
Analysis of Drug Management at Tingginambut Public Health Center in Puncak Jaya Regency

Delius Wonda^a, Sarce Makaba^{b*}, Novita Medyati^c, Yacob Ruru^d

^aPostgraduate Master Program of Public Health, Faculty of Public Health, Cenderawasih University

^{b,c}Faculty of Public Health, Cenderawasih University, Jayapura Papua, Indonesia, 99351

^dDepartment of Statistics, Faculty of Mathematics and Natural Sciences, Cenderawasih University

^aEmail: deliuswonda2019@gmail.com; ^bEmail: sarcemakaba20@gmail.com; ^cEmail: novitamedyati2021@gmail.com; ^dEmail: yacobruru@yahoo.com

Abstract

Background: Good drug management is needed to prevent losses due to errors in planning, storing and dispensing drugs, resulting in drug loss / expiration due to disuse or storage methods. For this reason, input, process and output are very important to be analyzed for future improvement. **Objective:** To analyze the input, process and output in drug management at the Tingginambut Public Health Center, Puncak Jaya Regency. **Methods:** This type of research is qualitative which was conducted at the Tingginambut Public Health Center in January 2021. The number of informants was 4 people. Data were collected using deep-interviews and analyzed using domain analysis. **Results:** It was found that the input of human resources in Tingginambut Public Health Center is sufficient but does not match the specifications of pharmacy education personnel, the facilities and infrastructure for drug storage are adequate, but there is no adequate (closed) storage cabinet. Drug planning process using epidemiological and consumption method by requesting from the Health Office using LPLPO according to the national formulary. Drug storage uses the FEFO and FIFO methods and is arranged alphabetically. Drug distribution is carried out by the installation for Pustu once every 3 months and outdoor activities such as Posyandu services and other activities and is returned again if there is a drug that is not used. Drug control is controlled by the officer every time you take the drug, but it may also happen that the drug is damaged or expired.

* Corresponding author.

Recording and reporting is carried out by the head of the Public Health Center as the person in charge of the medicine warehouse because there are no pharmaceutical personnel and there is no management information system or it is done manually because there is no application. The output of drug management at the Tingginambut Public Health Center in 2020 was inefficient due to 7.1% drug damage.

Keywords: Input; Process; Output; Drug Management; Public Health Center.

1. Introduction

Since the time of Hippocrates (460-370 BC), known as the "Father of Medical Sciences", there has been no known profession of Pharmacy. A doctor who diagnoses a disease is also a "pharmacist" who prepares drugs. In 1240 AD, the German King Frederick II ordered the legal separation between Pharmacy and Medicine, so that pharmaceutical science developed widely in its management as a supporter of medical science [1]. Pharmacy services are a supporting service as well as being the main revenue center for Public Health Center (Puskesmas, short for Pusat Kesehatan Masyarakat in Indonesian) because almost 90% of health services in Public Health Center use pharmaceutical supplies (drugs, chemicals, radiological materials, medical equipment materials, medical devices and medical gas) and 50% of all income of Public Health Center comes from the management of pharmaceutical supplies [2]. Decree of the Minister of Health (Kepmenkes) Republic of Indonesia Number 30 of 2014 concerning the standard of pharmaceutical services at Public Health Center is a benchmark used as a guideline for pharmaceutical personnel in drug management at Public Health Center [3]. Good drug management is needed to prevent losses due to errors in drug storage starting from receiving, storing and releasing drugs. Generally, the drug expiration period is written 2-3 years from the time the drug is packaged. This expiration period is related to the stability of the drug and the shelf life of the drug. A drug that is in good condition, that is, there is no change in the effect of the drug. The unwanted effects of these drugs include loss of active substances, increased concentration of active substances, loss of uniformity of content, formation of toxic (toxic) decomposition products, decreased quality that can be harmful to humans [4]. Drug management is a series of activities that are most important to receive funding from the government in the amount of 40-50% of the health development allocation funds concerning aspects of planning, procurement, storage and distribution of drugs that are managed optimally to ensure the achievement of the accuracy of the number and types of pharmaceutical supplies and medical devices [5]. The purpose of drug management is the availability of drugs at any time of need both in terms of type, quantity and quality efficiently, thus drug management can be used as a process of mobilizing and empowering all resources that can be utilized to realize drug availability when needed in order to achieve an effective and efficient operational process [6]. The drug management process will run effectively and efficiently if there is integration between the implementation of these activities [5]. An analysis of the drug management process should be carried out, because of the inefficiency and ineffectiveness of drug management give negative impact, for pharmaceutical service activities in the provision of health services as a whole, both medically, socially and economically [6]. Drug management at the health center needs to be careful because efficient drug management will greatly determine the success of the overall health center management, to avoid inaccurate and irrational calculation of drug needs so that it is necessary to carry out appropriate drug management. Guaranteed availability of drugs in health services will maintain the image of the health service itself, so it is very important to guarantee the availability of drugs [7]. The success or failure of drug

management is determined by the activities in its planning, for example in determining goods whose procurement exceeds the need, it will disrupt the whole management cycle, as a result it will cause waste in budgeting, swelling of procurement and storage costs, unstructured drugs or goods so that it can be damaged or expired even though the maintenance is good in the warehouse [8]. Medicines in the health center must be stored properly and safely. This is done to ensure the efficiency of drug storage and is included in one of the criteria in the hospital accreditation assessment. Poor storage can lead to significant losses for Public Health Center. Because almost 40-50% of Public Health Center expenditure is aimed at logistical needs, especially medicines and medical devices [9]. This means that if there is an error in the management and storage of drugs at the health center, the Public Health Center will suffer a loss. Research conducted by Palupiningtyas (2014) which conducted shows that the storage system for pharmaceutical logistics items, especially drugs, is still not in accordance with the provisions made by the Director General of Pharmacy and Medical Devices, such as how to store First In First Out (FIFO) or First Expired First Out (FEFO) which was not implemented, the temperature and humidity settings in the storage warehouse were not paid attention to, the separation of the types of drugs and equipment that needed to be provided in the storage warehouse were also still neglected. This can be seen from the large number of drugs - expired drugs that have not been separated from the placement of new drugs, drugs that require storage in cold temperatures are not stored in an appropriate place and storage facilities and infrastructure are inadequate [10]. In addition, according to research by the Center for Biomedical and Pharmaceutical Research (2006), it is known that there are still many drug storage warehouses in Public Health Center in Indonesia that do not meet requirements such as not using an alphabetical system in its arrangement, not using FIFO or FEFO systems and using inadequate stock cards [11]. In another study at a private Public Health Center in the Jakarta area, it was found that the standard operational procedures for drug storage that had been established by the Public Health Center were not properly implemented by officers [12]. Tingginambut and Mulia Public Health Center were supported by the Puncak Jaya District Health Office. The Health Office is responsible for managing and carrying out activities that support the availability of medicines and medical devices within the organizational structure consisting of the head of the Tingginambut Public Health Center. The head of the Public Health Center is also the person in charge of drugs in preparing the drug need plan and as an assistant to 2 pharmacy service staff who are also drug administrators in compiling plans for health material needs and procurement. He also carried out an evaluation of the implementation of work programs and coordinated with the related Health Office of Puncak Jaya Regency for the smooth implementation of duties. For administrative matters, carry out administration within the Tingginambut Public Health Center, carry out drug inventories and submit drug requests. The management of medicinal pharmacy services at the Tingginambut Public Health Center is regulated in standard operating procedures in carrying out the logistics functions of drugs and medical devices, starting from planning, procurement, storage, distribution and elimination of drugs and medical devices and reporting. Medicine storage is carried out at the Tingginambut Public Health Center, Puncak Jaya Regency, at the Public Health Center medicine warehouse. The storage of medicines in the drug storage area at the Tingginambut Health Center is only temporary, before the medicines are distributed to these other units that need them according to the hospitalization stock. Medicines stored in the drug warehouse at the Tingginambut Health Center are stored on medicine shelves, and it is not uncommon for medicines that have just arrived from the health office in boxes and piled up on the floor without a base on the floor / pallet. When the medicines come from the health office, the Puskesmas drug management personnel put

