



## Development of a Method for Measuring Drug Procurement Efficiency Using a Priority Scale Based on Benefit - Cost Ratio Criteria at Pekerja's General Hospitals in 2023

Fariha<sup>1</sup>, Fresley Hutapea<sup>2</sup>, Nofi Erni<sup>3</sup>.

Esa Unggul University, Jakarta

Email : [farihaaja85@student.esaunggul.ac.id](mailto:farihaaja85@student.esaunggul.ac.id)<sup>1</sup>, [fresleyhutapea@yahoo.com](mailto:fresleyhutapea@yahoo.com)<sup>2</sup>, [nofi.erni@esaunggul.ac.id](mailto:nofi.erni@esaunggul.ac.id)<sup>3</sup>

**ABSTRACT** : In Law Number 44 of 2009 concerning Hospitals it is stated that hospitals must meet the requirements for location, buildings, infrastructure, human resources, pharmacy and equipment. Pharmaceutical requirements must ensure the availability of quality, useful, safe and affordable Pharmaceutical Preparations, Medical Devices and Consumable Medical Materials. The Workers' General Hospital has drug procurement data that exceeds the 2022 RKAP target, namely in the last 5 months between August and December 2022. The aim of this research is to reveal empirically the selection of providers by combining three procurement methods, namely e-catalog, direct procurement with the standardization of the Pertamedika IHC Drug Formulary and direct procurement with negotiations carried out by the hospital's own negotiation committee and a priority scale is formed to achieve efficiency targets. This priority scale meets the eligibility test for the Benefit - Cost Ratio criteria. This research was conducted at the Workers' General Hospital in Jakarta. The research time is February 2023 - June 2023. The research approach used is a qualitative approach. Meanwhile, the research method used was a case study in which researchers conducted an in-depth exploration of the process of selecting generic drug providers on a priority scale and tested their feasibility using the Benefit - Cost Ratio (BCR) method. Based on calculations, a BCR value of 1.9 was obtained, which can be interpreted as a priority scale that is feasible for the Workers' General Hospital. The results of this research have implications for hospitals because implementing effective and efficient drug procurement will ensure continuity of service with affordable drug costs.

**Keywords:** Priority Scale, Benefit Cost Ratio, Drug Procurement.

### 1. INTRODUCTION

A hospital is a health institution that provides a complete system of individual and group health services through inpatient, outpatient and emergency services. Based on Republic of Indonesia Government Regulation number 47 of 2021 concerning the administration of the hospital sector, it is stated that service capacity is a type of service that is fulfilled based on the availability of human resources, buildings, facilities and equipment. One of the health services provided by public hospitals is pharmaceutical services.

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Management of Pharmaceutical Preparations, Medical Devices, and Medical Disposable Materials must be carried out in a multidisciplinary, coordinated manner and using effective processes to ensure quality control and cost control.

Pekerja's General Hospital is a class C general hospital. Medicines are procured by Workers' General Hospital in 3 ways, namely: E-Marketplace, direct procurement based on the standardization of the 2023 Pertamedika IHC Drug Formulary (FOPI) determination and direct procurement based on the results of direct drug negotiations carried out by the Workers' General Hospital negotiation committee.

When comparing drug procurement with data from the Company's Work Plan and Budget (RKAP) for 2022, based on drug procurement data for the last 5 months, namely from August 2022 to December 2022, it exceeds the expenditure set by the RKAP and does not meet the efficiency target of 10%.

**Table 1. Data on drug financing compared to efficiency targets from the Company's Work Plan and Budget (RKAP).**

No	Bulan	Pembiayaan Obat (Rp)	Target RKAP (Rp)	Target RKAP dikurangi efisiensi (Rp)
1	Agustus 2022	934.782.589	881.550.011	793.395.010**
2	Sep-22	872.029.355	881.550.011	793.395.010**
3	Oktober 2022	1.021.734.221	881.550.011	793.395.010**
4	Nov-22	1.065.387.339	881.550.011	793.395.010**
5	Desember 2022	1.867.576.856	881.550.011	793.395.010**

For this reason, in general, this research seeks to reveal empirically the selection of providers by combining the three procurement methods, namely e-catalog, FOPI and direct procurement based on comparisons between several distributors carried out by themselves, by forming a priority scale that is able to achieve the drug financing efficiency target and this priority scale meets the feasibility test of the Benefit - Cost Ratio criteria.

