Implementation of Drug Logistics Management in Pharmaceutical Installations in Sigi Regency Health Office

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Abstract

Drug logistics management at the health office is one of the important aspects of the Public Health Center. The purpose of the study was to determine the planning, budgeting of procurement, storage, distribution, and elimination in drug logistics management at the Pharmacy Installation of the Sigi Regency Health Office. This type of research was qualitative with a case study approach. The informants in this study consisted of key informants (the Head of the Pharmacy Installation of the Sigi Regency Health Office), the usual informants (the Pharmacy Installation Staff of the Sigi Regency Health Office), and ordinary informants (the person in charge of managing the pharmacy installation at the Public Health Center). Data collection through triangulation techniques, including in-depth interviews, observation, and documentation using interview guidelines. The results showed that the implementation of drug logistics management at the Pharmacy Installation of the Sigi Regency Health Office in terms of planning, budgeting, procurement, storage, distribution, and elimination, was appropriate as it should be but still had some obstacles. So it is still necessary to improve the implementation of logistics management that is more effective and efficient. It is recommended that the coordination of the Sigi Regency Health Office and the Public Health Center is more optimal in the implementation of drug management.

Keywords: Drug Logistics Management, Pharmacy Installation, Budgeting, Distribution of drugs

Key Messages:

- Elimination in the logistics management of drugs at the Pharmacy Installation The Sigi Regency Health Office has never done the elimination because it is constrained by costs, and regulations are usually carried out because the cause is damaged and expired then the next problem is the delay in reporting or lack of information from the Public Health Center to the warehouse.

1. Introduction

Health effort is any activity and/or a series of activities carried out in an integrated and sustainable manner to maintain and improve the degree of public health in the form of disease prevention, health improvement, disease treatment, and health restoration by the government and/or the community (1). In realizing the highest possible health status for the community, integrated and comprehensive health efforts are carried out through individual and public health efforts. Health efforts are carried out in the form of activities with promotive, preventive, curative, and rehabilitative approaches that are carried out in an integrated, comprehensive manner (2). According to WHO in developing countries, drug costs are 24-66% of the total health costs. According to

WHO, the standard cost of rational public medicine is US$ 2 per capita. Drug spending in Indonesia, around 40%, includes high costs. The standard cost of public drugs from the Ministry of Health of the Republic of Indonesia is the US $ 1 per capita. Such a large drug expenditure must be managed effectively and efficiently (3). In Indonesia, the supply of essential medicines is still very low. The availability of drugs depends on the availability of drugs in primary health institutions (FKTP) and advanced referral medical institutions (FKRTL). In 2019, drug availability reached a 90% increase, from 85.99% the previous year. However, the supply of these medicines is not evenly distributed between provinces (4).

The achievement of Drug Availability in Central Sulawesi in 2019 is 92.31%. This percentage has not met the 2019 Strategic Plan target of 96%. The coverage of drug management shows it, and the low coverage of drug management, namely from 13 regencies/cities and there are 8 Regencies for the achievement of drug availability in Central Sulawesi, the coverage is still low, namely Banggai Islands, Morowali, Sigi, Toli-Toli, Parigi Moutong, Donggala, Banggai and Tojo Una-Una (5). Sigi Regency is included in the top three regencies/cities with low availability of drug logistics in Central Sulawesi, about 91.83%; this achievement is still far from the target of the 2019-2021 Health Service Strategic Plan, which is 100%.

This study aims to determine the implementation of drug logistics management in the Pharmacy Installation of the Sigi Regency Health Office.

2. Methods

This research was qualitative research with a case study approach. This research was carried out at the Pharmacy Installation of the Sigi Regency Health Office from November to December 2021. The tools used in this study were voice recorders and notebooks. The material used in this study was a list of questions as a guide for interviewing informants. The variables in this study are planning, budgeting, procurement, storage, distribution, and elimination in drug logistics management at the Pharmacy Installation of the Sigi Regency Health Office.

