Volume 6 Nomor 4 (2023)
ISSN : 2615-0913 (Media Online)
Terakreditasi

Analysis of Medicine Logistics Management in the Pharmacy Installation of Malinau District Hospital

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Abstract

The availability of medicines in hospitals is very important for patient survival, this is because almost 90% of health service interventions in hospitals depend on the use of medicines. The occurrence of medicine shortages, stockpiles that have accumulated, expiration will have an impact medically and economically. Things like this require efficient and effective medicine management efforts through a management system. The purpose of this study was to determine drug logistics management in hospitals starting from the input, process, and output stages at the pharmacy installation at Malinau Hospital. The reason for choosing this location is because the availability of medicines is a variable that has a significant satisfaction score, it is necessary to carry out an analysis of drug logistics management to ensure this. This research is descriptive qualitative research with a management system theory approach based on data obtained from 6 research informants, consisting of the head of the pharmacy installation, coordinator of inpatient pharmacist, coordinator of outpatient pharmacy services, the person in charge of pharmacy warehouse, and 2 warehouse staff pharmacies. Based on the input stage in the form of the availability of pharmaceutical human resources, it is sufficient, the budget using APBD and BLUD is sufficient. The stages of the process consisting of planning needs, medicine procurement, and medicine distribution have been carried out properly. As for the storage and disposal of medicines, management is still found to be ineffective and efficient. At the output stage, the availability of medicines has not been carried out properly, because there are still empty medicine stocks and expired medicines have been found piled up in warehouses that have not been destroyed. Thus it is suggested that the pharmaceutical installation at Malinau Hospital pay more attention to the medicine logistics management system so that it is more effective and efficient. Thus it is suggested that the pharmaceutical installation at Malinau Hospital pay more attention to the medicine logistics management system, especially regarding the quantity and quality of human resources and infrastructure to be further improved.

Keywords: Madicines Logistics Management; Pharmacy Installation; Hospital

Abstract

Ketersedian obat-obatan di rumah sakit menjadi hal yang sangat penting untuk kelangsungan hidup pasien, hal ini dikarenakan intervensi pelayanan kesehatan di rumah sakit hamper 90% tergantung pada penggunaan obat. Terjadinya kekosongan obat, stok yang menumpuk, kadaluarsa akan berdampak secara medis dan ekonomi. Hal seperti ini memerlukan upaya pengelolaan obat yang efisien dan efektif melalui sistem manajemen. Tujuan penelitian ini untuk mengetahui manajemen logistic obat di rumah sakit mulai dari tahap input, proses, dan output di instalasi farmasi RSUD Malinau. Alasan memilih lokasi tersebut karena ketersediaan obat merupakan variabel yang memiliki angka penilaian kepuasaan yang signifikan, maka perlu dilakukan analisis manajemen logistik obat untuk memastikannya. Penelitian ini merupakan penelitian kualitatif deskriptif dengan pendekatan teori sistem manajemen berdasarkan data-data yang diperoleh dari

para informan penelitian yang berjumlah 6, terdiri dari Kepala Instalasi Farmasi, Koordinator Apoteker Rawat Inap, Koordinator Pelayanan Farmasi Rawat Jalan, Penanggungjabab Gudang Farmasi, dan 2 Staf Gudang Farmasi. Berdasarkan tahapan input yang berupa ketersediaan SDM kefarmasiaan sudah memenuhi, anggaran menggunakan APBD dan BLUD sudah mencukupi. Para tahapan proses yang terdiri dari perencanaan kebutuhan, pengadaan obat, dan distribusi obat sudah terlaksana dengan baik. Sedangkan untuk penyimpanan dan penghapusan obat masih ditemukan ketidak efektifan dan efisien manajemen. Pada tahap outpunya berupa ketersediaan obat masih belum terlaksana dengan baik, karena masih ada stok obat yang kosong dan ditemukan obat kadaluarsa yang menumpuk di gudang belum dimusnahkan. Dengan demikian disarankan instalasi farmasi RSUD Malinau lebih memperhatikan sistem manajemen logistik obat supaya lebih efektif dan efisien. Dengan demikian disarankan instalasi farmasi RSUD Malinau lebih memperhatikan sistem manajemen logistik obat khususnya mengenai kuantitas dan kualitas SDM serta sarana prasarana lebih ditingkatkan.

Keywords: Manajemen Logistik Obat; Instalasi Farmasi; Rumah Sakit

Introduction

The existence of medicines in hospitals is very important to achieve optimal health services in hospitals. Given the importance of this, the medicine management process needs to be monitored to find out the weaknesses and strengths in operational implementation, so that further evaluation and corrective action can be carried out for the implementation of medicine logistics management which is deemed not optimal ((Budianto, 2016).

