



## CHAPTER 5

### DISCUSSIONS, POLICY IMPLICATIONS AND RECOMMENDATIONS

#### 5.1 Discussion

Since the CPIRD project was established, there was no research report on unit cost analysis of this Medical Education Programme, particularly unit cost of medical education at Medical Education Centre in 12 Centres existing around the country.

This study has intended to estimate the unit cost on the performance of clinical medical education to the medical students at Khon Kaen Medical Education Centre under the CPIRD project, Ministry of Public Health. The goal of this 10 year project is to increase the 3,000 physicians to serve in the rural area by setting up the Medical Education Centre. All of the 12 Medical Education Centres are located inside the Regional and Provincial Hospitals. These Hospitals provide their resources, i.e., personnel, medical equipment, and the place for clinical teaching and training to the 4<sup>th</sup> – the 6<sup>th</sup> year medical students. The government gives a subsidy of 300,000 Baht / student / year throughout the 6-year of medical education.

There were many previous studies on the unit cost of the clinical medical education in government universities. The result of the studies indicated that the annual unit cost to produce one doctor is about 250,000 Baht–300,000 Baht (NEC, 1985). This study found that the estimated average total cost (ATC) of medical education programme, at Khon Kaen Medical Education Centre was 559,208.49 Baht, while the average variable cost is only 109,508.08 Baht. This study indicated that the average total cost of Medical Education Programme was nearly twofold higher than the previous study, while the average variable cost was lower than the previous study. However, this figure was certainly underestimated because all the actual cost borne by 6 service departments of the hospital which arranged clinical teaching for the students of MEC was not taken into account. Due to the difficulty of the data collection and data available to identify the cost incurred by medical education programme at each department. Moreover; there are more than one training programme in Khon Kaen Regional Hospital, i.e. residency training, and nursing training. Because the current accounting

system of the hospital is unable to identify the separated cost of each training programme.

The Medical Education Programme at Khon Kaen MEC is a three-year clinical programme for medical student (the 4<sup>th</sup> –the 6<sup>th</sup> year), the 1<sup>st</sup> –the 3<sup>rd</sup> are studying at faculty of medicine, Khon Kaen University. At present, the Khon Kaen MEC has only 2 classes, i.e. the 4<sup>th</sup> and the 5<sup>th</sup> year medical student, this study assumes that the cost of medical education in the three years (the 4<sup>th</sup> – 6<sup>th</sup>) is no different.

The study found that the total fixed cost (TFC) in academic year 1998 was 16,453,878.60 Baht, average fixed (AVC) cost was 1,495,807.16 Baht, the total variable cost (TVC) was 1,204,588.93 Baht, and the average variable cost (AVC) was 109,508.08 Baht. This study found that the total fixed cost was very high compared to the total variable cost, due to building the new centre and buying new equipment and the investment of training the instructors (physicians) from both in Thailand and overseas. Another reason for the high total fixed cost is the economies of scale, at present MEC has 24 medical students, all of them living-in hospital. However, in the academic year 2000, based on an assumption that there is no drop out, the number of medical students will increase to be 37.

This study indicated that the total cost of Medical Education Programme was higher than the subsidy 300,000 Baht / Student / year by the government while the average variable cost was lower. But this study is just an innovative study and mostly based on the assumptions that the variable costs and personnel's salaries and instructors' salaries in the academic year 1999, 2000 based on the academic year 1998. The forecast of the cost of the Medical Education Programme when it was fully utilized in an academic year 2000 was 559,208.49 Baht; that is 3 classes of the students share the MEC's facilities. However, the further study is needed to concern itself on the cost borne by the collaborative networks of this programme, i.e. faculty of medicine, and the clinical departments in the hospital.

## 5.2 Policy Implications

This unit cost analysis of Medical Education Programme at Khon Kaen Medical Education Centre could be used as a tool for the health planner, administrator and policy-maker to make a policy planning on Medical Education Programme to achieve all the objectives of the CPIRD project. From this study it was found that some policies need to be reconsidered;

1. **The Physician Shortage** The Medical Education Programme at Khon Kaen Medical Education Centre (MEC) was established to increase the production of the doctors to practice in the rural areas due to the present shortage of doctors. The question has been raised - How is a physician shortage to be detected? This needed the criteria for a physician shortage. A shortage is said to exist if the number of physicians available at a given place and at a given time is inadequate to meet the professionally defined standard of medical care. In the rural area the amount of manpower available is much less than to meet professional defined standards so by these definitions, shortage are perpetual. Comparative ratio; a shortage is to exist in the rural area with physician/population ratio lower than the mean ratio across countries or lower than the urban areas. At present, even with increase the production of the physician there is no assurance to believe that additional physicians would choose to settle in underserved areas.
2. **The Recruitment methods** The recruitment methods of the students enrollment to this project does not guarantee that they are from poor and rural areas as very often the poor students will dropout from the school at compulsory level, or some of them prefer to go to vocational schools instead. Almost all of the students who passed the examination were from the better off families. After graduation some of the physicians choose to payback the fine plus 15 per cent interest rate and because of a higher financial return they prefer to practice in the urban or the big cities than practice in the rural area. The recruitment method to screen the students to assure that they are going to practice in underserved area is an issue to be raised up in order to guarantee the project succeeded.

