Government Hospital Rate in COVID-19 Pandemic

Dian Wardiana Sjuchro¹, Agus Thohawi², Irina A. Akhmadullina³, Albina A. Akhmadullina⁴, Renata A. Khakimova⁵

¹Universitas Padjadjaran, Bandung, Indonesia. Email: d.wardiana@unpad.ac.id
²IAI Pangeran Diponegoro Nganjuk Jatim, Indonesia. Email: Syariahpd@gmail.com

³Kazan Federal University, Russia

⁴Kazan State Medical University, Russia

⁵Kazan State Medical University, Russia

Abstract

One important thing that must be considered in determining government hospital rates is related to the people's mandate, namely traditional hospital services as government social services that must be subsidized so it is necessary to be careful in raising rates. The experience of the case of rate increases in government hospitals are felt to be too high for the public, there will immediately be a wave of protests. This condition causes changes in government hospital rates to be approved by Regional House of Representatives (DPR). As an industry with a high fixed cost structure, government hospitals have problems in investment and program development. This problem occurs when the power of government subsidies decreases. The government's hospital mission demands that the people's mandate in hospital services be fulfilled. However, the government's capacity is lacking. As a result, there are various economic issues related to government hospital rates. In principle, the existing rates, the cost-recovery, do not allow government hospitals to develop. The need for development is getting higher because the competition between hospitals is getting bigger. An interesting phenomenon is a hospital that is unable to develop itself, like someone who goes into the sand, the more trying will be the worse. If a hospital does not attract staff economically, the quality of service will deteriorate further.

This has resulted in a decrease in the number of patients or to serve patients who have limited

ability to pay and their demands.

Keywords: government hospital, hospital rare, patient, economic issue, cost recovery

1. Introduction

As the government character, there is a tug-of-war between centralized planning and

decentralized planning. In the highly centralized condition, the central government wants to carry

out rigorous planning that demonstrates authority [1]. Rate setting is a form of government

authority. By this authority, the central government will set the rate according to the regional

strength [2]. For economically weak provinces, the rate is set low and on the contrary if the

region is strong economically. With this policy, the government indirectly applies a cross-

subsidy between regions. The source of the central government budget based on the justice

principle will be mostly given to economically weak regions [3].

The various points above show that the determination of government-owned hospital rate

is indeed more complex than the private hospital. However, in transforming the hospital into a

socio-economic institution with self-financing principles [4], the government-owned hospital

should pay attention to the rate setting on the corporate model. It is interesting that for some

products, the tariff calculation is close to the unit-cost. The table below shows an example of the

rate for a government-owned hospital and its unit-cost calculations [5].

Table 1. Example of rate calculation and ward Unit Costs

Ward	Unit Cost	Rate
ĪRJ	1.245	1.000
		2.000
Class III	3.960	3.000 (3A),
		2.000 (3B)
Class II	14.000	10.000
Class I	27.890	25.000
VIP	39.800	40.000

In the table, it can be seen that the profit gained from renting a VIP ward room is very small, because the number of VIP bed is only 5% of all hospital beds, so it can be said that the cross-subsidy policy cannot work. It should be noted that the investment costs and human resource costs are not included the cost calculation [6]. Class I lost of IDR 2,890.00 for each bed filled every day. This loss is getting bigger because class I covers 25% rooms with 100% BOR.

Table 2. Rate Example and action *Unit Cost*

Action	Unit Cost	Rate
Childbirth	27.050	52.800
EKG	3.050	5.400
EEG	7.696	17.500
USG	14.902	40.000
Treadmill	17.676	50.000
Simple radiology	1.650	3.700

Sophisticated radiology	35.078	75.000
Simple laboratory	423	900
Normal laboratory	603	1.350

Indirectly, the class I patients who should be able to subsidize other classes are subsidized by other hospital actions [7]. In the table below, it appears that these government hospitals could benefit from the action. In some medical procedures, the profit margin is even very large because the government hospital has a monopoly on existing equipment, such as the tread-mill.

2. Practical Issues in Rate Setting

In setting the rate, there are practical issues that need to be considered, such as: (1) rate setting which is influenced by a specific labor market structure; (2) Transfer Price, and (3) problems for new product rate.

The Rate Setting and Labor Market Structure

The labor market is the doctor's workforce. Based on the limited number, the bargaining power of the specialist provider for hospitals is quite large. In this situation, the hospital service rate is set by specialists, including various inputs, for example drugs, types of action, even medical equipment, for example pens for orthopedic surgeons [8]. Doctors as service providers for the hospital can determine the price (price-maker). In this condition, it is difficult for hospitals (which are in the labor market as a consumer of specialists) to charge low rates for patients. A director of a religious private hospital stated that one of the difficulties in keeping patient rate low is that the clinician's decision is not based on efficiency, particularly the drug selection [9].