If the hospital is unable to plan and carry out medicine logistics management properly, it will have an impact on many things. First is the disruption of health services, if the availability of medicines and consumables is limited it will cause complaints from paramedics and patients, it will automatically have an impact on services that are not optimal for the community (Siahaan & Handayani, 2019). Second, hospital costs/operations will be affected. If the availability or purchasing of medicines is excessive, likely the medicines will not be used or the medicines will expire, of course, this will result in losses for the hospital (Hia, 2022).

Considering this to be important, the researchers chose the Malinau General Hospital (RSUD) as the location for this study. The selection of the research location is based on the effectiveness and efficiency of the research implementation. This hospital has a 'Type C' standard which is located in Malinau District. However, with the limited availability of Type A and Type B hospital services, moreover, the location of Malinau Regency is flanked by two regencies, namely Nunukan Regency and Tanah Tidung Regency, this hospital has become one of the referral hospitals by the two districts, especially the area directly adjacent to Malinau District. In this regard, to improve service and customer satisfaction, Malinau Hospital must provide the best possible service, both from the completeness of existing specialist doctors, the available infrastructure and the important thing is the availability of medicines, and consumables available in Malinau.

Another thing that needs to be considered in terms of management by improving services to the community, is the availability of competent human resources (HR), infrastructure, and the most important thing that must be considered by the hospital is the availability of funds to support services. Based on pre-research interviews and previous research, it is confirmed that the largest income comes from pharmaceutical supply management. If the pharmacy is not managed carefully and responsibly, it is predicted that hospital revenue will experience a decrease or loss (Saputra, 2016).

Researchers found nominal data on losses due to expired medicines, at that time the hospital provided data as a sample in 2017-2018, the reason the hospital showed this data was because in that year the nominal expired medicines were considered the highest during hospital operations. The data for that year showed a bad experience in medicine management, even though at this time a loss with a large nominal like that year had never been experienced again. The hospital pharmacy installation explains medicine management, in this case, expired medicines from 2017-2018 obtained the following data.

Table 1. Expired Medicines Budget APBD and BLDU

No.	Category	APBD		BLDU	
		Year	Total (IDR)	Year	Total (IDR)
1	Medicines and BAHP	2017	486,404,453	2017	146,973,030
2	Medicines and BAHP	2018	267,652,617	2018	204,493,085

Source: Minutes of Medicine Destruction at Malinau Hospital

The table above shows that there has been a bad experience in the medicine logistics management system, even though it has been emphasized that from 2019 to 2022 this will not happen again. This is due to transportation constraints for medicine distribution. This data presentation shows the difference between previous studies which have not explained the sources of funding for medicine procurement and the nominal loss of expired medicines seen from the APBD (Regional Revenue and Expenditure Budget) and BLUD (Regional Public Service Agency) budgets for hospitals in detail so that they become a source of analysis of how the process and output are when referring to the input process. This research will complement previous research in terms of medicine logistics management systems so that the findings of good practice from previous research can be formulated into a new study to become a reference for the logistics management system.

When reviewing previous studies related to logistics management, several facts were found such as the input that was not optimal was the less extensive warehouse size. At the process stage that does not meet the requirements, carry out the write-off of medicines that cannot be returned to distributors, for example, medicines that are damaged during storage and medicines whose expiration date is not monitored. The resulting output is the availability of medicines that can meet needs by carrying out stock taking every month, and the resulting security is the guarantee of medicine safety from damage during storage, loss, and expiration of medicines that are not monitored (Fatwa Asyifa, 2019). Somes studies found frequent medicine shortages, medicine withdrawals, and destruction have never been carried out, and inadequate pharmaceutical warehouse facilities (Essing et al., 2020). It was also found that the human resources in pharmaceutical installations were insufficient, the place for storing logistics for medicines was insufficient and the availability of medicines sometimes experienced vacancies due to unavailable stock and long waiting times for orders (Hilmawati et al., 2020(Hilmawati et al., 2020). Including having found that the destruction and withdrawal of medicines were still not going well because these activities had not been scheduled (Noorhidayah et al., 2022). This explanation adds to the researchers strong reasons for reviewing the medicine logistics management system, especially at Malinau Hospital, which has never been studied before.

Methods

The study used a qualitative method with a focus on analyzing medicine logistics management at the Malinau Regional General Hospital, Malinau Regency, North Kalimantan using management system theory guidelines consisting of input, process, and

output. The documents used are documents related to the implementation of logistics management. The management system theory used is focused on a systems theory approach consisting of inputs, transformation processes, and outputs. The elements of the management system are interrelated to create good governance. The data taken is data from interviews and document reviews on input, process, and output. Informants needed in research are parties who have authority in medicine logistics management at the pharmaceutical agency Malinau Hospital, Kalimantan North. Sampling in this study was based on certain considerations made by the researchers themselves based on the characteristics or nature of the population of pharmacists or health workers at the Pharmacy Agency at Malinau Hospital, Kalimantan. North. There were 6 informants in this study consisting of the Head of the Pharmacy Installation, the Coordinator of the Outpatient Pharmacy, the Coordinator of the Outpatient Pharmacy Services Road, the Warehouse Manager Pharmacy, and 2 Staff Warehouse Pharmacy.

