

## Analysis of Pharmaceutical Logistics Control Management. Qualitative Study at the Pharmaceutical Installation of Hajj General Hospital Medan in 2021

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### Keywords

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**Abstract.** Medicines as a hospital's current assets are very important for patient survival because 90% of health service interventions in hospitals prioritize medicines. There is a shortage of medicines, running out of medicine stocks or medicines piling up, which has medical and economic impacts. Things like this require efficient and effective drug management efforts. At RSU Haji, the supply of medicines in the Pharmacy Installation is a variable that has a number of dissatisfaction in management and the medicines provided are still not effective enough, there are problems with input components such as human resources, procurement, supervision and output (stock out, expired medicines, stock taking) which is not yet effective. The purpose of this study is the Analysis of Management of Pharmaceutical Logistics Control in a Qualitative Study at the Pharmacy Installation of the Medan Haji General Hospital in 2021. The type of research is qualitative with a phenomenological study design. Respondent are a Head of Pharmacy Installation, Coordinator of Pharmacy Services, Pharmacy Installation Pharmacist Assistant, Inpatient Pharmacist Assistant, Outpatient Pharmacist Assistant, Pharmacy Warehouse Coordinator for Pharmacy Warehouse Staff, Financial Management of Hajj Hospital in Medan City. The data used includes primary data and secondary data. Data collection by interviews, data management and data analysis using data reduction, data presentation and drawing conclusions. The results of the study show that in the pharmaceutical logistics of the Hajj Hospital there are still obstacles, namely the lack of human resources in the pharmacy technician section so that the work is carried out by double staff and the need to improve the budget and review of infrastructure facilities in the pharmaceutical logistics management aspect of the Hajj Hospital Medan. It is hoped that the RSU Hajj will add human resources to improve the quality of drug logistics management so that management will be even better.

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### 1. INTRODUCTION

Health efforts are activities to maintain and improve health, aiming to realize an optimal degree of health for the community. Health efforts are carried out with the approach of maintaining health improvement (promotive), disease prevention (preventive), disease healing (curative), and health recovery (rehabilitative), which is held comprehensively, integrated, and sustainable. The concept of unity of health efforts is a guideline and guide for all health facilities in Indonesia, including hospitals (Ayuningtyas and Rayhani 2018).

According to Law of the Republic of Indonesia No. 27 of 2021, a Hospital is a health service institution that provides plenary individual health services that provide inpatient, outpatient, and emergency services. One of the obligations of the hospital is to make, implement, and maintain the quality standards of health services in the hospital as a reference in serving patients, so this obligation requires the hospital to continue to make efforts to improve the quality of health services provided.

One of the hospitals must also meet pharmaceutical requirements, Pharmaceutical requirements as intended must ensure the availability of quality, useful, safe and affordable pharmaceutical preparations and medical devices (KEMENKES, 2021).

According to the Regulation of the Minister of Health of the Republic of Indonesia Number 72 of 2016 concerning pharmaceutical service standards in hospitals in article 6 it is stated that the implementation of pharmaceutical services in hospitals must ensure the availability of safe, quality, useful and affordable pharmaceutical preparations, medical devices and consumables (Ministry of Health, 2016).

In KEPMENKES RI Number HK.02.02 / MENKES / 52/2015 concerning the strategic plan of the Ministry of Health for 2015-2019 states that one of the 2015-2019 health development strategies is to increase the availability, affordability, equity and quality of pharmaceuticals and medical devices. And it was also mentioned that one of the activities to be carried out is management support and the implementation of other technical tasks in pharmaceutical and medical device programs with the target of this activity is increasing management support with the target achievement indicator being the percentage of patient satisfaction with management support of 95% (Ministry of Health of the Republic of Indonesia, 2019).

Pharmaceutical installation is a part / unit / division or facility in a hospital, where all pharmaceutical work activities are carried out indicated for the purposes of the hospital itself. Based on this definition, hospital pharmacy installation in general can be interpreted as a department or section unit in a hospital under the leadership of a pharmacist and assisted by several pharmacists who meet the requirements of applicable legislation and are responsible for all work and direct services to patients until illness, both for inpatient, outpatient and for all units including hospital polyclinics (Seno, 2018).

Pharmacy services are supporting services and at the same time are the main revenue center. This is considering that more than 90% of health services in hospitals use pharmaceutical supplies of medicines, chemicals, radiology materials, consumable medical device materials, medical devices, and medical gases, and 50% of all hospital income comes from the management of pharmaceutical supplies. The most important aspect of pharmaceutical services is to optimize the use of drugs, this must include planning to ensure the availability, safety and effectiveness of drug use (Anggraini, 2021).