Transfer Price

In various government hospitals. VIP ward room rate is IDR 200,000.00 per day. This rate includes meals from the hospital's nutritional facility. The question is does one food portion produced by the nutrition installation distributed to the VIP ward have a certain price? This is important to emphasize because the VIP ward is not required to contain subsidies. Thus, the food portion served for the VIP must be priced above the production costs of the nutritional installation. In this situation, a "transfer price" is required for the food served. The nutrition installation becomes an income center, not an expenditure center [10]. This also needs to be done for the laboratory installation and pharmaceutical installation which can determine the transfer price.

In brief, it can be stated that the transfer price is used for: (1) measuring the profit of each unit that receives income; (2) measuring the investment correctly and can be used to estimate the income and expenses of a unit, for example a VIP ward; (3) providing some information for the hospital director to decide, for example, whether to order a cheaper VIP ward meal from the outside caterers, or to order from nutrition installations; and (4) triggering decentralization in hospital management.

The transfer rate is determined depending on various factors, including: whether or not, the market price for products is produced by the hospital department [11]. For example, how much the outside catering cost when compared to the nutrition installation portion; the hospital market structure work; and whether the department within the hospital is truly independent or interdependent. By considering these factors, the transfer price can be determined by: based on market prices, bargaining, or several cost concepts, marginal or full-cost [12].

There are different goods or services treatment that can be used for the transfer price. There are goods or services that are in a monopolistic market structure, some are in a highly competitive market structure. Against this background, there are various types of goods or services that can be provided the transfer prices. The first category are products that cannot be purchased from outside the hospital. This situation causes the inside of the hospital to have no competitors. Thus, the transfer price is determined based on the unit-cost plus profit. The second category is a product that can be purchased from outside the hospital. In this situation, the inside of the hospital is forced to set a transfer price that is lower than the external price.

Rate Setting for New Products

Another practical problem that occurs is the new product rate setting. However, the question is what is the definition of "new"? A product can be called "new" because it is a new product for the hospital, but it is not new for the market. For example, the plan of Harapan Bersama Hospital to open VIP wards in an area where a lot of hospitals have VIP wards. This VIP ward is a new product for Harapan Bersama Hospital, but it is not new for the community. In this case, the rate can be set by Harapan Bersama Hospital with the intention of penetrating the market, which is to set a lower rate than similar products already on the market [13].

The second meaning of "new" is a product that is new to an existing hospital and new for the market. For example, Permata Hidup Hospital opened a super VIP ward in a an area where there were no super VIP wards before. The VIP super ward is a new product for Permata Hidup Hospital and the hospital market. In setting the rate for new products, Permata Hidup Hospital might set the high rate to get the maximum profit. If there are no competitors, Permata Hidup Hospital can achieve a monopolistic advantage.

- The community and competitor capacities are important factors in determining the rate that
 must be carried out. In this case, the decision maker must think of the market structure, as
 discussed earlier.
- 2. The decision to set the rate should involve the hospital department or department that is affected. Thus, rate setting is not the prerogative of accountants or marketing.

3. Investment Decision Making

As a firm, the hospital has to make the investment decision. For example, in the late 1990s the Board of Directors of the PKU Muhammadiyah Yogyakarta Hospital was faced with an important decision, whether to build a new hospital to solve the increasingly overcrowded old hospital in the Yogyakarta center. The decision to build a new hospital requires proper consideration. If it was a wrong decision, there was a possibility that PKU Hospital will have cash flow difficulties and bad consequences. Central General Hospital (RSUP) Dr. Sardjito received a soft loan from the Austrian government in the form of Central Operating Theater construction with the latest five-floor technology. The Tabanan Hospital (RS) in Bali intends to expand the existing VIP ward. A lot of hospitals will buy a new ultrasonography to replace the old one.