Results and Discussion

1. Medicine Logistics Management Input

a. HR (Human Resources)

Human resources in charge of medicine management are a very important and influential factor in the medicine logistics process. According to RI Law No. 51 of 2009, the human resources that must be available in terms of medicine management are at least 3 people with a background in pharmacology and pharmaceutical technical personnel (Rikomah, 2017). Human resources in medicine logistics in pharmaceutical installations RSUD Malinau by looking at the background of pharmacists and pharmaceutical technical personnel, and judging by the level of education, medicine logistics officers at RSUD Malinau already fulfilled the conditions.

Efforts to get quality medicine logistics personnel require training as an activity in human resource development. With the increasing quality of medicine logistics personnel are expected availability of medicineswith good quality, evenly distributed, appropriate types, and quantities according to needs achieve a rational use of medicines for the community. An integrated medicine planning team is a necessity in increasing the efficiency and effectiveness of the use of funds through coordination between parties related to medicine planning. Medicine logistics at the pharmacy installation at Malinau Hospital in terms of medicine planning, there was no integrated medicine planning team formed, this was because the director of Malinau Hospital did not form a medicine planning team. The head of the pharmacy had proposed forming a medicine planning team, but in fact, it has not been realized. So in planning medicine, the director of Malinau Hospital appointed the pharmaceutical division, namely the head of the pharmaceutical installation. The authority given by the director of Malinau Hospital is based on a written appointment letter to become a medicine planner. When viewed from the existing regulations, this is considered incompatible with the Ministry of Health regulations which state that an integrated medicine planning team is a requirement so that medicine planning can be carried out and run optimally. The team must involve all parties related to medicine planning consisting of the head of the pharmacy section, the head of the pharmaceutical installation, the pharmacy installation officer, the head of the planning department for the health office, the head of the Puskesmas (Community Health Centers), and the puskesmas medicine manager.

Based on the Malinau Hospital organizational manual regarding workload analysis, it is known that the number of pharmacy warehouse staff required is 6 people. So it can be concluded that the quantity of human resources in the pharmacy warehouse at Malinau Hospital is currently felt to have been fulfilled. Based on Minister of Health Regulation

No. 72 of 2016 confirms that pharmaceutical installations must have pharmacists and pharmaceutical technical personnel by the workload to achieve the goals and objectives of pharmaceutical installations.

Based on the Directorate General of Pharmaceutical and Medical Devices Development in 2010, it is known that human resources in the logistics of medicine supplies in pharmaceutical warehouses consist of one warehouse head supervisor, one warehouse head, one goods manager, and one executor. When compared with policy of course source power that human has played a role in medicine logistics in the pharmaceutical warehouse is sufficient.

The human resources in the pharmaceutical warehouse are very sufficient in carrying out activities in pharmaceutical installations, for example, evaluation and monitoring of medicine supplies or medicine stocks in pharmaceutical installations can be carried out according to service standards. This has a positive impact so that work that is too busy can be resolved, the quality of work of workers becomes organized, and the implementation of medicine supply management can run optimally. Even though its still for HR training regarding medicine supplies very seldom done. Matter this of course can influence knowledge and skills. For human resource training, the head of the pharmaceutical installation attended, but this was several years ago. Meanwhile, pharmacist assistants regarding HR training are still rarely known. Pharmacy installation Malinau Hospital For training about management Already are starting to be abandoned, the existing training is now more focused on pharmacy clinical.

Thus it can be seen that training can affect HR knowledge and skills. Therefore, it is expected that the management of the Malinau Public Hospital can carry out training for pharmacy officers on medicine logistics management regularly so that they can achieve the desired goals and improve performance. Problems with source power man in installation pharmacy Malinau Hospital because of the lack of training for human resources regarding medicine logistics management. If left unchecked, it can hinder the process of implementing medicine supply management, because training of resources in the pharmaceutical warehouse can make the medicine management process run well.

b. Budget

From the results of the interviews conducted by the researchers, the source of the budget obtained by the Malinau Hospital in the process of managing medicines at the pharmaceutical installation came from the BLUD and APBD funds. Pharmaceutical installation just plans it and then propose to the finance department to adjust to the existing budget. It is known that the budget for medicine management is part of the budget submitted by the pharmaceutical installation to the supporting field, namely the director. Once approved, the pharmaceutical installation can request to place an order for needs from the PPTK (Technical Implementation Officer for Activities) and place an order using the e-purchasing system based on the online e-catalog with the LPSE (Electronic Procurement Service) application with the BLUD and APBD budgets.

Based on the rules of the Ministry of Health the budget for managing pharmaceutical supplies in hospitals aims to be able to meet the needs of medicines in hospitals. Obstacles that are commonly encountered in medicine management include several aspects including human resources, limited budgetary resources, and infrastructure. However, these obstacles (in the form of funding and infrastructure) were not found during the research.

