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# Analysis of Drug Distribution from Pharmaceutical Warehouse to Pharmaceutical Installation of Siti Fatimah Hospital Palembang in 2025

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**Abstract**

*This study aims to analyze the mechanisms, flow, and challenges of drug distribution from the pharmacy warehouse to the pharmacy installation at RSUD Siti Fatimah Palembang. This research used a descriptive observational method with a quantitative approach. Data were collected through direct observation, structured interviews, and document review using a checklist instrument based on the Indonesian Ministry of Health Regulation Number 72 of 2016 regarding Pharmacy Service Standards in Hospitals. The results showed that the mechanism and flow of drug distribution were implemented in accordance with pharmacy service standards, achieving a compliance rate of 100%. However, several operational challenges were identified, including discrepancies in the quantity and type of drugs compared to requests, as well as delays in distribution that resulted in stock shortages at service units. This study concludes that the drug distribution system at RSUD Siti Fatimah Palembang has complied with existing standards, but optimization of the pharmacy logistics information system and improved coordination between units are needed to reduce distribution constraints.*

**Key words:** Drug Distribution, Pharmacy Warehouse, Pharmacy Installation, Siti Fatimah Regional General Hospital, Pharmaceutical Logistics System

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**Abstrak**

Penelitian ini bertujuan untuk menganalisis mekanisme, alur, dan kendala pendistribusian obat dari gudang farmasi ke instalasi farmasi di RSUD Siti Fatimah Palembang. Penelitian ini menggunakan metode deskriptif observasional dengan pendekatan kuantitatif. Data dikumpulkan melalui observasi langsung, wawancara terstruktur, serta studi dokumentasi menggunakan instrumen checklist yang mengacu pada Peraturan Menteri Kesehatan Republik Indonesia Nomor 72 Tahun 2016 tentang Standar Pelayanan Kefarmasian di Rumah Sakit. Hasil penelitian menunjukkan bahwa mekanisme dan alur pendistribusian obat telah dilaksanakan sesuai dengan standar pelayanan kefarmasian. Tingkat kesesuaian sebesar 100% menunjukkan bahwa seluruh indikator yang berkaitan dengan mekanisme dan alur distribusi obat telah terpenuhi sesuai ketentuan yang berlaku. Namun demikian, pada pelaksanaannya masih ditemukan kendala operasional berupa ketidaksesuaian jumlah dan jenis obat dengan permintaan, serta keterlambatan pendistribusian obat yang dapat menyebabkan terjadinya kekosongan stok di unit pelayanan. Kesimpulan penelitian ini menunjukkan bahwa pendistribusian obat di RSUD Siti Fatimah Palembang telah sesuai dengan standar pelayanan kefarmasian pada aspek mekanisme dan alur. Meskipun demikian, diperlukan upaya perbaikan melalui optimalisasi sistem informasi logistik farmasi dan peningkatan koordinasi antarunit guna meminimalkan kendala operasional dalam proses pendistribusian obat.

**Kata kunci:** Distribusi Obat, Gudang Farmasi, Instalasi Farmasi, RSUD Siti Fatimah, Sistem Logistik Farmasi.

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## INTRODUCTION

A hospital is a health service facility that has the responsibility of providing comprehensive health services. One of the vital aspects of the service system is the management and distribution of drugs. Medication plays a key component in the patient's healing process; Therefore, its availability must be guaranteed on time, in the right quantity, and in the right quality

According to the [Minister of Health Regulation No. 72 of \(2016\)](#), drug distribution is the activity of distributing pharmaceutical preparations from pharmaceutical warehouses to pharmaceutical service units with the aim of meeting the therapeutic needs of patients. Inefficiencies in the distribution process can result in service delays, budget waste, and even decreased patient trust in hospitals.

Siti Fatimah Palembang Hospital as a hospital owned by the local government plays an important role in ensuring the smooth supply chain of medicines. However, based on the results of initial observations and internal reports, there were still delays in drug delivery, mismatches in quantity/type of drugs, and stock vacancies in several service installations. This problem indicates that the drug distribution system still needs evaluation.

Some previous studies [Safitri et al., \(2025\)](#), [Yunita & Mulya, \(2025\)](#); highlighted that the main obstacles in the distribution of drugs in government hospitals are often caused by a lack of coordination between units, unintegrated information systems, and limited human resource competencies.

Research [\(Zulpadly et al., 2024\)](#) shows that the implementation of WMS at Dr. Sardjito Hospital has succeeded in improving the efficiency of drug distribution and reducing data input errors, This technology also provides ease of decision-making because the data provided is fast and accurate, therefore digitalization in the pharmaceutical logistics system needs to be part of the hospital's main strategy.