the drugs in the desired place and this causes each drug to always change its storage place and if the officer forgets where to store the drugs, the search for drugs will take longer. As a Public Health Center with a mission to provide excellent and safe quality health services to achieve patient satisfaction, Public Health Center Tingginambut must be able to maintain the quality of its services, including the quality of pharmaceutical services. Based on data from pharmaceutical installation reports in 2017, the number of drugs that entered was 4,160,000 with 222 types of drugs and expired reached 24,636 (0.59%) with 6 types of drugs. In 2018, there were 5,805,000 drugs with 273 types of drugs and 27,320 (0.47%) expired drugs with 9 types of drugs. In 2019 there were 1,348,064 drugs with 273 types of drugs and 108,523 (8.05%) with 37 types of drugs and in January 2019, 118,424 drugs entered with 279 types of drugs and 21,573 expired drugs (18.21. %) with 9 types of drugs. This data shows that the number of damaged or expired drugs has increased, indicating a lack of a poor drug management system. Based on the results of interviews with the person in charge of pharmacy, that in drug planning it is adjusted to the need or demand for the most widely used drugs according to the epidemiology, it is predicted that the planning for drug needs will be used up according to the types of diseases that commonly occur in the Tingginambut Public Health Center, but found before the drugs are used according to reports there are drugs that is damaged or has expired. In addition, from the results of interviews with the person in charge of drug management, the losses from management reached 10-20% of the drugs received. Based on this problem, the researcher was interested in conducting a research entitled "Analysis of Drug Management at the Tingginambut Public Health Center, Puncak Jaya Regency."

2. Materials and Methods

The type of research in this study is descriptive qualitative with a case study approach that describes the results of the implementation or description of drug management that has been implemented at the Tinggiinambut Public Health Center, Puncak Jaya Regency. This research was conducted in December 2020 - Januari 2021. The informants in this study were 4 health workers at the Pharmacy Unit at the Tingginambut Public Health Center, Puncak Jaya Regency, namely 1 Head of the Pharmacy Section and Medicine Warehouse of the Puncak Jaya Regency Health Office, 1 Head of the Tingginambut Public Health Center who is also the person in charge of the Public Health Center medicine warehouse, and 2 pharmacy staff. Data were collected using deep-interviews and analyzed using domain analysis.

3. Result and Discussion

3.1. The Characteristics of Informants

There are 4 (four) informants in this study who can represent and provide appropriate and adequate information. The following are the characteristics of these informants that can be found in Table 1:

In Table 1, there are two main informants, namely the Head of the Pharmacy Section of the Health Office of Puncak Jaya Regency and the Head of the Tingginambut Public Health Center who is concurrently in charge of the Medicine Warehouse and two supporting informants namely the Pharmacy Service Staff.

Table 1: The characteristics of informants based on position, age, and education

| Position | Initial | Age | Education | Type of informan | Code |
|--|---------|-----|-------------|----------------------|------|
| Head of Section of Pharmacy and Pharmacy Warehouse of the Health Office of Puncak Jaya Regency | DW | 56 | Pharmacist | Main Informant | IU1 |
| Head of the Tingginambut Public Health Center and the person in charge of the Medicine Warehouse | PK | 46 | D-III Nurse | Main Informant | IU2 |
| Pharmacy Service Staff | NM | 30 | D-III Nurse | Supporting Informant | IP1 |
| Pharmacy Service Staff | TM | 25 | D-III Nurse | Supporting Informant | IP2 |

Source: Primary Data, 2021

3.2. Input

3.2.1. Human Resources

3.2.1.1. Adequacy of Staffs

Human resources in the management of pharmacy at the Tingginambut Puskesmas as stated by the Head of the Puskesmas:

"I, as the Head of the Tingginambut Publicly Health Center, also have concurrent duties in charge of the Puskesmas medicine warehouse. There are no special pharmacy personnel here, because most of the personnel here are D-III Nursing" (IU2)

In addition, as stated by 2 supporting informants in pharmacy services as stated below:

"Most of us who work here are D-III Nursing in providing services and we also work in serving pharmacies" (IP1)

"My friends and I both have D-III Nursing education, in pharmacy services for patients, because moreover, there are only nurses available" (IP2)

Based on the results of the interview, it is known that there are 3 personnel in the pharmacy service consisting of the Head of the Puskesmas who is concurrently the person in charge of the Puskesmas medicine warehouse and two others as pharmacy staff, all of whom have D-III Nursing education. As for the pharmacy workforce in

Health Department, Puncak Jaya Regency, as stated by the Head of the Pharmacy and Drug Warehouse Section of the Health Office of the Puncak Jaya Regency:

"The pharmacy staff at the Puncak Jaya Regency Health Office has four pharmacists consisting of 2 D-III pharmacies and 2 pharmacists" (IU2)

There are four educated staff in drug management at the Health Office of Puncak Jaya Regency, namely 2 pharmacist, 1 S1 pharmacy and 1 D-III pharmacist.