The hospital managers need the investment skill to prevent the wrong decision. As the individual decision, the hospital directors in deciding the actual investment are uncertain [14]. Is it by developing a new VIP ward the Tabanan people will use it later? In this case, it is necessary to understand the investment decision stages. The investment decision stages include:

- a) Goal setting. The entity or company must clearly define the goals to be achieved. For example, maximizing the profit, maximizing the growth rate, market share, customer satisfaction, or as a place for developing science [15].
- b) Estimated project and operating cost. The initial investment cost must be estimated. Likewise, operating cost that will be incurred during the investment period. In order to estimate these costs, an understanding of cost behavior is needed [16].
- c) Estimated demand. Estimated demand is required to estimate the amount of revenue (operating income) that the hospital receives in each period during the investment. When estimating this demand, an element of uncertainty arises. In the case of hospitals, this uncertainty is related to various demand factors, including changes in disease patterns or doctor behavior.
- d) Calculation of additional net cash flow. The net cash flow needs to be calculated after knowing the estimated non-cash receipts, expenses, taxes, and expenses that are reserved. The calculation net cash flow principle is tax and incremental cash flows.
- e) Calculation of the present value of cash flows. By determining the estimated cash flow with a capital cost level for the company or project, the present value of all cash flows generated by the project will be obtained during the investment period [17].

It is interesting to observe in the case of investment, for example in Dr. Sardjito in terms of a soft loan from the Austrian government. In this case, the education hospital also functions as a center for the development of medical science. The reason of being a place for developing science is often used to make new developments with expensive new technology instead of using the investment principle [18]. The development investment of the five-floors Central Operating Theater in Dr. Sardjito was decided without investment calculations, so the critical question was

whether, for the sake of scientific considerations, there was no need to use an investment model? The answer is definitely no. All development should be based on investment. If it is politically or scientifically stated that the investment decision must be carried out even though it is not economically profitable, then this will be a reality [19]. However, the political decision or for the sake of this science must be consistent, meaning that they can be accounted for, including seeking subsidies in the operational stage of the investment program. In Indonesia, there have been many cases of large investments in hospitals, but they do not have operational and maintenance costs so that development projects ultimately fail [20].

Investment Category

Various kinds of investment can be made in the hospital. Various types of investment example are:

- a) The old medical equipment replacement with the newer technology, or permanent technology but it is sitll new equipment.
- b) The capital equipment expansion, for example, increasing the capacity by adding more wards.
- c) The expansion or addition of new product lines by purchasing new machines or equipment that have never been owned. For example, the development of cardiac surgery at Dr. Kariadi Semarang hospital with a soft loan from the German government (KfW).
- d) Renting or leasing new equipment.
- e) Hospital merger or purchase by a hospital with a better financial condition.

The investment calculation is complex. To understand it, the readers are encouraged to read a book on calculating investment.

4. Conclusion

In conclusion, this section has described the demand analysis of hospital users and hospital as a firm. The description is intended to share a better understanding of economic concept use in a hospital management. The Circular Flow model on the demand aspect discusses various things that are specific to the hospital, which is different with the demand analysis in other sectors. One important difference is the supplier-induced-demand phenomenon.

In the study of the hospital as a firm, it has been discussed mainly the concept of production and cost information in the hospital managerial decision. To make good management decision, a hospital manager must understand the cost behavior. The two main cost functions used in making management decisions are the short run cost function and the long run cost function. The short-term ordinary function is a period in which some of the means of production of a business cannot be changed and are used in the daily decision. The long-run cost function is a sufficiently a long period that allows a business to completely change its production system by adding, subtracting, or replacing its assets and using it in planning.

In the hospital sector, the mindset of seeking profit requires the use of cost information, for example a VIP ward. The hospital requiring subsidies also require the cost analysis. This action is absolutely necessary so that the subsidy is properly used and can be planned properly. Without the cost information, the management decision such as pricing cannot be determined properly.

The cost analysis and control activities are not an easy process. Three absolute conditions that must be met properly before the cost analysis is carried out, such as, a good hospital organizational structure, a proper accounting system, and the existence of sufficiently good statistical information. The problem is that the hospital is difficult in meeting the requirements.

For example, improving the accounting system requires prompt handling by the accounting profession. It is hoped that with an understanding of production concept in a hospital and its cost analysis, the hospital will increasingly appreciate cost accounting information for the management decision making, including pricing and investment decisions.

