ISSN. 2338-7475
E-ISSN. 2620-7869
Hearty
Jurnal Kesehatan Masyarakat
Berinan, Tulus, Sepenuh Hati,Berbesar Hati, Jujur, Sehat dan Kuat
Vol. 14 No. 4, Agustus 2026, Hal. 1046-1056

PLANNING EVALUATION DRUG LOGISTICS AT JAYAPURA REGIONAL GENERAL HOSPITAL PAPUA PROVINCE

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Abstract

Evaluation of drug logistics planning is an important step to find out the gap between planning and the realization of drug availability. Evaluation can identify factors that affect drug availability as well as provide a basis for improving a more effective and efficient planning system. This study aims to analyze the planning and availability of drug logistics at Jayapura Hospital, Papua Province, in 2025. This research is qualitative with a case study approach. The informants in the study were 8 informants who were taken by purposive sampling technique. Data was collected through in-depth interviews, observations, and document review. The results of the study show that inputs in drug logistics planning have been available policies, and there are Standard Operating Procedures. The obstacle for input is the availability of human resources, specifically for planning; there are budget limitations. The process component in logistics planning is that cross-unit coordination has been carried out, there is a preparation of a drug needs plan, there is validation, drug revision has referred to usage data and disease trends, and is supported by hospital policies and management. In the output, the planning is according to the needs of the service, but there are still drug vacancies due to delays in procurement and distribution.

Keywords: Planning, Drug Logistics, Evaluation

Introduction

Evaluation of drug logistics planning is an important step to find out the gap between planning and the realization of drug availability. This evaluation can identify factors that affect the availability of drugs as well as provide a basis for improving a more effective and efficient planning system [(1)].

According to Rahmatullah, the budget is used as a tool to assess the performance of managers by comparing the planned budget with the actual results that have been achieved to ensure whether the activities have been carried out efficiently, effectively, and economically. The percentage of the results of comparing targets with budget realization and budget implementation efficiency is an illustration that can show the quality of managerial performance [(2)].

The activities contained in the planned budget can be achieved well if the budget prepared is right on target. A budget that is right on target requires a lot of information so that the resources you have can be allocated appropriately. In the theory of public financial management, budget planning is understood as a strategic and systematic process to allocate financial resources optimally [(3)].

Logistics management involves financial motives that are expected to be achieved at a low cost. If the hospital does not carry out proper logistics fulfillment, expenses cannot be properly controlled. Failure to manage logistics properly can lead to difficulties in achieving success and consequently reduced service satisfaction in patients [(2)].

The existence of the Jayapura Regional General Hospital (RSUD) is one of the important elements in the health service system in Indonesia [(4)]. Drug logistics planning is a very decisive initial stage in the

Submitted: April-2026 Received: June-2026 Available Online: August-2026

logistics management cycle. Planning that is carried out appropriately will ensure the type, quantity, and time of availability of drugs according to the needs of health services. Conversely, inaccurate planning can lead to an imbalance between the need and availability of medications in healthcare facilities [5].

The availability of drugs is one of the important indicators in assessing the quality of hospital services. Drug shortages can cause treatment delays, the use of suboptimal therapeutic alternatives, and increased health service costs [6].

Drug logistics planning in hospitals still faces various obstacles. Several studies have shown that planning is often not based on accurate drug use data, has not used proper forecasting methods, and is still influenced by budget constraints and procurement policies [5]. This shows that there is a discrepancy between planning and real needs in the field and the lack of an optimal drug logistics control system [7].

Based on a preliminary study at Jayapura Regional Hospital in Papua Province, it was still found that there was a decrease in budget reduction with a realization of 98%. and the occurrence of vacuums of several types of drugs in a certain period [4]. Evaluation of drug logistics planning is an important step to find out the gap between planning and the realization of drug availability. This evaluation can identify factors that affect the availability of drugs as well as provide a basis for improving a more effective and efficient planning system [8].

Method

This research is qualitative with a case study approach. The informants in the study were 8 informants who were taken by purposive sampling technique. Data was collected through in-depth interviews, observations, and document review.

