PHARMACY INFORMATION SYSTEM DESIGN TO MINIMIZE WAITING TIME FOR RECIPES PRATAMA MITRA SEHAT CLINIC PHARMACY UNIT CIMAREME BANDUNG WEST JAVA

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ABSTRACT

The Mitra Sehat Cimareme Clinic was founded in 2002 by four doctors and is under the auspices of the Mitra Sehat Cimareme foundation. The health services provided at the Mitra Sehat Cimareme clinic are examinations by general practitioners, dentists, midwives and laboratories. The increasing number of patients causes an increase in the time required for pharmaceutical services in clinics. Pharmaceutical services in clinics are an integral part of increasingly complex health services. The increasing number of patients and demands for fast and accurate service are challenges for clinics, including the Mitra Sehat Cimareme Clinic. This research aims to design an effective pharmaceutical information system to minimize the waiting time for patient prescriptions at the clinic. The research method used is to analyze the existing conditions of pharmaceutical services at the clinic, including ongoing procedures, existing resources, and obstacles faced. Data was collected through observation, interviews and documentation studies. The results of the analysis are then used as a basis for designing a pharmaceutical information system that suits clinical needs. The research results show that the designed pharmacy information system can significantly reduce the waiting time for patient prescriptions. This system integrates various pharmaceutical functions, from receiving prescriptions, processing drug data, to printing drug labels. By automating the process, errors in filling medicines can be minimized and pharmacists' work efficiency increases. Apart from that, this system also provides reports and data that are useful for performance evaluation and decision making.

Keyword : *Pharmacy information system, Prescription waiting time, Pharmacy services*

1. Introduction

Health efforts are any activities to maintain and improve the level of public health. The need for health services is no longer just to obtain treatment and care but also health services in promotion and maintenance so that you are not

susceptible to disease (Adie Kuesoemo, 2012:2). In the field of management, a clinic is a service organization that has characteristics in terms of human resources, infrastructure and equipment used and are intangible or cannot be seen clearly but can be felt. One of the services provided is pharmaceutical activities.

The increasing demands of patients and the public for the quality of pharmaceutical services require the existence of pharmaceutical practices that can prevent drug use errors and resolve health-related problems. According to the Decree of the Minister of Health of the Republic of Indonesia in 2004, a pharmacy is a certain place, where pharmaceutical work is carried out and distribution of pharmaceutical preparations and other health supplies to the public.

Pharmaceutical services are an important function including planning, procurement, storage, distribution, use and problems with drugs. The pharmacy unit is a very important part of medical support services because it provides drug services as well as consumable medical materials and equipment and is the unit that uses the most budget for drug procurement, and is one of the units that provides initial sources for clinics/hospitals (Siregar, Amalia 2004 :14). Currently, the reality is that most clinics in Indonesia have not carried out pharmaceutical service activities as expected, considering several obstacles, including the ability of pharmacists and limited knowledge about clinical pharmacy information systems.

The higher a person's education and socio-economic status, the more expectations for satisfactory service increase. In the JKN (National Health Insurance) era, the public's need for health services is increasingly increasing. To achieve optimal health services, it depends on the service system in all units in the health facility, and also depends on the number and professionalism of the medical personnel within it. One system in health facilities that must be implemented and developed to improve services is the pharmacy unit. Services in the pharmacy unit can be improved by implementing a clinical information system that can speed up the time of pharmaceutical service to patients.

In order to support the government's program, namely achieving a healthy Indonesian society by 2025, health service centers in various regions are developing rapidly, including the development of clinics, both those that collaborate with BPJS (Social Security Administering Body) and those that do not collaborate with BPJS. This also happened at the Mitra Sehat Cimareme Clinic which is in the Cimareme area, West Bandung district, West Java which has collaborated with BPJS from 2014 to 2020 with the largest capitation rate for BPJS participants in West Bandung, namely at 18,200 participants with the number of patients who seek treatment every month is in the range of 7000 – 10000 patients.

The Mitra Sehat Cimareme Clinic was founded in 2002 by four doctors and is under the auspices of the Mitra Sehat Cimareme foundation. The location of the clinic is on the main road so it is easy to see and be visited by people who want treatment, namely on Jalan Cimareme No. 235 West Bandung. Another factor that supports the rapid increase in the number of BPJS (Social Security Administering Agency) capitations is that around the clinic there is a densely populated area where there are residential housing for people with economic status from bottom to top and also around the clinic there are quite a lot of factories that direct their employees to register. Mitra Sehat Cimareme clinic as a BPJS health facility for all employees in these factories.

The health services provided at Mitra Sehat Cimareme are examinations by general practitioners, dentists, midwives and laboratories. The number of medical personnel available is a total of 12 medical personnel and 4 non-medical personnel. The medical personnel at the clinic consist of: 3 general practitioners, 2 dentists, 1 midwife, 1 dental nurse, 1 general nurse, 1 pharmacist, 3 pharmacist assistants. Four non-medical personnel, namely: 2 admins, and 2 office boys. The increasing number of patients causes an increase in the time required for pharmaceutical services in clinics, but the increasing number of patients treated is not balanced by the increase in the number of health workers in the clinical pharmacy section and is not balanced by the existence of a pharmaceutical information system that can help pharmaceutical services, so the service Pharmacy in clinics will decrease so that patient satisfaction with health services in clinics will decrease.

