



Analysis of Drug Management in the Pharmaceutical Installation of the South Sorong District Health Office

Endiyonarsi*, Nilawati Uly, Achmad R. Muttaqien Al-Maidin, Zamli

Master of Public Health Study Program, Faculty of Health, Universitas Megabuan Palopo

Email Corresponding:

endyihasta@gmail.com

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ABSTRACT

Background: The management of pharmaceutical supplies involves a series of coordinated activities related to the planning, procurement, storage, distribution, and disposal of drugs, aimed at ensuring the availability and appropriate use of medications. **Objectives:** This study aims to describe the implementation pattern of pharmaceutical supply management, focusing on the processes of planning, procurement, and storage at the Pharmacy Installation of the South Sorong Regency Health Office. **Methods:** A qualitative research design was used, employing in-depth interviews with key informants to gather detailed insights into the procedures and practices involved in pharmaceutical supply management. **Results:** The planning process is carried out based on the National Formulary and the National Essential Drug List. Drug procurement is conducted annually through **E-Purchasing** using the **Electronic Catalog**, following existing national procurement guidelines. The storage system adheres to regulatory standards but is not yet optimized, as drug arrangement is not done alphabetically, which can hinder the efficiency of drug retrieval by personnel. **Conclusions:** The Pharmacy Installation of the South Sorong Regency Health Office has implemented drug planning, procurement, and storage systems in alignment with national guidelines. However, improvements in drug arrangement and storage optimization are needed to enhance operational efficiency.

Introduction

Pharmaceutical service is a direct and responsible service to patients related to pharmaceutical preparations with the aim of achieving definite results to improve the quality of life of patients. Pharmaceutical services must ensure that pharmaceutical preparations and medical devices are of quality, useful, safe and affordable for patients. Pharmaceutical services are supporting services and the main source of income, and include the management and care of patients^{1&2}.

Most pharmaceutical services are provided through pharmacy stores. Therefore, the paradigm of pharmaceutical services must shift to patients rather than products³. Because medicines, medical gases, chemicals, radiology, consumable medical devices, and

medical devices are pharmaceutical supplies that are used in more than 90% of health services in pharmaceutical service facilities. The management of pharmaceutical supplies is also responsible for 25% of all funds allocated to health care facilities¹. According to Health Law No. 36 of 2009, medicine is a material or combination of materials including biological products that are used to change or study physiological systems or pathological conditions in humans for diagnosis, prevention, healing, recovery, health improvement, and contraception. At all times, good and correct drug management is essential⁴.

Drug expenditure is the second largest budget in developing countries after salaries, occupying 40% of all health care units. Proper and appropriate management of pharmaceutical supplies is critical to the successful

management of the pharmacy installation complex. Since the MOH states that drug costs nationally are about forty to fifty percent of all health operational costs, inefficiencies in drug management have a negative impact both medically and economically. Therefore, an analysis must be conducted. All aspects of planning, procurement, storage, distribution, and destruction of drugs are included in the management of pharmaceutical supplies to ensure that drugs are available and in stock^{5&6}. In addition, the purpose of this is to prevent unrealistic consideration of drug requirements^{7&8}.

Nowadays, the ability to procure drugs has become very important for healthcare facilities. Planning, procurement, storage, distribution, disposal, evaluation, and monitoring are all parts of drug logistics management in a pharmaceutical installation. All of these stages relate to each other, so each must work well together to succeed. The current drug supply system will be ineffective if there is a disconnect between each stage. In addition, this will have an adverse impact on the pharmacy business⁹.

When storing drugs based on dosage forms but not alphabetically, only pay attention to the FIFO and FEFO systems. Other factors include inappropriate stacking of drugs, drugs attached to walls, shelves without name tags, inadequate facilities, such as trolleys and refrigerators, and storage areas that are less spacious and shared with other areas. This supports the findings of a previous study¹⁰, which found that employees had difficulty storing medicines due to the inadequate warehouse area of the Demak District Health Office Pharmacy Installation. Medicines were still found to be placed in cardboard boxes and arranged on the floor because the storage cabinets were insulated and medicines came in large quantities. As a result, storage is not organized alphabetically.