According to Minister of Health Regulation No. 72 of 2016 that the implementation of pharmaceutical services in hospitals must be supported by facilities and equipment that meet statutory provisions the pharmaceutical apply. With the criteria of facilities in the form of space, facilities must be deep enough to matter quality as well as quantity so can

support function and process pharmacy service, ensure environment-safe work for officers, facilitate hospital communication systems, eligibility of main facilities, availability of facilities support in service activities in pharmaceutical installations. Whereas for equipment facilities must meet the requirements, especially for equipment compounding and preparation for sterile, non-sterile, and liquid preparations for medicines outside or inside. Equipment facilities must be guaranteed to be sensitive to measurement and fulfill condition, marking, and calibration for equipment certain every year. Pharmacy installation rated is management logistics medicine walk with smooth or not when all facility or facilities and infrastructure are seen to be quite good and complete. Based on research observations, the pharmaceutical facilities available at Malinau Hospital are very adequate, several facilities with criteria that are used as service standards can already be found in good condition.

2. Medicine Logistics Management Process

a. Needs Planning Medicine

Planning and determining needs is the first step in the medicine management process (Abdulkadir et al., 2022). Based on the results of research conducted using in-depth interviews and a review of pharmaceutical service guideline documents and standart operational procedur can conclude that planning to need the medicine in Malinau Hospital is being implemented according to the guidelines and SOP (Standard Operational Procedure) in the hospital. Planning medicine needs is the main activity before carrying out all medicine management processes. Medicine planning activities carried out at the Malinau Hospital pharmacy installation are carried out by selecting medicine types, determining medicine types, and calculating estimated medicine needs. According to the Regulation of the Minister of Health of the Republic of Indonesia No. 72 of 2016, needs planning is an activity to determine the amount and period of procurement of pharmaceutical supplies by the results of selection activities to ensure the fulfillment of the criteria for the right type, right amount, right time, and efficiently. Planning is carried out to avoid medicine shortages by using methods that can be accounted for and the basics of planning that have been determined include consumption, epidemiology, combination of consumption methods, epidemiology, and adjusted to the available budget.

In the planning process, selecting the type of medicine is always related to stock cards and standard therapy. There are a lot of medicines in the BLUD, so a stock card in the medicine planning process is needed to see the need for and shortage of the medicines needed. In addition, standard therapy is also used in planning the selection of medicines that are urgently needed. Standard therapy for medicine planning purposes should contain the name of the disease, the name of the medicine, the strength and dosage form, the average dose, the number of doses per day, the duration of administration, and the amount of medicine needed per episode.

Medicine selection is based on the national formulary and the valid DOEN (National Essential Medicines List) with benchmark prices for PKD (Basic Health Service) and OPK (Health Program Medicine) medicines. The selection of the type of medicine is carried out so that the available medicine is needed according to the pattern of disease in health services. Ideally, choosing a medicine is done after knowing the description of disease patterns in each work area, the characteristics of the patients served and the health workers serving because the types of medicines can always change within a certain period of time (Hartayu et al., 2020).

Based on the results of the interviews, information was obtained that the selection of the types of medicines carried out at the Malinau Hospital pharmacy installation was based on those in the BLUD. Planning for the selection of this type of medicine starts

from the person in charge of the medicine warehouse, which is commonly referred to as the bottom-up flow. Furthermore, the plan that comes from the person in charge of the medicine warehouse is submitted to the director of the Malinau Hospital to adjust the available funds for the next medicine procurement.

Based on this flow, the planning process for medicine needs at the pharmacy installation at Malinau Hospital complies with the guidelines and standard operating procedures at the hospital. However, researchers still find obstacles in carrying out the planning process medicine needs, namely the discrepancy between the desired condition and the actual condition. While the method consumption applied is based on real data on the last period's consumption of pharmaceutical supplies, with various adjustments and corrections (Andayani & Satibi, 2016). Method consumption this suggest that the use of medicine in the previous period must be ensured rational (Indarti et al., 2019). This is because the consumption method is only based on previous consumption data that does not consider the epidemiology of the disease. If the use of medicines in the previous period was not rational, it is advisable not to use this method because otherwise, it will support irrational treatment at home sick (Andin, 2018). Efforts to prevent the occurrence of medicine shortages and anticipate soaring demand for and use of medicines in planning the need for medicines, it is better for the method of planning the need for medicines to also pay attention to patterns of diseases other than that, for this reason, officers pay more attention to safety stocks and carry out stock checks regularly periodically.

b. Medicine Procurement

Procurement is an activity to realize the needs that have been planned and approved through purchasing, production and donations. The objective of procurement is to obtain adequate pharmaceutical supplies at the appropriate cost good quality, guaranteed delivery of goods, on time, the process runs smoothly, and does not require excess energy and time (Samosir, 2022).