Pharmaceutical management is basically inseparable from the principles of logistics management. Logistics is run on a cyclical basis. Such is the case with logistics in hospitals where the activity cycle can be carried out as it should. It must be maintained so that all elements in the logistics management cycle are the same (Seno, 2018).

Pharmaceutical managerial activities are inseparable from the principles of logical management. Where the logistics are run on a cycle where all elements must be equally strong so as to create a harmonious and balanced cycle. Analysis of Drug Logistics Management is one of the important activities in hospitals. Analysis of drug logistics management includes the stages of planning, procurement, storage, distribution, elimination, evaluation and monitoring that are interrelated with each other, so they must be well coordinated in order to function optimally. One factor that is very influential in the supply of drugs in hospitals is controlling the amount of stock. Too little drug stock results in unmet demand so that patient satisfaction levels will decrease. Likewise, if the stock is too large, it has an impact on high costs and storage space, so it is likely that drugs will become damaged / expired and there is a risk if the price of materials / drugs decreases (Laili et al. 2022).

The importance of drug management and control in pharmaceutical installations in achieving optimal health services in hospitals, the drug management process needs to be monitored to find out the weaknesses and advantages in its operational implementation so that corrective actions can be taken immediately for the implementation of drug management that is still considered not optimal. If the hospital is not able to plan and implement drug management properly, the hospital is not able to reach the point of success. Failure of logistics management will reduce the quality of hospital services so that patient satisfaction will also decrease. One of the objectives of logistics management is for



financial purposes where logistics management can be achieved at low cost. If the hospital does not fulfill the proper logistics, hospital expenses also cannot be controlled properly. This will harm the hospital (Ratnawati, 2021).

Pharmaceutical services are responsible for patients and related to pharmaceutical preparations with the aim of improving the quality of patient health. Pharmaceutical services are supported by pharmaceutical installations. Hospital Pharmacy Installation (IFRS) is a unit in a hospital that is fully responsible for the effective and efficient use of drugs. The main purpose of drug management is the availability of drugs of good quality, available in the right type and quantity according to the needs of pharmaceutical services for people in need (Trianengsih, Hardisman, and Almasdy, 2019).

The demands of patients and the community to improve the quality of Pharmaceutical Services, require hospitals to improve quality gradually to become more effective and efficient for patients, families and the community. Drug management in pharmaceutical installations must be carried out properly so that hospitals avoid the problem of running out of drug supplies at pharmaceutical installations. If there is a shortage of drug stocks in pharmaceutical installations, it will certainly greatly affect the quality of services provided to patients (Ratnawati, 2021).

According to Ajrina Winasari's research, about the causes of drug stock vacancies and how to control them at the Bekasi City Hospital in 2015 stated that the drug management carried out was still not effective enough. This is because there are still several input components (human resources, funds, policies, procedures and distributors), processes (planning, procurement, supervision and control), and outputs (stock out, expired drugs, stock-taking) that have not met the standards in accordance with Minister of Health Regulation No. 58 of 2014 concerning pharmaceutical service standards in hospitals (Winasari, 2015). From Malinggas' 2015 research on drug logistics management analysis at the pharmaceutical installation of Dr. Sam Ratulangi Tondano Regional General Hospital, it was concluded that drug logistics management at the pharmaceutical installation of Dr. Sam Ratulangi Tondano Hospital has not run according to the standards of pharmaceutical services at the established hospital, due to existing constraints, pharmaceutical warehouse facilities and pharmaceutical installations are inadequate so that there is still a buildup of drugs (Malinggas, 2015).

Based on research by Anindita on how to control patent drug supplies at Zahirah Hospital in 2014, drug vacancies also occurred where 164 types of drugs had been purchased to outside pharmacies in quarter 1 (January-March) of 2014. This shows that there are 164 types of drugs that cannot be provided in the quantity requested at the required time so that Cito must be purchased (orders are made incidentally and must be immediately) to outside pharmacies. On average there are 6 types of drugs purchased at outside pharmacies every day, this of course can harm hospitals (Anindita, 2014). Based on research by Mahmud Badaruddin in 2015 regarding the description of drug inventory management in the pharmacy warehouse of Sekayu City Hospital, Musi Banyuasin Regency, Palembang, stated that the management of drug inventory in the pharmacy warehouse of Sekayu City Hospital has not been effective. This can be seen from several components ranging from inputs, namely insufficient human resources, inadequate storage facilities and storage places and less budget, for the process, namely improper planning and inadequate storage while the output still has drugs that are old and damaged (Badaruddin n.d., 2015).