A similar study showed that the utilization of the National Essential Medicines List was

32.9%. Due to the low utilization of the national essential medicine list, the use of medicines will be irrational. It is crucial to assess health facility indicators to ensure that medicines are available in the right quantity and type and meet quality standards¹¹.

The National Essential Medicines List will improve the availability and supply of medicines and more appropriate use of medicines. Access to essential medicines is severely limited for a third of people around the world, even 50% of people in Africa and Southeast Asia. Access to essential medicines is still limited in Indonesia. Drug availability has been one of the issues that has been raised since the implementation of the National Health Insurance. Many people have complained about the availability of drugs in health care facilities. Due to the limited availability of essential drugs, various parties are trying to optimize the existing drug management system. The selection, purchase, distribution, and use of drugs are part of the drug management system¹².

The purpose of this study is to explain how the management of pharmaceutical supplies is carried out at the Pharmacy Installation of the South Sorong District Health Office, including the process of planning, procurement, and storage of drugs.

Materials and Methods

Research Design

This study used a qualitative approach with a centralized interview design to explore the implementation of pharmaceutical supply management. Data were collected through semi-structured interviews with key informants such as pharmacists and health center managers. The interviews focused on planning, procurement, storage, distribution, and challenges in managing pharmaceutical supplies. This approach provided in-depth insights into operational practices and

contextual factors affecting the effectiveness of supply chain management in health facilities.

Sample

The participants included the Head of the Pharmacy Section, the Person in Charge of the Pharmacy Installation, and all pharmacy staff at the Pharmacy Installation of the South Sorong District Health Office. A purposive sampling method was applied to select informants who were directly involved in pharmaceutical supply processes.

Data Collection Techniques

Data were collected through in-depth interviews using open-ended questions to allow participants to provide detailed responses based on their experiences and insights related to pharmaceutical management.

Data Analysis Techniques

Descriptive qualitative analysis was used to evaluate and interpret the responses obtained during interviews. This analysis focused on identifying patterns, themes, and relevant insights related to the planning, procurement, and storage processes.

Ethical Consideration

Although this study did not undergo formal ethical review, ethical principles were upheld by obtaining informed consent from all participants, ensuring voluntary participation, maintaining confidentiality, and respecting the privacy and anonymity of the respondents throughout the research process.

Results

Respondent Characteristics

There were 4 informants in this study who worked at the Pharmacy Installation of the South Sorong District Health Office. The

characteristics of each informant are presented in the table 1.

Table 1. Respondent Characteristics

Informant	Position	length of employment (years)
Informant 1	Pharmacy Installation Staff	7
Informant 2	Pharmacy Installation Staff	4
Informant 3	Pharmacy Installation Staff	6
Informant 4	Pharmacy Installation Staff	1

Medicine Planning

The systematic and structured process of determining the type and quantity of drugs required by a health facility within a certain period of time is known as drug planning.

The drug planning process at the Pharmaceutical Installation of the South Sorong District Health Office is shown in the table 2. The process begins with drug reconciliation with puskesmas to obtain data on drug usage for the year, which is documented in drug usage and request reports. Furthermore, based on the available budget, the drug needs of the Puskesmas in the working area are compiled and analyzed, adjusted to the available budget, and considering the time of vacancy The planning process is supervised by the head of the pharmacy section. A report on the results of drug planning is then submitted to the Head of the Health Resources Division and the Head of the Health Office.

Medicine Procurement

To ensure the availability of drugs needed by health facilities, drug procurement begins with drug requirement planning, which is based on demand analysis, disease patterns, and previous drug consumption data.