3.2.1.2. Training

In improving the quality of personnel in drug management as stated in the following statement:

"Training is often given to each pharmacy officer at the Health Office and each Puskesmas. This is done because most of the staff in each Puskesmas do not come from pharmacies but from D-III Nursing personnel. "(IU1)

"There is training every year from the Health Office, usually the training is held every year, both meetings and training are given" (IU2)

In addition, as stated by 2 supporting informants in pharmacy services as stated below:

"We who work here also get training, but more often the head of the Puskemas, because he is the person in charge of pharmacy here, we have also received training in drug management from the Health Office" (IP1)

"My friends and I also received training in the management of pharmaceutical drugs on how to plan, make drug requests, store drugs and maintain or prevent drugs from being damaged or expired" (IP2)

Based on the results of the interview, it was found that the staff at the pharmacy service at the Tingginambut Public Health Center had received training in drug management. This is done because the existing personnel are not from pharmacy staff but from D-III Nursing so that training is needed in maintaining the quality of drug management.

3.2.2. Facilities and Infrastructures

3.2.2.1. Medicine Storage Room

The medicine storage room based on the interview results is integrated into the pharmacy room as stated by the Head of Public Health Center.

"The drug storage warehouse is one with the pharmacy service. Room area 3 x 4 m2. There is a window that is wide enough with the ventilation. The room does not have AC. (IU2)

In line with the statement of 2 service pharmacies as follows:

"The medicine storage room is the same as the pharmacy service room, so it is easy for us to take it directly to give it to patients. Enough room area 3 x 4 m². There is a window that is quite large and there is a reception counter and sufficient lighting. The floor here uses wood from boards that are painted white and tightly closed so that rats don't enter. There is no refrigerator here, so immunization usually takes it from the health office using a coolbox because it is close to the health office. Security is sufficiently maintained, because there is ventilation and there are only two people on guard and we trust each other. (IP1)

"I think the size of the room is 3 x 4 m². Has a window that is wide enough with the ventilation. The room does not have AC. However, the temperature here is quite supportive between 26-32 °C. So the temperature supports in maintaining the durability of the drug in accordance with the existing expiration. In addition, the walls are made of wooden walls that are tight and painted white "(IP2)

Based on the results of the interview, it was concluded that the room area was adequate and met the requirements for drug storage in Puskesmas and became one with the pharmacy service in order to facilitate the administration of drugs to patients.

3.2.2.1. Storage Shelf

Storage shelf as a place to store medicines in the shape of a U or around the wall as the following interview statement below:

"U-shaped wooden storage racks surround the wall with 3 levels of shelves for storing medicines (IU2).

In line with the statement of 2 service pharmacies as the following statement:

"The storage shelf is quite adequate, but the manufacture is simple without any glass or in a U-shaped open state with three levels" (IP1).

"Three-tiered storage shelves painted white surround the walls and there is a palette. (IP2).

Based on the results of the interview, it was concluded that the U-shaped storage rack was painted white around the wall and there was a pallet for temporary medicine storage which was still in the form of large cardboard.

3.3. Process

3.3.1. Planning

Drug planning at the Tingginambut Puskesmas is carried out to determine the type of drug and the amount of drug needs based on the Drug Usage Report and Request Sheet (LPLPO). From the results of the interview, that drug planning through the preparation stage of drug planning by evaluating the need for drugs in the previous year or drugs that are frequently used will be a priority to be proposed in the planning.

3.3.1.1. Drug Selection

"... drug selection is adjusted to the number of existing drug requests from each Puskesmas based on FORNAS (National Formulary)" IU1

Based on the results of the interview, it was concluded that the drug selection submitted from each Puskesmas and from the Tingginambut Puskesmas used a national formulary that is in the form of a report and submitted to the Health Office. Statements from the Head of the Tingginambut Puskesmas regarding drug selection and drug needs as quoted from the following interview:

"... the need for a year ago was added by 10-15% for future needs. In drug planning we use the existing national formulary and we order it to the Health Office..." IU2

In addition, the drug planning carried out at the Tingginambut Puskesmas is as follows:

"... in drug planning we prioritize generic drugs and it must be really needed according to the disease in this puskesmas and the drugs that are requested are always available, otherwise there is usually a different kind of trademark ..." IP1

"... Drug selection sees the need for drugs every year in using the national formulary." IP2

Based on the results of the interview, it was concluded that the drug selection proposed by the Tingginambut Community Health Center used a national formulary and generally the drugs used or preferred were generic drugs and were made in the form of a report and submitted to the Health Office of Puncak Jaya Regency.

3.3.1.2. Drug planning methods at the Puskesmas

The drug planning method at the Tingginambut Puskesmas is as follows:

"... The method is based on the highest number of disease cases and the remaining stock of drugs at the end of the year for most diseases is ARI and malaria ..." IU2

"... The method of consumption and epidemiology, the largest number of diseases we need to prepare the most for the medicine, then continue to be supported by multivitamins, but we confirm to the doctor first, especially if the drug is not in Fornas because the doctor uses it, if the doctor wants to use it then we prepare , "(IP1)

"... The methods we usually use in Puskesmas are the methods of consumption and epidemiology." IP2

Based on the results of the interview, it was concluded that the drug planning method at the Tingginambut Community Health Center used the consumption and epidemiology methods according to the number of drugs consumed and based on the most types of disease or epidemiology.

3.3.1.3. Drug budgeting

Drug budgeting from the statement of the Head of the Puskesmas is as follows:

"There is no drug budgeting, all you have to do is make a request to the Health Office, there the Health Office will arrange the drug costs, because there is already a main function. If the existing medicine we have runs out or maybe there are a lot of diseases and the medicine runs out, we make an order back to the Health Office. "
IU2

"There is no budget, we have made plans according to the drug needs needed" IP1

"I don't know the budgeting, what I know is we made a request for medicine to the Health Office. If a medicine runs out, we usually recommend buying it at a pharmacy or another health center. "IP2

Based on the results of the interview, it was concluded that in the drug budgeting at the Tingginambut Community Health Center, everything was regulated from the Puncak Jaya Regency Health Office. The Puskesmas only requests drugs according to existing procedures.

3.3.2. Request for medicine

Requests for drug needs at the Tingginambut Puskesmas are as follows:

"... Drug requests are adjusted at the Puskesmas using the National Formulary and made in the form of a drug LPLPO request document to the Health Office" Iu1

Based on the results of the interview, it was concluded that the drug request was in the form of a drug request document that was requested from each Puskesmas.