Meanwhile, based on research by Rahmi Fadhila on controlling the inventory of generic drugs at Asshobirin Islamic Hospital in 2013 stated that hospitals need to form a Therapeutic Pharmacy Committee (KFT) to compile formularies, adjust information systems to produce information about the amount of use each in a certain period to make it easier to compile drug needs and need to establish inventory control methods to avoid stock out and cito purchases (Fadhila, 2013).

From the results of a field survey conducted by researchers regarding pharmaceutical logistics control management at the Pharmaceutical Installation of Hajj General Hospital, it was found that if there is a drug vacancy, staff must report to the PPA department to immediately overcome the problem that occurs, but usually staff temporarily replace the type of drug with similar drugs, and there has been dissatisfaction with the Pharmacy installation on drug orders that have been submitted but the amount that comes is not appropriate Demand and even there are several types of drugs that are not available while it is known that during the pandemic the use of drugs has increased rapidly, in

addition to the supply of drugs that have not been effective, and lack of information about the amount of drug use each certain period and there is a stock out in several periods such as periodic budgets that are not in accordance with drug planning and procurement so as to allow for drug shortages and rapid needs from drug users (patients).

## 2. METHOD

In this study, researchers used a qualitative approach whose aim was to obtain more in-depth information about the drug logistics management process at the pharmaceutical installation of RSU Haji Medan. Research Subjects: Head of Pharmacy Installation, Pharmacy Service Coordinator, Pharmacy Installation Pharmacist Assistant, Inpatient Pharmacist Assistant, Outpatient Pharmacist Assistant, pharmacy warehouse coordinator pharmacy warehouse staff, financial management of RSU Haji Kota Medan at the time of data collection. The research informants taken were the Head of Pharmaceutical Installation, Pharmacy Service Coordinator, Pharmacy Installation Pharmacist Assistant, Inpatient Pharmacist Assistant, Outpatient Pharmacist Assistant, pharmacy warehouse coordinator pharmacy warehouse staff, financial management of Hajj Hospital Medan City at the time the data collection was carried out. The number of informants is 1 person and 2 roomers each, according to the previous informant's recommendation (snowball technique sampling) like a snowball rolling.

Primary data in the form of observations and interviews with the pharmaceutical department of hospitals authorized to carry out drug logistics control management at RSU Haji Medan, in the form of observation notes and interview notes. Secondary data is a non-human element, in the form of documents, videos, audio recordings, and photos. For ease of tracing, the data is coded CW = Interview Notes; CFGD = Focus Group Discussion Notes; CO = Observation Record; DF = Photo Document; RA = Audio Recording; and RV = Video Recording. Primary data sources are informants, while secondary data sources are documents, audio recordings, photos, videos from library data.

All data obtained were confirmed by the triangulation method, which in this study was carried out through:

- Extension of time. Where researchers extend the time of data collection, so that in-depth interviews and observations can be carried out repeatedly.
- Triangulation of resources. Where each informant is taken more than one person.
- Triangulation of data collection methods. Where the data collection method is carried out using more than one way.

The data analysis used in this study was the Miles and Huberman model.

## 3. RESULTS AND DISCUSSION

### Characteristics of Respondents

Characteristics of respondents which include age, gender, education, occupation. Participants in this study amounted to 7 people, namely 1 man and 6 women with each consisting of the hospital consisting of the head of the Pharmacy Warehouse, pharmacy warehouse staff, pharmaceutical warehouse staff coordinator, head of the pharmacy, nutrition, and laboratory section, coordinator of pharmaceutical procurement, nutrition and laboratory, coordinator of outpatient depot, coordinator of the inpatient depot at Haji Medan General Hospital. Prior to the interview, the respondents had filled in the patient's biodata and the Medan Hajj General Hospital.

Researchers conducted interviews, made observations and took documentation to find out the picture of inputs (human resources, budget, facilities and infrastructure, and procedures) in drug logistics management at the Pharmaceutical Installation of RSU Haji Medan by participants. The researcher conducted an interview with participant I of the Pharmacy Warehouse staff in relation to the description of inputs (human resources, budget, facilities and infrastructure, and procedures) in drug logistics management at the Pharmaceutical Installation of RSU Haji Medan? According to participant 4 that there are still inadequate inputs in human resources, namely in terms of pharmacy technicians so that this makes some staff work double in handling pharmaceutical installations, while for anggaran, due to TOGU and BPJS problems that take a long time to pay and the occurrence of





payment arrears, this has an impact on drug stocks which sometimes make drug stocks not in accordance with the number of patients and this makes some patients have to wait for drugs that are not yet in stock and Patients are recommended to return when the patient is treated later.