Table 2. Interview Results Related to Drug Planning

No	Questions	Answer Conclusion
1	The drug planning/selection process at the Pharmacy Installation of the South Sorong District Health Office is carried out based on what guidelines and why did you choose these guidelines?	The national formulary and National Essential Drug List are used for drug planning and selection. In addition, during the planning process, remaining stocks and usage data/amounts from the previous period are considered. This guideline is used because it is the standard of pharmaceutical services in First Level Health Facilities.
2	What planning method is used in the Pharmaceutical Installation of the South Sorong District Health Office and why did you choose that method?	The Pharmacy Installation of the South Sorong District Health Office uses the consumption planning method. Drug planning is carried out annually because the pattern of drug requests from health centers tends to be the same. Thus, drug planning with the consumption method was chosen
3	How many times is the planning process conducted and on what monthly basis? And is the planning process sufficient for all puskesmas in the working area?	Planning is done once a year, from October to November, to meet the needs of all health centers in South Sorong District.
4	Who is responsible for the drug planning implementation process and to whom is the drug planning process reported?	The Pharmaceutical Section Head is the person responsible for carrying out drug planning at the Pharmaceutical Installation of the South Sorong District Health Office. This process is reported to the Head of Health Resources and the Head of the Health Office.
5	What is the stage, flow or process of drug planning in the Pharmaceutical Installation?	Stages of the planning process: a. Reconciliation of drugs with puskesmas to obtain data on the use of drugs in a year as contained in the usage report and drug request report. b. Combining and examining the drug needs of PHCs in the working area, adjusting them to the available budget, considering drug stock-out times and buffer stocks, and preventing excessive stock. c. Drug selection process by considering the method of consumption as well as the list of essential drugs and the National Formulary. d. The results of drug selection are contained in the Pharmacy Installation plan

Based on the table 3, it can be concluded that the drug procurement process at the Pharmaceutical Installation of the South Sorong Regency Health Office is carried out through the use of E-Purchasing which is based on Electronic Catalog, which is used once a year. The procurement process includes the process of reviewing drug selection, adjusting needs and funds, finalizing, and using e-catalogs to purchase goods. Drug procurement is funded through the Special Allocation Fund and the regional revenue and expenditure budget, as well as special autonomy. The Pharmacy Installation does not have enough special allocation funds. If the required drugs are not listed in the e-catalog, they can be purchased directly from large pharmaceutical stores in the area. If the pharmacy store is short

of drugs, the Health Center of Sorong District Health Office will suggest replacing the empty drugs with other drugs with the same indication or effect.

Drug Storage

The purpose of drug storage is to maintain the quality, safety, and effectiveness of drugs until they are used. Drug storage is an important process in pharmaceutical management.

The table 4 shows that the drug storage process at the Pharmaceutical Installation of the South Sorong District Health Office is organized based on FIFO and FEFO, which stands for First in First Out and First Expire First Out, and is not arranged alphabetically. In the Pharmaceutical Installation of the South Sorong District Health Office, the stock card

for each drug contains the name, packaging, unit, date, number of entries and exits, remaining stock, batch number, and expiration date. Inventory is taken on the thirty-first of June and the thirty-first of December every six months. Look at the drug information, such as

expiry date and batch number, as well as any physical damage that may have an impact on its quality. Damaged or expired drugs should be kept separate from other drugs that are still good. The drugs are then removed from the stock cards and books.

