



A QUALITATIVE STUDY OF HEALTH SERVICES COSTING IN INDONESIA

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ABSTRACT

This paper aims to analyze the implementation of health costing in healthcare institution. Most hospitals undertake health cost calculations using different methods such as per diem, case based, or fee for services approaches. This study presents the management's decision on the costing methodology. This research employed a phenomenological approach to derived conclusions and explain the nature of implementation based on experiences of healthcare staffs. The results of this study indicate that healthcare management considers allocating overhead cost to its services using Activity Based Costing. The management also takes into account some direct costs such as surgery, medical professional, hospital stays, laboratories test, and medication. Furthermore, some hospital management incurs bonding cost to reduce the agency conflict between health professionals and their principals through agreement letters. The findings of this research suggest that healthcare management should formulate a high-quality agreement between physicians and healthcare management. Additionally, healthcare institutions should utilize activity based costing for calculating the cost of health services and product.. Accurate costing information will assist management in providing high-quality services or products at a standard price. Moreover, healthcare management should consider the economic order quantity (EOQ) as a tool for calculating inventory, aiming to minimize order and holding cost.

Keywords: Health services costing, Bonding cost, Phenomenology

ABSTRAK

Penelitian ini bertujuan untuk menganalisis implementasi perhitungan biaya kesehatan di lembaga layanan kesehatan. Sebagian besar rumah sakit menghitung biaya kesehatan berdasarkan metode yang berbeda seperti per diem, per kasus, atau berdasarkan biaya pelayanan. Penelitian ini memberikan gambaran bagaimana manajemen memutuskan pendekatan penghitungan biaya. Penelitian ini menggunakan pendekatan fenomenologi untuk memperoleh kesimpulan dan menjelaskan implementasi berdasarkan pengalaman para pegawai di lembaga kesehatan. Hasil penelitian menunjukkan bahwa pertimbangan manajemen dalam mengalokasikan biaya overhead menggunakan pendekatan Activity Based Costing. Manajemen mempertimbangkan beberapa biaya langsung seperti layanan operasi, tenaga medis, layanan rawat inap, tes laboratorium, dan obat-obatan. Selain itu, beberapa rumah sakit mengeluarkan biaya pengikatan (bonding cost) untuk mengurangi konflik keagenan antara tenaga kesehatan dan manajemen dengan surat perjanjian. Hasil penelitian ini memberikan saran kepada manajemen layanan kesehatan untuk merumuskan perjanjian yang berkualitas antara tenaga kesehatan dan manajemen. Selain itu, manajemen layanan kesehatan hendaknya menggunakan metode Activity Based Costing untuk menghitung biaya layanan dan produk kesehatan. Informasi yang akurat akan membantu manajemen layanan kesehatan untuk memberikan layanan dan produk berkualitas tinggi dengan harga standar. Selanjutnya, manajemen layanan kesehatan sebaiknya mempertimbangkan untuk menggunakan Economic Order Quantity sebagai alat perhitungan persediaan untuk meminimalkan biaya pemesanan dan biaya penyimpanan.

Kata kunci: Penentuan biaya layanan kesehatan, Biaya perikatan, Fenomenologi

INTRODUCTION

Health services are fundamental right of every citizen without any distinctions. This means that all citizens have the same rights to access healthcare institutions without financial hardship. Therefore, the government has a responsibility to ensure and deliver high-quality healthcare for all Indonesian people. In 2022, the government of Indonesia has budgeted and allocated around 9,4% of its state budget (Finance, 2022). This proportion is consistent with Law Number 36 of 2009 on Health, which states that the government should allocate 5% of state expenditure to improve health access, encourage healthy living, enhance the nutrition of pregnant mothers, reduce stunting, and improve the quality of health service (Kontra, 2012; Pemerintah Pusat, 2009).

Some countries, including Indonesia, are implementing Universal Health Coverage to make healthcare accessible to all Indonesian people. Unfortunately, this program does not cover all health services and there are out of pocket for some additional services.

Sustainability of health care institution is a fundamental issue based on its financial performance. Strong financial performance is positively associated with patient experiences. Additionally, strong financial management helps improve healthcare value and ratings. On the other hand, financial pressure in healthcare may reduce services quality and lead to worse outcome for its patients. Previous studies have shown a relationship between financial performance and heart failure, pneumonia, and myocardial infarction (Eliassen, 2021; Jaworzyńska, 2021).

Costing is one of financial aspect that affects healthcare services and financial performance. On one hand, healthcare services such as diagnosis, treatment, and others can easy accessed by patients. On the other hand, healthcare institution should consider their financial stability. Therefore, the costing approach used by healthcare significantly affects its financial viability (Chapko et al., 2009; Cui et al., 2019). Inaccurate costing leads to high product prices and poses risks to healthcare market. If there are errors in cost calculation, it can lead to healthcare institutions incurring losses despite high sale of product (Chapman et al., 2014).