Based on these conditions, this study was conducted to provide a comprehensive overview of the mechanisms, flows, and obstacles that occur in the drug distribution system at Siti

Fatimah Palembang Hospital. So that the findings in this study can be considered in developing a more adaptive and efficient pharmaceutical logistics policy, strong data support will make the policy more measurable and accountable.

Meanwhile, [Diputra et al., \(2022\)](#) highlighted the importance of coordination between units and systematic documentation in maintaining smooth drug distribution. [Ilham, \(2023\)](#) found that distribution delays are generally caused by ineffective coordination and not optimal stock digitization systems.

In addition, [Lawalata et al., \(2023\)](#) [Ramadhani, \(2022\)](#) emphasized that coordination between units, especially between pharmaceutical warehouses and service installations, is able to increase compliance with SOPs by up to 96% and is a key factor in preventing delays in drug delivery, [\(Laksono et al., 2025\)](#) explaining that a well-planned organizational structure and hospital work system affect the effectiveness of drug distribution.

## RESEARCH METHODS

This research uses a qualitative method. The research was conducted at Siti Fatimah Palembang Hospital in June 2025. The population in this study is all pharmacists at Siti Fatimah Palembang Hospital who are involved in the drug distribution process and the way sampling is carried out by *purposive sampling*.

Data collection was carried out through direct observation, structured interviews, and documentation studies. Observations were carried out using a checklist sheet prepared based on the Regulation of the Minister of Health of the Republic of Indonesia Number 72 of 2016 to assess the suitability of the mechanism and flow of drug distribution. Structured interviews are used to identify drug distribution constraints, while documentation studies are conducted by examining supporting documents such as drug request forms, distribution records, and drug stock reports.

The observation data were analyzed in a quantitative descriptive manner by calculating the percentage of the level of conformity of the drug distribution mechanism and flow to the set

standards. The interview data was analyzed by grouping the informant's answers based on the theme of the obstacles found. The validity of the data is guaranteed through triangulation methods by comparing the results of observations, interviews, and documentation, as well as confirmation to the pharmacist in charge to increase the validity of the research data.

**RESULTS AND DISCUSSION**

**Table 1. Drug Distribution Mechanism**

No	Indicator	Ya	No	Remarks
1	Distribution system according to the provisions (stock, unit dose) is available and run well	✓		The drug distribution system has referred to the unit dose method and stock management according to applicable standards.
2	Drugs are checked for stock and expiration dates before distribution	✓		Warehouse officers check the availability and expiration date of drugs before delivery.
3	Drugs are packaged and labeled according to standards (drug name, dosage, amount, expiration date)	✓		Each drug is neatly packaged and equipped with a label containing important information such as name, dosage, amount, and expiration.
4	Delivery using a trolley according to hygiene and safety standards	✓		The drug is distributed using a closed container to maintain hygiene and prevent contamination.
5	The procedure for handing over drugs between the warehouse and the service unit is carried out with written or digital evidence	✓		Drug handover is documented through an electronic form or system as an accountability archive.
6	A mechanism for returning damaged/expired/	✓		The procedure for returning drugs from the service

	excess drugs from the unit to the Warehouse is available			unit to the warehouse is available, including the form and flow of return.
7	Evaluation of the distribution system is carried out periodically by the head of the pharmaceutical installation or the quality team of the hospital	✓		Routine evaluation of the distribution process is carried out by the person in charge of pharmacy or the hospital's quality team.
Total ✓ =7				

Total score earned/maximum score number x 100%

$$\text{Score: Excellent} = \frac{7}{7} \times 100 = 100\%$$

Based on Table 1. Regarding the drug distribution mechanism at Siti Fatimah Hospital, South Sumatra Province, the results were obtained that all of the 7 observation variable items had been carried out in accordance with the provisions of the drug distribution mechanism. The results of observations carried out through direct observation and the use of checklist sheets show a level of 100% conformity to the standards set in the Regulation of the Minister of Health of the Republic of Indonesia Number 72 of 2016 concerning Pharmaceutical Service Standards in Hospitals.

**Table 2. Drug Distribution Flow**

Yes	Indicator	Yes	No	Remarks
1	Pharmaceutical installations send drug requests as per clinical needs	✓		Drug requests are arranged based on the needs of clinical services.
2	Pharmacy warehouse receives and verifies drug requests	✓		Requests for drugs are checked for suitability and completeness by warehouse officers.