## **2. METHOD**

### **Type of Research, Place and Time**

The research approach used is a qualitative approach. While the research method used is a case study where researchers conduct in-depth exploration of the drug provider selection process with a priority scale and test its feasibility using the Benefit - Cost Ratio method. The location of this research was carried out at the Pekerja's General Hospital from February to June 2023.

### **Data and Data Sources**

This research data is data on the planned need for generic drugs in 2023 including oral drugs, liquids, injections, syrups, ointments, creams, eye and ear drops and suppositories at the Workers' General Hospital. This data was obtained from the pharmacy unit based on the

hospital formulary prepared by the Pharmacotherapy Committee every year. Apart from that, data was obtained from minutes of direct drug negotiations, as well as data on drug spending financing from hospital financial reports.

### **Data Collection Techniques and Procedures**

Data collection techniques were carried out using primary data by conducting interviews in focus group discussions and interviews with heads of pharmaceutical units, procurement officers and heads of hospitals. The secondary data used in this research is data on hospital drug needs plans, e-catalog prices listed on the LKPP website, data on the list of drugs included in the Pertamedika IHC Drug Formulary (FOPI), data on reports resulting from direct drug negotiations, and profit and loss report data from Pekerja's General Hospital.

### **Data Analysis Procedure**

Data analysis using the Miles & Huberman interactive analysis model. In qualitative research, data analysis can be carried out while the researcher is in the field or after returning from the field, analysis is carried out. In this study, data analysis has been carried out simultaneously with the data collection process.

## **3. RESULTS AND DISCUSSION**

### **1. Study of the causes of drug spending exceeding the RKAP target.**

The method for procuring medicines in 2022 is by using purchases in the Ministry of Health's electronic catalog or e-catalog and direct procurement based on the standardization of the 2022 IHC Pertamedika Drug Formulary (FOPI). Procurement of the LKPP e-catalog in 2022 applies single winner, namely only one distributor is given the authority to procure in a certain area, so that when stocks run out, hospitals are encouraged to only buy through direct procurement based on FOPI standards or contacting the drug distributor directly. With this alternative, hospitals incur greater costs compared to purchasing e-catalogs which are cheaper. This situation occurs from August 2022 to December 2022 and increases drug procurement costs compared to previous months.

### **2. Describe the implementation of selecting drug providers in the form of e-catalogs, FOPI standardization and direct procurement based on comparisons between several distributors which is carried out by the hospital procurement department at Pekerja's General Hospital.**

Direct negotiations have begun for the procurement of medicines in 2023 considering that the status of the COVID 19 pandemic has been revoked, so that the procurement of medicines at the Workers' General Hospital in 2023 will be done in 3 ways, namely through e-

purchasing on the LKPP e-catalog site, direct procurement referring to the Pertamedika IHC Drug Formulary and the results of direct negotiations.

After direct negotiations and input of drug price data from the LKPP and FOPI e-catalog, a price ranking was made from lowest to highest with a maximum limit of 5 ranks. Then from the list of drugs the researchers separated only the first rank.

Researchers summarize efficiency opportunities for all supplies with the following table:

**Table 2. Efficiency Opportunities with Priority Scale**

No	Jenis sediaan	Pembelajaan saat ini	Pembelajaan dengan skala prioritas	Efisiensi	Persentase efisiensi
1	Obat oral	Rp6.721.674.731	Rp5.231.241.736	Rp1.490.432.995,18	30,52%
2	Cairan	Rp5.151.540.812,8	Rp3.995.885.465	Rp1.155.655.347,80	23,67%
3	Obat sirup	Rp582.190.629	Rp426.778.016	Rp155.412.613,08	3,18%
4	Obat Injeksi	Rp7.292.806.777,58	Rp5.539.055.555	Rp1.753.751.222,58	35,91%
5	Tetes mata	Rp122.267.752,25	Rp62.792.280	Rp59.475.472,25	1,22%
6	Salep dan cream	Rp160.123.953	Rp104.366.263,7	Rp55.757.689,30	1,14%
7	Obat suppositoria	Rp420.570.082,5	Rp207.797.328	Rp212.772.754,50	4,36%
	<b>Total dalam setahun</b>	Rp20.451.174.737,59	Rp15.567.916.642,9	Rp4.883.258.094,69	100%