Researchers conducted interviews, made observations and took documentation to find out the picture of inputs (human resources, budget, facilities and infrastructure, and procedures) in drug logistics management at the Pharmaceutical Installation of RSU Haji Medan by participants. Researchers conducted interviews with participants of 6 Inpatient Depot Coordinators in relation to the description of the drug logistics management process at the Pharmaceutical Installation of RSU Haji Medan which includes drug logistics management functions, starting from planning, budgeting, procurement, storage, distribution or distribution, maintenance, elimination, to controlling drug supply.

According to participant 6 that in the description of the drug logistics management process at the Pharmaceutical Installation of RSU Haji Medan, which includes the functions of drug logistics management, starting from planning, budgeting, procurement, storage, distribution or distribution, maintenance, elimination, to controlling drug supply, dimanana for self-planning has been carried out every year, several are calculated every month and then multiplied by 12 months, For budgeting has been done at the end of each year which is requested to all depots and other hospital sections about the needs during the drug year, drug procurement is carried out by making requests to all parts of the unit and making purchases which this has been structured from the warehouse to the deputy director, storage of goods is carried out in warehouses that have been followed up in accordance with the medicine rack, separated from dangerous drugs and drugs that must be in the refrigerator, drug distribution is carried out drug administration to depots that deliver drugs, drug maintainers are checked so that drugs that have not been used for a long time will be used by informing doctors to use drugs that are approaching the expayed period and asking the goods holder whether the drug can be exchanged if the drug cannot be exchanged then drug removal will be carried out, Where drugs that have expired levels will be abolished or isolated. For control carried out at the end of each month, a stop op name is carried out, so the stop op name is to check the medicine starting from expayednya, the amount, physical with the system. To strengthen the comments of participant 6, the researcher triangulated by interviewing other respondents, namely participant 7 Outpatient Depot Coordinators related to the description of the drug logistics management process at the Pharmaceutical Installation of RSU Haji Medan, which includes drug logistics management functions, starting from planning, budgeting, procurement, storage, distribution or distribution, maintenance, elimination, to controlling drug supply.

According to participant 7 that in the description of the drug logistics management process at the Pharmaceutical Installation of RSU Haji Medan, which includes drug logistics management functions, starting from planning, budgeting, procurement, storage, distribution or distribution, maintenance, elimination, to controlling drug supply, for participatory planning, planning goods according to almost empty needs, and submitted to the pharmacy warehouse, and to make procurement carried out in baper stock, if it is less than 50 then we have delivered, for distribution we make distribution to patients, funding for storage using apletis and in accordance with SOP, while for distribution of drugs directly given to patients according to drugs that have been input into the computer and we make drugs according to input, And if there is no drug obstacle, it will confirm to the doctor to change the type of drug, but if the drug cannot be changed, it will be held, but if it is urgent but if not, urgency will be confirmed to the patient to come back if the drug already exists and this will be done when the patient comes back for treatment.

Researchers conducted interviews, made observations and took documentation to find out the output picture of drug logistics management regarding drug availability at the Pharmaceutical Installation of RSU Haji Medan at the Pharmaceutical Installation of RSU Haji Medan by participants. Researchers conducted interviews with 5 pharmaceutical warehouse staff coordinators in relation to the output description of drug logistics management regarding drug availability at the Pharmaceutical Installation of RSU Haji Medan. According to participant 5 that the drug output is in accordance with the SOP, the drugs that have come out are well distributed and the method of drug



delivery is also in accordance with the procedure, but occasionally there are problems with empty goods such as national blanks so this needs to be done procurement of goods that must be considered by looking for cheaper drug prices by comparing to all sellers besides that for patients who are urgent in using drugs, drugs will be spent but Tailored to the needs of patients without doing drug stock.

## Discussion

### Inputs (HR, budget, facilities and infrastructure, and procedures) in drug logistics management

Human resources are the integrated abilities of the thinking power and physical power possessed by individuals. His behavior and nature are determined by his heredity and environment, while his work performance is motivated by the desire to fulfill his satisfaction. In accordance with (Permenkes, 2016) Pharmaceutical installations must have pharmacists and pharmaceutical technical personnel in accordance with the workload in order to achieve the goals and objectives of pharmaceutical installations. Human Resources (HR) qualifications for pharmaceutical jobs consist of: Computer Operators/Technicians who understand pharmacy, Administration Personnel, Drug Workers/implementers (Prastyorini 2021).

