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Analysis of Logistics Planning in Puskesmas: An Approach to Operational Efficiency and Effectiveness

Rapotan Hasisbuan[1], Adinda Aulia Ar-ramdhani[2*], Anggina Cucu Khetri Sianturi[3], Amelia Apriyuni[4], Dian Yustika Putri[5], Halimatus Sa'diyah Dalimunthe[6], Azzahra Ramadhana Nasution[7], Salsabila Audina[8]
[1-8]Fakultas Kesehatan Masyarakat, Universitas Islam Negeri Sumatera Utara

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ABSTRACT

This research aims to analyze logistics planning at community health centers with a focus on the methods used to determine logistics needs, monitor stock of goods, as well as procedures for handling sudden requests and writing off goods. This research uses a qualitative descriptive approach with in-depth interviews and observation methods at several community health centers in Medan City. The research results show that logistics planning at community health centers is carried out using a standard format provided by the Health Service every year, which includes estimates of drug needs based on previous usage data and disease patterns. The stoc monitoring process for logistics goods is carried out periodically with drug usage reports (LPLPO) which record stock, remaining stock and expenditure. Handling sudden requests is done by making special requests to the warehouse, although sometimes drug procurement cannot be fulfilled on time. The main challenges in logistics planning are budget limitations and ineffective coordination with related parties. Removal of expired or damaged goods is carried out using a procedure that includes separating the goods and making an official report. This research provides recommendations for improving coordination between parties, using technology in stock monitoring, and more efficient budget management so that logistics planning at community health centers can be more effective and support optimal health services.

Corresponding Author:

Adinda Aulia Ar-ramdhani
Fakultas Kesehatan Masyarakat, Universitas Islam Negeri Sumatera Utara
Email: adinaulia146@gmail.com

INTRODUCTION

Puskesmas as a first-level health service provider has a strategic role in supporting public health programs (Hasibuan 2024). To ensure the continuity of health services, effective and efficient logistics planning is a key aspect in managing daily and emergency needs. The logistics in question include medicines, medical devices, consumables, and other supporting facilities that support the optimal operation of the health center (Sri Devi et al. 2024).

However, in its implementation, logistics planning in health centers often faces a number of challenges. One of these challenges is budget limitations that force procurement to be carried out very carefully. In addition, the lack of a proper and up-to-date stock monitoring system can lead to shortages or excess goods, which in turn has an impact on the quality of health services. On the other hand, planning that is not based on data often results in a mismatch between real needs and logistical availability (Rahayu, A., & Khairiyati 2021).

This situation is further complicated by the long waiting time in the procurement of goods and the lack of coordination with related parties, such as the health office and goods providers. This situation can hinder health centers in responding to urgent needs, especially when facing health emergencies (Aisah,

Satibi, and Suryawati 2020).

Therefore, the analysis of logistics planning in health centers is very important to identify existing weaknesses and formulate improvement strategies. With good logistics planning, health centers can ensure the availability of goods as needed, minimize waste, and improve the efficiency of resource use (Sinaga, E. S., Rasyid, I. A., Mubarok, M. R., Sudharma, N. I., & Nolia 2023).

This study aims to examine logistics planning methods in health centers, identify the main challenges faced, and evaluate stock monitoring and control systems. Thus, it is hoped that this study can provide strategic recommendations to support the efficiency and effectiveness of health center operations, so that health services to the community can run optimally.

RESEARCH METHODS

This research is included in the category of qualitative descriptive research, which aims to provide an in-depth overview of logistics planning in health centers, including the methods used, challenges faced, and strategies to improve operational efficiency and effectiveness.

The research design used is a case study, which focuses on a specific health center as the main unit of analysis. This approach was chosen to delve into the logistics planning process in detail by relying on empirical data from relevant interviews, observations, and documents.

The population is the entire collection of cases that are the focus of the research. The population in this study is all health centers in the research area, including health workers and staff involved in logistics management. The target population includes individuals who have a direct role in the planning, procurement, and management of logistics, such as: Head of health center, Pharmacy officer, Logistics staff, Other staff involved in the storage, distribution, or monitoring of logistics goods.

This study uses a purposive sampling method, by selecting samples based on relevance criteria to the research objectives. Samples were taken from health centers that have been operating for at least 3 years and have a documented logistics system, such as procurement reports, stock monitoring, and logistics SOPs. The respondents in this study consisted of one person per health center, which included the head of the health center, pharmacy officers, and other logistics staff who had at least 1 year of work experience and were directly involved in logistics planning. This approach ensures that the data obtained is representative and in-depth to analyze logistics planning in health centers.

This study will identify two main types of interrelated variables in logistics planning in health centers, namely independent variables that affect logistics planning, and dependent variables that are the result of the planning.

RESULT

Interview Results

What is the method used to determine the logistical needs at the health center, both for daily and emergency needs?

"Usually nationally there is a global plan every year that will be submitted to the health office. Every two weeks there will be an examination from the health office, then recapitulation. Then the health office will provide drugs on demand."