The informants in this study were all drug managers in the work area of the Sigi Regency Health Office, namely elements from the health office of the pharmacy installation: the head of the pharmacy installation of the Sigi Regency Health Office, as well as elements from the health center, and the officer in charge of managing the health center medicine in the work area of the Sigi Regency Health Office.

Primary data was obtained through triangulation techniques, in-depth interviews, and observations using interview guides which contained the points to be asked to obtain information orally between researchers and informants. Secondary data were obtained from various sources, such as the Pharmacy Installation document of the Sigi Regency Health Office related to this research. Furthermore, when the data collection process no longer found variations of information, the researcher no longer needed to look for new information, and the information collection process was considered complete. The types of triangulation used by researchers in this study are technique and source triangulation.

3. Results

Planning

Our study found a variety of information which, according to the explanation of the informants at the time of the study, stated that those involved in planning the logistics of drugs at the Pharmacy Installation of the Sigi Regency Health Office were the Head of the Pharmacy Installation, the Head of the Pharmaceutical Section and the staff of the Sigi Regency Pharmacy Installation and Drug Management at the Health Center. The preparation of drug demand planning at the Sigi Regency Health Office used consumption and epidemiological methods. The consumption method was based on data analysis of previous drug consumption through data collection and processing, calculation of estimated drug needs, and adjustments to the number of drug needs then added 10% of the previous year's planning. While the epidemiological method determined the number of drug needs by taking into account the disease patterns of the Public Health Center in the work area of the Health Office of Sigi Regency or the 10 highest diseases in the Sigi Regency Health Center. Planning also refers to the budget provided by the government. The observations found that the planning aspects of the Pharmacy Installation of the Sigi Regency Health Office were inadequate because some Public Health Centers were still late in sending Drug Request Sheets.

Budgeting

The results of the research for the budgeting aspect were through interviews, where the informant stated that in budgeting the logistics of medicine at the Sigi Regency Health Office, it was adjusted to the amount of the proposed cost and the available funds. The budget spent on drug procurement was an average of ± 3.5 billion per year. The budget given to the Pharmacy Installation of medicines was adjusted to the available budget and the realization in the previous year. The percentage of the drug budget used was an average of 7.8% of the total operating budget of the Health Office. This was still very low when compared to the standard from the Ministry of Health of the Republic of Indonesia in 2008, which was the budget for medicine spending of 30-40% of the total operating budget of the Health Office.

The informant also stated that in budgeting drug logistics at the Sigi Regency Health Office met several obstacles, among others, generally caused by budget constraints or lack of available funds, the logistics of the proposed drug were not included in the technical guidelines, so it is not included in the Special Allocation Fund menu and the lack of coordination between the parties. Involved in the budgeting process, in this case, the delay in compiling and submitting the Action Plan Activities draft so that the assistance becomes ineffective because it is rushed by the target time for submitting the Action Plan Activities - Local Working Units.

Procurement

The informant stated that in the procurement of drug logistics at the Pharmacy Installation of the Sigi Regency Health Office, there were still obstacles, among others, generally caused by the decision letter for slow procurement, long procurement times, difficulties in ordering e-catalog drugs because every year the ordering application changes. At the time of e-catalog approval by the provider, there were several time ranges, sometimes varying, some up to 2 weeks, some up to 3 weeks, so the long procurement time was caused by delays in third parties carrying out their work that was not in accordance with the contract. Network access because ordering this drug via the internet or online usually failed the network, so it was very disturbing; it can last for days, especially in the rainy season, the network connection was disrupted. Thus, at the time of ordering drugs to the maximum and the transportation or delivery time and the production of goods were long so that they wait again, all parties starting from the Service, authorized officials, and third parties who were slow to move. Where the Service, in this case, the service center, was slow to enter documents, and there were still document improvements. This interferes with the procurement time so that the procurement time is delayed again. Observations from the procurement aspect showed that the existing network system at the pharmaceutical installation of the Sigi Regency Health Office was installed, but the network was not operating properly, so when ordering drugs, it often failed and took a long time.