According to (Ratnawati 2021), the budget is one of the supporting components that is very important in drug management as a necessity in pharmaceutical installations. The budget in managing logistics in hospitals aims to meet drug needs in hospitals. One of the inputs that need to be provided in drug management is the budget. Routine management budgets that need to be provided include budgets for warehouse maintenance and other infrastructure contained in pharmaceutical warehouses such as air conditioning maintenance, printers and computers. However, budget management for the maintenance of facilities and infrastructure and the procurement of ATK have been budgeted within different budget ceilings. In the field, budgeting for this matter is still not routinely budgeted. In the use of the budget, various obstacles are also found, including budget planning proposed for needs not in accordance with needs. So that the hospital management manages in efficiency so that it can run optimally (Afiya, Permadi, and Ningrum 2022).

According to (Permenkes, 2016) in (Prastyorini 2021) that the Implementation of Pharmaceutical Services in Hospitals must be supported by facilities and equipment that meet applicable pharmaceutical laws and regulations. The location must be integrated with the hospital service system, separated between facilities for management, direct service to patients, compounding, production and quality laboratories equipped with waste treatment. Equipment that requires precise measurement must be calibrated and applied periodically by a health testing center or authorized institution. Based on Annisa's research with an Analysis of Drug Logistics Management at the Landasan Ulin Health Center in 2021. The results of the study are seen from the input component that human resources in pharmaceutical installations are sufficient but not all human resources have attended training related to drug logistics management, for the budget funds are in accordance with existing regulations, facilities and infrastructure are still insufficient due to inadequate space. The components of the drug logistics management process have been running well such as planning, receiving, distribution, administration and storage processes which have been carried out in accordance with SOPs in terms of demand have not run well because there is still unmet demand for drugs, in terms of destruction and withdrawal is still not running well because of unscheduled activities of these activities, the control process is still not running well because there are still Lack of drugs, as well as the monitoring and evaluation process that has not run well because it is still unscheduled.

Whether or not the completeness of facilities and infrastructure owned by the hospital will affect the process of managing drug supplies. So that with the completeness of the facilities and infrastructure in the pharmaceutical installation, it is assessed that drug logistics management runs smoothly or not. This is in accordance with research (Hali, Fitriani, and Syamsul 2021) which states that there is a relationship between warehouse area and storage activities. Inadequate building area will have an impact on warehouse staff delays in the drug logistics management process at the hospital. According to Pasrtisipan I that this is the output of drugs at RSU Haji Medan, if the drugs taken from outpatients, inpatients, rooms, and installations are empty or run out, the pharmacy warehouse will confirm to the head of the warehouse to hold the drug, and the empty medicine will be



ordered, then if the drug already exists it will be confirmed to all rooms that have been forgiven but for forgiveness it will be redone, Meanwhile, to procure drugs, forgiveness is carried out when the drug has run out or is close to the drug running out, but there are no applicable standards in drug procurement made in writing.

According to participant 2 stated that the inputs in (HR, budget, facilities and infrastructure, and procedures) in drug logistics management at the Pharmaceutical Installation of RSUD Haji Medan? It's good, it's just that human resources are still lacking, namely the pharmacist technician section so that participants hope that in the future there will be additional pharmacy technician staff, while for the budget it is good, it's just that for the APBD a little more because this fund cannot be shifted or used for other needs as for flexible BLUD funds and can be used for other hospital purposes in farasian spending, The infrastructure facilities in pharmaceutical installations are adequate so that the procedures for procurement of goods have several procedures that must be passed so that the ordered equipment can be carried out and in the purchase of infrastructure facilities must still be approved by KDP.

According to participant 3 that the HR system in pharmaceutical installations is good and measurable but there are still lacking human resources, namely the pharmaceutical technician section and HR recruitment procedures in accordance with hospital needs, input procedures in hospitals are good and structured so that there are no obstacles in the implementation, a general picture of logistics management procedures from the management department is also good and there are no problems in providing drugs. According to participant 4 that there are still inadequate inputs in human resources, namely in terms of pharmacy technicians so that this makes some staff work double in handling pharmaceutical installations, while for anggran, due to TOGU and BPJS problems that take a long time to pay and the occurrence of payment arrears, this has an impact on drug stocks which sometimes make drug stocks not in accordance with the number of patients and this makes some patients have to wait for drugs that are not yet in stock and Patients are recommended to return when the patient is treated later.