"... Drug requests to the health office using LPLPO do have a procedure. Usually we ask for it once a year according to the plan or sometimes every 3 months and 6 months if the drug stock runs out or the empty stock has not yet been received, because sometimes the planning is unexpected when the drug will run out. because of the patient's illness..." IU2

In addition, in the planning of drugs carried out at the Tingginambut Puskesmas as follows:

"... in the drug request, after we have planned it based on the drugs we have compiled from the drug request based on the national formulary, then we make a drug request document which does have a form from the Health Office after that, later the Head of Puskemas will take it to the Health Office for drug requests along with other activity programs .. "IP1

"... We take a look at the available stock for medicine, usually if we calculate what is available and for the needs, after that we have a joint meeting about the need for medicine with the head of the Puskesmas and we type it in the drug request document." IP2

Based on the results of the interview, it was concluded that the drug request submitted by the Tingginambut

Community Health Center, the written documents according to the form or procedure for drug request both included the type, quantity and dose required. This mechanism prevents drug vacancies in the Tingginambut Puskesmas as the following interview statement below:

"... using stock buffers or asking for additional stocks for cases where the number of patients continues to increase if it is still lacking, we suggest adding drugs to the Puncak Jaya Regency Health Office ..." (IU2)

"... we make a report on the need for medicine, we make it every 12 months plus a six month stock buffer to anticipate the vacancy (IP1).

"... we make a report on the drug needs plan and add it for the next 3 months or the next 6 months to anticipate a vacuum, but we also have to calculate the remaining stock, but it depends on the epidemiology or the number of cases there are" .. (IP2)

Based on the results of the interview, it was concluded that in order to prevent gaps in drug planning, look at the amount of remaining stock available and calculated for 1 year needs and added 3 months or 6 months of stock, but also calculated from the remaining stock.

3.3.3. Drug Reception

Drug reception activities are in accordance with the requests and needs of the health center. Based on the results of interviews regarding drug acceptance at the Tingginambut Puskesmas, the suitability of orders and drugs received was only known by the Head of the Tingginambut Puskesmas and the Person in Charge for the Puskesmas Medicine Warehouse as quoted in the statement below The suitability of the types and quantities of drugs ordered at the Tingginambut Puskesmas are appropriate, but sometimes they are not according to the statement below.

"There is usually, yes, usually, if the drug is not suitable, but usually different brands but the contents are the same, sometimes the name of the drug or the production is different but the contents are the same, after they say the medicine runs out, but usually there are drugs that come at different times and drugs that are less usual. we ask back. In addition to the drugs that come, we record the amount and examination of drug damage (IU2).

"... It's normal, if the drug is different, the important thing is that the function is the same, but sometimes the amount is different from the request and we confirm and record the deficiency or the incoming medicine as well as the expiration date and the damaged drug due to delivery (IP1).

"... every drug that enters we record both the type, the trademark and the amount and we document it from the report and photographed at the time of receipt, so that we can report existing drugs according to existing drugs and we match the documents from the DHO's drug delivery documents" .. (IP2)

Based on the results of the interview, it was found that drug reception had never occurred in accordance with the quantity and type of order and the medicine was insufficient and matched with the drug delivery document

given. Medicines that have not been informed again and will request for drugs again are usually 6 months old. This is also stated by the Head of the Pharmacy Section of the Puncak Jaya Regency Health Office as the following statement:

"... Usually, there is a lack of medicine due to sometimes transportation problems, later we usually send less drugs back to the Puskesmas and usually there is also a request for medicine back from the Puskesmas if there is a shortage of drugs in the working area" .. (IU1)

Based on the results of the interview, it was concluded that the drugs sent were included with the documents for the delivery of drugs at the Puskesmas. Damaged or inadequately recorded drugs are re-recorded and confirmed from the Puskesmas and there is usually a request for a return within 6 months or when there is a shortage of drugs.

3.3.4. Drug Storage

The drug storage process is carried out, so that the drugs received are safe according to the drug requirements as stated in the statement from the Head of the Puskesmas as follows:

".... The drug storage method based on the FEFO method means that the drug that expires first comes out and the medicine that comes in first usually comes out first, there are also drugs for liquids, drugs, injections, injection drugs, tablets, syrup, on the shelf. special..." (IU1)

"... drugs are usually stored on drug shelves and separated according to type, if a kind of syrup is separated from ointment, separate tablets by injection and so on ..." (IP1)

"... usually we prioritize expired ones first to prevent damaged drugs ..." (IP2)

Based on the results of the interview, it was concluded that the storage method was based on the FEFO and FIFO methods or the first drug entered was the first drug to come out or the drug based on the drug's expiration date. Because usually the medicine that comes is old stock from the distributor through the Health Office. So it is necessary to check again. The drug storage arrangements carried out at the Tingginambut Health Center;

"... Storage is arranged in shelves using a special code written on the shelf to differentiate between the types of drugs available (IU2,)

"... Drugs are usually ordered alphabetically and by type ..." (IP1)

"... arranged by type and alphabetical order to make it easier to retrieve from patients ..." (IP2)

Based on the results of the interview, information was obtained about the storage arrangements for drug storage at the Tingginambut Community Health Center based on alphabetical order and the type of medicine. This is useful to prevent contamination of drugs such as syrup (wet) and dry drugs (tablets, caplets), so that if there is a damaged wet medicine it does not contaminate other drugs.

3.3.5. Drug distribution

Drug dispensing and delivery activities evenly and regularly in meeting the needs of the puskesmas. The drug distribution system is usually distributed to the Pustu:

"... Drugs that are distributed are usually if there is a request for medicine from the sub-health center or there is a posyandu service. For Puskesmas assistants, we limit and adjust the existing ones, if they are finished, just come back to pick up drugs that are deficient and the procedure is done by using a request document from Puskemas and recording it on a stock card ..." (IU2)

"... There is no distribution for the Puskesmas, usually if for Posyandu drugs are requested and recorded in the request document and after clearing, if there is any remaining medicine, it will be returned back. Meanwhile, for the sub-health center, there is a request document and it is recorded on the stock card" (IP1)

"... The distribution for the Supporting Health Center which we usually distribute is according to the request documents according to the existing SOP and is recorded on the stock card, the drugs given are usually for 3 months' stock, if there is a shortage, you can request a return ..." (IP2)

Drug distribution is given to the auxiliary health centers, while for other activities such as Posyandu, there is usually a request for drugs to be used and returned back to the warehouse for medicines that are not used.

3.3.6. Drug Control

Drug control ensures that the desired targets are achieved in accordance with the strategies and programs that have been established so that there is no excess and shortage / absence of drugs.

"... For drug control, we usually monitor existing drug stocks, examine drugs from cardboard packaging and drugs that change color, as well as expiration dates, as well as the number of drugs available to ensure the drugs used are right on target and prevent drug damage and expiration due to wrongdoing. from storage and drug vacancies. Drugs that have been damaged and expired are put into one carton and we usually report and document them through photos and we report them for annihilation...." (IU2)

"... Usually while we are working we take medicine, at the same time we check and we re-check for expired drugs and damaged drugs. Damaged and expired drugs are put in cartons and the damaged drugs are reported and destroyed after being reported" (IP1)

"... The monitoring system while working we check the preparation, so when we take it, we rearrange the existing drugs, we check the expired ones again and if any drugs are damaged, we immediately separate them, so that the drugs given to patients are safe...." (IP2)

Based on the results of the interview, information was obtained about supervision and control, namely monitoring the existing stock, as well as compiling and checking expired and damaged drugs and rearranging.