Procurement of medicines is a process for the supply of medicines needed in health care units. Procurement of medicines carried out must be by the provisions in the implementation of the procurement of goods and services for government agencies and the implementation of the state revenue and expenditure budget. Provisions that serve as guidelines in the medicine procurement process starting from reviewing or re-examining the process of selecting medicines, adjusting funds, choosing procurement methods, allocating budgets, selecting suppliers, determining contract terms, monitoring order status, receiving then checking medicines, paying, distributing medicines, and collect usage information. The purpose of procuring these medicines is the availability of medicines of sufficient types and quantities, the quality of the medicines is guaranteed, and the medicines can be obtained when they are needed (Girsang & Abdillah, 2022).

Based on the results of the research conducted, it can be seen that the medicine procurement process at the pharmacy installation at Malinau Hospital has been running according to standard operating procedures in the hospital. The existing procurement process starts with submitting a pharmaceutical warehouse to the head of the pharmaceutical installation based on planned needs, after which the head of the pharmaceutical installation will make an order, then orders will be submitted to the respective distributors.

According to Minister of Health No. 72 year 2016, matters which need noticed in the procurement of pharmaceutical preparations, medical devices, and consumable medical materials among others: medicinal raw materials must be accompanied by a certificate of analysis, hazardous materials must include an MSDS (Material Safety Data Sheet), pharmaceutical preparations, medical devices, and consumable medical materials must have a distribution permit number, and expired date minimum 2 (two) year except For

preparations pharmacy, tool health, and material medical finished use certain (vaccine, reagent, etc). Procurement can be done through purchases, production of pharmaceutical preparations, and donations (Safitri & Permadi, 2021). In this case, the pharmaceutical installation at Malinau Hospital procures through purchases from distributors official.

Based on the medicine procurement process, the obstacles that often occur are distributors who are often late in distributing medicines to hospitals or medicines ordered are not available (empty stock) from the distributor, so they have to order other distributors or purchase *Cito* (medical action that must be taken immediately to minimize a worse condition) from outside pharmacies carried out by the person in charge medicine warehouse. This of course requires a longer waiting time for the medicine. Medicine procurement is a process of determining of items medicine and amounts to each item based on planning that has been made, supplier selection, and writing order letters until the supplier is received. Factors that affect procurement are determining suppliers, determining the number of medicine items, the quantity of each medicine item, completeness of orders, cooperation contracts, price negotiations, order frequency, and method of payment.

Medicine planning is the initial stage of medicine management and medicine procurement activities which are the biggest factors that can cause waste, it is necessary to make efficiency and cost savings. Inefficient medicine supply management will hurt hospitals, both medically and economically (Malinggas, 2015).

The medicine procurement, pharmaceutical installations, and hospital management need to know the need for medicines as stated in Permenkes No. 72 of 2016 which states that procurement is an activity intended to realize needs planning. Effective procurement must ensure availability, quantity, time right, and price affordable, and in accordance with standard quality. Procurement is a continuous activity starting from the selection, determining the amount needed, adjusting between needs, adjusting funds, selecting methods of procurement, election supplier, determination of specification contract, procurement process monitoring, and payments (Kumayas et al., 2023).

Based on the results and discussion above, the process of procuring medicine supplies has been carried out in accordance with what was described in the medicine procurement procedures at the pharmacy installation at Malinau Hospital. However, to avoid medicine shortages in the pharmacy installation at Malinau Hospital, it is best to monitor medicines regularly and evaluate procurement planning and select distributors who can work well together.

c. Medicine Storage

The medicine storage process is a stage that must be carried out after the procurement process. According to RI Minister of Health No. 73 of 2016, states that medicine must be stored in the original container from the factory, and in the event of an exception or emergency where the contents are transferred to another container, contamination must be prevented and clear information must be written on the new container. The container must at least contain the medicine name, batch number, and expiration date. Stock cards must be stored for storage, stored under appropriate conditions so that security and stability occur. The medicine storage area is not used for storage of other items that cause contamination. The medicine storage system is carried out by taking into account dosage forms, arranged alphabetically, and dispensing medicines using the FEFO (First Expired First Out) and FIFO (First In First Out) systems (Taha et al., 2021).

Research findings related to medicine storage in the pharmacy installation at Malinau Hospital have been proven to make stock cards. Medicine stock cards are made for every 1 type of medicine received from the procurement process. The results of the

interviews and observations stated that the medicines were stored in 1 pharmacy warehouse which was still within the scope of the Malinau Hospital. In the storage process, medicines are arranged based on dosage forms with due regard to the FIFO system. Medicine storage at the Malinau Hospital pharmacy installation has 1 warehouse unit. During the storage process, it is arranged alphabetically, taking into account the FIFO and FEFO systems, arranged by dosage form. However, it has not separated internal and external medicines, and if there is an empty medicine on the shelf, then some of the medicine is placed in the empty place.

Medication storage is something activity keep and look after how to put supplies pharmacy accepted place which rated safe from theft and physical disturbances that can damage the quality of the medicine. The purpose of storage is to maintain the quality of pharmaceutical preparations, avoid irresponsible use, maintain availability, facilitate search, and monitor periodically (Afqary et al., 2018).