Based on the table above, we can see that if the purchase with a priority scale can produce drug procurement efficiency of Rp 4,883,258,094.85 or 23.9% of current spending. While the largest efficiency value is obtained if drug procurement with a priority scale is obtained for injection drugs, which is Rp 1,753,751,223 or 35.9% of the total efficiency.

### 3. Find a new method of drug procurement that can achieve drug efficiency targets to be implemented at Pekerja's General Hospital.

The implementation of the priority scale at the Workers' General Hospital will begin in April 2023 with the consideration that direct drug negotiations and updating of data from FOPI and e-catalog have been completed. Researchers compared actual expenditure data obtained from hospital financial reports in April, May and June 2023, so that the efficiency targets achieved were achieved, as explained in the following table:

**Table 3. Realization of Drug Procurement with Efficiency Targets**

Bulan Pembelajaan	April 2023	Mei 2023	Juni 2023
Rencana pembelajaan	Rp 1.297.326.386,90	Rp 1.297.326.386,90	Rp 1.297.326.386,90
Target belanja sesudah efisiensi	Rp 1.167.593.748,21	Rp 1.167.593.748,21	Rp 1.167.593.748,21
Realisasi	Rp 750.770.136,43	Rp 457.996.590,30	Rp 640.180.223,00

In the table above, it can be seen that the realization of drug spending after applying the priority scale is efficient, from the spending budget minus the 10% efficiency target of IDR 1,167,593,748.21 per month, and the realization is below that nominal, namely in April 2023 it is IDR 750,770,136.43, in May 2023 it is IDR 457,996,590.30 and in June it is IDR 640,180,223.00.

This is in line with the results of interviews which state that implementing a priority scale can increase efficiency. Apart from that, it is hoped that it can guarantee the availability of medicines. By implementing a priority scale, drug procurement is more focused in selecting providers, as researchers quoted from interviews with procurement officers who handle drug procurement:

"Currently, drug purchasing has improved, there are more quantities and more focus on provider selection, prioritizing the first winner."

The head of the pharmaceutical unit also agreed with the procurement officer's opinion that the priority scale system could be more efficient and focused. The following is an excerpt from the interview:

"It is very helpful to increase efficiency by having a target winner for each tender carried out, and the results of the tender help and make work easier because the target is clearly determined (when issuing a PO the officer can easily appoint the distributor in question based on the winner)."

Meanwhile, according to the Chair of the Pharmacotherapy Committee, implementing this priority scale can make the drug spending budget more efficient and is expected to guarantee drug availability, as the researcher quoted in the following interview:

"In my opinion, it has a big impact on the efficiency of hospital spending, because we will only buy from the first winner, so it is more efficient. "The combination of the three current procurement methods is expected to be able to meet drug availability."

#### **4. Feasibility test using the Benefit Cost Ratio Method.**

The feasibility test method used in this research is Benefit Cost Ratio. According to Schinerderjans (2004) cost benefit analysis is a technique for analyzing costs and benefits that involves estimating and evaluating the benefits associated with alternative actions to be taken. In its calculations, this analysis takes into account the costs and benefits that will be obtained from implementing a program.

In the context of procurement, BCR analysis can be used to make the right decisions and ensure that the procurement carried out provides sufficient benefits for the costs incurred.

In this study, the following data were obtained:

B1 = post-efficiency spending target in April 2023 = Rp 1.167.593.748,21

B2 = post-efficiency spending target in May 2023 = Rp 1.167.593.748,21

B3 = post-efficiency spending target in June 2023 = Rp 1.167.593.748,21

B rate = average spending target after efficiency from April to June 2023 = Rp 1.167.593.748,21.