Results

1. Informant Characteristics

Table 1. Informant Characteristics by age, Gender

Informant Code	Informant Initials	Age (Year)	Gender	Remarks
I1	AP	42	Male	Hospital Director
I2	YH	48	Female	Deputy Director of Finance
I3	RH	51	Male	Head of Finance & Accounting
I4	A	42	Male	Head of Hospital Pharmacy Installation
I5	UP	39	Female	Program Planning Staff
I6	VK	37	Female	Hospital Pharmacy Staff (Medication Needs Plan Compiler)
I7	RB	31	Male	Outpatient Pharmacy Staff
I8	NL	31	Female	Inpatient Pharmacy Staff

2. Input Analysis

a. Hospital Policy and Budget Support in Drug Logistics Planning

Based on the results of in-depth interviews with informants, it is known that drug logistics planning has become a priority in hospital planning documents and is part of the quality indicators of hospital services.

"Drug logistics planning is a priority part of the hospital because the availability of drugs is the main indicator of the quality of hospital services." (IK-1)

"Drug needs planning is included in the annual planning document including input analysis of the sick as part of the service priority" (IK-4)

"The service unit conveys the need for drugs based on the hospital planning directions that have been predetermined" (IU-1)

Based on the results of the interview, it is known that the preparation of drug needs is carried out by considering the financial capabilities of the hospital and service priorities.

"Proposed drug needs are prepared based on the previous year's drug use data and adjusted to the hospital's financial capabilities" (IK-2)

"Budget limitations still affect the fulfillment of certain drug needs" (IK-2)

"Currently, hospitals with limited budgets prioritize the procurement of drugs based on needs" (IK-1)

The main informant also said that budget limitations caused priority to be given to the need for certain drugs so that services continued to run optimally.

b. Availability of Human Resources, Data, and SOPs in the Preparation of Drug Logistics Planning

Based on the results of the interview, it is known that human resources involved in the preparation of drug needs are available, but there are still limitations in the division of tasks, especially in drug needs analysis activities.

"The availability of human resources in planning drug needs already exists, but additional special personnel are still needed so that the process of analyzing drug needs is more optimal" (IK-3)

"Personnel involved in the preparation of drug needs are still concurrently serving duties, so a clearer division of duties is needed" (IU-2)

"Even though human resources are limited, coordination between units helps the planning process to continue. Currently, the human resources in the hospital are sufficient, where we have pharmacists who are competent in their fields" (IK-1)

In addition to human resources, the availability of data is also an important component in the preparation of drug needs to suit the needs of hospital services.

"The data used in planning drug needs includes data on previous drug use, drug stock data, and patient visit data" (IK-3)

"Drug needs data are obtained from previous drug use reports and proposed needs from service units" (IU-1)

"Drug needs planning also takes into account disease trends of patients served by hospitals" (IU-3)

"Hospitals already have SOPs for managing pharmaceutical logistics, which are guidelines in the process of planning drug needs. The budget allocation policy is carried out in accordance with the history of the disease or based on the realization of drug procurement in the previous year." (IK-1)

"SOPs are used as guidelines in the preparation of drug needs so that the process is more

directed" (IU-2)

This shows that the process of preparing drug needs in hospitals has been supported by the availability of human resources, the use of service data, and the existence of SOPs as guidelines for the implementation of drug logistics planning.

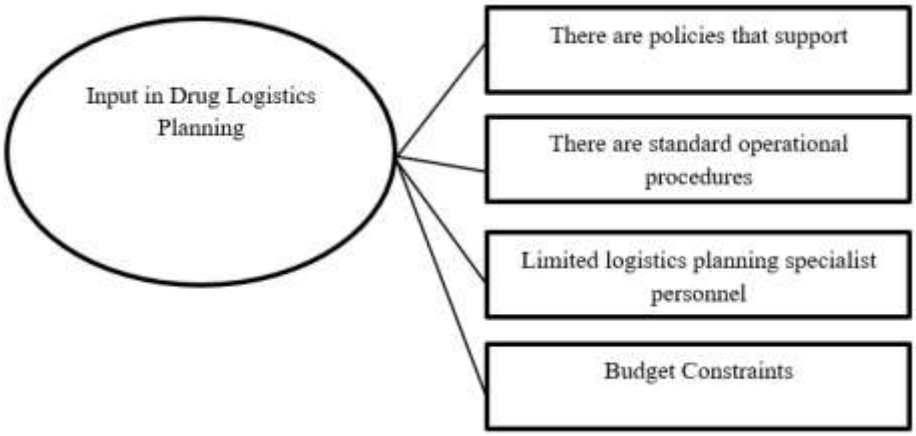


Figure 1. Drug Logistics Planning Input Theme

3. Process

a. Preparation of Medication Needs Plan and Cross-Unit Coordination in Drug Logistics Planning