Table 3. Interview Results Related to Drug Procurement

No	Questions	Answer Conclusion
1	What is the source of funds for drug procurement at the Sorong District Health Office Pharmacy Installation and how much funding is provided by the government?	Drug procurement is funded through the Special Allocation Fund, which the government provides in the amount of 1.9 billion rupiah, in the regional budget. In addition, additional funds from special autonomy, usually amounting to 300 million rupiah, are also obtained.
2	What procurement method is used in the Pharmaceutical Installation of the South Sorong District Health Office and why did you choose that method?	Drug procurement at the Pharmaceutical Installation of the South Sorong District Health Office is carried out through E-Purchasing using Electronic Katalog, which is used annually.
3	Can these funds accommodate all drug procurement at the Pharmacy Installation of the South Sorong District Health Office for 1 year? How much does the puskesmas need per year?	The Special Allocation Fund (DAK) budget, which is funding provided by the government of Rp 1.9 billion, has not accommodated / fulfilled all the drug needs in the Pharmacy Installation. The annual needs of the Puskesmas are around Rp 2.5 billion.
4	What are the stages, flow or process of drug procurement in the Pharmaceutical Installation?	Drug procurement process in the Pharmaceutical Installation: a. Review the selection of drugs (drug selection). b. Adjusted to the needs and funds. c. Finalized d. Purchasing through e-catalog
5	Are the drugs ordered by the puskesmas in the working area available in the e-catalog?	All drugs ordered by the South Sorong District Health Office Pharmacy Installation are available in the e-catalog.
6	What do you do if at the time of drug procurement, the availability of drugs in the e-catalog is empty?	If the medicine needed is found to be empty in the e-catalog, direct procurement is carried out to PBFs in the region.
7	If yes, what solution is given by the Pharmacy Installation of the South Sorong Regency Health Office to the puskesmas in the work area if there is a drug shortage?	The Sorong District Health Office Pharmacy Installation sometimes experiences drug vacancies, but if this happens the installation will advise puskesmas to replace empty drugs with other drugs but have the same indication/effect.

Discussion

The Pharmaceutical Installation of the South Sorong District Health Office is also responsible for developing pharmaceutical programs with the aim of improving the quality of health services in first-level health facilities. In the process, they carry out drug management to ensure effective, efficient, and safe drug management to support the achievement of optimal health service goals. The purpose of this study was to evaluate drug management at the Pharmaceutical Installation of the South Sorong District Health Office from the

perspective of planning, procurement, and storage.

Planning

National formulary guidelines and the National Essential Medicines List are used in the South Sorong District Health Office Pharmacy Installation as standards for pharmaceutical services in First Level Health Facilities. The planning process also takes into account the remaining inventory and usage data/amounts from the previous period.

A previous study showed that generic drugs listed in the National Essential Medicines

List and the National Formulary are the basis for drug planning in the health department¹⁰. Another study also showed that a combined method is used for drug planning in the health department. For drug procurement, catalogs and electronic procurement systems are used¹³.

The same study also found that the National Essential Drug List and National Formulary were used in the Pharmaceutical Installation of the Gorontalo District Health Office in 2018 and 2019¹⁴.

Table 4. Interview Results Related to Drug Storage

No	Questions	Answer Conclusion
1	How much is the building area of the Pharmacy Installation of the South Sorong District Health Office?	The building area of the Pharmacy Installation of the South Sorong District Health Office is 20 meters x 15 meters
2	Are the buildings and drug storage rooms of the Pharmaceutical Installation of the South Sorong District Health Office equipped with adequate infrastructure to support drug storage so that drug quality is maintained?	The Pharmacy Installation of the South Sorong District Health Office is equipped with adequate infrastructure so that the quality of drugs is maintained.
3	What is the method of drug storage in the Pharmacy Installation of the South Sorong District Health Office? Is it organized based on FIFO and FEFO and arranged alphabetically?	The drug storage method at the South Sorong District Health Office Pharmacy Installation is organized according to FIFO and FEFO, which means First in First Out and First Expire First Out. Medicines are not arranged alphabetically or alphabetically.
4	Are all drugs in the Pharmacy Installation of the South Sorong District Health Office equipped with a stock card? If so, what are the contents of the stock card?	In the Pharmaceutical Installation of the South Sorong District Health Office, there is a stock card that contains the name of the drug, packaging, unit, date, number in, number out, remaining stock, batch number, and expiration date.
5	Does the officer conduct stock-taking? When is it done? And what is its function?	Stock-taking at the Pharmaceutical Installation of the South Sorong Regency Health Office is carried out once every 6 months, namely every June 31 and December 31. The function of stock-taking is to match the amount of stock in the bookkeeping (system), stock cards with the physical stock in the Pharmaceutical Installation. Checking the condition of the drug, starting from the expiration date, batch number, or other physical damage that can affect the quality of the drug.
6	Do you often encounter drugs that are stored until expired or damaged? If so, explain the cause and how to deal with expired and damaged drugs?	Drugs in the Pharmacy Installation of the South Sorong District Health Office are sometimes expired or damaged. The reason is because it has an expiration date and usually because it is bitten by rats. Countermeasures for expired or damaged drugs are immediately separated from other drugs that are still good and placed in a separate room which is then immediately destroyed. Deletion/disposal is done on the stock card and bookkeeping.