Storage

Based on the results of observations made, it was found that in the warehouse, there was air conditioning on, but the cost would be expensive for a large warehouse space. Another alternative was to use a fan/ventilator/rotator. If only using a fan could damage the drug so that to maintain the stability of the temperature, the drug had not been carried out optimally because good circulation would maximize drug stability; also, there were still medicine storage shelves not all installed, the lights in the storage room were not yet available.

Distribution

The researcher also found that the distribution flow of drug logistics at the Pharmacy Installation of the Sigi Regency Health Office was carried out based on the plan for drug needs in one year by considering the number of unused drugs remaining and had been used. Before distributing drugs, the pharmacy installation conducted a review of the data on the Usage Report And Drug Request Sheet for each Public Health Center. Each type of drug that was evaluated first considers the use of drugs and the remaining stock of drugs at the Public Health Center. In the Report Of Drug Use And Demand Sheet, there was a demand column, so back to the basic stock demand column with the usage column. If the usage column was lacking, the remaining stock was large, but the demand was high, so the pharmaceutical installation itself adjusted. For example: initially, there were 10000 antacids in stock; they only used 2000, meaning the remaining stock was 8000, then the Public Health Center asked for

another 20,000, so the pharmacy installation did not provide the same amount requested by those Public Health Center. The pharmacy installations were already very good at recording drug distribution control.

Elimination

In the results of the research for the elimination aspect through interviews, the researchers found a variety of information which, according to the explanation of the informants at the time of the study, stated that those involved in the elimination of drug logistics at the Pharmacy Installation of the Sigi Regency Health Office were the Head of the Installation, the Head of the Warehouse, and the installation staff. The informant stated that the pharmacy installation had never carried out abolition because it was constrained by costs and the usual regulations that caused the deletion to be carried out because the logistics of the drug had expired, there was a change in shape, color, and odor, as well as the damage to the drug so that the drug had to be immediately abolished.

The researcher also found that the process of eliminating drug logistics at the Pharmacy Installation of the Sigi Regency Health Office was that initially, the Public Health Center reported to the Health Office. The health department made an official report regarding damaged and expired goods. Furthermore, the Health Office coordinated with the Head of the Pharmacy Installation and the program section as well as the sanitation section to immediately eliminate it.

4. Discussion

Planning in the Implementation of Drug Logistics Management

The results of the observations showed that the planning aspects in the Pharmacy Installation of the Sigi District Health Office were not adequate because some puskesmas were still late in sending Drug Request Sheets (LPO). Drug planning in Permenkes Number 58 of 2014 states that it must consider the available budget, setting priorities, remaining inventory, usage data from the past period, waiting time for orders and development plans (6). Planning for drug needs at health centers refers to consumption patterns or previous drug needs plus 10%. In addition, to select the required drug needs according to the number and type seen from the most prominent disease, so some use the disease pattern (7). Based on observations, the most widely used data in planning drug needs is data on drug use in the previous period or consumption patterns. The drug logistics planning process at the Sigi District Health Office Installation is carried out in a bottom-up manner through requests from the puskesmas. Then it is submitted to the Pharmacy Warehouse which then recaps all the needs and then proposes to the program section in the form of RKA or RKO which will be assisted with the next PPTK head by the Head of the Service.

Planning also looks at proposals from related programs. The preparation of the planning framework, especially when setting priorities for needs, was carried out by the Pharmacy Installation of the Sigi District Health Office, namely based on assistance without using special formulation methods in setting priority problems such as SWOT analysis. There are many methods for prioritizing problems, but some are more extensive and rely on superior guidance. Actually, this method is not recommended because the results are often inaccurate, but it is better to set the priority of the problem to use a method or technique of data study with a quantitative or qualitative approach. by observing and estimating drug logistics needs.