Is there a monitoring system for the availability of logistics stock, and how often is the data updated?

"Monitoring is always there using stock cards."

How does the health center prioritize the procurement of logistics goods, especially for goods that have a waiting period?

"If it is sudden, it will usually ask for a special request to the warehouse. Then there is a form for the request process. But not always."

What are some of the key challenges often faced in logistics planning, such as budgeting or coordination with related parties?

"If the JKN, we ask for goods that are not necessarily there. It's different if we make a request or buy goods outside. JKN also cannot be reture."

Is there a standard procedure for dealing with sudden demand or shortages of essential goods, such as medicines or medical equipment?

"If he is sudden, we have to ask for a special request to the warehouse. Later a form for taking medication will be included, but not always."

What are the criteria or conditions for logistics goods that can be provided for the elimination process at the health center?

"All expired supplies are separated, then written in the minutes and signed by the relevant officers."

What is the procedure for the removal of logistics goods, and which parties are involved in the process?

"All expired goods are separated, written in the minutes and signed.

Then the health office will check this."

What are the main challenges in the process of removing logistics goods, such as determining the status of goods?

"Location of funds from grants, APBD, drug maintenance,"

How is the logistics goods storage system set up to ensure easy access and stock management?

"storage in accordance with ALFABETIS and adjusted to the form of preparation." What are the standards or guidelines used to ensure logistics goods,

such as medicines or medical materials, stored safely and in accordance with the requirements? "first in-first out, first expired-first out."

Is there an inventory system used to record and control logistics goods in real-time?

"There is daily, monthly, and semester reporting. That's always."

DISCUSSION

Logistics Planning Methods

To determine the logistical needs at the health center, especially the need for medicines, the health center follows the standard format provided by the Health Office at the beginning of each year. This format requires health centers to fill in data related to the amount of drugs needed for the next year. Each health center, including four health centers in Medan City, must report an estimated drug need that is equipped with a formula or calculation that has been prepared. The request for drug procurement was made after data from all health centers were recapitulated within two weeks. This process involves meetings between pharmacy officers, procurement officers, and representatives of health centers, as well as socialization about the drugs that will be held, both for JKN and non-JKN drugs. The drug demand report (LPLPO) contains the name of the drug, the amount of previous stock, the demand for the future period, as well as the expenditure incurred during the previous period.

The health center applies a data-based planning approach (bottom-up) to determine logistics needs. Each health service unit at the health center collects data on the use of drugs and medical devices, which is then submitted to the pharmacy department for the selection process of pharmaceutical preparations. This selection process considers emerging disease patterns, drug consumption, and data on the use of goods from the previous period. In addition, the health center also refers to the National Essential Drug List (DOEN) and the National Formulary in determining the type and amount of drugs that need to be prepared.

Stock Monitoring System

The health center has procedures to monitor the availability of logistics stock. This monitoring is carried out using drug usage reports that include existing drug stocks, remaining stocks, and expenses. In addition, for temperature-sensitive drugs, such as vaccines, as well as special program-related items such as HIV, all are recorded in the LPLPO to facilitate the monitoring and management of stock of goods as needed. The stock monitoring system at the health center is quite adequate, with the use of the Drug Usage Report and Request Sheet (LPLPO) which is updated regularly. The health center utilizes a manual system supported by software to ensure the availability of stock of logistics goods. Data updates are done monthly or whenever there is a drug request. However, there are several limitations related to data accuracy in some health centers that still use a manual system without the support of more modern technology.

Challenges in Logistics Planning

One of the main challenges in logistics planning is the difficulty in procuring JKN drugs. These medicines are often unavailable or cannot be obtained on demand. In addition, for drugs that are not related to JKN, problems often arise due to procurement that is carried out too close to the time, so that the stock cannot be fulfilled quickly. Another obstacle is related to the return of goods from suppliers, which are generally only allowed for medicines purchased through JKN with certain conditions.

The main challenge in logistics planning is budget constraints, which affect the ability of health centers to meet all logistics needs in a timely manner. The procurement of goods, especially those with long waiting periods, is often a problem, because the procurement process must prioritize urgent goods. In addition, coordination between the health center and the health office and suppliers is also still an obstacle, which often causes delays in the procurement of necessary goods.

Logistics Removal Process

Logistics goods that have expired or are damaged must be separated from other goods and removed in accordance with applicable procedures. Expired goods, such as medicines in the form of tablets or injections, must go through a removal process that involves the preparation of minutes and signatures by the relevant parties. So far, the removal of goods is carried out in accordance with existing procedures, although official documentation such as removal reports have not been fully implemented.

Challenges in the Removal Process

The main challenge in the process of removing goods is determining the status of goods, whether they are still suitable for use or have to be removed. This process often requires proper coordination between the responsible officer and the health office to ensure that the removed items comply with applicable regulations.