The higher BPJS capitation is followed by an increase in the number of patients seeking treatment at the clinic every month. This has resulted in higher levels of service in the pharmacy unit so that it is hoped that there will be an increase in pharmaceutical services, especially in terms of time for preparing and administering medicines to avoid an accumulation of the number of patients waiting for medicines in the pharmacy department.

Faster pharmaceutical services must also be accompanied by accuracy in drug preparation, namely the drug must be as prescribed, the dose and class of drug are correct, and the drug given is not expired. To help prepare the right medicines quickly in the clinical pharmacy department, it is necessary to have a pharmaceutical information system that can improve the quality of pharmaceutical services, especially shortening the waiting time for medicines in the clinical pharmacy unit.

The patient satisfaction factor is very important because this can reduce the patient's sense of loyalty to health facilities. Since 2004, the Mitra Sehat Cimareme clinic has collaborated with JAMSOSTEK (Workers' Social Security) so that in 2014 and until now in 2020, the Mitra Sehat clinic is the BPJS health facility with the largest capitation in West Bandung where the BPJS participants are participants from JAMSOSTEK and added with BPJS Mandiri participants.

As time progressed, primary clinics appeared to appear around the Mitra Sehat Cimareme clinic which also received BPJS services. This of course creates competition in terms of winning and maintaining BPJS capitation at the Mitra Sehat Cimareme clinic, so that the Mitra Sehat Cimareme clinic needs to maintain the loyalty of its patients by continuing to strive to improve its services to patients at the clinic, especially improving services in the pharmacy unit in terms of pharmacy service times. to be faster but more accurate so that patient care and patient safety can be maintained.

Pharmacy information systems can help speed up management starting from orders, drug price data, drug dispensing and remaining drug data. Apart from that, the increasing number of patients is not balanced by increasing the number of human resources (human resources) and the absence of a pharmaceutical information system, causing patient waiting times in the pharmacy unit to increase and this causes discomfort to patients.

Until now, the Mitra Sehat Cimareme clinic in the pharmacy unit still uses manual methods, namely recording orders, drug price data, data on remaining and outgoing drugs, and daily income data in the clinical pharmacy unit, all of which are recorded in separate books, so that it takes longer for pharmaceutical services to be provided to patients in the clinic. To handle one non-concocted recipe the time required is around 35-40 minutes and to serve one concocted recipe the time required is around 65-70 minutes. This is not in accordance with Minister of Health Decree Number 129/Menkes/SK/II/2008 where the waiting time for non-concocted prescriptions is $\leq$ 30 minutes, and the waiting time for concocted medicines is $\leq$ 60 minutes.

This will also indirectly affect the onset of the clinic because there is reduced patient loyalty due to patient satisfaction with clinic services that do not meet patient expectations, so patients can move BPJS health facilities to other clinics in the vicinity of the Mitra Sehat Cimareme clinic.

Based on the background of this problem, the author tries to solve the problem at the Mitra Sehat Cimareme clinic in the pharmacy unit by implementing a Pharmacy Information System Design to Minimize Prescription Waiting Time at the Mitra Sehat Cimareme Clinic, West Bandung.

1.1 Identification of problems

In accordance with the research background, the problems in this research can be identified as follows:

1. What is the current design of the pharmaceutical information system at the Pratama Mitra Sehat Cimareme West Bandung West Java clinic?
2. How is the pharmaceutical information system designed at the Pratama Mitra Sehat Cimareme clinic to be able to speed up the waiting time for prescriptions?

1.2 Research purposes

The aim of this research is to:

1. Analyze the pharmaceutical information system implemented by the Mitra Sehat Cimareme clinic, West Bandung.
2. Design an information system at the Pratama Mitra Sehat Cimareme clinic to speed up the waiting time for patient prescriptions at the Mitra Sehat Cimareme Pratama clinic pharmacy unit, West Bandung.

1.3 Research Scope

This research was conducted at the Pratama Mitra Sehat Cimareme Clinic in West Bandung, specifically regarding the pharmaceutical information system. The pharmacy unit is a central system, where the pharmacy unit is connected to the general clinic, dental clinic, and midwife clinic.

2. Literature Review

2.1 Management Information System

According to Gordon B. Davis, a management information system is a system between humans and machines that is integrated to present information to support operational functions, management and decision making in presenting management information. Management information systems are often called MIS, the results of MIS are generally always taken into consideration when making decisions within an organization. By using a management information system, various kinds of work related to management analysis can be completed quickly.