3.3.7. Recording, Reporting and Archiving

Activities in order to administer drugs and consumable medical materials in an orderly manner :

"... Recording is done on stock cards, drug receipt books and drug dispensing ..." (IU2)

"... We do this by recording the drugs that come from the Health Office in the admissions book, while the drugs that come out to the Pustu and other activities such as Posyandu are recorded in the dispensing book and drug reporting. For drug pharmacy services that come out we record it in the drug stock book ..." (IP1)

"... We take notes on the receipt book, dispense drugs, and record the prescription in the prescription book and recap it in the report format ..." (IP2)

Based on the results of the interview, information was obtained about the recording and reporting system at the Tingginambut Community Health Center by recording it in the revenue and expenditure books. Time reporting system as quoted from the following interview below:

"... when the reporting system was carried out periodically once a month and there was an annual recapitulation along with other activities and it was reported to the Health Office ..." (IU2)

"... reporting is done once a month and reported to the Health Office ..." (IP1)

"... the reporting system time is based on once a month which is carried out at the Puskesmas ..." (IP3)

Based on the results of the interview, information was obtained about the recording and reporting system of reporting time at the Tingginambut Puskesmas conducted periodically, monthly and annually at the Tingginambut Puskesmas.

3.4. Output

Drug use efficiency indicators include incompatibility, dead stock, TOR, expiration, suitability of the drug dispensing system. In 2020, the demand for drugs was 361, and drugs were obtained as many as 60 types of drugs, and there were 251 empty stocks. Of the 60 types, there were a total of 59516 drug tablets, 423 of which had no transactions (excess stock), and 321 drugs were damaged with a dead stock of 7.10%. Examination of expired and damaged drugs must be carried out carefully with the aim of knowing the safety level of their use and the certainty of the physical quantity of drugs whose safe period of use has ended in the storage system, namely the pharmaceutical drug warehouse. Percentage of drug value or dead stock in 2020 > 1% or 7.10%. Based on Permenkes No. 30 of 2014, the use of drugs is inefficient.

4. Discussion

4.1. Input

4.1.1. Human Resources

The results of the interview showed that the personnel of the Tingginambut Puskesmas in pharmaceutical management were 3 people with a D-III level of nursing education. This is not in accordance with Permenkes No. 30 of 2014 that the implementation of pharmaceutical services at the Puskesmas must be carried out by at least 1 (one) pharmacist as the person in charge, who can be assisted by pharmaceutical technical personnel as needed [3]. The number of pharmacist needs at the Puskesmas is calculated based on the ratio of patient visits, both inpatient and outpatient and paying attention to the development of the Puskesmas. The ratio to determine the number of pharmacists at the health center is 1 (one) pharmacist to 50 (fifty) patients per day. This research is in line with the research conducted by Enembe (2015) at the Tolikara District Health Office, Papua Province, that the uneven pharmacy staff, such as those needed by the health centers in pharmacy staff, are pharmacists and pharmaceutical technicians, but in reality the pharmacy personnel used are D -III Nursing which also concurrently provides other services [13]. Pharmacy states that pharmacy personnel are personnel who do pharmaceutical work, which consists of pharmacists and pharmaceutical technical personnel. Pharmacists are scholars pharmacy who has graduated as a pharmacist and has taken the oath of office. Pharmacist Pharmaceutical Technical Workers (TTK) are staff who assist pharmacists in carrying out pharmacy work, consisting of pharmacy scholars, pharmacy intermediates, pharmaceutical analysts, and pharmaceutical intermediate staff / pharmacist assistants. Because there is no pharmacist with a pharmacist or pharmaceutical technical education at the Tingginambut Community Health Center, so that in the management of pharmacy personnel, there is a need for development through pharmacy education and training. From the results of the statement that routine training is carried out by the District Health Office and the Papua Provincial Health Office. Education and training is a process or an effort to increase knowledge and skills in the field of pharmacy or fields related to pharmacy on an ongoing basis to develop the potential and productivity of pharmaceutical personnel optimally. Puskesmas can be a place for implementing education, training and research and development programs for prospective pharmacy workers and other unit pharmacy workers [3].

4.1.2. Facilities and Infrastructure

The medicine storage facility available at the Tingginambut Puskesmas is in the form of a storage warehouse which has an area of 3 x 4 m². In the Permenkes No. 74 of 2016, warehouse management (1996) minimum drug storage is 3 x 4 m². The results showed that the room area was 3 x 4 m². The storage racks in the drug warehouse at the Tingginambut Health Center are arranged in a U shape. Even though the shelves are arranged simply, the warehouse staff sometimes still find it difficult to move around when they are going to take the medicine. This is due to the inadequate area of the medicine warehouse and the large number of piles of goods on the floor. Shelves and storage cabinets in the medicine warehouse are not placed against the wall and are not directly attached to the floor. Providing a distance between the shelf / cupboard and the wall and with the storage floor like this can prevent the medicine from being damaged due to wall / floor temperature [14]. In addition, the distance made between the floor and the cupboard can help prevent drug damage if there is a pool of water on the floor. The location of the workspace for potential service officers is also attached to the medicine storage room. It is not uncommon for piles of drugs that do not fit on the shelves / shelves to interfere with the work of pharmacy service personnel. It is better if the warehouse clerk's work space is also paid

attention to so that warehouse officers feel comfortable in carrying out their duties [15]. The medicine warehouse is equipped with windows, but the windows are never opened once. The temperature of the drug warehouse at the Tingginambut Health Center is always regulated every day, the temperature regulation is based on considerations of the type and method of storing drugs in the drug warehouse. As disclosed by Febriawati (2013) that the arrangement of the layout of goods in the warehouse or known as a good warehouse layout can make it easier for warehouse officers to carry out their duties in the warehouse and can help maintain the quality of the drugs stored in the drug warehouse [16]. Meanwhile, things that need to be considered in the arrangement of the layout include ease of movement, air circulation, room temperature, humidity, rack arrangement and pest prevention. Based on the results of observations and interviews, it is known that the storage area is still considered sufficient for drug storage activities at the Tingginambut Community Health Center. This storage warehouse is not only made to store medicine supplies, but is also used to store medical equipment supplies and as office space for drug warehouse officers. There is no separation between the storage warehouse and the medicine warehouse of the Tingginambut Puskesmas. The adequate warehouse area certainly does not prevent warehouse officers from carrying out drug storage tasks in the warehouse. The warehouse clerk became free to move about when he was going to arrange the medicines he had just received. The lack of facilities in the medicine warehouse also causes warehouse staff to have to pile up medicines and medical devices that are stored in them. This of course will make it very difficult for officers to take medicine. The condition of the medicine warehouse is also considered quite adequate, because it has ventilation for room air exchange. The Indonesian Ministry of Health (2016) states that the medicine warehouse must have a stable room temperature, free from pests and guaranteed safety [14]. Room temperature regulation and prevention of pests are of course very important. The appropriate air temperature can maintain the quality of the drugs stored in the warehouse. If the quality of the drugs is not maintained properly, the drugs will spoil quickly and will expire. In fact, the existence of damaged and expired drugs is an indication that there is a problem in the storage system in a drug warehouse and is an indicator for assessing the efficiency of drug storage.