Coordination across units is an important part of the process of preparing drug needs so that the planned needs are in accordance with the needs of the hospital and the hospital's budget capabilities. Based on the results of the interview, it is known that coordination is carried out through regular meetings between pharmaceutical installations, program planning sections, finance sections, and service units.

"Coordination is carried out through regular meetings between pharmaceutical installations, program planning departments, and finance departments. Each DPJP (doctor in charge of services) will provide the usual medical needs. Our management will map drug needs according to the priority scale" (IK-1)

"Coordination is carried out routinely between pharmaceutical installations and service units in the process of preparing drug needs" (IU-2)

"Every proposed drug need is usually coordinated first before being included in the planning document" (IK-4)

This information shows that cross-unit coordination is an important mechanism in ensuring the suitability between service needs and planned drug needs so that the process of preparing drug needs can be carried out in a participatory and integrated manner.

b. Process of Validation, Revision, Monitoring, and Evaluation of Drug Needs Planning

The process of preparing a Medication Needs Plan is carried out using a method of planning drug needs that is adjusted to the needs of hospital services. Based on the results of the interviews, it is known that the preparation of drug needs is carried out using a combination of consumption methods and epidemiological methods.

"In the preparation of drug needs, we use a combination of consumption methods and epidemiological methods" (IK-3)

"The preparation of Medication Needs Plan *is carried out based on the previous year's drug use data and the needs of the service unit" (IU-1)*

"Every proposed drug need is verified first before being included in the hospital planning document" (IK-4)

"The validation process is carried out through coordination with the planning department before the need for the drug is approved" (IU-2)

"If there is a change in service needs, a revision of drug needs will be carried out through cross-unit coordination" (IK-2)

"Revision of drug needs is carried out if there is an additional need from the service unit" (IU-3)

"Evaluations are carried out periodically by looking at the suitability between the drug needs plan and the realization of drug procurement. Management conducts periodic evaluation meetings in the drug procurement process." (IK-1)

"Monitoring is carried out through drug use reports from service units" (IU-4)

This shows that the process of preparing drug needs in hospitals has been carried out systematically through the stages of preparation, validation, revision, monitoring, and evaluation regularly, so that the planned drug needs can be adjusted to the dynamics of hospital service needs.

The process of preparing drug needs is carried out using a combination of consumption methods and epidemiological methods supported by previous drug use data and unit service needs. In addition, each proposed drug need has gone through the stages of validation, revision if there are changes in service needs or budget limitations, as well as periodic monitoring and evaluation through drug use reports and management evaluation meetings.

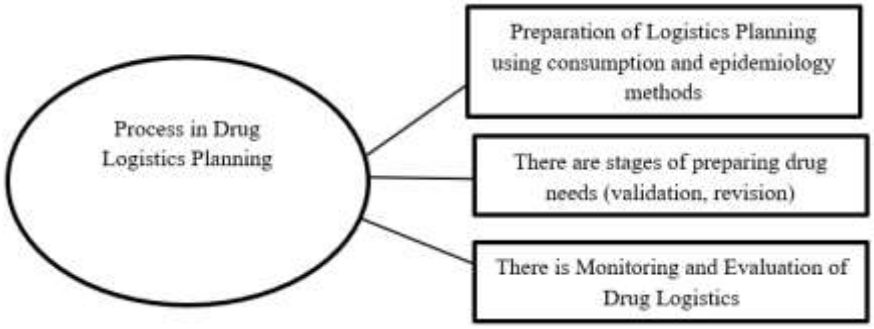


Figure 2. Theme of the Drug Logistics Planning process

3. Output

a. Suitability of Drug Logistics Planning with Drug Availability

The level of drug availability is an important indicator in assessing the success of drug logistics planning in hospitals. Based on the results of the interview, it is known that in general, the availability of drugs in hospitals is in the category of quite good, although there are still some types of certain drugs that experience delays in procurement.