Management information systems can run well if they are supported by sophisticated technology, quality human resources and organizational commitment. Management information systems are very useful for supporting management functions, operations and decision making. MIS is a collection of information systems

2.2 Hospital Information System

Hospital information system (SIRS) in English: Hospital information system (HIS) is a process of collecting, processing and presenting hospital data throughout Indonesia. This information system covers all general and special hospitals, both publicly and privately managed as regulated in Law of the Republic of Indonesia Number 44 of 2009 concerning Hospitals. The hospital information system in Indonesia has undergone several revisions, up to the Republic of Indonesia Minister of Health Regulation No.1171/MENKES/PER/VI/2011 concerning the latest revision of the hospital information system for all types of hospitals in Indonesia. According to Law No. 44 of 2009 article 52, it is explained that every hospital is obliged to record and report all hospital operations in the form of a hospital management information system.
A hospital information system is a series of activities that cover all health services at all administrative levels which can provide information to managers for management processes related to data collection, data processing, information presentation and analysis of health services in hospitals.

2.3 Hospital Pharmacy Information System

Minister of Health Regulation (PMK) number 58 of 2014 concerning pharmaceutical service standards in hospitals explains that pharmaceutical service is a direct and responsible service to patients related to pharmaceutical preparations with the aim of achieving definite results to improve the patient's quality of life. Every activity related to pharmaceutical service activities must become a standard so that it becomes a benchmark used as a guide for pharmaceutical personnel in providing pharmaceutical services.
Pharmaceutical services in hospitals include 2 (two) activities, namely managerial activities in the form of managing pharmaceutical supplies, medical devices and consumable medical materials and clinical pharmacy service activities. These activities must be supported by human resources, facilities and equipment. Clinics as a miniature form of hospitals are expected to be able to provide pharmaceutical information systems that can improve services to patients.

3. Research Methods

The research method that the author will use in designing information systems is ITIL (Information Technology Infrastructure Library) which is a general framework that describes best practices in IT service management. ITIL provides a framework for IT governance and focuses on continuous measurement and improvement of the quality of IT services provided, both from a business and customer perspective (Wibowo: 2009).

Qualitative methods were used by researchers for two reasons, namely:

1. From empirical observations it was found that the research data was carried out in descriptive form.
2. Carrying out descriptive research is very useful for getting a variety of problems.

Apart from the two reasons above, descriptive methods generally attract writers, because their form is very simple but can provide an overview of the problems currently faced and can provide a simple picture of solving these problems so that they are easy to understand without the need for complex statistical techniques. The data collection technique used is observation. Effective in conducting this research is by conducting interviews. The interview preparation process consists of creating an interview guide such as writing a list of informants including informant contact numbers, preparing documents needed for the interview such as recording equipment, research permission letters, etc. As a result of these observations, it was found that there was an increase in the waiting time for patient prescriptions in the pharmacy unit of the Mitra Sehat Cimareme Pratama Clinic, so the researcher as a professional and structural party at the Mitra Sehat Cimareme Clinic conducted a thesis entitled Pharmacy Information System Design to Minimize Prescription Waiting Times at the Mitra Sehat Cimareme Pratama Clinic, West Bandung. .

4. DISCUSSION

4.1 Information System Design at Mitra Sehat Cimareme Clinic

Pratama Mitra Sehat Cimareme Clinic currently has a pharmaceutical information system that is still manual, namely recording in several books, namely the drug entry book, drug dispensing book, drug price list book, stock taking data book. This causes a long time required to enter drug data and incoming and outgoing drug category data, and this requires a long time to check whether the incoming and outgoing drug data is appropriate or not. A problem that often occurs is if the prescribed medication is not in the pharmacy unit, which causes the pharmacist assistant to have to see a doctor to re-make a prescription that is in accordance with the existing medication supply in the pharmacy unit and this makes the patient's waiting time to get a prescription longer.

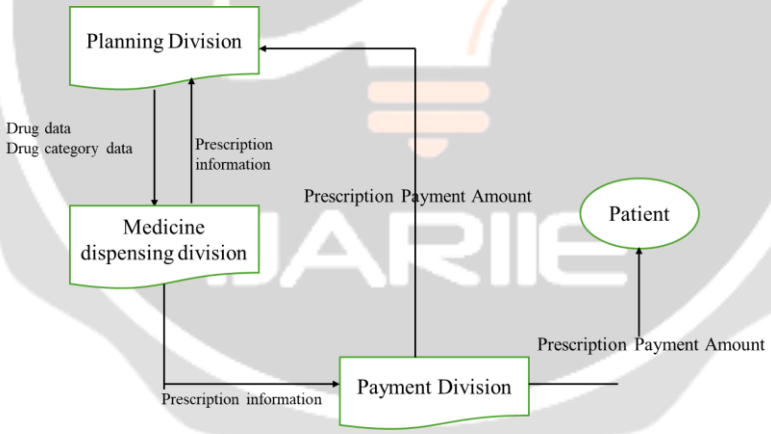

Fig -1 Manual Pharmacy Information System at Mitra Sehat Cimareme Clinic

The flow of the pharmaceutical information system implemented at the Pratama Mitra Sehat Cimareme Clinic is currently explained in figure -1, it appears to consist of 3 units, namely:

1. Medicine planning and purchasing division: This division orders medicines according to the needs of the pharmaceutical installation which must be provided, and orders medicines based on the medicine catalog where if there is a decrease in stock then planning can begin to order medicines.
2. Medicine dispensing division: This division carries out the process of preparing patient prescriptions prescribed by doctors and midwives. This division also records data on medicines dispensed for each prescription, the data is written in a prescription book and submitted to the planning unit.
3. Payment division: This division receives all payments from prescriptions that have been completed by the medicine dispensing division. This division explains to patients how to use these drugs. This division also makes payments for each drug ordered by the inventory division.