In logistics planning, there are several things that will be considered in determining the priority scale, namely it must bring benefits not only to the user concerned but to the development and improvement of health services, the logistics needed are in accordance with the budget provided and allocated, fulfilling the efficient element in terms of financing (8). Fulfills the effective element after being held in the sense that its use can be efficient and effective, and fulfills the element of interest, namely which one is more important to be proposed (9).

Budgeting in the Implementation of Drug Logistics Management

The results of the research for the budgeting aspect through interviews, the researchers found a variety of information which according to the explanation of the informants at the time of the study stated that those involved in budgeting drug logistics at the Pharmacy Installation of the Sigi District Health Office were from the Sigi District Health Office, namely the planning section, and the head of the service. Then the source of funds comes from the central government which is called the APBN, namely DAK and DAU as well as local governments from

BPJS capitation funds. The informant stated that in the budgeting of medicine logistics at the Sigi District Health Office, it was adjusted to the amount of the proposed cost and the available funds.

This is in line with the research on the analysis of the budgeting mechanism as a financial control tool for the 2011 Sumedang Health Office case study that to plan a budget the Sumedang Health Office must accept proposals from the bottom (buttom up) and involve stakeholders of course in budget planning considering the achievements and performance of the Department. Health of the previous year (10). The results of quantitative analysis show that regulatory knowledge, management commitment, and bureaucratic environment have a positive effect on budget absorption related to the procurement of goods/services (11). A research result also shows that the new drug logistics model adopted by the State of Minas Gerais includes the work of logistics operators, rationalizing costs and bringing quality to service providers in the performance of logistics activities. (12).

Procurement in the Implementation of Drug Logistics Management

The informant also stated that there are two types of drug logistics procurement methods at the Sigi District Health Office pharmacy installation, namely online through e-catalog, e-purchasing and offline through direct purchase or a third party in this case a third party, namely a drug provider company, after the third party stated agree, then a contract is made. In the contract the waiting time for the arrival of drugs is 120-180 days because in Sulawesi itself there is no drug production factory. In recent years there have been frequent delays in drug delivery, the delay was unintentional because the drug production company covers one region of the archipelago, in this case Indonesia, so they have to queue for the arrival of drugs sometimes arriving at the end of the contract. The level of availability of drugs in pharmacy installations has not met the needs of drugs in health service units, namely public health (13).

The process of drug procurement at the Sigi District Health Office, namely the procurement is carried out every year after an appointment through a drug procurement decision letter by the Head of the Health Office. The drug procurement process begins with drug planning that has been made by the drug planning team. After going through several selections and evaluations by the technical implementing officer of the activity (PPTK), in this case the head of the Pharmacy installation through the e-catalog system, the PPK makes a list of the drugs needed, and then purchases drugs using the e-catalog application based on the list of drug procurement.

The informant stated that in the procurement of drug logistics at the Pharmacy Installation of the Sigi Regency Health Office there are still obstacles, among others, generally caused by the SK for slow procurement, long procurement times, difficulties in ordering e-catalog drugs because every year the ordering application changes, on when doing an e-catalog the approval by the provider agrees there are several time intervals sometimes it varies, some are up to 2 weeks, some are up to 3 weeks just approved so this long procurement time is caused by delays in third parties carrying out their work that are not in accordance with the contract, network access due to orders This drug via the internet or online usually fails the network so that it is very disturbing it can last for days especially the rainy season weather then the network connection is disrupted so that at the time of ordering drugs to the maximum and the transportation or delivery time and the production of goods are long so waiting again, all parties starting from the Service, authorized officials, and third parties who are slow to move. Where the Service, in this case the service center, is slow to enter documents, and there are still document improvements. This interferes with the procurement time so that the procurement time is delayed again.