Based on the results of the study, it was found that the storage process in the pharmaceutical installation had been carried out according to the standard operating procedures in the pharmaceutical installation, but the hospital management admitted that it had not run optimally. Medicine storage methods used in pharmaceutical warehouses are compiled alphabetically and stored in the room arranged according to pharmacology using the principle FEFO and FIFO.

This medicine storage activity applies to the initial stages, namely goods that have been received and checked by the pharmacy warehouse staff are stored in the pharmacy warehouse. However, the preparation of medicines that are carried out on shelves has not yet been given a name and code shelves the medicine, only distinguished rack medicine regular and medicine cabinet of BPJS (Social Security Administration Agency). Likewise, under certain conditions, sometimes the application of the FEFO/FIFO system is not carried out optimally. Besides that still see pile cartons, specifically for infusions in stacked cartons, it is not uncommon for infusions to be arranged outside the warehouse and for medicines tablets, and capsules have been placed inside the rack. Researchers also looked at ointments, syrup, and medicines drops in warehouse pharmacy there is no special storage cupboard, so it is directly distributed to the rooms.

d. Medicine Distribution

Medicine distribution according to RI Ministry of Health No. 58 of 2014 is a series of activities in the context of dispensing medicines and shipping quality medicines from pharmaceutical installations in fulfilling orders or requests from health service units. The purpose of this activity is to carry out the distribution of medicines evenly, regularly and can obtain when needed, quality assurance, medicine validity, accuracy, rationality, and efficiency of medicine use. Medicines to be distributed must be accompanied by documents for delivery or delivery of medicines. Before packing the medicines to be sent, it is necessary to check the quality of the medicines, the dosage, the contents of the packages, the completeness, and the correctness of the medicine shipping documents. Every medicine dispensing from the pharmacy warehouse must be recorded on the medicine stock card, medicine supply master card and diary for medicine dispensing.

In Malinau Hospital installation, it is known that the medicine distribution schedule has been carried out by the provisions and patient requests, meaning that the medicine warehouse distributes medicines to outpatient and inpatient pharmacies as well as several rooms such as operating rooms. For outpatient pharmacies it is given to patients through polypolys, while for inpatients the medicine is given through the treatment room, the medicine distribution system is carried out by a shuttle system, namely the pharmacist who takes the medicine to the pharmacy warehouse with a request letter. So the pharmacist who plays an active role in terms of medicine distribution can conclude that

the implementation distribution medicines so far what has been done by the pharmacy warehouse staff is by the standard operating procedures in the hospital. However, there are several obstacles or problems, namely if the requested item arrives late or is even empty, it will certainly affect distribution. Trying to avoid things the it is better for the pharmaceutical installation to increase monitoring of medicine stocks regulary so as to minimize empty medicines.

e. Deletion

Medicine write-off is an activity to resolve unused pharmaceutical supplies due to expiration date, damage, quality not meeting standards due to changing prescription patterns due to changes in doctors, changing disease patterns or often called KLB (Extraordinary Conditions) by proposing to write off supplies pharmacy to related parties by applicable procedures. The purpose of write-off is to ensure that pharmaceutical supplies that no longer meet the requirements are managed according to applicable standards (Fatwa Asyifa, 2019) and the medicine write-off process is an activity in releasing medicines belonging to state assets from accountability based on the applicable laws and regulations. Expired or damaged medicines must be destroyed according to the type and dosage form (Putri Sabrina et al., 2022). The destruction of expired or damaged medicines is witnessed by the director of the Malinau Hospital, pharmacists, and other pharmaceutical staff, accompanied by an official report on the destruction of the medicines. The stages in the medicine write-off process start with compiling a list of medicines to be removed along with the reasons. Then report to superiors regarding items to be written off and form a medicine inspection committee complete with minutes. Then report the results of the examination to the authorities or the owner of the medicines. When a decision has been made by the competent authority, only expired or damaged medicines will be written off.

Based on the results of the study it was found that medicines were removed at Malinau Hospital by submitting medicines to the pharmacy warehouse 6 months before the medicine expiration date. Then warehouse will choose goods where which can be exchanged with the distributor and which no can. which medicine has a damaged or expired date And cannot be returned to the distributor, the hospital will remove it according to the procedures in the hospital. Medicines removal done at Malinau Hospital by applicable regulations. According to Permenkes No. 72 of 2016 that the stages of medicine destruction start from making a list of preparations for pharmacy, tool health, and material medical consumables to be destroyed, preparing the minutes of destruction, coordinating schedules, methods of destruction, place of destruction to related parties, prepare the place of destruction, carry out destruction according to the type and form of dosage as well as the regulations governing apply.

