

Research Article



THE RELATIONSHIP BETWEEN LOGISTICS PLANNING AND LOGISTICS PROCUREMENT FUNCTIONS WITH THE AVAILABILITY OF MEDICAL DEVICES IN COMMUNITY HEALTH CENTERS IN KOLAKA DISTRICT

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ABSTRACT

Backgrounds: Health equipment is one aspect that supports the implementation of disease prevention (preventive) and disease healing (curative) efforts. The unavailability of medical equipment will affect the quality of services provided to patients. Based on data from the Medical Equipment Facilities and Infrastructure Application, none of the 14 (Fourteen) Community Health Centers in Kolaka Regency have medical devices that are fulfilled according to the Minister of Health. The purpose of this study is to analyze the relationship between Logistics Planning and Logistics Procurement Functions with the Availability of Medical Devices at Community Health Centers in Kolaka Regency

Methods: This research is a quantitative study using the Cross-Sectional Study approach, the population in this study were 42 (forty-two) people and the sample in this study were 13 (thirteen) Community Health Centers. The data analysis used is descriptive and inferential analysis and logistic regression analysis

Results: The results showed that the planning variable had a P Value = 0.583 <0.05, then procurement had a P Value = 0.513 <0.05, which means that the variables mentioned are related to the availability of medical devices and there is a simultaneous significant effect between management functions logistics on the availability of medical devices in Kolaka District.

Conclusion: It is very necessary to have training or technical guidance on operating medical devices so that officers can operate and be able to maintain these medical devices.

Keywords: *Planning, Procurement, Medical Devices.*

INTRODUCTION

Health equipment is one aspect that supports the implementation of disease prevention (preventive) and disease healing (curative) efforts. The unavailability of medical equipment will affect the quality of services provided to patients. In the Law of the Republic of Indonesia Number 36 of 2009 concerning Health, in articles 98 and 104 it states that the management of medical devices must be safe, efficacious or useful, of good quality and affordable for the community and the security of medical devices is carried out to protect the public from harm caused by users of medical devices which do not meet the requirements for quality or safety and efficacy. Therefore, the condition and function of the medical device's physical facilities must be in good condition and support health services. (1)

Health equipment is one of the important factors in the delivery of health services both at the Puskesmas and at other health service facilities. In order to achieve good condition and function of medical equipment and to be able to support health services, it is necessary to have integrated management of medical equipment. In order for health equipment to be managed properly, government policies are needed in managing health equipment at Health Center and other health service facilities. (2)

To realize Health Center equipment that meets the requirements of quality standards, security and safety, it is necessary to manage health equipment. In the medical equipment management cycle, there are medical device maintenance and calibration activities. Maintenance of medical devices is a series of activities, both preventive and corrective, carried out in order to ensure that the health equipment at the Health Center is

of good quality, safe and good for use. Meanwhile, medical device calibration is an activity to determine the conventional correctness of the designation value of measuring instruments and measuring materials, by comparing them to measuring standards that are traceable to national or international standards. (3)

Based on the Government Regulation of the Republic of Indonesia Number 27 of 2014 concerning the Management of State or Regional Property, it states that the Management of State/Regional Property includes planning needs and budgeting; procurement; Use; Utilization; security and maintenance; Evaluation; Transfer; extermination; deletion; Administration; and coaching, supervision and control. (4)

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Therefore research is needed to find out the factors that cause this activity to be not optimal, so that appropriate strategies can be developed to improve the performance of medical infrastructure and device management activities, which are able to provide complete equipment needs, as well as the conditions and functions of the physical facilities. Health must be in good condition and able to support health services.

METHODS

This research is a quantitative study using a Cross Sectional Study approach, the population in this study was 42 people and

the sample in this study were 13 Community Health Centers, the sample was taken by Simple Random Sampling. The data analysis used is descriptive and inferential analysis and logistic regression analysis.