- 3. The Maldistribution of physicians** The Medical Education Programme at Khon Kaen Medical Centre may not serve the main objective of the project. Due to the recruitment process of the students enrollment to this programme there is not assurance that after graduation the doctors will go back to work in the rural area. So there are still significant problems with maldistribution of physicians in country, both by geographic area and by specialty. No simple policies to equalize the distribution of physicians are likely to be successful. A major unsolved problem is the provision of services to rural areas distant from major cities. To increase producing physicians is not any guarantee to equalize the distribution of physicians to practice in underserved areas while there are many factors why physicians make their choice of place to practice. The previous studies showed that some of the physicians preferred to stay in the big cities due to the more opportunity for their further study. The vast difference of salary between private practice and the government practice being another reason. Some of the physicians worked in the assigned rural area for a short period of time then resigned, and moved to the urban area. The 400,000 Baht (about US\$10,000) fine for the doctor who broke the contract is very low compared to the rate of return if the doctor going to practice in the private sector or in urban area. However, how to keep the physicians to continue their practice in the rural area after graduation or 3 year - contraction is the issue need to be reconsidered for the policy-makers and the planner.
- 4. The Future Uncertainty on the Human Resources for Health (HRH) policy** At present, concerns were raised over the future of the new medical graduates who are likely to become jobless due to the government's bureaucratic reform policy of downsizing state bodies ("Fears state cuts will axe number of medical jobs" the Bangkok Post, September 24, 1999: p.3). According to one of Professors of Chulalongkorn University's Faculty of Medicine who said some schools of medicine have started to think of reducing their admission quotas over fears official posts at the Public Health Ministry would not be available to accommodate new graduates. This Professor was speaking to 300 rural doctors at a seminar titled "The shortage of doctors in rural hospitals and the solution" organized by the Rural Health Division and the Rural Doctors Society. She said that despite a doctor

shortage in many rural hospitals and the call for medical schools to produce more physicians, there was still no guarantee all graduates could enter the public health sector. But according to Amphon Chindavatana, director of the Health Manpower Development Institute, a study found that 60% of doctors working in rural hospital are in their first three years of work. After ending a three-year commitment to the state, 70% will leave the government sector. He said the majority of students had grown up in a city environment and found it hard to transfer to a rural atmosphere. Since 1997, the economic downturn in Thailand had caused braindrain doctors to return to the government sector, but most of them opted for posts in big cities, and refused to go to rural hospitals.

### **5.3 Recommendations**

1. Due to the difference of their management inside the organization and the resources utilization of each Medical Education Centre the Management Information System (MIS) was the first and the most important thing to be set up at the beginning of the centre construction. The performance, productivity, and the mission of organization must be clearly defined.
2. This study showed that the unit cost of Medical Education Programme at Medical Education Centre is vastly higher than the unit cost of performance of the teaching at the medical schools. However, due to the difference in location, the facilities, the culture of organization and the resources utilization of each Medical Education Centre the final conclusion on the unit cost of each MECs must be got from the research done in each centre.
3. The study found that the unit cost of Medical Education Programme at Khon Kaen Medical Education Centre is high compared to producing the doctors in Medical Schools. So, to increase the number of the physician by setting up new Medical Education Centres is not the only way to solve the problem of the physicians shortage. It is also to start how to increase the productivity of the current number of physicians, a thing which should be reconsidered and reorganized as well. Another way to solve the problem is to train the other health personnel to work in the rural areas as the cost of production one doctor is three to four times higher than other

health personnel. To set up the new job descriptions for these health personnel to take on greater responsibility would result in less dependence on doctors.

4. To maximize productivity and to construct the specific cost control measurement; the knowledge of the cost on labor intensive, capital intensive which has a difference policy implication is necessary for policy-making on medical education. Innovation would be encouraged, careful monitoring and evaluation to determine which policies for the best alternative outcomes.
5. The unit cost study of MEC should be done along with the unit cost of the Hospital. Due to limitation of time the impact of MEC on other functions of the hospital cannot be done. This study considers the MEC as an independent centre from the other departments of the hospital. So for better understanding, the unit cost of MEC should be integrated to the cost accounting system of the hospital. The unit cost of the medical education programme information on who bears the cost could help to compare expenditure and budgeting and to study variance analysis for policy planning in an approach to an appropriate measurement and take immediately action.

For further study the cost would be borne by the collaborative institutes, i. e. university and hospital should be studied since many of these institutes will become autonomous and the information on cost of production is vital for the future innovation.