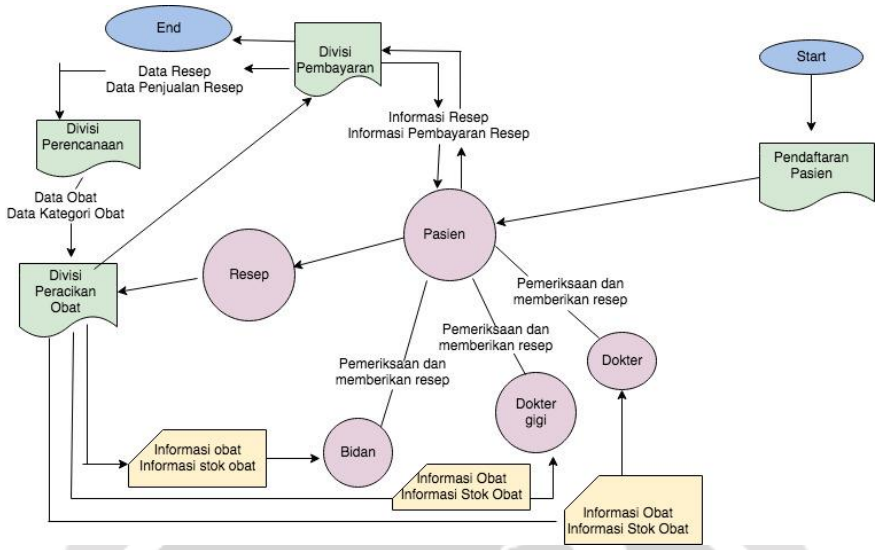

Fig -2 Relationship between the Pharmacy Information System and other divisions at the Mitra Sehat Cimareme Clinic.

Figure 2 explains the relationship between the division and the pharmaceutical division. The flow from the patient to the midwife or dentist, general practitioner is examined and a prescription is given to the patient after the examination. The patient takes the prescription to the pharmacy unit, and the one who handles this prescription is the prescription compounding division. While the prescription is being prepared, the patient waits in the waiting room in the pharmacy unit and when the prescription is complete, the patient will be called by the pharmacy unit payment division. In the payment division of this pharmacy unit, patients receive information about the drugs that have been prescribed, namely information about how to use the drugs, the dose of the drug, and the conditions for whether the drug needs to be finished or not, and the patient also gets information about the nominal payment for the prescription.

In the prescription compounding division, which receives prescriptions from patients, the medicines written down by medical personnel who examine them, sometimes it turns out that there is no stock either in the medicine cupboard or in the supply warehouse. This causes the pharmacist assistant in the compounding division to have to meet the medical staff who prescribed it again and ask to rewrite the prescription with the drugs available in the pharmacy unit, of course this will increase the waiting time for patient prescriptions in the clinical pharmacy unit. This is shown in table 1.

Table -1 Waiting Time for Prescriptions at the Mitra Sehat Cimareme Clinic Pharmacy Unit

Types of Medicines in Prescriptions	Waiting Time for Prescriptions at Clinical Pharmacy Installations
Non-Concoction Medication	Approximately 35 – 40 minutes
Mixed Medicine	Approximately 65 – 70 minutes

4.1 Design of the Mitra Sehat Cimareme Clinic Pharmacy Information System Design

To design a system design, the steps required are:

1. Create a business process

In the business process diagram below, it can be seen that the business process starts from the registration section. Registration, the patient's identity is recorded, namely name, age, address, NIK, telephone number or email. In the registration section, the patient receives a registration card containing the patient's identity and registration number. After registering, the patient goes to the examination waiting room according to the patient's wishes. If the patient

wants to be examined by a general practitioner, the patient will wait in the waiting room at the general practitioner's clinic.

The nurse, who is the doctor's assistant, will call the patient according to the registration sequence number. The patient who is called will enter the doctor's examination room. From the results of the doctor's examination, the patient can be given therapy, which can be in the form of a drug prescription that must be paid, or action and a drug prescription or it can also be without a drug prescription and no action, so just a health consultation. A prescription written by a doctor, if there is sufficient stock, the prescription will be given directly to the patient. If the prescription to be given turns out to contain a drug that is not in stock, then the doctor will rewrite the prescription for the drug that will be given to the patient according to the drug stock.