RESULTS

Table 1 shows that of the 42 respondents studied, there were 22 respondents planning medical devices in the Yes category and 20 respondents planning medical devices in the No category. Furthermore, of the 22 respondents who planned medical devices in the Yes category, there were 2 respondents (9.1%) who had sufficient medical devices available and there were 20 respondents (90.9%) who had insufficient medical devices. Then of the 20 respondents who planned for medical devices in the None category, 13 respondents (65.0%) had adequate medical device planning and there were 7 respondents (35.0%) who had inadequate medical device planning. The results of the chi square statistical test at the 95% level of confidence ($\alpha = 0.05$) show that the value of $X^2_{count} = 14.263 >$ the value of $X^2_{table} = 3.841$, which means there is a relationship between the planning of medical devices with the availability of medical devices. The results of the closeness test showed that the value of $\phi = 0.583$, which means that there is a moderate relationship between the planning of medical devices and the availability of medical devices at the Health Center in Kolaka Regency.

Table 2 shows that of the 42 respondents studied, there were 25 respondents who procured medical devices in the Yes category and there were 17 respondents who procured medical devices in the No category. Furthermore, from the 25

respondents who procured medical devices with category Yes, there were 14 respondents (56.0%) who had sufficient medical devices available and there were 11 respondents (44.0%) who had insufficient medical devices. Then of the 17 respondents who procured medical devices in the None category, 1 respondent (5.9%) had sufficient availability of medical devices and there were 16 respondents (94.1%) who had insufficient availability of medical devices. The results of the chi square statistical test at the 95% level of confidence ($\alpha = 0.05$) show that the value of $X^2_{count} = 11.070 >$ the value of $X^2_{table} = 3.841$, which means there is a relationship between the procurement of medical devices and the availability of medical devices. The results of the closeness test showed that the value of $\phi = 0.513$, which means that there is a moderate relationship between the procurement of medical devices and the availability of medical devices at the Puskesmas in Kolaka Regency.

Table 1. The Relationship between Planning for Medical Devices and the Availability of Medical Devices at Community Health Centers in Kolaka Regency in 2023

Medical Devices Planning	Availability of Medical Devices				Amount		X ² _{hit} X ² _{tab}	Φ
	Enough		Not enough					
	n	%	n	%	n	%		
Yes	2	9,1	20	90,9	22	100	14,263 3,841	0,583
No	13	65,0	7	35,0	20	100		
Amount	15	35,7	27	64,3	42	100		

Table 2. The Relationship between the Procurement of Medical Devices and the Availability of Medical Devices at Community Health Centers in Kolaka Regency in 2023

Procurement of Medical Devices	Availability of Medical Devices				Amount		X ² _{hit} X ² _{tab}	Φ
	Enough		Not enough					
	n	%	n	%	n	%		
Yes	14	56,0	11	44,0	25	100	11,070 3,841	0,513
No	1	5,9	16	94,1	17	100		
Amount	15	35,7	27	64,3	42	100		

DISCUSSION

Relationship between Planning and Availability of Medical Devices

Planning is a process for formulating goals and determining the steps that must be implemented to achieve the goals that have been determined. In particular, logistics planning is planning logistical needs which are implemented by all potential users or users and then submitted according to the flow that applies in each organization. According to (5), planning is the result of summarizing the main tasks, ideas, knowledge, experience and circumstances or environment which is a planned way of containing desires and efforts to formulate basic and action guidelines.

Based on the research results show that from Of the 22 respondents who had sufficient medical device planning, there were 2 respondents (9.1%) who had sufficient medical device availability and there were 20 respondents (90.9%) who had

insufficient medical device availability. There were respondents who had adequate medical device planning but had inadequate availability of medical devices due to a lack of planning for the needs of each Health Center, both for type, specification and regarding quantity, in addition to the lack of coordination between the Health Center and the Health Office so that planning for medical devices it gets slow. Then from the 20 respondents who had insufficient medical device planning, there were 13 respondents (65.0%) who had sufficient availability of medical devices and there were 7 respondents (35, 0%) who have less availability of medical devices. There were respondents who had inadequate medical device plans but had adequate availability of medical devices because these respondents always supervised the medical device plans they made, even overseeing the reports until the medical device plans were known by the Health Office. Besides that, great attention is also a factor so that the availability of their

medical devices is sufficient. even overseeing the report until the medical device planning is known by the Health Office. Besides that, great attention is also a factor so that the availability of their medical devices is sufficient. even overseeing the report until the medical device planning is known by the Health Office. Besides that, great attention is also a factor so that the availability of their medical devices is sufficient.