"In general, the condition of drug availability is in the category of quite good, although there are still some types of certain drugs that experience delays in procurement. Gradually, the availability of drugs has begun to be available using the OTSUS budget provided by the Papua Provincial Government, with the help of the BLUD budget. If you want to use it" (IK-1)

"Most of the drug needs are available, but there are some types of drugs that sometimes experience delays" (IU-3)

In addition, the compatibility between the Medication Needs Plan and the realization of drug procurement also showed quite good results, although it was not fully optimal.

"In general, the compatibility between the drug needs plan and the realization of procurement is quite good, although it is not fully optimal" (IK-2)

"Most of the drug needs are as planned, although there are still some that have not been met" (IU-1)

This shows that in general, the planning of drug needs has been prepared in accordance with the needs of hospital services, although there are still several obstacles in the process of realizing drug procurement.

b. The Incidence of Drug Shortages and Hospital Strategies in Overcoming It

The incidence of drug shortages is still found in certain types of drugs due to budget limitations and delays in disbursing funds. Based on the results of the interviews, it is known that the incidence of drug vacuums is overcome through cross-unit coordination and the use of alternative drugs that have the same therapeutic function.

"There are still several types of drugs that sometimes experience vacancies, especially due to budget limitations" (IU-3)

"Sometimes there is a shortage of certain drugs, so it is necessary to coordinate with pharmaceutical installations" (IU-2)

Another strategy carried out by hospitals is to use alternative drugs and prioritize essential drug services.

"In the event of a drug vacuum, the use of alternative drugs that have the same therapeutic function is usually carried out" (IU-4)

"Priority is given to essential medicines so that services continue to run despite budget limitations" (IK-2)

This shows that hospitals have carried out various strategies in overcoming the incidence of drug shortages through cross-unit coordination, the use of alternative medicines, and prioritizing the need for essential drugs as an effort to maintain the sustainability of health services to patients.

In addition, the output component of drug logistics planning shows that, in general, the level of drug availability in hospitals is in the category of quite good, and most drug needs have been met in accordance with the previously prepared drug needs plan, even though it is not fully optimal. The incidence of drug shortages is still found in certain types of drugs, which are influenced by budget limitations and delays in the disbursement of funds, so that hospitals carry out various treatment strategies, such as the use of alternative drugs that have the same therapeutic function and prioritization of essential drug services.

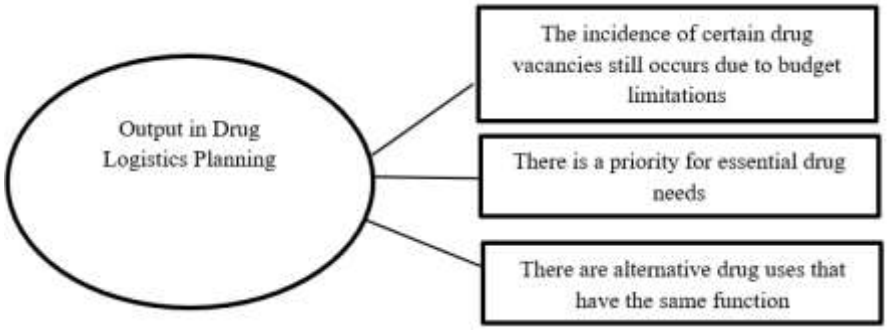


Figure 3. Theme of Drug Logistics Planning Output

Discussion

1. Input

The results of the study show that Jayapura Hospital has an integrated drug logistics planning policy, and there is a Standard Operating Procedure. This shows that drug logistics planning has been carried out systematically according to the principles of health logistics management. However, there are limited human resources specifically for logistics planning, and the budget is still limited and late in disbursement.

The results of this study are in line with the research conducted by Andriani [9], which states that drug logistics management is an important component in the hospital pharmacy service system because it directly affects the availability of drugs and the quality of health services to patients.