C1 = Realization of drug procurement in April 2023 = Rp 750.770.136,43

C2 = Realization of drug procurement in May 2023 = Rp 457.996.590,3

C3 = Realization of drug procurement in June 2023 = Rp 640.180.223

C rate = average realization of costs incurred for drug procurement between April and June 2023 = Rp 616.315.650

So, the score for the Benefit Cost Ratio for this priority scale is:

BCR =	B rate
	C rate

$$BCR = \frac{Rp\ 1.167.593.748,21}{Rp\ 616.315.650} = 1,9$$

Based on the calculation results, the Benefit Cost Ratio score is 1.9, which means that the priority scale is appropriate to use for procuring medicines at Pekerja's General Hospital. Applying a priority scale with a Benefit Cost Ratio score of more than 1 can be said to increase hospital profits for financing drug procurement because efficiency is achieved.

#### **4. CONCLUSION**

1. Medicine procurement carried out by the Pekerja's General Hospital will be inefficient in 2022 because the current method is only e-catalog procurement and direct procurement with FOPI standardization. Procurement of the LKPP e-catalog in 2022 implements a single winner, namely only one distributor is given authority to procure in a certain area, so that when stocks run out, hospitals are encouraged to only buy through direct procurement based on FOPI standards or contacting drug distributors directly. With this alternative, hospitals incur greater costs compared to purchasing e-catalogs which are cheaper.
2. The drug procurement methods implemented in 2023 at the Workers' General Hospital consist of e-catalog, direct procurement which refers to FOPI and direct procurement with self-negotiation by the hospital negotiation committee. In this way, the comparison of the efficiency levels of the three drug procurement methods can be measured. For e-catalogs, the most efficient is syrup medicines, while for direct procurement through self-negotiation

by the hospital negotiation committee, the most efficient ones are liquid preparations. Direct procurement with reference to FOPI standards dominates five of the seven preparations, namely oral drugs, injections, eye drops, cream ointments and suppositories.

3. The new method, namely the scale of procurement by combining the three procurement methods, can produce an efficiency of 23.9% or IDR 4,883,258,094.69. It is hoped that this can be implemented in the following years.
4. Based on calculations, a Benefit-Cost Ratio (BCR) value of 1.9 is obtained, which means that the priority scale is appropriate for Pekerja's General Hospital. The BCR value means that the efficiency target is achieved and brings profits to the Workers' General Hospital.

## **IMPLICATIONS**

### **Theoretical Implications**

The results of this study have implications for hospitals because with inefficient or poor drug procurement implementation, hospital spending will increase. So that with a priority scale combining the three procurement methods can increase the efficiency of drug spending. This is in accordance with Ducker's theory that the key to organizational success in determining the targets to be achieved must be supported by the efficiency of the resources owned so that the organization is increasingly successful in achieving them. This study is also in accordance with the Regulation of the Ministry of Health of the Republic of Indonesia Number 72 of 2016 that the Management of Pharmaceutical Preparations, Medical Devices, and Disposable Medical Materials must be carried out in a multidisciplinary, coordinated manner and using an effective process to ensure quality control and cost control.

### **Managerial Implications**

The results of this research have implications for increasing the efficiency of drug procurement. It is hoped that it will become a management reference for determining the next year's drug financing budget and future drug procurement. Policies from hospital leaders to implement this priority scale in drug procurement are very much needed to implement efficiency in the future.

## **RECOMMENDATION**

1. Improve not only the selection of providers, but the integrated supply chain management system from planning to distribution of drugs to units, pharmaceutical units immediately submit requests for drugs when drugs approach buffer stock. In this way, drug procurement planning can be carried out properly so that the procurement unit can determine or choose the right method.

2. It is recommended that the procurement unit submit orders by paying attention to the budget allocated by the hospital. Budget availability, drug requirements and drug prices are important factors in determining an efficient procurement method in terms of price.
3. The application of the priority scale can also be applied to other procurements such as the procurement of medical equipment, medical consumables, nutrition procurement and office stationery procurement.

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