Based on the results of the study, it can be concluded that the removal activity at the pharmacy installation at Malinau Hospital is by returning or returning medicines to the distributor and for medicines that cannot be returned to the distributor, the hospital will hand them over to the distributor. sanitation for destruction. To avoid it if there are more experied date of medicines, the pharmaceutical installation evaluates slow-moving medicine stocks and those that are no longer prescribed for 3 consecutive months and chooses distributors who have a policy on medicine returns so that they are more flexible.

3. Medicine Logistics Management Output

Medicine Availability at Malinau Hospital according to Permenkes No. 72 of 2016, the purpose of medicine supply management is to ensure the availability of safe, quality, useful and affordable pharmaceutical preparations, medical devices, and consumable medical materials. The medicine logistics process must be carried out by applicable

regulations. If one of the medicine logistics processes does not go well, it will result in mediciness that are not available with the type and amount of medicines and are obtained in a long time. The first and most important medicine logistics process is medicine planning. In the medicine planning process, it must be by the provisions that have been set. When the medicine planning stage has been carried out by the provisions, then the next stage will also go well. The goal of medicine logistics is to get the right type and amount of medicine as needed, to avoid medicine shortages, and to increase the efficiency of medicine use and meet the needs of medicines according to the request of the medicine warehouse. The implementation of medicine logistics at the Malinau Hospital found obstacles and obstacles such as the data needed for planning medicines were sometimes incomplete, delays in medicines arriving at Malinau Hospital in the procurement process, the number of medicines that arrived did not match the requests. This certainly has an impact on the occurrence of medicine shortages in the Malinau General Hospital. The constraints that occur will also have an impact on the medicine warehouse in terms of the availability of the medicines needed.

Apart from that, the presence of expired medicines also shows that the logistics of medicines at the Malinau Regional General Hospital have been carried out well. This expired medicine is due to the medicine storage process which only pays attention to FIFO. Ideally, at the medicine storage stage in the pharmaceutical warehouse, you should pay attention to the FIFO (First In First Out) and FEFO (First Expired First Out) systems.

Based on the results of interviews and observations, it is known that expired medicines are due to the storage process that only pays attention to the FIFO system, disease patterns in Malinau Hospital have changed which has caused medicines to accumulate, and some medicines from the procurement results are approaching their expiration dates. Even though it was known that there were expired medicines, the treatment that was carried out on these expired medicines was seen to be collected and placed in a separate place and the destruction of medicines has never been carried out. The reason is that the destruction of medicines is not carried out periodically because there are no available funds and there must be a medicine elimination committee.

The above research exposure is part of an important study of the management system, especially medicines in hospitals. The suitability of management implementation is an example of good practice, while procedures that have not been carried out must be immediately evaluated, considering that the existence of medicine logistics management is an important factor in realizing public health. As the Decision The Minister of Health of the Republic of Indonesia No.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, quality of pharmaceuticals and medical devices. The strategic plan of the Ministry of Health for 2015-2019 also states that one of the activities to be carried out is management support and the implementation of other technical tasks in the pharmaceutical and medical device program with the target of this activity to increase management support and implementation of other technical tasks in the pharmaceutical and medical device program with the indicator of achieving the target being the percentage of patient satisfaction with management support (Kemenkes, 2015).

Conclusion

Based on the results of this study, it can be concluded that the logistics management of medicines in the pharmacy installation at the Malinau Regional General Hospital has not been fully running well. Based on the input stage in the form of the availability of pharmaceutical human resources, it is sufficient, the budget using APBD and BLUD is

sufficient. The stages of the process consisting of planning needs, medicine procurement, and medicine distribution have been carried out properly. As for the storage and disposal of medicines, management is still found to be ineffective and efficient. At the output stage, the availability of medicines has not been carried out properly, because there are still empty medicine stocks and expired medicines have been found piled up in warehouses that have not been destroyed. Thus it is suggested that the pharmaceutical installation at Malinau Hospital pay more attention to the medicine logistics management system so that it is more effective and efficient.

References

Abdulkadir, W. S., Madania, M., Tuloli, T. S., Rasdianah, N., & Akuba, J. (2022). Analisis Manajemen Pengelolaan Logistik Sediaan Farmasi dan Perbekalan Kesehatan di Instalasi Farmasi. *Indonesian Journal of Pharmaceutical Education*, *2*(1), 74–85.

Afqary, M., Ishfahani, F., & Mahieu, M. T. R. (2018). Evaluasi Penyimpanan Obat Dan Alat Kesehatan Di Apotek Restu Farma. *Jurnal Farmamedika (Pharmamedika Journal)*, *3*(1), 10–20.

Andayani, T. M., & Satibi, S. (2016). Pharmacy practice in Indonesia. In *Pharmacy Practice in Developing Countries* (pp. 41–56). Elsevier.

Andin, D. M. (2018). *Analisis ABC dalam Perencanaan Obat Antibiotik di RSI Sitiaisyah Madiun* [Stikes Bhakti Husada Mulia].

Budianto, D. O. (2016). *Studi Pengelolaan Obat Tahap Pengadaan pada Era Jaminan Kesehatan Nasional di Rumah Sakit Swasta Daerah Istimewa Yogyakarta*. Universitas Islam Indonesia.