Observations from the procurement aspect showed that the existing network system at the pharmaceutical installation of the Sigi District Health Office was installed but the network was not operating properly so that when ordering drugs it often failed and took a long time.. This research is in accordance with the theory that procurement is all activities to add and meet the needs of goods and services based on applicable regulations by creating something that previously did not exist. (14). Drug procurement is carried out by the procurement service unit working group (Pokja ULP) or the procurement officer of the work unit based on orders from the commitment making officer (PPK) of the work unit in the health sector, both central and regional and FKTP or FKRTL (15).

Procurement of government goods/services is an activity of procurement of goods/services financed by funds sourced from the APBN or APBD, either carried out by direct appointment or through tenders/auctions by providers of goods/services. Basically, the implementation of the procurement of goods/services must apply

several basic principles, namely efficiency, namely using limited funds and resources to achieve the targets set in the shortest possible time and can be accounted for, then effective, namely in accordance with the needs that have been set and can provide benefits. as much as possible in accordance with the targets set, and open, namely for providers of goods/services that meet the requirements and are carried out through fair competition among providers of goods/services that are equal and meet certain requirements/criteria based on clear and transparent provisions and procedures. (9).

Storage in the Implementation of Drug Logistics Management

The results of the research for the storage aspect through interviews, the researchers found a variety of information which according to the explanation of the informants at the time of the study stated that those involved in drug logistics storage were the head of the pharmacy installation and staff because the installation person was in charge of drug storage. Drug storage in the pharmacy warehouse of the Sigi Regency Health Office is stored in one room, the size of the drug storage warehouse at the Sigi Regency Health Office is ±15 x 20 or about m^2, this is not in accordance with the Ministry of Health (2010) concerning Pharmaceutical Management in Regency/City Installations, size drug storage warehouse with an area of 300 m^2- 600 m^2. From the observations, it shows that there are still a lot of drug logistics that are piled up on the floor and also still not arranged properly.

The researcher also found that in drug logistics storage at the Pharmacy Installation of the Sigi Regency Health Office there are storage procedures and also for the pharmacy service Puskesmas there are also drug logistics storage procedures, which are directly stored in the storage warehouse if it is not needed by the user in this case the puskesmas but if the drug logistics has been needed then immediately distributed to users. Storage is also carried out if the logistics of drugs are redundant and have not been utilized, then later the logistics of drugs that have not been distributed to users are damaged or no longer functioning and then released and handed over to users. In addition, drug storage has also implemented the FIFO (First In First Out) and FEFO (First Expired First Out) methods as well as placing pharmaceutical supplies according to the alphabetical order of the pharmaceutical supply names so that it is easy to find the needed pharmaceutical supplies. meet pharmaceutical service standards starting from the preparation of drugs based on type, characteristics of preparations and the need for special treatment of drugs, in the preparation it is separated between dangerous drugs, hard drugs and ordinary drugs.

Distribution in the Implementation of Drug Logistics Management.

The implementation of an efficient distribution function will indirectly affect the accuracy and speed of supply, therefore a standard procedure for the distribution of logistics materials must be established which includes who is authorized and responsible for the correctness and fairness of material requests, both regarding the quantity, specifications, or delivery time. This is very important so that there is no waste or unnecessary expenses.

The results of the research for the distribution aspect through interviews, the researchers found a variety of information which according to the explanation of the informants at the time of the study stated that those involved in the distribution of drug logistics at the Pharmacy Installation of the Health Office of Sigi Regency were the Pharmacy Warehouse of the Sigi Regency Health Office, and the Head of the Installation and his staff were given responsibility for medication management. The informant also stated that the logistics distribution of drugs took into account the requests from the list of proposed requests for health centers.