3	Warehouse Officers Prepare Medicines According to the Request List	✓		Drugs are prepared according to the type and quantity in the demand list.
4	Medicines are delivered according to the predetermined distribution schedule	✓		Delivery is carried out according to the applicable distribution schedule.
5	Pharmaceutical installation performs physical and document checks upon receipt	✓		Physical condition and documents are checked when the drug is received.
6	The drug is stored according to temperature and classification after receiving	✓		The drug is stored based on temperature standards and storage classifications.
7	The entire process is documented	✓		Each stage of distribution is well recorded and documented.
Total ✓ = 7				

Total score earned/maximum score number x 100%

Score: Excellent  $\frac{7}{7} \times 100 = 100\%$

Based on Table 2. Regarding the drug distribution flow at Siti Fatimah Hospital, South Sumatra Province, it was found that all seven observation variable items had been implemented in accordance with the provisions of the applicable drug distribution flow. Observations carried out through direct observation methods and the use of checklist sheet instruments showed a level of 100% conformity to the standards stipulated in the Regulation of the Minister of Health of the Republic of Indonesia Number 72 of 2016

concerning Pharmaceutical Service Standards in Hospitals.

**Table 3. Obstacles in Drug Distribution**

Yes	Indicator	Yes	No	Remarks
1	The amount/type of medication is often not in line with the demand	✓		There is a discrepancy between the drugs requested and those received by the pharmaceutical establishment.
2	There is a drug shortage due to improper distribution	✓		Drug vacuums occur due to delays or errors in the distribution process.
3	The system is not functioning optimally or is not being used optimally		✓	The distribution system has run well and is optimally utilized by the officers.
4	Coordination between the warehouse and the installation is less effective		✓	Coordination between units runs smoothly and supports each other in the drug distribution process.
5	Distribution evaluations are not carried out routinely		✓	Evaluations are carried out periodically to ensure that the distribution runs effectively.
Total ✓ = 2				

Total score earned/maximum score number x 100%

Score:  $\frac{2}{5} \times 100 = 40\%$  baik

Based on the results of observations of five indicators of obstacles in drug distribution at Siti Fatimah Palembang Hospital, a score of 2 out of 5 or 40% was obtained. Based on the category of constraint assessment, this percentage is included in the good category, which shows that in general the distribution system has been running well but there are still some obstacles that need to be fixed.

The two main obstacles identified are the mismatch between the quantity or type of drugs and the demand and the occurrence of drug vacancies due to untimely distribution.

The results of the study show that the mechanism and flow of drug distribution at Siti Fatimah Palembang Hospital have run in accordance with pharmaceutical service standards as stipulated in the Minister of Health Regulation No. 72 of 2016. The high level of conformity in the mechanism and flow aspects indicates that the distribution procedures have been consistently implemented and well documented.

However, there are still obstacles in the aspect of the suitability of the amount and type of drugs and the delay in distribution indicate that compliance with SOPs has not fully guaranteed the effectiveness of operational distribution. This condition shows that there is a gap between the established procedures and the technical implementation in the field.

The mismatch between the quantity and type of drugs and the demand indicates that the process of verifying demand and matching stock data is not yet fully system-based *real-time*. This condition is in line with the findings Yunita & Mulya, (2025) which states that a drug request system that is not supported by historical data and direct stock updates has the potential to cause distribution errors.

The drug vacuums due to distribution delays show that although the distribution flow has been well documented, the timeliness factor is still a challenge. This confirms that the efficiency of the distribution is determined not only by the completeness of the procedure, but also by the

speed of the system's response and coordination between units.

These findings are in line with research (Safitri et al., 2025) which states that the disintegration of the stock information system is one of the main causes of incompatibility in the distribution of drugs in hospitals. In addition, Safitri et al., (2025) He also emphasized that distribution delays are often influenced by the lack of optimal pharmaceutical logistics digitalization systems.

Thus, the results of this study confirm that the logistics management information system and strengthening coordination between units are important factors in increasing the effectiveness of drug distribution, even though the distribution mechanism and flow have run according to standards.

Compared to research Sari et al., (2024) who reported a distribution constraint rate of 38% and Yunita & Mulya, (2025) of 35%, the percentage of obstacles at Siti Fatimah Palembang Hospital (40%) shows a relatively comparable value. This indicates that the problem of drug distribution is still a common issue in government hospitals, especially those that have not fully integrated digital-based logistics systems.

However, the advantage of Siti Fatimah Hospital lies in the aspect of coordination and routine evaluation that has gone well, so that the existing obstacles are limited and have the potential to be minimized through the optimization of the pharmaceutical logistics management information system.

## CONCLUSION

1. The drug distribution mechanism at Siti Fatimah Palembang Hospital has been running very well, with the implementation of SOPs in accordance with the standards of the Minister of Health Regulation No. 72 of 2016.
2. Distribution flows involve a structured process from request to storage that is all well-documented.
3. The obstacles found include mismatches in the amount/type of drugs and delays in distribution due to unintegrated information systems.

4. This research contributes to providing an empirical picture and strategic recommendations that can be a reference for the development and improvement of the effectiveness of pharmaceutical logistics management in hospitals, especially in the aspect of standard-based drug distribution and information systems.

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