Mistakes in product cost calculations can results in over costing and under costing, which affect the quality of the product and profitability of healthcare institutions. This implies that healthcare should improve its costing methods for accurate pricing (Qurrotakyun & Harahap, 2021; Waleny, 2016). Through activity-based costing, management decides prices based on costing information and considers cost as a part of profitability. Furthermore, cost calculation will significantly impact health care decisions, including cost reduction, product design, product mix, and pricing.

This paper aims to explore and analyze the implementation of health costing in healthcare institutions in Jakarta. Since most the health care institutions employ various approach for health cost calculations, such as per diem, case based, or fee for services approach, this article is attractive in presenting the management's decision on costing methodology.

RESEARCH METHOD

In this research, we employ phenomenology to explore the universal structure, particularly the costing practices in the healthcare industry based on the experiences of respondents. The sample for this research consisted of accountants or accounting consultants working in private healthcare institutions in the Special Capital Region of Jakarta. Non-probability sampling was used to select the sample units based on specific characteristic (Rahman, 2023). The inclusion criteria for sample are an accountants or consultants who provide financial services to the healthcare institutions. The sample size for this research consisted of 6 employees with extensive experience in healthcare accounting processes.

The in-depth interview method was data collection approach used for this research. This method allows researcher to obtain high-quality costing information through a questions-and-answer process. Unstructured interviews are common method for collecting participant data in qualitative study (Roller, 2019, 2020). The interview process allows researchers to gather personal experiences, particularly related to methods for determining cost of product, cost allocation method, price of goods and services, mark up pricing, and so on.

Duration of the interview is approximately 15-40 minutes. The interview is recorded using cellphone call recorder, which allows the researcher to download the discussion results. Conducting the discussion via cellphone makes the informants feel comfortable and make it easier for them to clarify any doubts about each questions. Additionally, cellphone interviews provide more information to the researcher because the participants have ample opportunities to explain and share their experiences regarding costing practices in their workplaces.

Informed consent is one the important principles in this research. For this reason, participants can freely decide whether to participate in the research. This step serves as an initial screening to recruit the participants for the research and inform them about the potential interview topics. Through informed consent process, the findings of this research are based on participants' voluntary discussion, without any pressure to respond during the questions-and-answers sessions (Dankar et al., 2019; Nijhawan et al., 2013).

This research used credibility, conformability and transferability checks to ensure that the findings are consistent with reality. Credibility check is a qualitative technique that validates the findings based on participantss checking. Member checking is also known as respondent validation for ensuring the credibility of results. In the conformability check, the researcher must verify that the results are shaped by respondent's experiences.

This technique is used to ensure that results of research accurately emerge from the interview recording. Lastly, transferability checks, also known as external validity, mean that researchers should ensure that the findings are based on external review.

Data analysis for this research adopted Colaizzi (1978) method. The final results of this research are a concise description of the reality of cost calculation for healthcare, and they are validated by respondents who shaped the statements. This analysis strategy aims to elicit the experiences of cost calculations from the accountants and consultants in the healthcare sector in the special capital region of Jakarta.

RESULTS AND DISCUSSION

The results of this paper are based on rigorous steps of data analysis. Based on respondents' characteristic table, it shows that all participants have experience with the cost accounting process in private healthcare institutions in the special region of Jakarta. All of the respondents have bachelor degree, indicating their in-depth knowledge in the field of cost accounting. Furthermore, based on their working experience, it is evident that all respondents are qualified accountant with experience in cost calculation approach.

Code	Gender	Age	Duration of Experiences	Education	Profession	Job level
R1	M	35	12 Years	Bachelor Degree	Accountant	Supervisor
R2	F	24	2 Years	Bachelor Degree	Accountant	Staff
R3	M	25	2 Years	Bachelor Degree	Accountant	Staff
R4	M	45	22 Years	Bachelor Degree	Accountant	Manager
R5	F	52	30 Years	Bachelor Degree	Accountant	Head of Department

Table 1. Characteristic of participants with cost accounting experiences

Based on interview approach, the result of the data analysis reveal three main experience findings, namely (1) the method of health service cost, (2) the allocation approach of overhead cost, and (3) the margin percentage on drug price. The findings of the research provide an explanation of cost calculation, particularly in private healthcare institutions in Jakarta.

The Method of Health Service Cost

The breakdown of health services cost includes Medicare fees for physician, intensive care, laboratory charge, medication, and more. Regarding Medicare fees, there is a Memorandum of Agreement (MoA) between healthcare management and physicians. This is consistent with the following statement,

The proportion of fees for doctor services depends on the agreement (R5).