References

- [1] Shammi, M., Bodrud-Doza, M., Islam, A. R. M. T., & Rahman, M. M. (2020). Strategic assessment of COVID-19 pandemic in Bangladesh: comparative lockdown scenario analysis, public perception, and management for sustainability. *Environment, Development and Sustainability*, 1-44.
- [2] Liang, L. L., Tseng, C. H., Ho, H. J., & Wu, C. Y. (2020). Covid-19 mortality is negatively associated with test number and government effectiveness. *Scientific reports*, *10*(1), 1-7.
- [3] Woo, J. J. (2020). Policy capacity and Singapore's response to the COVID-19 pandemic. *Policy and Society*, 39(3), 345-362.
- [4] Mafham, M. M., Spata, E., Goldacre, R., Gair, D., Curnow, P., Bray, M., ... & Deanfield, J. E. (2020). COVID-19 pandemic and admission rates for and management of acute coronary syndromes in England. *The Lancet*, *396*(10248), 381-389.
- [5] Bodrud-Doza, M., Shammi, M., Bahlman, L., Islam, A. R. M., & Rahman, M. (2020). Psychosocial and socio-economic crisis in Bangladesh due to COVID-19 pandemic: a perception-based assessment. *Frontiers in public health*, 8, 341.
- [6] COVID, I., & Murray, C. J. (2020). Forecasting COVID-19 impact on hospital bed-days, ICU-days, ventilator-days and deaths by US state in the next 4 months. *MedRxiv*.
- [7] Verma, V. R., Saini, A., Gandhi, S., Dash, U., & Koya, S. F. (2020). Capacity-need gap in hospital resources for varying mitigation and containment strategies in India in the face of COVID-19 pandemic. *Infectious Disease Modelling*, *5*, 608-621.
- [8] Stensland, K. D., Morgan, T. M., Moinzadeh, A., Lee, C. T., Briganti, A., Catto, J. W., & Canes, D. (2020). Considerations in the triage of urologic surgeries during the COVID-19 pandemic. *European urology*, 77(6), 663.
- [9] Wu, K., Smith, C. R., Lembcke, B. T., & Ferreira, T. B. (2020). Elective Surgery during the Covid-19 Pandemic. *New England Journal of Medicine*, *383*(18), 1787-1790.

- [10] Haffer, H., Schömig, F., Rickert, M., Randau, T., Raschke, M., Wirtz, D., ... & Perka, C. (2020). Impact of the COVID-19 pandemic on orthopaedic and trauma surgery in university hospitals in Germany: results of a nationwide survey. *The Journal of bone and joint surgery. American volume*, 102(14), e78.
- [11] Wu, J., Mamas, M. A., Mohamed, M. O., Kwok, C. S., Roebuck, C., Humberstone, B., ... & Gale, C. P. (2020). Place and causes of acute cardiovascular mortality during the COVID-19 pandemic. *Heart*, *107*(2), 113-119.
- [12] Maseleno, A., Huda, M., Jasmi, K. A., Basiron, B., Mustari, I., Don, A. G., & bin Ahmad, R. (2019). Hau-Kashyap approach for student's level of expertise. *Egyptian Informatics Journal*, 20(1), 27-32.
- [13] Menon, J. C., Rakesh, P. S., John, D., Thachathodiyl, R., & Banerjee, A. (2020). What was right about Kerala's response to the COVID-19 pandemic? *BMJ Global Health*, 5(7), e003212.
- [14] Whitelaw, S., Mamas, M. A., Topol, E., & Van Spall, H. G. (2020). Applications of digital technology in COVID-19 pandemic planning and response. *The Lancet Digital Health*.
- [15] Venkataram, T., Goyal, N., Dash, C., Chandra, P. P., Chaturvedi, J., Raheja, A., ... & Gupta, R. (2020). Impact of the COVID-19 pandemic on neurosurgical practice in India: results of an anonymized national survey. *Neurology India*, 68(3), 595.
- [16] Murphy, T., Akehurst, H., & Mutimer, J. (2020). Impact of the 2020 COVID-19 pandemic on the workload of the orthopaedic service in a busy UK district general hospital. *Injury*, 51(10), 2142-2147.
- [17] Negopdiev, D., Collaborative, C., & Hoste, E. (2020). Elective surgery cancellations due to the COVID-19 pandemic: global predictive modelling to inform surgical recovery plans. *British Journal of Surgery*, *107*(11), 1440-1449.
- [18] Sen-Crowe, B., McKenney, M., & Elkbuli, A. (2020). Social distancing during the COVID-19 pandemic: Staying home save lives. *The American journal of emergency medicine*.
- [19] Goh, K. J., Wong, J., Tien, J. C. C., Ng, S. Y., Duu Wen, S., Phua, G. C., & Leong, C. K. L. (2020). Preparing your intensive care unit for the COVID-19 pandemic: practical considerations and strategies. *Critical Care*, 24, 1-12.

[20] Wu, J., Mamas, M., Rashid, M., Weston, C., Hains, J., Luescher, T., ... & Gale, C. P. (2020). Patient response, treatments and mortality for acute myocardial infarction during the COVID-19 pandemic. *European Heart Journal-Quality of Care and Clinical Outcomes*.