Prescriptions received by patients are given to the pharmacy unit to the drug depot. At the drug depot, prescriptions will be screened by a pharmacist. This is in accordance with the Minister of Health Decree no.1027 / MENKES / SK / IX / 2004, pharmacists in screening prescriptions include administrative, pharmaceutical and clinical requirements. The administrative aspect is fulfilled when information is available regarding the completeness of patient data (patient's name, patient's age, patient's gender, and patient's weight), completeness of doctor's data (doctor's name, doctor's practice permit number (SIP), doctor's practice address, doctor's telephone number , and the doctor's initials), as well as whether or not there is a date the prescription was written. The pharmaceutical aspect is fulfilled when information is available regarding the form and strength of the dosage form, the preparation is stable and compatible. In the pharmaceutical aspect, non-mixed prescriptions are considered to be stable and compatible. The clinical aspect is fulfilled when the dosage given is in the right dosage, has clear rules, methods and duration of drug use. , no duplication and/or polypharmacy occurs, and does not cause major interactions between the drugs given.
The complete medication is given to the patient and explained how to use the medication. Previously, patients were called according to the patient's personal identity and according to the prescription number given to the patient from the drug depot. In this unit, patients carry out drug payment transactions and transactions for examinations from doctors or medical personnel. Every day in the payment unit all transactions that occur in the clinic from the poly unit and from the pharmacy division will be totaled. Every day the drug stock data in the drug compounding unit is always updated, and ultimately this data will reach the planning or drug procurement unit at the clinic. It is hoped that this data can help the planning unit to determine which drugs will be ordered next

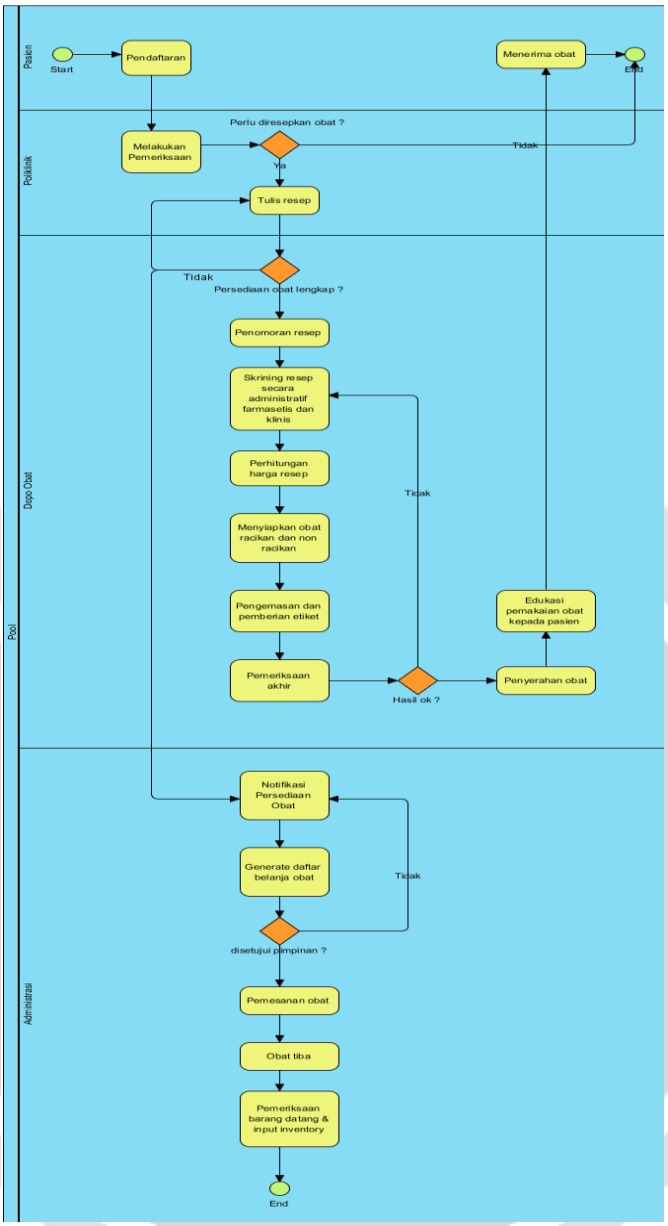

Fig -3 Business Process

2. Create a data flow diagram

A data flow diagram (DFD) is a diagram that describes the flow of data from a process or system. DFD also provides information about the output and input of each entity and the process itself. DFD has no control over its flow, there are no rules regarding decisions or repetitions. Specific data-driven operations can be depicted by flowchart diagrams. According to Kenneth Kozar, the purpose of DFD is to provide a bridge between users and system developers.