The findings of this study are in line with Idiyah's research, which states that the accuracy of drug needs planning is influenced by the completeness of previous drug use data as well as the accuracy of stock data available in pharmaceutical installations. Furthermore, budget support is also an important factor in determining the success of drug logistics planning. The results of the study show that the preparation of drug needs has been adjusted to the financial capacity of the hospital, so that priority is given to essential drugs when there is a budget constraint [10].

In theory, budgeting is part of the drug logistics management cycle that functions to ensure the availability of financing sources in fulfilling drug needs in a sustainable manner. Budget limitations are one of the factors that most often affect the incompatibility between the drug needs plan and the realization of drug procurement in hospitals. The results of this study are in line with the research [11], which states that good drug logistics management not only guarantees the availability of drugs but also increases the efficiency of hospital service costs.

The findings of this study are in line with Simamora's research, which states that drug logistics management in hospitals must be carried out in a coordinated manner at all stages of the logistics cycle in order to ensure optimal drug availability. Thus, it can be concluded that the input component of drug logistics planning at Jayapura Hospital in general has been running well because it is supported by hospital policies, the availability of drug needs planning data, and SOPs for pharmaceutical logistics management, but there are still obstacles in terms of limited human resources and budget support that affect the optimization of drug needs planning [12].

2. Process

The process component in drug logistics management is the core stage that determines the success of the implementation of drug needs planning in hospitals. Based on the results of the study, it is known that the drug logistics planning process at Jayapura Hospital has been carried out through cross-unit coordination, preparation of a Drug Needs Plan using data on previous drug use, validation of drug needs, mechanism for revising drug needs, as well as periodic monitoring and evaluation of the suitability between the drug needs plan and the realization of drug procurement.

In theory, hospital drug logistics management is a cycle consisting of planning, budgeting, procurement, storage, distribution, and monitoring and evaluation that are interrelated, so that it requires cross-unit coordination so that all stages can run optimally [13].

The consumption method was used to estimate drug needs based on drug use data in the previous period, while the epidemiological method was used to estimate drug needs based on the disease patterns of patients served by health facilities. The combination of the two methods is recommended in the pharmaceutical logistics management system because it can cover the weaknesses of each method so that it results in a more accurate and stable estimate of drug needs than the use of one method alone[14] Furthermore, the drug needs validation process is also an important part in ensuring the suitability between the proposed drug needs with the hospital service priorities and available budget capabilities. Based on the results of the study, it is known that each drug need proposal has gone through a cross-unit

verification and coordination process before being ratified into a hospital planning document.

This validation process shows that the preparation of the Medication Needs Plan is not carried out directly without evaluation, but has gone through a systematic drug need control mechanism. In addition, hospital management also maps drug needs based on the scale of service priorities. The process of mapping drug needs is part of a logistics control strategy that aims to adjust drug needs to the available budget capabilities so that drug needs planning remains realistic and implementable.

In theory, drug need validation is part of the pharmaceutical logistics control system that aims to ensure that the planned drug needs are in accordance with service needs and do not pose a risk of overstock or drug vacancies in hospitals. A good logistics control system will increase the efficiency of budget use and ensure continuity of health services to patients. [15] In addition, a mechanism for revising drug needs has also been carried out if there are changes in service needs, changes in disease patterns, and budget limitations that affect the realization of drug procurement. The results of the study showed that the revision of drug needs was carried out through cross-unit coordination so that changes in drug needs remained controlled and in accordance with hospital service priorities. This shows that the drug needs planning system is dynamic and responsive to changes in health service needs in hospitals.