According to Budiharjo (2014) SOP (Standart Operating Procedure) is a regulatory software, which regulates the stages of a work process or certain work procedures. Because the work procedures in question are fixed, routine, and do not change, the work procedures are standardized into written documents. From the results of research conducted using interviews, document review and observation, it can be concluded that existing SOPs related to the drug management process have been made briefly and clearly so that they are easily understood by officers. This is in accordance with Permenkes No. 72 of 2016 which states that the implementation of pharmaceutical service standards in hospitals must be supported by the availability of pharmaceutical resources, organization oriented to patient safety and standard operational procedures.

In its implementation, the procedures made and established at the Hajj Hospital have been carried out by human resources who manage drug supplies in pharmaceuticals, although in its implementation sometimes users do not apply perfectly due to several factors such as dense activities that make work have to be postponed and eventually accumulate. However, this can still be resolved and does not have a significant effect on drug management. SOPs can be used as guidelines used in the process of implementing drug logistics management, so that the objectives of drug logistics management can be achieved optimally. With the procedure, every workforce can know the duties, authorities and responsibilities of the work that must be done so that drug management can run well and can avoid mistakes, doubts and work becomes more efficient.

### **Overview of the Drug Logistics Management Process**

Selection is an activity to determine the types of pharmaceutical preparations, medical devices, and medical consumables according to needs. The selection of pharmaceutical preparations, medical devices, and medical consumables is based on formularies and treatment standards/diagnostic and therapeutic guidelines; Established standards for pharmaceutical preparations, medical devices, and medical consumables; Disease pattern; Effectiveness and safety; Evidence-based treatment; Quality; Price; As well as availability in the market (Prastyorini 2021).



In Permenkes Number 58 of 2014 needs planning is an activity to determine the amount and period of drug procurement in accordance with the results of selection activities to ensure the fulfillment of criteria of the right type, right amount, on time and efficiently. Planning is carried out to avoid drug vacancies by using methods that can be accounted for and the basics of planning that have been determined include consumption, epidemiology, a combination of consumption methods and epidemiology and adjusted to the available budget (Erlin 2017). Needs planning is an activity to determine the quantity and period of procurement of pharmaceutical preparations, medical devices, and medical consumables in accordance with the results of selection activities to ensure the fulfillment of criteria for the right type, right amount, on time and efficiently. Planning guidelines should take into account the available budget; Priority setting; Remaining inventory; Usage data for past periods; Booking lead time; and Development plan.

Procurement is an activity intended to realize needs planning. Effective procurement must ensure availability, the right quantity and time at affordable prices according to 8 quality standards. Procurement is a continuous activity starting from selection, determination of the amount needed, adjustment between needs and funds, selection of procurement methods, selection of suppliers, determination of contract specifications, monitoring of the procurement process and payment. Things that need to be considered in the procurement of pharmaceutical preparations, medical devices, and consumables include drug raw materials must be accompanied by a certificate of analysis; Hazardous materials must include a Material Safety Data Sheet (MSDS); Pharmaceutical preparations, medical devices, and medical consumables must have a Distribution License Number; The expiration date is at least 2 (two) years except for pharmaceutical preparations, medical devices, and certain consumables (vaccines, reagents, etc.), or under certain conditions that can be accounted for (Prastyorini 2021).

After the goods are received at the pharmaceutical installation, it is necessary to store them before distribution. Storage must be able to guarantee the quality and safety of pharmaceutical preparations, medical devices, and consumables in accordance with pharmaceutical requirements. The pharmaceutical requirements in question include: stability and safety requirements, sanitation, light, humidity, ventilation, and classification of pharmaceutical dosage types, medical devices, and medical consumables.

Destruction and withdrawal of pharmaceutical preparations, medical devices, and medical consumables that cannot be used must be carried out in a manner that is in accordance with the provisions of applicable laws and regulations. The recall of medical devices and medical consumables is carried out on products whose distribution permits are revoked by the Minister. Destruction is carried out for pharmaceutical preparations, medical devices, and medical consumables if the product does not meet quality requirements; Has expired; Not eligible for use in health care or scientific purposes; Revoked distribution permit (Prastyorini 2021).

Control is carried out on the type and amount of inventory and use of pharmaceutical preparations, medical devices, and medical consumables. The purpose of controlling the inventory of pharmaceutical preparations, medical devices, and consumables is for drug use in accordance with the hospital formulary; Use of the drug in accordance with diagnosis and therapy; and ensure effective and efficient inventory or no excess and lack / vacancies, damage, expiration, and loss and return of orders for pharmaceutical preparations, medical devices, and consumables. The way to control the inventory of pharmaceutical preparations, medical devices, and consumables is to evaluate inventory that is rarely used (slow moving); Evaluate unused inventory within three consecutive months (death stock); and Stock taking which is carried out periodically and periodically (KRISTIAWAN 2020).