Procurement and Budgeting Priorities

Puskesmas conduct budgeting by considering external factors such as inflation and urgent needs. The procurement of logistics goods is prioritized based on their level of urgency, where goods with a longer procurement time are given a lower priority. The budget submission and approval process is carried out in stages and involves the health office, but there are still several obstacles in the disbursement of the budget that result in delays in the procurement of goods.

Logistics Management Control and Evaluation

Stock control is carried out using an inventory system that allows the health center to monitor goods in real-time. Any items that do not meet the standards or have been damaged are withdrawn and replaced according to procedures. Evaluations are conducted every six months to identify problems in logistics management and plan for necessary improvements. The results of this evaluation are then used to formulate a more efficient logistics management policy in the next period.

CONCLUSION

Based on the results of research on logistics planning in health centers, it can be concluded that logistics planning has been carried out with a data-based approach (bottom-up), which involves collecting data on drug use and disease patterns to determine logistics needs. Puskesmas also refer to the National Essential Drug List (DOEN) and the National Formulary in determining the type and amount of drugs needed. However, the implemented stock monitoring system still faces several challenges, especially related to data accuracy and the use of more modern technology for real-time stock monitoring. In addition, the main challenge faced is budget constraints, which often lead to delays in the procurement of goods, especially for goods with long waiting times. Ineffective coordination between the health center and related parties is also an obstacle in logistics management. Logistics control and evaluation at the health center are carried out regularly, but there are still opportunities to improve operational efficiency.

SUGGESTION

As an improvement measure, it is recommended that health centers adopt a more sophisticated stock monitoring system based on technology to improve accuracy and efficiency in logistics management. Puskesmas also need to improve coordination with health offices and suppliers so that the procurement of goods can be carried out more on time. Improving the efficiency of budget use is essential, including budget planning that is more based on clear needs data to avoid waste. In addition, training and capacity building of human resources in the field of logistics management are needed so that health center staff can manage logistics more effectively and efficiently. Finally, periodic evaluations of logistics procedures and goods management must be carried out in a structured manner to identify problems and improve the effectiveness of logistics management in health centers. With the implementation of these recommendations, it is hoped that logistics management at health centers can run more optimally, support the success of health services, and improve operational efficiency.

REFERENCES

Abdulkadir, W. S., Madania, M., Tuloli, T. S., Rasdianah, N., & Akuba, J. (2022). Analysis of Management of Logistics Management of Pharmaceutical Preparations and Health Supplies in Pharmaceutical Installations. Indonesian Journal of Pharmaceutical Education, 2(1), 74-85.

Aisah, Nur, Satibi, and Sri Suryawati. 2020. "Evaluation of Drug Management at the Planning and Procurement Stage at the Pati Regency Health Office." Pharmaceutical Magazine 16(1): 34–42. doi:10.22146/pharmaceutical.v16i1.47972.

Astiena, A. K., & Hadiguna, R. A. (2024). PHARMACEUTICAL LOGISTICS MANAGEMENT IN HEALTHCARE INSTITUTIONS. Uwais Inspirasi Indonesia.

Girsang, B., & Abdillah, W. (2022). Analysis of Planning, Procurement and Distribution of Pharmaceutical Supplies for Health Centers at the North Bengkulu Regency Health Office. Student Journal of Business and Management, 5(3), 804-836.

Hasibuan, Indah Doanita. 2024. "ANALYSIS OF THE PLANNING AND BUDGETING OF THE SUPPLEMENTARY FEEDING PROGRAM FOR TODDLERS AT THE MEDAN CITY HEALTH OFFICE." 11(02): 119–31.

Muslim, Z., & Laksono, H. (2021). Evaluation of the procurement system related to the availability of drugs at the Bengkulu City Health Center. Higea Journal of Pharmacy, 13(1), 8-13.

Rahayu, A., & Khairiyati, L. (2021). Evaluation of the Additional Food Program for Children Under Five at the Medan City Health Center. Journal of Public Health, 9(2), 117- 125.

Sinaga, E. S., Rasyid, I. A., Mubarok, M. R., Sudharma, N. I., & Nolia, H. (2023). Monitoring the consumption of supplementary feeding (PMT) in increasing the weight of toddlers with nutritional problems. ABDI MOESTOPO: Journal of Community Service, 6(1), 1–8. https://doi.org/10.32509/abdimoestopo.v5i2.2236

Sri Devi, Arini Aisyahfira Wijaya, Indah Doanita Hasibuan, Putri Dina, and Adelia Andina. 2024. "Analysis of the Effectiveness of the Use of Regional Revenue and Expenditure Budgets on the Quality of Health Services at the Simalingkar Health Center." Journal of Abdi Nusa 4(2): 108–19. doi:10.52005/abdinusa.v4i2.256.

Vebriani, R. D., & Ef, J. A. J. (2024). ANALYSIS OF LOGISTICS MANAGEMENT OF DRUG MANAGEMENT IN THE PHARMACY WAREHOUSE OF THE WIRADESA HEALTH CENTER, PEKALONGAN REGENCY. BENZENA Pharmaceutical Scientific Journal, 3(01).