

CHAPTER 5

SUMMARY AND CONCLUSION



This chapter consists of summary and conclusion, policy implication and limitation of the study.

5.1 Summary and Conclusion

This study concerns with the low utilization rate of Automated Clinical Analyzer (ACA) and the lack of information of cost and revenue of ACA in public hospital and clinical laboratory in East Java, Indonesia. Automated Clinical Analyzer is modern laboratory equipment that has more test capability. This machine is conceived and specifically developed for high-quality chemistry test in various facility setting. However, this device also requires more investment cost, high operational and maintenance cost.

The objectives of this study were to determine factors influencing the utilization of ACA and to assess the cost recovery of ACA in public hospital and clinical laboratory in East Java, Indonesia. This study applied the direct distribution for cost allocation. The cost was classified into capital cost and recurrent cost from provider point of view. 392 samples of patient from public hospital and 69 samples of patient from clinical laboratory and 50 samples of physician were purposively selected to determine factor influencing utilization of ACA.

It was found the factors influencing the utilization of Automated Clinical Analyzer (ACA) from physician point of view, were the result of laboratory tests supporting the diagnosis, easy to access, the equipment providing fast result, financial incentive among providers who sent tests, patient's choice, and the fast delivery of the test result. It was also found that the result of tests support the precise diagnosis more than 80%. According to the number years of practice, the result revealed that physicians with 4 to 10 years of experience were the persons who mostly utilize of ACA.

From patient factors, it was found those user characteristics such as elderly people and women influence utilization of ACA. Education was also determined the utilization of ACA. The higher education, the greater demand for health care and the greater awareness of the need for medical care. Accessibility is important in determining the utilization since it can increase the cost for seeking care. Education and occupation, however, can be used as a proxy of income level. The result indicated that the higher income more utilize the service. Moreover, they preferred to use the private sector.

In terms of other factors, the impact on economic crisis was reducing the utilization of health services, especially among the poor. Unfortunately, the availability of data was not allowed to search the utilization of ACA before and after crisis as well as before and after introduction of ACA.

The result revealed that the utilization rate of ACA was not operating at full capacity both in public hospital and clinical laboratory. The result indicated inefficiency of utilization of ACA in terms of under-utilization. The utilization rate in clinical laboratory was low, because this study did not calculate all of the tests requested. There was difficulty to provide precise estimates of efficiency in terms of utilization rate due to limitation of time and data available.

According to the economic and financial situation result, the capital cost was determined as the biggest component of total costs both in public hospital and clinical laboratory, followed by material cost and labor cost. The investment of ACA was the highest portion of total costs. It is important to consider the cost and effectiveness of this machine before decide to invest or adopt it.

Calculation of average cost for the short-run revealed that average total cost was lower than average charge both in public hospital and clinical laboratory. Limitation of data available prohibited to provide precise estimating the average cost, when considering the unit cost for each test.

In terms of cost recovery, it was indicated that both public hospital and clinical laboratory had profit in 1999. However, it did not mean they had profit for the long-run. Moreover, it is necessary to calculate the cost recovery for every year, starting from the first year of ACA utilization.

5.2 Policy Implication

The issues of equity and efficiency of health care services can only be addressed in way which are policy informing by considering variation in utilization both public and private sector. The results of the study indicated that both public hospital and clinical laboratory were suffering from low utilization rate. If these utilization patterns continue, then the managers must seriously consider to adjust the size of their facilities or types of services provided to meet demand more efficiently. It means that, with the given cost of production, the demand can be achieved at least at the point cost can recovered or at the break-even point.

With regard to equity, it is necessary to regulate the pricing policy by adjusting the prices of services provided, and promoting the competition in health services for benefit of consumers, according to the user characteristics in public hospital and clinical laboratory, since the cost can recover with the low utilization rate. For instance, the information of charge and the services should be provided to the community.

Economic crisis will put pressure on private providers to concentrate on that part of the market in which they can be both technically and economically efficient, and earn profit. Other mechanism to ensure efficient use of laboratory services may be appropriate for referral system, which is, involves public and private sector for cooperative services.

Moreover, in the public hospital, at break-even point the appropriate charge was 20% lower than actual charge. This should be considered by the policy makers to adjust the price to the exemption charge for the ones who has to pay out of pocket and the ones who cannot afford for the services.

Nevertheless, government has to emphasize on the private sector to adjust the charge on the basis of the average profit, i.e. 20%, since health sector is the area, which cannot ignore the social function. The reduction of charge suggested is based on the calculation of cost recovery ratio 1.20.

However, more careful analysis of the effect of any production charges, which aim to improve technical and /or economic efficiency on quality of laboratory services, should be undertaken before implication. Furthermore, when concerning with economic cost, public sector should take into account all the resources employed, not just the ones they pay for.

Further study should be conducted by the collaboration institution, i.e. research institution, public hospital, private hospital and clinical laboratory. The issues for further studies should include:

- Cost-effectiveness analysis of Automated Clinical Analyzer compared with other equipment which has the same function.
- Feasibility to establish the technical evaluation of ACA.
- Assessment of equity problem related with utilization of ACA, especially those who non-user.

5.3 Limitation of the Study

This study was conducted under the time constraint. Some aspects, i.e. the condition before crisis, price setting mechanism and financing mechanism could not be studied in details. Large sample of facilities should be collected as well as cost from patient's perspective in order to obtain the real cost of the services provided.

A lot of assumption had been applied in order to calculate the cost as well as revenue, such as maximum operating hours to calculate the lifetime of the assets and no exemption of the charge to calculate the revenue.