The results of this study are supported by Noor Hidayah's research entitled Analysis of Drug Logistics Management at the Landasan Ulin Health Center in 2021. The results of research from the input component that human resources in pharmaceutical installations are sufficient but not all human resources have attended drug logistics management training, facilities and infrastructure are still inadequate. In terms of demand, the process component has not run well because the demand for drugs has not been fulfilled, in terms of destruction and withdrawal is still not running well because activities have not been scheduled, as well as the process of monitoring and evaluating unscheduled activities.





According to participant 6 that in the description of the drug logistics management process at the Pharmaceutical Installation of RSU Haji Medan, which includes the functions of drug logistics management, starting from planning, budgeting, procurement, storage, distribution or distribution, maintenance, elimination, to controlling drug supply, the plan itself has been carried out every year, several are calculated every month and then multiplied by 12 months, for budgeting has been done at the end of every year which is requested to all depots and other hospital sections about the needs during the drug year, drug procurement is carried out by making requests to all parts of the unit and making purchases which are structured from the warehouse to the deputy director, storage of goods is carried out in warehouses that have been arranged according to the drug rack, separated from dangerous drugs and drugs that must be in the refrigerator, drug distribution is carried out drug administration to depots that deliver drugs, drug maintainers are checked so that drugs that have not been used for a long time will be used by informing doctors to use drugs that are approaching the expayed period and asking the procurement whether drugs can be exchanged if drugs cannot be exchanged then drug removal will be carried out, Where drugs that have expired levels will be abolished or isolated. For control carried out at the end of each month, a stop op name is carried out, so the stop op name is to check the medicine starting from the expayed, the amount, physical with the system.

According to participant 6 that in the description of the drug logistics management process at the Pharmaceutical Installation of RSU Haji Medan, which includes drug logistics management functions, starting from planning, budgeting, procurement, storage, distribution or distribution, maintenance, elimination, to controlling drug supply, for participatory planning, planning goods according to almost empty needs, and submitted to the pharmacy warehouse, and to make procurement carried out in baper stock, if it is less than 50 then we have delivered, for distribution we make distribution to patients, funding for storage using aplabetis and in accordance with SOP, while for distribution of drugs directly given to patients according to drugs that have been input into the computer and we make drugs according to input, And if there is no drug obstacle, it will confirm to the doctor to change the type of drug, but if the drug cannot be changed, it will be held, but if it is urgent but if not, urgency will be confirmed to the patient to come back if the drug already exists and this will be done when the patient comes back for treatment.

Based on research with interviews, observations and document reviews, the control process carried out by the pharmaceutical department is in accordance with applicable SOPs and in accordance with regulations in pharmaceutical supply guidelines. Things that need to be improved are user discipline in checking drug stocks and more frequent communication between fellow workers at Hajj Hospital and coordination with other medical personnel so that the use and distribution of drugs is more effective and efficient.

### **Overview of Drug Logistics Management Output on Drug Availability**

Inventory can be defined as goods that are stored for use or sale in the future or period. Inventory management seeks to strike a balance between shortage and excess inventory in a planning period that contains uncertainty. The ideal concept of inventory consists of manufacturing a product that conforms to customer specifications. Such a system will not require the accumulation of raw materials or finished goods in anticipation of future sales. Although this system is not practical, it is important to remember that every dollar invested in supplies must be shown to achieve a certain goal (Ulfa 2018).

According to (Chrisna 2018) inventory is an asset that includes goods owned by the company with the intention to be sold in a normal business period, or inventory of goods that are still in progress / production process, or inventory of raw goods that are waiting for their use in a production process. The types of inventory are: 1. Batch Stock Batch stock is inventory that is held because we buy or make materials in quantities greater than the amount needed at that time. The advantages obtained from the existence of batch stock are: a. Get a discount on the purchase price b. Obtaining production efficiency c. There are savings in transportation costs 2. Fluctuation stock Inventory held to deal with unpredictable fluctuations in consumer demand. If there is a very large fluctuation in demand, this supply is needed very large to maintain the possibility of fluctuations in demand. 3.



