

Decreases in breast cancer mortality can be partially attributed to earlier disease detection and treatment due to greater use of mammography screening, which has been proven effective for detecting breast cancer in early stages. The effectiveness of mammography screening have indicated that deaths from cancer could be reduced by 19% to 30% (Brownson et al., 1993). There are some studies showing that the strongest factors influencing the utilization of mammography screening are physician's recommendation and family history of breast cancer (Carr et al., 1996). The clinical examinations and laboratory tests were the most influential determinant of utilization as well (Vincent et al, 1991). Women in the lowest levels of annual household income and education also used mammography screening at the lowest levels but increased as income and education increased. Women without health-care insurance were consistently less likely than those with insurance to have received mammograms (Blackman et al, 1999).

Mammography is one of medical modern technology, which is a breast x-ray that can reveal the presence of small cancers up to two years before they can be found by breast self examination, even if it is done by doctor. The technology, however, helps make diagnosis more efficient. Modern medical technology can be expensive and maintenance cost is also high. In Thailand, the national health expenditure has been increasing gradually from 35,315 million Baht (3.82 percent of gross domestic production-GDP) in 1990 to 283,576 million Baht (6.21 percent of GDP) in 1998 (Wibulpolprasert ,1999). This is related to expensive medical technologies which are used wastefully and uneconomically in certain circumstances. The utilization of these machines is one of the causes for high medical care costs. These situations could be worse off, because of less restrictive mechanism for technology assessment and control of procurement. In addition, there is no empirical evidence identifying either the cause of increasing health care cost or whether better health among Thais is achieved by increasing resources spending (Tangcharoensathien, 1996). Consequently, there is a risk that higher health care costs may be associated with uncontrolled privatization, as private providers seek to maximize profit. Efficiency may be diminished further if providers have incentives to provide unnecessary and expensive care.

Concerning the diffusion of mammography, a study shows that there are 113 mammography machines installed in Thailand. Of which 54% were in Bangkok and vicinity, while the proportion installed in the private sector was 65% (Tangcharoensathien et al., 1999). The first mammography was introduced and installed in 1968 at the National Cancer Institute, Department of Medical Services, Ministry of Public Health. The number of mammography had risen so quickly from 1995-1997. After that period the increasing rate of mammography was slow down as a result of economic crisis in 1997 and consequently, the increasing rate in the public sector is higher than in the private sector. The average price of a mammography is 3.1 million Baht per machine. The charge for mammography screening in the public sector is about 1,000-2,000 Baht/test and 2,000-4,000 Baht/test in the private sector.

Although there have been many mammography installed in Thailand, this technology is less useful if they cannot serve the target group, i.e. women with high risk or mammography screening cannot be expand to equitably cover all women. This leads to a major problem of equity in resource allocation. Thus, a mammography assessment is very important to make decision on how to utilize this machine with regard to safety, efficacy, efficiency, equality, accessibility and cost-containment. Moreover, in Thailand, there is inadequate systematic analysis to find out the characteristics of patients and providers that use the mammography. Thus, this study is the preliminary study in order to emphasize and identify the characteristics of patient, provider and others factors that influence the utilization of mammography screening at the National Cancer Institute. In addition, it is necessary to examine and calculate the component of cost and revenue, and to investigate any conditions that the hospital can recover the cost in order to achieve health care system objectives of efficiency, equity, and cost containment. Finally, the findings could be used to set a protocol of the hospital to reduce barriers of mammography screening and to provide policy implications of mammography screening at the macro-perspective level.

1.2 Research Questions

- 1) What are the patient characteristics, provider features and other factors (national policy and diffusion of mammography) that influence the utilization of mammography screening at the National Cancer Institute?
- 2) What are the cost, revenue and cost recovery of mammography screening in the viewpoint of provider at the National Cancer Institute in fiscal years 1997-1999?

1.3 Objectives

1.3.1 General Objective

To describe the utilization pattern of mammography and analyze the cost recovery of mammography screening at the National Cancer Institute.

1.3.2 Specific Objectives

1. To describe the patient characteristics, provider features and other factors related to national policy and diffusion of mammography that influence the utilization of mammography screening at the National Cancer Institute.
2. To analyze the total cost, total revenue, and cost recovery of mammography screening at the National Cancer Institute in fiscal years 1997, 1998 and 1999.
3. To provide the policy implications of mammography screening at the macro-perspective level.

1.4 Scope of the Study

In the part of utilization of mammography screening in the National Cancer Institute, due to time limitation, the sample cannot be randomly selected in 1 year. So, this study selected a sample of 896 female patients both users and non-users of mammography screening during the 2-month period of February-March 2000. Questionnaires were used for collecting primary data as the major type of data used in the study.

In addition, this study evaluated the cost recovery by analyzing cost, in terms of operating and total cost, and total revenue of mammography screening from provider perspectives. The fiscal years 1997-1999 were chosen to represent the situation of cost recovery of this hospital. Record sheets of labour cost, material cost and capital cost were collected as secondary data which were mainly used in this analysis.

1.5 Possible Benefits

This study provides some policy implications for decision-makers in this hospital and at national level to consider the important user characteristics, provider features and others that influence the utilization of mammography, and to plan on setting up the protocol to access the mammography screening or setting up a mammography screening program and expand it to cover all of women in the country. In addition, the benefit of financial aspect analysis, the decision-makers will realize that in the long run screening with mammography can lead to reduction of health service costs, and then try to set policies on how to use mammography more efficiently and equitably.