The researcher also found that the distribution flow of drug logistics at the Pharmacy Installation of the Sigi Regency Health Office was carried out based on the plan for drug needs in one year by considering the amount of unused drug remaining and the amount of drug that had been used. Before distributing drugs, the pharmaceutical installation party reviews the LPLPO data for each health center for each type of drug that is evaluated first considering the use of drugs and the remaining stock of drugs at the puskesmas in the LPLPO there is a demand column, so back to the basics the initial stock request column with the usage column, if For example, the column for use is lacking, the remaining stock is a lot but the demand is large, so the pharmacy installation itself adjusts, for example, the initial stock of antacid drugs is 10,000, the use is only 2000, meaning the remaining stock is 8000, then the puskesmas asks for another 20,000, so the pharmacy installation does not provide the amount the same as requested by the health center. The registration pharmacy installation is very good.

Elimination in the Implementation of Drug Logistics Management

The results of the research for the elimination aspect through interviews, the researchers found a variety of information which according to the explanation of the informants at the time of the study stated that those involved in the elimination of drug logistics at the Pharmacy Installation of the Sigi Regency Health Office were the Head of the Installation, the Head of the Warehouse, and the installation staff. The informant stated that the pharmacy installation had never carried out deletion because it was constrained by costs and regular regulations. The reason for the deletion was because the logistics of the drug had expired, there was a change in shape, color and smell and there was damage to the drug so that the drug must be immediately abolished.

The researcher also found that the process of eliminating drug logistics at the Pharmacy Installation of the Sigi District Health Office was that initially the puskesmas reported to the Health Office. The health department makes an official report regarding damaged and expired goods. Furthermore, the Health Office coordinates with the Head of the Pharmacy Installation and the program section as well as the sanitation section to immediately eliminate it. This research is in accordance with the theory that the withdrawal and deletion of regional property is the act of deleting the goods of the user/authorized user and deletion from the inventory list of regional property. The abolition is carried out by issuing a regional head decision regarding the abolition of regional property (16).

The limiting factor in this study is that when the interviewee sometimes answers outside the information that the researcher wants to get and sometimes does not understand the questions asked by the researcher, so the researcher must ask repeatedly so that the informant understands and the answers given by the informant are in accordance with what do researchers want.

5. Conclusion

Drug logistics management planning is adjusted to setting priorities and remaining supplies and using consumption and epidemiological methods. However, there are still obstacles, including drug logistics proposals that are not available in the e-catalog, so there are often drug vacancies, and also there are still frequent delays in reporting drug use data, still experiencing limited program data, for example, handling cases of malnutrition and lack of nutrition, MCH, Disease Control not communicable and infectious diseases. Budgeting and procurement in Drug Logistics Management uses funding sources from the APBN and is carried out every year after the appointment through the Decree of the Head of the Health Service. The drug procurement process begins with drug planning that has been made by the drug planning team.

Storage in the logistics management of drugs at the Pharmacy Installation of the Health Service of Sigi Regency, the most important of which is stored based on storage temperature, type of preparation, dosage form, and alphabetical letters. The depository uses the FIFO (First In Out) and FEFO (First Expired First Out) methods. Constraints for storage are the lack of storage racks, there are no lights in the storage room, and the AC in the room is still very lacking. Distribution in the logistics management of drugs in the Health Office of Sigi Regency, which is carried out based on the plan for drug needs in one year by considering the number of unused drugs remaining and the amount of drug that has been used. Before distributing drugs, the pharmacy installation conducts a data review and the Usage Report And Drug Request Sheet for each health center for each type of drug that is evaluated first considering the use of drugs and the remaining stock of drugs at the Public Health Centers. The distribution of drugs is delivered directly by the Sigi Regency Health Office. Elimination in the logistics management of drugs at the Pharmacy Installation The Sigi Regency Health Office has never done the elimination because it is constrained by costs, and regulations are usually carried out because the cause is damaged and expired then the next problem is the delay in reporting or lack of information from the Public Health Center to the warehouse.

Conflicts of Interest: The authors declare no conflict of interest.

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