The National Essential Medicines List is a national minimum standard for health services that lists the most needed and sought-after medicines available in health service units according to their function and level. The purpose of implementing the National Essential Medicines List is to increase the effectiveness and cost-effectiveness while improving the accuracy, safety, and rationality of medicine use. How much is purchased and distributed

and how much is used affects the number of packages allocated to each health facility¹⁵.

The National Formulary is created by the government through the Ministry of Health and serves as the official list of medicines used as a reference for regulation on the supply, use, and control of medicines in health facilities in Indonesia. The National Formulary helps control medical costs by selecting cheap and efficient medicines. The purpose of the National Formulary is to ensure that medicines

used throughout the country meet established standards of safety, efficacy, and quality, and are appropriate to the health care needs of the community. The list is compiled by pharmaceutical and health experts, who assess various medicines based on scientific evidence and clinical needs. The National Formulary is expected to improve the quality of health services, increase the use of medicines, and optimize health budget management¹⁶.

A study showed that the suitability of drugs available at the Pharmaceutical Installation of the Kolaka District Health Office compared to the National Formulary standard in 2021 was higher than the standard with a value of 76%. This result was supported by interviews of drug planning conducted and provided at the Pharmaceutical Installation of the Kolaka District Health Office, which included every drug¹⁷.

The Pharmaceutical Installation of the South Sorong District Health Office uses the consumption planning method. Since the pattern of drug requests from puskesmas tends to be the same, the consumption planning method was chosen. This planning is done once a year, in October to November. This planning process meets the needs of all health centers in South Sorong District.

Consumption drug planning uses previous drug utilization data to determine long-term drug needs. The Pharmacy Installation of South Sorong District Health Office collects data for one year to identify how patients consume drugs. This data includes the number and type of drugs used, frequency of use, and disease trends that affect drug demand. Drug planners can use this information to more accurately estimate future drug needs, ensure sufficient stock, and reduce the risk of drug shortages or surpluses. The Pharmaceutical Section Head of the Pharmaceutical Installation of the South Sorong District Health Office is responsible for the planning process. This report is then

submitted to the Head of the Health Resources Division and the Head of the Health Office.

Procurement

Drug procurement is a complex process that involves a number of steps to ensure the availability of the drugs required by a health facility. The process begins with planning drug requirements based on demand analysis, disease patterns, and previous drug consumption data. Once the need is identified, the next step is to develop a budget that includes the estimated cost of drug procurement. Next, the procurement process enters the special arrangement stage.

All drugs ordered by the Pharmacy Installation of the South Sorong District Health Office can be found in the Electronic Katalog, which is used annually. Drug procurement is funded by the regional revenue and expenditure budget through the Special Allocation Fund, which is provided by the government amounting to 1.9 billion. In addition, additional funding from special autonomy of 300 million rupiah is also obtained. This Special Allocation Fund has not met or fulfilled all drug needs in the installation. Per year, the Puskesmas needs around 2.5 billion rupiah.