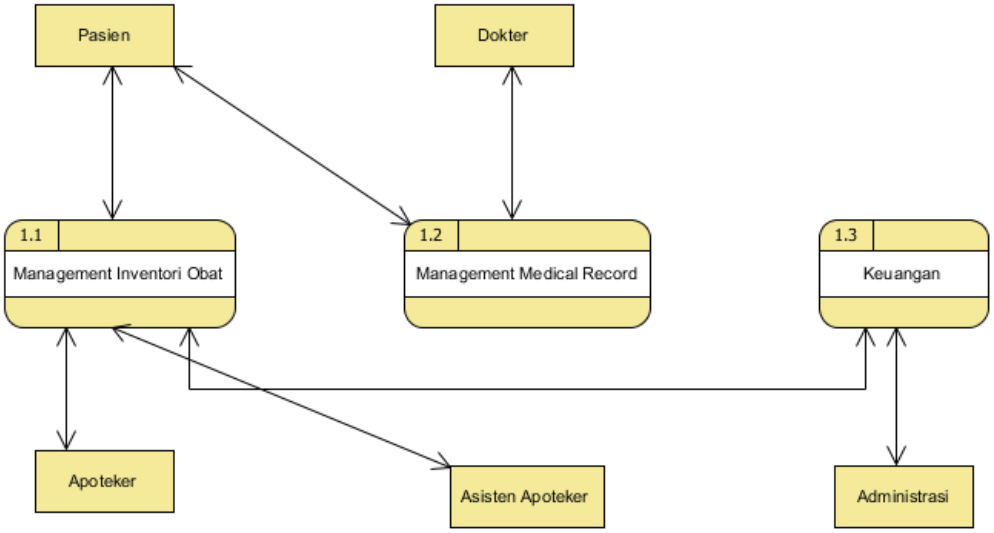

Fig -4 Data Flow Diagram (DFD)

3. Create a communication diagram

Communication diagrams are diagrams to provide information or notifications between roles (persons) and the system and vice versa.

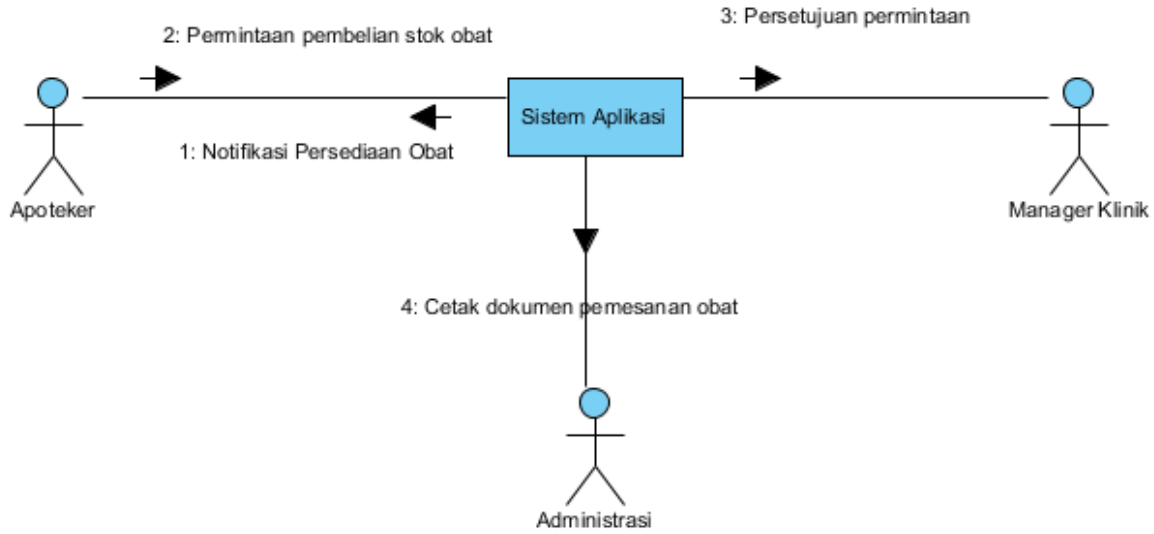

Fig -5 Communication Diagram

It can be seen in Figure 4.2.3 that there is a flow of information from the pharmacist to the system, namely information on drug requests and the system provides notification information on drug supplies. And the flow of information from the system to the clinic manager and to the administration. Information that can be provided to the clinic manager is such as approval of requests, and information that can be provided to administration such as documents for ordering medicines.

4. Create an ERD (Entity Relationship Diagram)

Entity Relationship Diagram is a model for arranging a database so that it can describe data that has a relationship with the database to be designed.