Planning for medical devices originating from the Health Center is called bottom up planning, in general the head of the Health Center makes plans for medical devices at the beginning of the year for needs throughout the year that will run. At the time the mini-workshop meeting was considered by some the head of the Health Center to be the right time to discuss medical equipment planning, where all the Health Center staff gathered to discuss the achievements of the health service program and also the constraints or problems faced by both individual and community service efforts.

At present the Health Center is required by the Indonesian Medical Consul to treat 155 diseases that cannot be referred, so medical devices must be available in sufficient types and quantities, for this it is necessary to make good planning. Each person in charge of the poly room such as the general poly, dental poly, children's poly, laboratory room, emergency room, delivery room, head of auxiliary clinic, and village midwife makes a written list of needed medical devices. For damaged medical devices, a separate list is also made so that repairs can be submitted to the Health Office. Apart from that, at the Musrembang meeting in the sub-district, sometimes there are proposals from cross-sectoral parties, these are also accommodated and proposed

together with the needs of the Health Center, plus tools that are not yet on the submission list but deemed necessary by the head of the Health Center. Apart from the annual planning, planning is also made periodically for the need for the necessary tools. All equipment needs are recapitulated and a written request is made to the Head of the Kolaka District Health Office.

Top down and bottom up planning is then analyzed in accordance with the existing financial conditions and then made into a Budget Plan. Planning has been made by e-planning since 2014. Planning for medical devices for Health Center is based on non-inpatient Health Center and inpatient Health Center. The Budget Plan that has been made has begun to be adjusted to the Health Compendium. The Health Compendium, which was published in 2021 for the technical technical guidelines, will only be issued in 2022 so that its implementation will begin to be implemented in the current year.

The results of the chi square statistical test at the 95% level of confidence ($\alpha = 0.05$) show that the value of $X^2_{\text{count}} = 14.263 >$ the value of $X^2_{\text{table}} = 3.841$, which means that there is a relationship between the planning of medical devices and the availability of medical devices. The results of the closeness test showed that the value of $\phi = 0.583$, which means that there is a moderate relationship between the planning of medical devices and the availability of medical devices at the Health Center in Kolaka Regency. This research is in line with research conducted (6) which states that the implementation of good logistical needs planning will take into account other aspects such as time, place, people, and others, however, in the implementation of planning carried out at Children's Hospital and Bunda Harapan Kita, sometimes hampered by time

problems. Sometimes the implementation of planning for logistical needs exceeds the due date, and this has an impact on the next process which is also postponed. Then this research is also in line with research conducted by (7) which states that in planning for determining needs starting from requesting the needs of each installation or user, it is recapitulated and discussed with the leadership, service sector, support sector, administration and planning sector for determine the priority of hospital needs, for Special Allocation Fund funds proposals are submitted by the medical support sector to the planning sector to adjust priorities with the menu of medical devices available on the Special Allocation Fund menu. If priority needs are not available on the Special Allocation Fund menu, then they are diverted to other needs that are on the Special Allocation Fund menu.

For this reason, it is hoped that the Health Center will prepare and plan medical devices earlier so that they are not constrained by the time for proposing and reporting, then it is hoped that they will always adjust to the Health Center budget so that the medical devices needed can be procured.