A study in line with this study found that the Procurement Services Unit uses the e-purchasing application to purchase drugs based on the drug procurement list, and the drugs ordered are those in the e-purchasing catalog¹³.

Another study showed that the drug procurement team used an electronic procurement system and catalog. Problems encountered included drug shortages, delays in distributing drugs from distributors, and certain drugs not being available in the e-catalog¹⁰.

The results of previous studies are also in line with the findings of this study, which found that drug procurement using the E-Purchasing Electronic Catalog funded by the Special Allocation Fund¹⁴.

Used by the government, e-catalog is an electronic catalog that enables online procurement of goods and services, such as medicines and medical supplies. The purpose of this system is to increase transparency, efficiency, and accountability in the procurement process. Through E-Catalog, various goods and services that have been approved and verified by government procurement agencies can be viewed and purchased by government agencies, such as hospitals and healthcare facilities¹⁸.

Since there is no need for conventional tenders for each purchase, the use of E-Catalog allows for a faster and easier procurement process. In addition, the prices and specifications of the products listed in it are standardized, which helps in budget control and ensures that the goods and services purchased meet the needs and quality standards set. In addition, the system facilitates tracking and auditing, which reduces the possibility of misuse and ensures accountability in the management of public funds¹⁸.

If the required drugs are not in the e-catalog, procurement is done directly to PBFs in the region. Occasionally, the Sorong District Health Office pharmacy is short of drugs, but the pharmacy will advise puskesmas to replace them. The replacement of prescribed drugs with other drugs that have the same active substance content, dosage form, and therapeutic effect is known as the drug substitution process. This process is done for various reasons, such as low cost, allergic reactions or side effects experienced by patients, or drug shortages.

Storage

The building area of the pharmacy installation of the South Sorong District Health Office is 20 meters x 15 meters, and is equipped with sufficient infrastructure to maintain the quality of drugs. In theory, the minimum area required for pharmaceutical installations at the district level is not specified; however, in general,

pharmaceutical installations at the district level should have sufficient area to accommodate all necessary facilities, such as administration rooms, service rooms, consultation rooms, drug distribution rooms, and drug storage rooms.

In pharmaceutical management, two commonly used stock management approaches are FIFO (First In, First Out) and FEFO (First Expired, First Out). The FIFO method refers to the principle that the drug that first enters the warehouse or pharmacy store should also be the first to be used or sold. In other words, drugs that are older in stock should be used or distributed before newer drugs come in. In contrast, the FEFO method emphasizes the principle that drugs that are about to expire should be used or distributed first. The aim is to ensure that drugs close to their expiry date are not left in stock and can be used before they lose their quality.

The purpose of drug storage, which is an important part of pharmaceutical management, is to ensure that the quality, safety, and effectiveness of drugs are maintained until the time of use. To avoid damage, contamination, and loss of drug potency, this process involves various steps and requirements that must be met. In the Pharmaceutical Installation of the South Sorong District Health Office, drug storage procedures are organized according to FIFO and FEFO, namely First in First Out and First Expire First Out. Medicines are not arranged alphabetically or alphabetically.

The results of a previous study showed that FIFO and FEFO principles were used in drug storage.¹³ In addition, these findings are in line with a previous study that found that drug storage practices only pay attention to the FIFO (First In First Out) and FEFO (First Expired First Out) systems, although not alphabetically¹⁰. Additional studies have also found that FIFO and FEFO principles are still used in drug storage¹⁹.

Both methods are essential to maintain the quality and safety of medicines and prevent

waste due to expiry. In practice, pharmaceutical stock management usually combines these two methods according to the specific needs of the types of drugs being managed. Stock collection is carried out every six months, namely every June 31 and December 31, at the Pharmaceutical Installation of the South Sorong District Health Office. The stock card contains the drug name, packaging, unit, date, quantity in, quantity out, remaining stock, batch number, and ED date. The purpose of stock collection is to confirm the amount of stock in the books (remaining). Check the quality of the medicine, including expiration date, batch number, and other physical damages.