Monitoring and evaluation of the implementation of drug needs planning has also been carried out periodically through drug use reports from service units as well as evaluation of the suitability between the drug needs plan and the realization of drug procurement. Monitoring and evaluation are an important part of the drug logistics management cycle because it serves as the basis for improving drug need planning in the next period. In theory, monitoring and evaluation in the pharmaceutical logistics system acts as a quality control mechanism for drug needs planning, which aims to improve the accuracy of drug demand estimates and prevent drug vacancies in hospitals. The Director also said that the hospital management conducts periodic evaluation meetings in the drug procurement process. Periodic evaluations are an important part of the logistics management cycle because they allow hospitals to make continuous improvements to the drug needs planning process. The evaluation process that is carried out on an ongoing basis will increase the effectiveness of the pharmaceutical logistics system in ensuring optimal drug availability. [16]

The results of this study are also in line with the research Andriani [9], which states that the management of drug logistics that is carried out systematically through the stages of planning, procurement, distribution, and evaluation will have a direct effect on the availability of drugs and the quality of health services in hospitals. In addition, research [17] states that the successful implementation of the drug logistics management system in hospital pharmacy installations is greatly influenced by cross-unit coordination, the accuracy of drug needs planning methods, and continuous monitoring and evaluation of the implementation of drug management in hospitals. Thus, it can be concluded that the components of the drug logistics planning process at Jayapura Hospital in general have been carried out systematically through cross-unit coordination, the use of drug needs planning methods based on consumption and epidemiological data, validation of drug needs, drug needs revision mechanisms, as well as periodic monitoring and evaluation, to be able to support the improvement of the accuracy of drug needs planning in ensuring the availability of drugs in hospitals.

3. Output

In theory, the success of drug logistics management in hospitals can be measured through indicators of the availability of drugs that are of the right type, the right quantity, on time, and according to the needs of patient services. The availability of drugs is one of the indicators of the quality of pharmaceutical services because it has a direct effect on the continuity of health services to patients and the satisfaction of hospital service users. Optimal drug logistics management will be able to ensure the fulfillment of drug needs while increasing the efficiency of overall health services [11].

The compatibility between the planning of drug needs and the realization of drug procurement is

an important indicator in assessing the effectiveness of the hospital's pharmaceutical logistics system. A drug needs planning system based on consumption and epidemiology data will increase the accuracy of estimating drug needs so as to reduce the risk of drug vacancies and excess stock in hospital pharmaceutical installations [15] In addition to the compatibility between Medication Needs Plan and the realization of drug procurement, the incidence of drug vacuums is also still found in certain types of drugs at Jayapura Hospital. Drug vacuums are one of the main challenges in the hospital pharmaceutical logistics management system because they can affect the quality of health services to patients and reduce the level of public trust in hospital services. Based on the results of the study, it is known that drug vacancies that occur are generally caused by budget limitations, delays in delivery from distributors, and changes in service needs that cannot be predicted precisely at the planning stage of drug needs.

In theory, the incidence of drug vacancies in hospitals is influenced by several factors, such as inaccurate planning of drug needs, limited human resources for pharmaceutical logistics managers, delays in drug distribution from suppliers, and limited drug procurement budget support. Therefore, a continuous monitoring and evaluation system is needed to minimize the risk of drug vacuums in health care facilities [18].

In theory, the strategy for the use of therapeutic alternative drugs and the priority procurement of essential drugs are part of the pharmaceutical logistics control system recommended in the management of hospital pharmaceutical installations to maintain the stability of drug availability and ensure the continuity of health services to patients. The implementation of the right pharmaceutical logistics control strategy will increase the effectiveness of the drug management system and prevent service disruptions due to drug vacancies. [19]

The findings of this study are also in line with Andriani's research, (9) which states that the success of drug logistics management in hospital pharmacy installations is greatly influenced by the integration of the implementation of all stages of the drug logistics cycle starting from planning, procurement, storage, distribution, to continuous monitoring and evaluation in ensuring the availability of drugs for patients. In addition, research [20], It also shows that optimal management of pharmaceutical supplies through drug stock control, the use of priority methods such as ABC-VEN, and a good recording system can increase the stability of drug availability in hospitals and reduce the risk of drug vacuity in patient services.

Conclusion

1. Input: There are supportive policies, there are operational standards and procedures, there are limitations of special personnel for drug logistics planning, and there are budget limitations
2. Process: Preparation of logistics planning using consumption and epidemiological methods. There are stages of preparing drug needs (validation, revision). And there is monitoring and evaluation of drug logistics.
3. Output: There are still incidents of drug shortages due to budget limitations, there is a priority for essential drug needs, and there is the use of alternative drugs.

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