



CHAPTER 2

LITERATURE REVIEWS

2.1 Cost Analysis

Cost analysis is very important from provider perspective. It is an evaluation of examination of resources, how they are being spent. From provider perspective cost analysis can help them to know and explain how resources or fund have been used and to identify the areas where expense need to be reduced or increased.

Cost analysis can provide important useful information of all kinds of health services. It helps in assessing the use of health care delivery personal and the efficiency of putting supplies, transport resources and other input to work (Creese and Parker, 1994)

Phillip, et al (1993) classifies cost by input of 2 types-capital are those items that lasts longer than one year, such as building, equipment, vehicle etc., and recurrent costs are those cost items that are used up in the course of a year and usually purchased regularly.

The collecting and using cost data in the health sector, the approach focuses on the cost directly associated with a particular activity. It requires the identification and measurement of the costs incurred in providing a particular intervention or in treatment a particular patient. In other words, it attempts to calculate the costs of the resources that are actually used in an activity or those that are consumed by a particular patient. In practice, this often proves difficult because it is difficult to identify the resources used in many activities and to calculate what proportion of the costs of shared items or facilities should be apportioned to individual activities (Mills and Gilson, 1988).

The important factors for determining cost are:

- size (number of beds);
- throughout (the number of cases treated in a given time period);
- case-mix (the combination of diagnoses admitted);
- case-severity (more/ less severe cases admitted);
- quality of care;
- typed of treatments offered;
- teaching or research activities;
- age and/ or location of hospital facilities;
- occupancy level;
- manpower availability; and
- length of stay.

One or more of these factors may account for differences in measured costs between hospitals. It is necessary to ask what factors are likely to influence costs and then try to isolate the effect of those factors using statistical techniques. For instance, it might be interesting to know whether the cost per patient differs according to whether the hospital is large or small. By controlling in the analysis for

other factors that affect cost, the effect on cost of size alone can be estimated. (Mills and Gillson, 1998)

Carrin and Evlo (1995) developed a methodology for calculation of health care cost and their recovery. This methodology is a tool that can be used by the Ministry of Public Health to elaborate a cost recovery strategy, and is flexible, general and capable of application to all types of public sector hospitals.

2.2 Utilization and Consumer Behavior

Different financing mechanisms have very different affects on the level and type of service use. Some methods of payment influence consumer behavior by the incentives given to providers to withhold or provide services; while some may directly stimulate or restrain the utilization of services. Many existing financing policies have paid little attention to the incentives they create or reinforce, or to their ensuring impact upon service providers, household, and government agencies. Some financing mechanisms may encourage undesirable practices such as the inappropriate utilization of services.

Identifying the effect of financing mechanism on consumer behavior requires an understanding of its determinants. The demand for health services can be defined in terms of the coincidence in one individual of both the willingness and ability to pay. These can be related to a set of sociodemographic factors such as age, education, gender and health status; and a set of economic factors such as the monetary (e.g. fees, drug cost and travel costs) and non-monetary (time) cost of seeking care, income level in relation to the magnitude of the costs of the care, and the degree of access to cash or other accepted forms of payment. The evidence

concerning the demand for health care in developing countries is mixed but suggests that, especially for low income groups, demand may be elastic with respect to price, falling as price increases and resulting in significant shifts in the use of alternative providers. Even where only the time price of health care (resulting from travel and waiting times) has been considered, the evidence supports this finding; and other factors, such as poor access these other influences, as well as monetary prices, in order to evaluate the effects on utilization. Clearly planners must assess these other influences, as well as monetary prices, in order to evaluate the effects on utilization of financing mechanism such as user fees (Mills and Gilson, 1988).