Essing, J. D., Citraningtyas, G., & Jayanti, M. (2020). Evaluasi Manajemen Logistik Obat di Instalasi Farmasi RSUD Kabupaten Kepulauan Talaud. *PHARMACON*, *9*(4), 493–500.

Fatwa Asyifa, G. (2019). *Analisis Pengelolaan Manajemen Logistik Pada Instalasi Farmasi RSUD Ciamis Tahun 2019*.

Girsang, B., & Abdillah, W. (2022). Analisis Perencanaan, Pengadaan Dan Distribusi Perberkalan Farmasi Untuk Puskesmas Di Dinas Kesehatan Kabupaten Bengkulu Utara. *Student Journal of Business and Management*, *5*(3), 804–836.

Hartayu, T. S., Wijoyo, Y., & Manik, D. G. (2020). *Manajemen Dan Pelayanan Kefarmasian Di Apotek: Dengan Metode Problem-Based Learning Dalam Kerangka Paradigma Pedagogi Reflektif*. Sanata Dharma University Press.

Hia, L. O. (2022). *Gambaran Pengelolaan Persediaan Obat Pada Gudang Farmasi Di Rumah Sakit Umum Daerah Tarakan Jakarta Tahun 2021* [Sekolah Tinggi Ilmu Kesehatan Indonesia Maju].

Hilmawati, S., Chotimah, I., & Dwimawati, E. (2020). Analisis Manajemen Logistik Obat Di Puskesmas Cipayung Kota Depok Provinsi Jawa Barat Tahun 2019. *Promotor*, *3*(4), 427–439.

Indarti, T. R., Satibi, S., & Yuniarti, E. (2019). Pengendalian Persediaan Obat dengan Minimum-Maximum Stock Level di Instalasi Farmasi RSUP Dr. Sardjito Yogyakarta. *Jurnal Manajemen Dan Pelayanan Farmasi (Journal of Management and Pharmacy Practice)*, *9*(3), 192–202.

Kemenkes, R. I. (2015). Rencana strategis kementerian kesehatan tahun 2015-2019. *Jakarta: Kementerian Kesehatan RI*.

Kumayas, F. I., Fatimawali, F., & Posangi, J. (2023). Evaluasi Implementasi Permenkes Nomor 72 Tahun 2016 Terhadap Manajemen Perencanaan, Pengadaan dan

Pengendalian Obat di Instalasi Farmasi Rumah Sakit Umum Daerah Provinsi Sulawesi Utara. *Jurnal Kesehatan Tambusai*, *4*(2), 2112–2131.

Malinggas, N. E. (2015). Analisis Manajemen Logistik Obat di Instalasi Farmasi Rumah Sakit Umum Daerah DR Sam Ratulangi Tondano. *Jikmu*, *5*(5).

Noorhidayah, N., Inayah, H. K., & Rahayu, A. S. (2022). Analisis Manajemen Logistik Obat di Puskesmas Landasan Ulin Tahun 2021. *An-Nadaa: Jurnal Kesehatan Masyarakat (e-Journal)*, *9*(1), 58–65.

Putri Sabrina, A., Herawati, E., Tania, E., Puspitasari, M., & Yuniarsih, N. (2022). Artikel Review Pemusnahan Sediaan Farmasi Pada Sarana Pelayanan Kefarmasian. *Jurnal Pendidikan Dan Konseling (JPDK)*, *4*(6), 10828–10834.

Rikomah, S. E. (2017). *Farmasi Rumah Sakit*. Deepublish.

Safitri, T. F., & Permadi, Y. W. (2021). Evaluasi Perencanaan Dan Pengadaan Obat Di Instalasi Farmasi Rumah Sakit Mitra Siaga Kabupaten Tegal. *Jurnal Ilmiah JOPHUS: Journal Of Pharmacy UMUS*, *3*(01), 46–53.

Samosir, W. (2022). Tata Kelola Persediaan Obat Di Gudang Instalasi Farmasi RSUD Pandan Kabupaten Tapanuli Tengah. *Jurnal Kesehatan*, *10*(2), 131–136.

Saputra, A. B. (2016). Indentifikasi faktor-faktor keberhasilan implementasi sistem informasi manajemen rumah sakit. *Jurnal Penelitian Pers Dan Komunikasi Pembangunan*, *19*(3), 517308.

Siahaan, S., & Handayani, R. S. (2019). Identifikasi praktik kefarmasian yang sesuai dengan kebutuhan pasien dan fasilitas pelayanan kesehatan. *Buletin Penelitian Sistem Kesehatan*, *22*(2), 126–136.

Taha, N. A. F., Lolo, W. A., & Rundengan, G. (2021). Analisis Manajemen Logistik Obat di Instalasi Farmasi Dinas Kesehatan Kota Manado Tahun 2020. *PHARMACON*, *10*(4), 1199–1204.