The Relationship between Procurement of Medical Devices and Availability of Medical Devices

Procurement is the activity of buying and receiving goods or services, this process starts from the preparation of what goods or services you want to buy until the agreement to make payments to third parties. Medical devices needed according to plan will be reported to the procurement party taking into account the availability of the budget and the level of emergency use of these medical devices. If sufficient funds are available,

purchases will be made directly through the e-catalog and directly distributed to units in need. Procurement is all activities and efforts to increase and fulfill the need for goods and services based on applicable regulations by creating something that did not exist before. This activity is included in an effort to maintain something that already exists within the limits of efficiency. (8)

Based on the results of the study, it was stated that of the 25 respondents who had adequate medical equipment procurement, there were 14 respondents (56.0%) who had sufficient medical devices available and there were 11 respondents (44.0%) who had insufficient medical devices. There were respondents who had sufficient procurement of medical devices but had insufficient medical devices due to the lack of officers looking for and managing the e-catalog of goods, where the purchase of the goods was above Rp. 200 million will be tendered, Apart from that, there are also constraints that order through the application must order directly to the principal. In other words, the principal can mean the factory where the goods are made or the owner of the brand of the goods, where if they are not currently opening an order, it will cause delays in logistics procurement because the goods needed turn out to be there is no and it could also be that they agree and do not agree to accept the order. Then of the 17 respondents who had insufficient medical device procurement, there was 1 respondent (5.9%) who had sufficient medical device availability and there were 16 respondents (94.1%) who had insufficient medical device availability.

Procurement of medical devices covers the entire process from planning, preparation, licensing, to the implementation stage and administrative processes in

procuring goods. Procurement of regional property is carried out based on the principles of efficiency, effectiveness, transparency and openness, competition, fairness and non-discrimination, and accountability. Procurement of local government medical devices is carried out by the goods procurement committee, namely the Commitment Making Officer at the Health Service. (9)

Efficient and effective procurement of government medical devices is an important part of managing state finances. One of its manifestations is the implementation of the process of procuring government medical devices electronically, namely the procurement of medical devices using information technology and electronic transactions in accordance with statutory provisions. Procurement of electronic medical devices is regulated in Presidential Regulation number 70 of 2012. The process of procuring government medical devices electronically will further enhance and guarantee efficiency, effectiveness, transparency and accountability in spending state funds.

The results of the chi square statistical test at the 95% level of confidence ($\alpha = 0.05$) show that the value of $X^2_{\text{count}} = 11.070 >$ the value of $X^2_{\text{table}} = 3.841$, which means there is a relationship between the procurement of medical devices and the availability of medical devices. The results of the closeness test showed that the value of $\phi = 0.513$, which means that there is a moderate relationship between the procurement of medical devices and the availability of medical devices at the Health Center in Kolaka Regency. This research is in line with research conducted by (10) which shows that the components of the procurement process are constrained by

funds, and the process of receiving constraints at the time of receipt of goods. In the output component, the availability of medical devices at the Bogor Islamic Hospital has not been fulfilled due to budgetary constraints. This shows that the availability of funds is a major factor before procuring medical devices. Providers need to pay close attention to medical devices that are needed by users. Subsequent research conducted by (11) which shows that the mechanism for distributing drugs and medical devices in the Pharmacy Installation of the Malingping Regional General Hospital is generally effective because drugs and medical devices are distributed evenly to meet the needs of patients who need them, this is proven by the delivery and receipt of drugs that are always on time, right type and right amount.

For this reason, it is hoped that the Health Center can find out more thoroughly about the use of the e-catalog, so that in the procurement of goods both the type and specification of the equipment can be better known and can be adjusted to the budget.

CONCLUSIONS

There is a moderate relationship between planning and procurement with the availability of medical devices at the Health Center in Kolaka District. So that the medical device planning process should refer to application data in the application data for health facilities, infrastructure and medical devices at the Health Center. As well as the need to organize a regional maintenance unit for medical devices (Regional Maintenance Center) in Kolaka Regency which functions to carry out maintenance of medical devices in an effective, competent and quality manner.

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