This is also consistent with second statement as follows,

The price charged to patients depends on the profit-sharing agreement between the hospital and the doctor (R2).

This statement is consistent with the third statement of Supervisor accounting in Healthcare,

Direct services charged to the patient based on the unit cost per treatment, such as medicines and consumable medical materials, as well as other cost like electricity, cleaning service, etc. and doctor's services per treatment. (R1)

Based on previous research findings, the healthcare cost for services, especially for Medicare treatment, varies between healthcare institutions (Chapko et al., 2009; Goetz et al., 2022; Heron et al., 2019). This cost covers various diagnostic processes and treatment services provided by physicians. For instance, Raulinajtys-Grzybek (2014) stated that the mechanism of cost accounting vary across healthcare institutions as a result of collecting and verifying data transaction.

Prinja et al. (2020) stated that most of healthcare in India uses step-down allocation for cost data collection. This means that allocating cost of service departments to other service divisions as well as to production departments. In short, this cost allocation employs sequential method.

Most patients generally need to pay Medicare treatment when they see the doctor. They hope there are no additional cost or out of pocket charges related to their insurance policy. On the other hand, most physicians' fees based on the Medicare fee schedule with a maximum limit. Additionally, some physicians opt for private contract for their health services with healthcare institution.

The Medicare fee contract between physician and healthcare institutions will influence the charges for Medicare regarding the health services they provided. This contract will also impact the patient protection and out of pocket costs.

The Allocation Approach of Overhead Cost

Based on its traceability, healthcare service cost consist of direct cost and indirect (overhead) cost. In healthcare, direct cost include diagnostics tests (such as laboratory services, X rays, and other diagnostics), medical drugs, the cost of medical specialists, nurses, inpatient stay, and patient meals, and other direct cost. Indirect costs are allocated to cost objects based on different criteria, such as hourly rates, inpatient days, or other methods (Bonafede et al., 2018; Knarborg et al., 2022; Tomita et al., 2020).

Based on our interviews with respondents, they state that,

The allocation of overhead cost is based on various factors, including the number patients, both outpatient and inpatient, the BOR (Bed Occupation Rate), which is the the number of beds occupied each day, the length of time patients stay, the number of days in a month, national holidays (usually quieter on holidays and Sundays, busier on Mondays and Saturdays), doctor fees, medicine, medical equipment, room charge, equipment rental, as well as electricity, water, etc. (R2)

This statement is consistent with another opinion from a respondent who states that,

The allocation of overhead costs is typically included in administrative costs, which are distributed equally to each health service unit. Indirect costs, such as salary costs for administration, finance, etc., promotional services, etc. are distributed to the service cost (R1)

For instance, most healthcare institution consider the allocation of indirect cost in logical manner. This method of allocation ensures a fair cost charge for its products or services. This method is known as Activity Based Costing (ABC), which means that indirect cost in healthcare institution are allocated to their products and services based on resources consumption.

The ABC method allows management to calculate cost price based on usage of healthcare resources. The allocation of indirect cost is based on cost drivers such as time, labor hours, number of machine setup, overhead cost, or the number of orders. Therefore, the ABC approach seeks a relationship between cause and effect to allocate costs (Dwivedi & Chakraborty, 2015; Niñerola et al., 2021; Qurrotakyun & Harahap, 2021; Waters et al., 2001). This means that not all the costs are solely caused by the number of physician treatments. The method of allocation cost pools to the products or services is as follows,

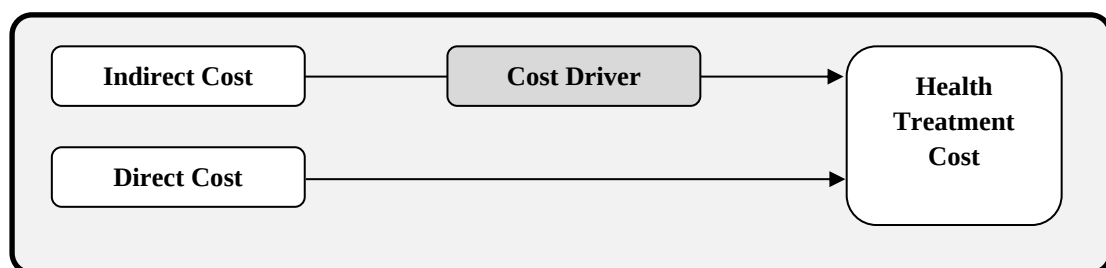


Figure 1. Method of Cost Allocation

For example, in the case of cataract treatment, the direct costs are allocated directly based on drugs, laboratory test, and other direct cost. For indirect cost, the allocation is based on an hourly rate. Based on previous research, it is shown that some hospital use different cost drivers such as weighted service allocation, hourly rate allocation, inpatient day allocation, and marginal mark-up allocation.