4.2. Process

4.2.1. Drug Planning

Drug planning is an activity to determine the amount and period of procurement of pharmaceutical preparations, medical devices and consumable medical materials in accordance with the results of selection activities to ensure the fulfillment of the criteria for the right type, right amount, on time and efficiency. Planning is carried out to avoid drug vacancies, in determining accountable drug planning methods and the basics of planning are consumption methods, epidemiology, a combination of consumption methods and epidemiology and adjusted to the available budget [3]. Drug planning at the Tingginambut Puskesmas in the selection of drugs according to the national formulary is added 10-15% for needs. The choice of drugs in drug planning at the Tingginambut Puskesmas is according to the number of patients seeking treatment using the Request Sheet and Drug Use Sheet (LPLPO) format and drug requests at the Tingginambut Puskesmas are consumption and epidemiological methods whose budget costs are from the Health Office according to the order. Drug planning at the Tingginambut Public Health Center uses epidemiological methods and consumption methods. The advantages of the consumption method are accurate data, the cheapest method, no need for disease data and treatment

standards, very small shortages and advantages of drugs, while the shortcomings of the consumption method, namely consumption data, drugs and number of difficult patient contacts for the basis of drug use and improvement of prescription, deficiency, excess and loss of drugs is difficult to rely on and does not need a good record of morbidity. The advantages of the morbidity or epidemiological method are that the estimates are closer to the truth, can be used for new programs, treatment standards support efforts to improve drug use, while the disadvantages are that it takes time and skilled personnel, disease data is difficult to obtain with certainty and requires a recording and reporting system. Preparation in drug planning at the Tingginambut Public Health Center is an initial series of drug management activities which begins by evaluating all inputs, processes from all aspects of planning and drug procurement for the previous year. The evaluation is carried out on the availability of the budget, the amount of procurement, the amount distributed, the amount used in the health implementing unit and the remaining supplies. Plan the drug needs that are determined based on the data submitted by the unit - each room. Agree on the type and amount of medicine needed and the amount of funding needed for the following year's budget. Preparation of operational work plans for activities carried out are compiling data on drug use from all health service units or from Request Sheets and Drug Usage Sheets, compiling disease data, preparing drug enumeration data at the end of the year, preparing data on drugs to be received in the current year. and prepare a price list for each type of drug. Drug planning which is carried out in the pharmacy installation of the Tingginambut Public Health Center refers to the previous drug needs. So, in planning the drug demand for the next period based on the drug on the disease or previous drug needs. In the formulary recapitulation of the pharmacy installation at the Tingginambut Public Health Center based on the writing of drugs, drug administrators and drug providers at the puskesmas. This is also said by the informant (IU2), that drug ordering planning must be adjusted to the national formulary. This shows that the procurement of drugs in drug planning is in accordance with the mechanisms established by the ministry of health and tailored to the needs of the puskesmas.

4.2.2. Drug Request

Drug demand is an activity intended to realize needs planning. Effective procurement must ensure availability, quantity and time at an affordable price and according to quality standards. Procurement is an ongoing activity starting from selection, determining the amount needed, adjusting needs and funds, selecting procurement methods, selecting suppliers, determining contract specifications, monitoring the procurement and payment process [3]. Drug procurement at the Tingginambut Puskesmas is using LPLPO based on a national formulary. Meanwhile, the drug procurement method at the Health Office of Puncak Jaya Regency is to use an E-catalog and after obtaining approval from related parties and using a budget plan according to the Fornas reference according to needs. E-Catalog is an electronic catalog containing all types of drugs including drug prices organized by the Ministry of Health in the form of generic drugs or insurance program drugs such as BPJS or generic drugs, so that drug procurement can be adjusted according to a predetermined plan. In ordering the e-catalog, the Health Office of Puncak Regency is in touch with the distributor in the e-catalog as well as the delivery time. However, not all drugs are ordered in the e-catalog in the procurement of drugs, due to transportation problems. The obstacles faced by the Tingginambut Public Health Center in Puncak Jaya Regency even though drug planning has been carried out, however, vacancies can occur. This is due to obstruction of the transportation of drugs from the Health Office of Puncak Jaya Regency to the Puskesmas due

to geographical conditions and the security situation. So that not all of the drugs at the Puskesmas can be provided by the Health Office of Puncak Jaya Regency, so that sometimes the distribution from the Health Office is late and can even be more than 6 months. To anticipate the void, the drug was replaced by similar drugs available at the Puskesmas. In addition, the Tinggi Jaya Public Health Center submits to the Puncak Jaya Regency Health Office as an addition to the existing drugs approved in the planning and has been budgeted by the Puncak Jaya Regency Health Office, which is usually done in 3 months or 6 months if the requested drug has not been received by the Tingginambut Puskesmas. In addition, special drugs for BPJS patients in accordance with the drugs that have been determined by the BPJS can be purchased by yourself. The occurrence of such drug vacancies can occur if the planned drug planning is based on disease epidemiology methods, but the number of patients who come is unpredictable, so that the demand for drugs is quite high. So that patients are advised to go to another health center in order to get it.