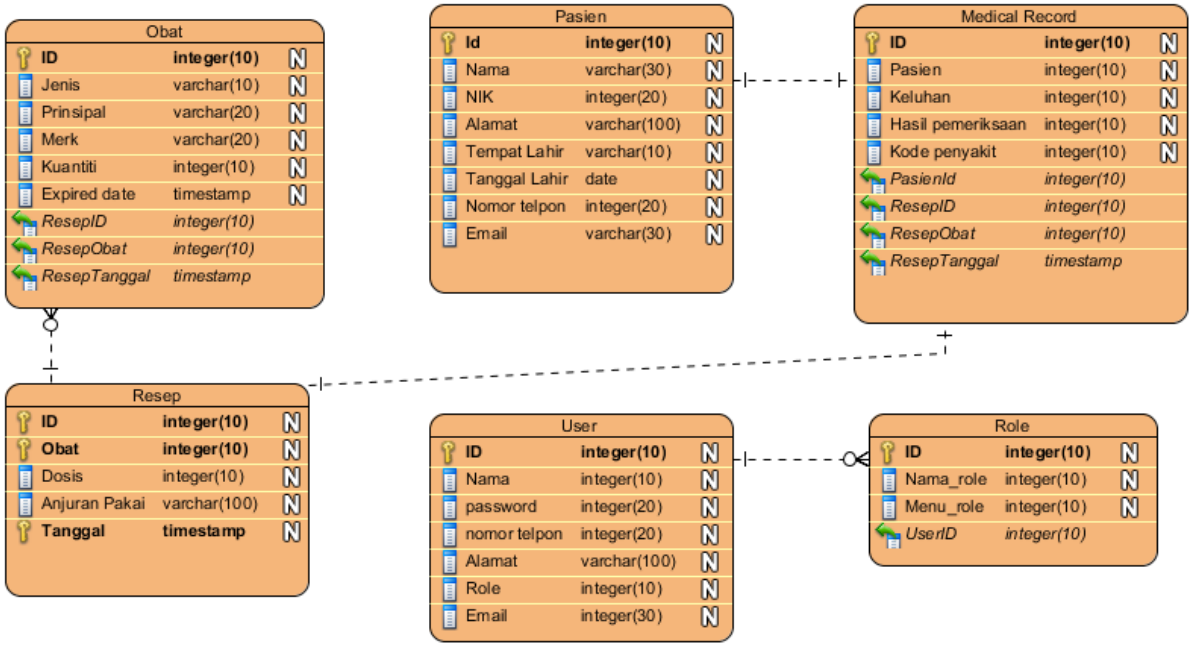

Fig -6 Entity Relationship Diagram (ERD)

This diagram image is a database design image. In the prescription table you can see the relationship between the prescription and the medicine table, where the form of the relationship is one to many, meaning that in one medicine prescription various kinds of medicines can be listed. Meanwhile, the relationship between the patient table and the medical record is a one to one relationship because one medical record is only for one patient.

4.3 Details of Costs for Installing the Pharmacy Information System Application at the Mitra Sehat Cimareme Pratama Clinic

To be able to provide a pharmaceutical information system application that can be used in clinics, there are several cost details that must be prepared, namely:

Table -2 Detailed Description of Costs for Installing Pharmaceutical Information System Applications

Required components	Work Duration 7 days application	Work Duration 14 days application
-System analyst (1 person)	7 million – 10.5 million	14 million – 21 million
-Programmer (3 people)	10.5 million – 14.7 million	21 million – 28 million
-Hardware	10 million – 15 million	10 million – 15 million
Total	27.5 million – 40.2 million	45 million – 64 million

From the table above it appears that to install this application the minimum cost is 27.5 million and the largest is 64 million. If the budget for installing this application can be as small as 27.5 million, then this budget can be covered or taken from just one month of capitation profits received from BPJS each month.

From capitation payments to BPJS, currently capitation amounts to around 18 thousand, where for per capitation BPJS provides reimbursement of 10 thousand, so per month the clinic gets an onset from BPJS of around Rp. 180 million. With total expenditure per month for pharmaceutical needs, electricity, water, office stationery, cleaning materials, and payment for services from 12 medical personnel with 2 cleaning staff who on average have worked in the clinic for a period of between 4 - 7 years, the total expenditure clinics in one month is 145 – 150 million in 2019 – 2020.

The number of patients per month who seek treatment at the clinic is in the range of 20 thousand - 30 thousand, where the number of patients seeking treatment has not decreased even though the number of patients registered as BPJS capitators has decreased due to the large number of BPJS capitates who have moved their BPJS health facilities. The clinic's expenses in one month are around 145 – 150 million per month. This means that there is a clinic profit of around 30 - 35 million per month in 2019 - 2020. This can be seen in table 3.

Table -3 Description of Income from BPJS Capitation and Clinic Expenditures Time Range 2016 – 2020

year	Capitation Amount BPJS	Income BPJS capitation	Expenditure Clinic	Profit Clinic
2016	About 20,000	Around 200 M	Around 150-160 Ma	Around 40-50 million
2017	About 20,000	Around 200 M	Around 150 -160 Ma	Around 40-50 million
2018	About 19,000	Around 190 M	Around 150 -155 Ma	Around 40-35M
2019-2020	About 18,000	Around 180 M	Around 145-150 Ma	Around 30-35M

In 2016-2017 the number of clinic capitations was around 20 thousand. In 2017, BPJS clinics began to appear around the Mitra Sehat Cimareme clinic, and finally in early 2018, the number of BPJS capitations decreased to 19 thousand and in 2019 to 18 thousand which remained until 2020.

The decrease in capitation from 2017, namely 20 thousand to 19 thousand in 2019, indicates a decrease in clinic profits of around 10 million per month and this profit will shrink again by around 10 million in 2020 where capitation in 2020 is around 18 thousand. When interviews were conducted with patients and medical staff, it was concluded that there was discomfort from patients, namely from the service in the pharmacy department which took a long time to wait for a prescription, so that they tended to eventually give up their loyalty to the Mitra Sehat Cimareme clinic and move to another BPJS clinic. can improve services in the pharmacy unit.