Anticipation Stock Inventory held to deal with forecastable fluctuations in demand based on seasonal patterns found in a year and to deal with increased use or sales. Costs arising from inventory

According to participant 5 that the drug output is in accordance with the SOP, the drugs that have come out are well distributed and the method of drug delivery is also in accordance with the procedure, but occasionally there are problems with empty goods such as national blanks so this needs to be done procurement of goods that must be considered by looking for cheaper drug prices by comparing to all sellers besides that for patients who are urgent in using drugs, drugs will be spent but Adjusted to the needs of Pasiwen without doing drug stock.

According to Aditama (2020), output is the amount of goods or services successfully handed over to consumers (completed) during the reporting period. With the existence of drugs that are still vacant and expired, pharmaceutical warehouses should improve inventory management more effectively and efficiently so that drug needs in hospitals can be met properly and hospitals do not experience losses. This is also supported by a statement according to Badaruddin (2019) who said that output is goods or services produced directly from the implementation of activities based on the inputs used. The good achievement of output cannot be separated from the good input owned, and vice versa if the input owned is not good, then the output produced will not be good too.

According to Muhammad's research in 2021 entitled Analysis of Drug Logistics Management in Pharmaceutical Installations of the Demak Regency Health Office. In the input aspect, in the DKK Demak Pharmaceutical Installation there is a shortage of pharmaceutical human resources and no training has ever been carried out. The source of funds comes from the APBD, DAK, and Grants from the Central Java Provincial Health Office. The data source comes from LPLPO puskesmas, and there are SOPs to carry out the drug logistics management process. In the process aspect, drug planning is carried out based on the National List of Essential Medicines (DOEN) and the National Formulary using a combination method. Procurement of drugs using e-purchasing and e-catalogue systems. Drug acceptance went well because drug checks were carried out both in terms of type, quantity, and expiration period Drug storage has not run well because it has not been in accordance with applicable regulations and the storage building is less spacious. Distribution is sometimes delayed and the transportation used does not have refrigeration to maintain the quality of drugs. The abolition of the drug is still not in accordance with the regulations and in cooperation with third parties. Furthermore, recording and reporting are carried out systematically using the SIMDIO application. In the availability and adequacy of drugs in the puskesmas DKK Demak work area has not been fully fulfilled, sometimes the drugs received are fulfilled and not. Such as the drug order requested by the puskesmas is not in accordance with the amount given by DKK Demak.

Based on the results of this study, it shows that the output of drug management management at RSU Haji Kota Medan has not been in accordance with the standards made by the Ministry of Health in 2010 which states that the percentage of empty, expired and damaged drugs is 0%. Based on the data obtained, there are still drugs that are experiencing vacancies. This happens because several factors include input in drug management is still not good including inadequate human resources and still need training in drug management, budgets that are only intended for the drug procurement process, and inadequate facilities in the drug management process.

The efforts made by the puskesmas to overcome the occurrence of drug vacancies are from RSU replacing them with similar drugs with the same efficacy. If it is still not possible, then the RSU will make a prescription for the patient, so the patient must buy the drug outside or pharmacy. This is in line with other studies that state that the replacement of drug administration equivalent to the drug needed by patients is also often done by drug officers in covering the void of drug needs.

### **Research Implications**

Haji General Hospital is a teaching hospital and referral hospital, therefore for the management of drug pharmacy logistics control must be carried out in accordance with SOPs so that inputs, management processes and outputs in drug logistics become better so as not to cause problems such as drug shortages, and drug output levels due to drug logistics that are not running well, With the improvement and good pharmaceutical logistics implementation procedures, it will improve the quality of the hospital to its patients.

## Research Limitations

Research on pharmaceutical logistics control management analysis Qualitative Studies at the Pharmaceutical Installation of Haji Medan General Hospital have the following limitations:

- a. Participants who have activities so that the interview time is a little rushed.
- b. It is difficult to determine the schedule to meet with informants who are hospital officials
- c. Location of the hospital far from the researcher's residence

## 4. CONCLUSION

In pharmaceutical logistics at RSUD Haji Medan, input (human resources, budget, facilities and infrastructure, and procedures) in drug logistics management still has obstacles such as the human resources of pharmaceutical technicians who are still lacking so that the performance of other staff is less than optimal. The drug logistics management process at the Pharmaceutical Installation of RSUD Haji Medan in drug control is the discipline of using users in checking drug stocks so that existing drugs can be used before they expire. The output of drug logistics management regarding drug availability at the Pharmaceutical Installation of RSUD Haji Medan is carried out in accordance with operational standards and its implementation is structured but there are several vacancies in drugs needed by patients and replaced with other types of drugs with the approval of doctors or patients buying drugs outside RSUD.

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