A drug stock card can be used to store all the information about drug stock in a pharmacy store or warehouse. It records all medicines that go into stock (from manufacturers or suppliers) and out of stock (to patients, hospitals, pharmacies, etc.). Medicine stock cards show the amount of medicine stock available at any given time, helping to monitor the movement of medicines and maintain sufficient stock availability. Thus, stock cards help manage medicine inventory and prevent shortages or overstocks.

Sometimes, medicines at the Pharmacy Installation of the South Sorong District Health Office run out or are damaged. It may be because they were bitten by rats and have run out. Expired or damaged medicines are immediately separated from other medicines that are still in good condition and stored in a different place, which is then immediately destroyed. Bookkeeping and stock cards were removed. Minister of Health regulations govern the management of pharmaceutical supplies. This regulation governs the process of planning, procurement and storage of drugs in pharmaceutical installations. Requirement planning is carried out to determine the amount and period of procurement of Pharmaceutical Supplies, Medical Devices, and Consumable Medical Materials to ensure that the right type,

right amount, right time, and efficient standards are met.

To avoid drug vacancies, planning guidelines must consider the National List of Essential Medicines, national formulary, therapeutic standards, applicable local provisions, available budget, and epidemiology, consumption, and a combination of epidemiology and consumption⁵.

Based on these guidelines, it can be concluded that the Pharmaceutical Installation of the South Sorong District Health Office has implemented a planning system in accordance with these guidelines. The planning process at the Pharmaceutical Installation of the South Sorong District Health Office is based on the national formulary guidelines and the National Essential Medicines List, as well as considering the remaining inventory and usage data/numbers from the previous period.

The procurement process at the Pharmacy Installation of the South Sorong District Health Office has been carried out in accordance with existing drug procurement guidelines. The rules state that drug procurement can be done through tenders, contracts, directly from manufacturers, distributors, pharmaceutical wholesalers, or through drug procurement through electronic catalogs through E-Purchasing.

The dosage type and therapeutic class of drugs are considered when storing drugs, according to the drug storage rules as per the guidelines. They also used the FEFO system, which means First in First Out, and FIFO, which means First Expire First Out, but the drugs were not arranged alphabetically, and they were arranged alphabetically²⁰. Therefore, it can be concluded that the storage system has been implemented according to the existing guidelines, but since the rules have not been regulated, it has not reached the stage of optimal arrangement.

The results of this study indicate that the drug management system at the South Sorong

District Health Office, which includes planning, procurement, and storage systems, is implemented in accordance with existing guidelines and rules. This finding is in line with the findings of a previous study which showed that the drug management system includes planning, procurement, and storage systems¹⁹.

Conclusion

In accordance with existing guidelines, the South Sorong District Health Office Pharmacy Installation has implemented a planning system. At the South Sorong District Health Office Pharmacy Installation, the planning process is based on the national formulary guidelines and the National Essential Drug List. In addition, planning also takes into account the remaining stock and usage data/amounts from the previous period. All drugs ordered by the South Sorong District Health Office Pharmacy Installation can be accessed through the Electronic Katalog, which is used annually. The South Sorong District Health Office Pharmacy Installation has used E-Purchasing in accordance with current guidelines. The storage system at the South Sorong District Health Office Pharmacy Installation is used based on FIFO and FEFO, which means First in First Out and First Expire First Out, So it can be concluded that the storage system has been implemented according to existing guidelines, but not maximized in the arrangement of drugs because drugs are not arranged alphabetically. Researchers should conduct further research on drug management in other fields. There needs to be quantitative research to see the percentage of drug management implementation in accordance with applicable standards. The party in charge of the pharmaceutical installation is expected to continue to make improvements to the drug management system so that the quality of drugs is maintained until it reaches consumers and so that they can provide better services to their patients.

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