The pharmaceutical information system at the Mitra Sehat Cimareme clinic is very necessary to be able to improve services to patients at the clinic, especially services in the pharmacy section, namely to speed up the waiting time for prescriptions. This is expected to strengthen patient loyalty to the clinic, so that the clinic does not lose out in competition in terms of medical services, and patients will remain loyal and comfortable in seeking treatment at the Mitra Sehat Cimareme clinic. Patient loyalty is very necessary to prevent the increasing number of patients moving to other BPJS clinics which could lead to a decrease in BPJS patient capitation which in turn will lead to a further decrease in profits obtained by the Mitra Sehat Cimareme clinic.

5. CONCLUSION

To be able to improve pharmaceutical services and of course to increase patient savety and patient care at the Mitra Sehat Cimareme clinic as a BPJS primary clinic with the largest capitation in West Bandung, a pharmaceutical information system is needed that can link data, especially drug inventory data, to the medical personnel who carry it out. examining and providing action, especially giving prescriptions to patients. With a pharmaceutical information system, it can reduce the waiting time for prescriptions at the Mitra Sehat Cimareme clinical pharmacy,

and can also prevent the administration of expired medicines to patients, which of course is very dangerous for patients.

With the existence of a pharmaceutical information system at the Mitra Sehat Cimareme clinic, it is hoped that service to patients can be improved so that the loyalty of BPJS participants is well maintained because BPJS participants are a source of BPJS capitation, namely one of the clinic's largest sources of income from BPJS.

Well-maintained patient loyalty can maintain BPJS capitation and this will maintain clinic profits. If more and more BPJS participants change their BPJS health facilities due to inconvenience in the pharmacy unit, namely long waiting times for prescriptions, then the clinic's profits will decrease.

6. REFERENCES

[1] Adiekoesoemo, S, 2012, Manajemen Rumah Sakit, Jakarta : Pustaka Sinar Harapan.
[2] Anief M, 2001, Manajemen Farmasi, Gadjah Mada University Press, Yogyakarta.
[3] Prof. Dr. Charles J.P Siregar, M.Sc 2003, Farmasi Rumah Sakit Teori & Penerapan, Jakarta : EGC
[4] Depkes, 2004, Keputusan Menteri Kesehatan Republik Indonesia Nomor 1027/MENKES/ IX / 2004 tentang Standar Pelayanan Kefarmasian di Apotek, Jakarta.
[5] Emzir, 2010, Metodelogi Penelitian Kualitatif Analisis Data, Jakarta : Raja Grafindo Persada.
[6] Ery Rustiyanto, 2012, Sistem Informasi Manajemen Rumah Sakit yang Terintegrasi,Yogyakarta ; Gosyen Publishing.
[7] Gita I Made, 2004, Evaluasi Pelayanan Resep Pasien Rawat Jalan Dihubungkan dengan Produktivitas Tenaga Kerja Pada Instalasi Farmasi Rumah Sakit Islam Jakarta Timur. Tesis, Yogyakarta : Universitas Gadjah Mada.
[8] Dr. dr. H.Boy S. Sabarguna, MARS, 2009, Keterampilan Manajemen Berbasis Sistem Informasi, Jakarta : Universitas Indonesia.
[9] ISO/IEC , 2018, Information Technology Service Management, Switzerland : ISO .
[10] Kenneth C. Laudon & Jane P. Laudon, 2007, Managing Digital Firm, New Jersey : Pearson Education, Inc.
[11] Prof. Dr. Muhardi, 2011, Manajemen Operasi Suatu Pendekatan Kuantitatif Untuk Pengambilan Keputusan, Bandung : Refika Aditama.
[12] M. Fais Sastranegara, 2014, Organisasi dan Manajemen Pelayanan Kesehatan Teori dan Aplikasi dalam Pelayanan Puskesmas dan Rumah Sakit, Jakarta : Salemba Medika.
[13] PERMENKES RI NO.30 TAHUN 2014 tentang Standar Pelayanan Kefarmasian di Puskesmas, Jakarta.
[14] Rizky, Soetam, Konsep Dasar Rekayasa Perangkat Lunak , 2011, Jakarta : Prestasi Pustaka.
[15] Stephen P. Robbuns & Timothy A. Judge, 2015, Organitation Behavior, Pearson Education, Inc.
[16] Prof. Dr. Sugiyono, 2018, Metodelogi Penelitian Pendidikan Pendekatan Kuantitatif, kualitatif dan R&D, Bandung : Alfabeta.
[17] Sukmandinata, 2006, Metode Penelitian Kualitatif. Bandung : Graha Aksara.
[18] Prof. Dr. Tjutju Yuniarsih, Dr. Suwatno, Msi, 2016, Manajemen Sumber Daya Manusia, Bandung : Alfabeta.
[19] Tri Murwanto, Wahyul Amien Syafei, R.Rizal Isnanto, 2013, Rancang Bangun Sistem Informasi Apotek Berbasis Web (Studi Kasus di Apotek Mutiara, Banyumanik Semarang) : Semarang.