4.2.3. Drug Reception

Drug receiving activity is the initial stage of a series of drug storage processes in a drug warehouse. The drug reception activities carried out by the Head of the Tingginambut Puskesmas who are concurrently responsible for the drug warehouse and pharmacy service staff are still not in accordance with the standard operating procedures made by the Tingginambut Puskesmas. In the standard operational procedure for drug acceptance made by the Tingginambut Public Health Center, it is stated that in the activity of receiving drugs, warehouse officers check the suitability of the quantity and type of drugs ordered and those who come. Based on the results of the interview, it was found that drug reception had never occurred in accordance with the amount and type of order and the damaged medicine. The medicine that is lacking or damaged is informed again to the Health Office to get additional or replacement of the damaged medicine. One way to assess the efficiency of drug storage carried out in the drug warehouse is by looking at the correspondence between the amount of drugs contained in the drug recording (on the stock card / stock card) and the number of drugs in the drug warehouse [14]. The match between the warehouse stock and the physical condition must be 100% because this indicates that the administration of storage in the medicine warehouse has been done properly and optimally. Meanwhile, the results of research conducted by researchers at the drug warehouse at the Tingginambut Health Center show that the suitability of the number of fast moving drug stocks in the drug warehouse and there is still a mismatch in the records made by the drug warehouse officers. Based on the results of the interview, it was found that sometimes there were recording activities that were missed by the Head of the Puskesmas and the pharmacy service staff at Puskesmas Tingginambut because of taking stock and forgot to record it. In fact, the suitability of the number is an indicator used to determine the accuracy of warehouse officers and make it easier to check drugs, assist in planning and procurement of drugs at the Puskesmas so as not to cause drug accumulation and vacancies [15]. From this it can also be seen that the poor recording process will cause the results or output to be not optimal and cause problems or losses for the Puskesmas. Drug acceptance is not only the suitability of the type of drug, but also must check the expiration date of the incoming drug. Meanwhile, in practice the warehouse officer checks the expiration date of the drug. This is to prevent overdated drugs from being detected by warehouse officers, so that exchanges can be made and cause losses for the Health Office. Based on the results of the interview, the drug examination was seen from the packaging and expiration date. Medicines that come on the closest expiration date are at least 6 months. However, sometimes substitutions or exchanges

cannot be made due to the availability of drugs. In the research by Prihatiningsih (2012), examination of the expiration date of the drug is intended so that if there is a drug that is approaching the expiration date of the drug, it can be detected immediately and can be carried out as a rule or return to the distributor as soon as possible [12]. In addition, checking the suitability of drugs and drug expiration dates at the time of receiving drugs can also prevent errors that cause losses. Expired drugs found in medicine warehouses are an indication that drug storage in drug stores is not efficient enough [14]. Thus, the occurrence of expiration can be caused by the fact that the drug is approaching expiration, but no replacement is made due to the lack of drugs available at the distributor that cannot be replaced. Receiving drugs, warehouse officers also have to keep records. The recording that must be done at the time of receiving the drug is recording it in the drug receipt diary. In the implementation of drug acceptance which is carried out at the drug warehouse at the Tingginambut Health Center, the drug warehouse officers will record the book. A drug receipt diary has been provided by the Puskesmas management.

4.2.4. Drug Storage

Storage of drugs to maintain the quality of drugs in 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 consumable medical materials in accordance with pharmaceutical requirements [3]. Drug storage at the Tingginambut Puskesmas is using the FIFO and FEFO methods, the drug storage arrangements at the Tingginambut Puskesmas are in the form of a U-shaped warehouse and have sufficient ventilation, making it easier to take drugs, drug storage is differentiated according to the type and temperature of the drug, but drugs that are more placed on the floor and the location for storing medicines at the Tingginambut Community Health Center is in the middle, so that it is easy to reach. According to the informant, the place for drug storage is in accordance with the standards of the Food and Drug Inspection Center (BPOM), the room meets the requirements, but a refrigerator is not provided due to insufficient electrical power, but ventilation is available for direct air circulation outside with a wide open environment. The drug storage area is also in front of the community health center which is adjusted, making it easier for patients to get drug services. The method of storing drugs used in the drug warehouse at the Tingginambut Puskesmas uses the FEFO method (first expired first out) or the first expired and first out and arranged alphabetically. Storage area depends on the type of medicine, some are stored directly in the warehouse, in the refrigerator and on the shelves of the room. This is in accordance with what is recommended by the Indonesian Ministry of Health (2014), that storage methods can be carried out based on therapy class, dosage form and types of pharmaceutical preparations, medical devices and consumable medical materials and arranged alphabetically by applying the First Expired First Out (FEFO) principle. and First In First Out (FIFO) accompanied by a management information system. However, in this case, there is not yet a management information system in drug management in the pharmaceutical institution, so a manual check must be carried out on the use of drugs with the number of stocks including checking for drug expiration. Safeguarding received drugs so that they are safe (not lost), protected from physical and chemical damage and their quality is guaranteed. Drug storage is an important indicator in drug management. Proper storage of drugs and in accordance with established safety standards will be very helpful in maintaining the drug stock that has been prepared. The spatial arrangement is intended to maximize the flexibility for officers to search for drugs and also to assist in maintaining drug quality. The interviews conducted, especially

the person in charge of the pharmacy, had several important matters regarding the arrangement of the spatial layout. Based on the results of the interview, information was obtained that the drugs that have arrived will be checked for suitability and will be stored in the medicine warehouse. In gudans and pharmacies, there is a shelf in which the drugs are neatly arranged consisting of tablets, injections, etc., while in the warehouse itself the drug racks are arranged in a U-shape which is one of the ideal shelf position models so as to provide space for movement which is quite a lot.

4.2.5. Drug Distribution

Drug distribution is a series of activities in order to distribute or deliver pharmaceutical preparations, medical devices and consumable medical materials from storage places to service units or patients while ensuring quality, stability, type, quantity and timeliness. Puskesmas must determine a distribution system that can guarantee the implementation of supervision and control of pharmaceutical preparations, medical devices and consumable medical materials in the service unit [3]. The drug distribution system at the Tingginambut Puskesmas is based on the LPLPO from the Pustu every 3 months to ensure the quality of the drugs distributed at the Tingginambut Puskesmas is by re-checking the drugs distributed based on expiration, discoloration and damage. Supervision and control as at the Tingginambut Puskesmas are monitoring existing drug stocks, determining the number of purchase plans, the number of drug items requested per room unit, unauthorized officers are prohibited from entering. The drug guarding system in each room is the joint responsibility of eliminating unused medicines at the Tingginambut Puskesmas on the grounds that they have been collected in large numbers and witnessed by related parties in the destruction of consumable medicines that are not used. Distribution or distribution is the activity of releasing and delivering drugs evenly and regularly to meet the needs of the existing health service sub-units by type, quality, quantity and on time. The drug distribution mechanism is a method or step in distributing drugs to each unit with the same goal of providing health services to the public. Based on the results of interviews with informants, information was obtained that the existing drugs would later be distributed to Pustu based on drug requests every 3 months. This is in accordance with the standards set out in the management guidelines that the drug officer will be responsible for delivering drugs to the shaded division by carrying out three core activities, namely determining the frequency of distribution. Determining the number of drugs needs to consider the average usage per type of drug, remaining stock, disease pattern. Drug delivery is carried out by means of the drug warehouse delivering / sending the drugs and receiving them at the Pustu, the delivery at the warehouse is taken by the Pustu and the person in charge of other programs such as posyandu services or activities outside the building. Medicines are submitted together with the Request Sheet and Drug Use Sheet (LPLPO) form and the first sheet is kept as proof of receipt of the drug.