2.3 Related Studies

Srithamrongsawad (1996) conducted a study of the operation of the Health Card Scheme in 1995. He evaluated the coverage of card sales, utilization and expenditure in the 67 provinces of Thailand. The research found that card sales covered 7.85% of the population, countrywide. Out-Patient's average utilization rate was 2.04 visits per person per year. The pattern appears to be that Health Card members suffer chronic diseases. In-Patient's average utilization rate was 0.09 visit per person per year, with the average length of stay being 4.33 days per visit. The proportion of service utilization at community hospitals and general/ regional hospitals was 53.5% and 46.5%, respectively. Medical expenditure was 1,523 baht per card.

My study expected to find the similar patterns among the chronically ill patients in Sena Hospital and may be more serious in higher levels of care as in a general hospital. The unit cost could also increase according to the severity of the disease.

Supakankunti (1997) conducted the future prospects of voluntary health insurance in Thailand. The study focuses on the factor affected Health Card purchase and utilization patterns in Khon Kaen province. It found that employment, education level and the presence of illness were significant factors influencing card purchase. The aforementioned last factor is related to the problem of adverse selection of the program: families with symptoms of sickness were more likely to buy cards and the result was a greater use of health services. The results also show an improvement in accessibility to health care and high level of satisfaction among card holders, both key objectives of the program. Problems of program performance include issues of program and financial management: marketing; quality control; cost recovery; ineffective referral systems; and lack of limits on episodes and ceilings for expenses.

The presence of illness factor is expected to significantly affect increasing use a health card used and the provider cost in terms of higher costs per visit and cost per year.

Denduang, et al (1993) conducted a Pilot Project of Health Card Scheme. They used the concept of social insurance to create a model of a Health Card Scheme. It operated at Taklee District level, Nakornsawan Province. The study found that total card sales were 1,667 cards per year and the population coverage of Health Cards in Taklee District was 9.1% with 7,142 members. Outpatients totalled 12,054 visits and inpatients 320 visits. The revenue of the health insurance fund was 1,667,000 baht. 80% or 1,428,200 baht of this was allocated to the contracted hospitals, but the total charge for contracted hospitals was 1,670,736 baht, The deficit was 242,491 baht. The problem of operating this project was that coverage was low and expenditure high for medical care, especially for chronic illnesses such

as diabetes, due to the great burden of outpatients at the hospital. Although the proportion of diabetic patients was not high in volume, expenditure on these patients was 40% of all outpatients expenditure for the Health Card Scheme at this hospital.

Wannawake (1991) studied the unit cost in OPD at Chulalongkorn hospital in fiscal year 1990. It is a retrospective study providing analysis from the provider's point of view. The steps of processing to analyze the unit cost of the hospital were classified by the cost center into 3 groups, according to its function. These were Non Revenue Producing Cost Center (NRPCC), Revenue Producing Cost Center (RPCC) and Patient Services (PS). When calculating the direct costs of each cost center, costs were obtained from the summation of Labor, Material and Capital costs. The total cost can be calculated by the direct distribution cost method that NRPCC and RPCC had to allocate to PC for indirect cost, according to the related function of service or supported work. This was added to the direct cost at Patient Service (PS) to get the full cost, then divided by the total number of visits for a year in OPD, to get the unit cost. The result of this study found that the unit cost in OPD equaled 241.73 baht. The unit cost, in the part of Routine Service Costs (RSC), equaled 126.96 baht, as the unit cost of the Revenue Producing Cost Center (RPCC) varied with the different kinds of diseases. This equaled 129.96 baht for this study. The proportion of cost in RPCC was equaled 53.76% of the unit cost in OPD. This study did not consider the pattern and severity of diseases, the types of patients or payment mechanisms. The unit cost was calculated from a selection of the total patients in OPD.

Kongsawat (1991) studied the unit cost of the medicine department at OPD in Chulalongkorn Hospital in fiscal year 1990. By collecting the total cost of the medicine department, then dividing the number of service visits, the research found that the unit cost of General Medicine, Dermatitis Medicine and Specific Medicine was 266, 217 and 251 baht, respectively. When the costs exclude Routine Service Cost, the unit cost equaled 80, 110 and 98 baht respectively. The cost of RPCC varied with the different kinds of diseases equating to 186, 107 and 153 baht, respectively.