Finally, most healthcare in Jakarta uses ABC for healthcost calculation. This approach is better than traditional costing because ABC provides more accurate health service cost and is helpful for the

decisions-making process. Also, ABC calculation results will help management evaluate unprofitable services that the healthcare institution should eliminate.

The Margin Percentage on Drug Price

Regarding pharmaceutical cost, some healthcare institution have a different margin on their prices. Most pharmaceutical providers gives some rebates to healthcare institutions based on their purchases. Unfortunately, some drug providers don't disclose the rebates amount due to competitive industry issue. In fact, rebates represent a significant deduction in their cost of goods sold.

In some cases, drug prices for patients depend on Medicare charge and the preparation method. Some drug cost are based on full cost, which means that the method of calculation of cost based on the entire cost incurred in producing the products. The entire cost refers to labor, overhead cost, and direct materials.

Based on the interview with the respondent, he stated that,

The margin percentage on drug price based on the purchase price is in accordance with the HNA (Initial Net Price) and the rebates obtained from the vendor (R3)

This is consistent with the statement of another respondent who stated that,

Our hospital unit serves many patients who use partner insurance payments. In collaboration with insurance, hospitals and each insurance company have special agreements that regulate drug prices. But drug prices still do not exceed the HET. The margin percentage for other medicines (apart from insurance cooperation) has been determined by the Head Office in accordance with the Gross Operation Revenue plan, and the unit will implement it. (R2)

Regarding drug costs for patients, several factors affect the cost of drug. Based on the microeconomic concept, drug cost depend on supply demand relationship (Sofiah et al., 2022; Tang, 2023; Vega et al., 2016). Based on this concept, changes in the relationship between demand and supply will affects the price of drug product.

LIMITATION OF THE STUDY

Based on this qualitative research process, this paper considers some limitations or shortcomings of research that are outside of the researcher's capabilities. These limitations should be considered when interpreting the research findings. The first limitations is the researcher's subjectivity in interpreting the interview findings. However, this limitation is also strength of qualitative research, which engages with people's subjectivity. It's argued that subjectivity in qualitative research is not always negative as long as researchers are aware of potential biases and know how to control these effects.

Another limitation of this paper is the issue of generalizability. Most papers focused on the extent to which findings can be generalized to other healthcare institutions. This qualitative research aims to understand the topic deeply without being overly concerned with generalizability. Therefore, this paper provides deep insights into cost calculation in the healthcare industry.

CONCLUSIONS AND SUGGESTIONS

Based on government regulation in Indonesia, healthcare services are basic right of every citizen. Therefore, all citizens should have equal access to healthcare facilities. In addition to this, private healthcare facilities have two objective: first, providing accessible healthcare for every citizens, and second, achieving strong financial performance.

Accessible healthcare institutions mean that every citizen can easily access healthcare facilities without facing financial burdens. This implies that government should ensure that all citizens can receive high-quality healthcare service. Moreover, individuals should be able to visit healthcare institutions

without any restrictions when they are unwell. To address this issue, some countries have developed system to achieve accesible healthcare services, such as universal health coverage (UHC).

Regarding financial stability, healthcare institutions should operate as profitable business. This condition reflects the overall fiscal health of the institutions, including factors such as high revenue, manageable liabilities, and optimal free cash flow. To asses their financial condition, healthcare institutions utilize various method, including to understand its financial condition such as financial reporting, budget reports, variance analysis reports, and more. Additionally, healthcare institution use accurate method to calculate the cost of services and products, aiming to generate profits for the institutions while delivering high-quality services to patients.

For this reason, this research aims to investigate the implementation of health costing in Jakarta. Based on phenomenological method to derive conclusion, this paper found that most of healthcare management used Activity Based Costing to allocate overhead (indirect) cost to their healthcare services. Most management also considers some direct cost such as medical professional, hospital stays, laboratories test, to assign cost to the objects. Additionally, for healthcare service calculation, some hospital management uses an agreement letter between physicians and management to reduce the agency conflict between healthcare professionals.

These findings suggest that healthcare institutions should carefully evalaute the proportion of healthcare services cost between physicians and healthcare management. Establising high-quality and equitable contracts is crucial for effective day to day health service. To achieve this, healthcare management should review the compesation arrangement for physicians practices without violating legal regulations. A second managerial recommendation for healthcare institution to adopt Activity based costing as a method for calculating the cost of health services and products. Precise calculations will provide relevant and reliable information for pricing decisions. The last research finding recommend that drug inventory management should take into account order cost, holding cost, and other associated cost. To address this, healthcare management should consider implementing economic order quantity model for efficient drug inventory management within healthcare industry.

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Conflict of Interest Statement

There is no conflict of interest in this study

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