4.2.6. Drug Control

Drug control ensures that the desired targets are achieved in accordance with the strategies and programs that have been established so that there is no excess and shortage / absence of drugs. Based on the results of the interview, information was obtained about supervision and control, namely monitoring the existing stock, as well as compiling and checking expired and damaged drugs and rearranging. The findings of consumable medical materials and drugs that have been damaged or expired are due to a lack of demand for drugs from

patients because a case of disease can change at any time. In addition, there is no special refrigerator for certain drugs that require low temperatures to maintain drug quality. The drug management process at the Puskesmas will run effectively and efficiently if it is supported by a drug management information system to promote integrated implementation of activities in drug management. Drug management activities include planning, procurement, storage, distribution, use and control of the drugs under management [5]. Drug control from the Puskesmas is carried out where drug control is carried out by checking regularly the drug expiry date and at the Tingginambut Community Health Center. In addition, the strategy of the Community Health Center to prevent drug vacancies is to make requests within 3 months or 6 months for drug stocks that have not been received or in planning to add 10-15 for the need for 3-6 months to maintain drug vacancies. However, there is a transportation problem, so the drug that is being planned is in a vacuum. Drug supervision and control activities at the Tingginambut Puskesmas consist of inventory checking, recording and reporting activities. Control of lost, damaged, and expired drugs is also carried out by the Puskesmas to maintain the availability of drugs and the safety of using drugs by patients. So far, no cases of missing drugs have been found in the Puskesmas, only a few cases of damaged or expired drugs have been found. If there is a damaged medicine or expired medicine, the pharmacy officer will collect the damaged and expired medicine in the warehouse and immediately report it to the head of the puskesmas and an official report will be made to the District Health Office to be able to retrieve the drug.

4.2.7. Drug Recording and Reporting

Recording and reporting of management activities for pharmaceutical preparations, medical devices and consumable medical materials which include planning of needs, procurement, receipt, distribution, inventory control, return, destruction and withdrawal of pharmaceutical preparations, medical devices and consumable medical materials. Reports are made periodically by the Pharmacy Installation within a certain period of time (monthly, quarterly, semester or yearly). The types of reports are made according to applicable regulations [3]. The recording and reporting system at the Tingginambut Puskesmas is carried out by the Head of the Puskesmas as the person in charge of the medicine warehouse by recording in the receipt and expenditure books and the reporting time at the Tingginambut Puskesmas done periodically, monthly and annually. The recording and reporting system is carried out by the pharmaceutical installation as the person in charge of drug management which is then reported to the Health Office. The recording and reporting system is carried out every month which is then recapitulated by the pharmaceutical installation and reported. Reports made include the availability of existing drugs, medical devices and consumable medical materials that are not used due to expiration, damage, quality does not meet standards by making proposals for the elimination of pharmaceutical preparations, medical devices and consumable medical materials to related parties in accordance with the procedures applies.

4.3. Output

In 2020, the Tingginambut Puskesmas requested 361 types of drugs and as many as 60 drugs were obtained or 251 empty stocks. Of the 60 types, there were 59516 drugs and 423 there were no transactions (excess stock) and 321 drugs were damaged with a dead stock of 7.10%. The results of examination of expired and damaged

drugs in the pharmaceutical drug warehouse. Percentage of drug value or dead stock in 2020 > 1% or based on Permenkes No. 30 of 2014 that drug use is inefficient. This is due to the fluctuating number of cases of pasin disease which affects the demand for drugs as well as the lack of storage facilities such as refrigerators. So that some drugs suffer damage if there is no drug transaction. There are several factors that can cause the amount of the drug expiration that exceeds the set standards, such as inaccurate planning, problems with the quality and quantity of drugs supplied by the city health office / pharmacy warehouse and the application of the process management of drugs that are not in accordance with established standards. Although many factors are the reasons for the percentage of expired drugs that are not in accordance with the established standards, and this result is still lacking in drug management because it is above 1%. This still indicates that the storage process and the overall management process carried out are not efficient. In addition, in the use of drugs, each health center can complement each other with the existence of communication to prevent drug vacancies as well as damaged or expired drugs.

5. Conclusion

Based on the results and discussion, it is concluded as follows:

1. Input: a) The human resources at the Tingginambut Puskesmas are adequate even though they are not in accordance with the specifications for pharmacy education personnel; b) The facilities and infrastructure for drug storage are adequate, but no storage cupboard is available.
2. Process: a) Drug planning in the drug warehouse at the Tingginambut Puskesmas uses epidemiological methods and consumption methods by requesting from the Health Office; b) Requests for drugs in the pharmacy installation of the Tingginambut Puskesmas use a special e-catalog for generic drugs for social health insurance participants; c) Drug storage uses the FEFO and FIFO methods and is arranged alphabetically and based on the type of drug and has met the requirements of Permenkes NO. 30 of 2014; d) Drug distribution carried out by the Puskesmas for Pustu once every 3 months and outside activities such as Posyandu services and other activities and returned again if there are unused drugs; e) Drug control can be carried out properly and is controlled by the officer every time a drug is taken, however, drugs may also be damaged or expired due to a lack of demand for the drug; f) Recording and reporting is carried out by the head of the Puskesmas as the person in charge of the medicine warehouse and no management information system is available or it is done manually.
3. Output: The output of drug management at the Tingginambut Puskesmas in 2020 is inefficient due to drug damage, namely 7.1%.

6. Suggestion

From the results of this study, the suggestions are as follows:

1. For the Puncak Jaya District Health Office. Adding pharmaceutical personnel in accordance with educational specifications and evaluating the use of drugs to prevent drug vacancies and facilitating the availability of facilities and infrastructure such as the provision of electricity and refrigerators so that

- drugs at a certain temperature are not easily damaged due to the absence of refrigeration circuits;
2. For Tingginambut Puskesmas. To facilitate drug management, it is hoped that it can provide a management information system to facilitate policy making regarding drug availability, as well as drug needs, thereby preventing drug vacancies.;
 3. For the Medicine Warehouse. It is hoped that the drug warehouse staff can prevent drug vacancies by planning drugs as well as monitoring drug receipts and checking the amount of drugs periodically and for used medical materials, so that drug vacancies do not occur. In addition, it is expected to plan drugs according to temperature because there are no refrigerators or add refrigerators by increasing the demand for electrical power;
 4. For the Faculty of Public Health, Cenderawasih University. Assessing drug management in Puskesmas, so that it can be used as learning material for students about drug management.
 5. For further researchers. Assessing the management of drug acceptance and storage, the types of drugs used at the health center using other methods to determine drug damage and drug expiration.

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