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THE ROLE OF DIGITAL-BASED DRUG MANAGEMENT IN IMPROVING THE EFFECTIVENESS AND EFFICIENCY OF THE REPORTING SYSTEM AND ITS IMPLICATIONS FOR DECISION-MAKING IN THE PHARMACY INSTITUTION OF THE GENERAL SERVICES AGENCY OF NABIRE REGENCY GENERAL HOSPITAL

Kristina Boga[1]*, Teguh Nurhadi Suharsono[2], Ayu Laili Rahmiati[3], Rullia[4], Vip. Paramarta[5], Farida Yuliaty[6]
[1]Master of Management Program, Postgraduate Program, Universitas Sangga Buana YPKP, West Java, Indonesia
[2,3,4,5,6]Universitas Sangga Buana YPKP, West Java, Indonesia
E-mail: bogakristina1505@gmail.com[1]*, teguh.nurhadi@usbypkp.ac.id[2], ayunasihin2@gmail.com[3], rulia_rudayat@yahoo.com[4], vip@usbypkp.ac.id[5], farida.yuliaty@usbypkp.ac.id[6]

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Abstract

The suboptimal provision of medication services at the Pharmacy Unit of Nabire Regency General Hospital is a problem at the Public Service Agency of Nabire Regency General Hospital. This study aims to analyze the role of digital-based medication management in improving the effectiveness and efficiency of the reporting system and its implications for decision-making at the Pharmacy Unit of Nabire Regency General Hospital. This study used qualitative research methods, including interviews, observation, and documentation. The results of the study indicate that the role of digital-based drug management in improving the effectiveness and efficiency of the reporting system and the implications for decision-making at the Pharmacy Installation of the Public Service Agency of the Nabire Regency General Hospital is still not running well. This is seen in the following: The selection stage is routinely every year to compile drug needs by involving all managers with activities to adjust available drug items but still below the standards of the Indonesian Ministry of Health. The procurement stage by carrying out planning and procurement through the stages of providing available capital/funds with the entire required funds sourced from the Regional Budget and Special Autonomy Funds and the procurement of each drug item as of May 2025 as many as 278 types of drugs. The distribution stage by looking at the match between the drug and the stock card to avoid the condition of drug stock in the empty, insufficient, safe or excess category and to affect the requested drug demand and the level of drug availability for 12 months. The user stage by looking at the number of drug items per prescription sheet that have been listed in the system but there are some drug items that cannot be served and drugs that are correctly labeled have complied with the rules. Suggestions for the need to improve selection so that drug needs are in accordance with the standards of the Indonesian Ministry of Health, adding funds so that all drugs are available, monitoring drug distribution by matching drugs with stock cards and providing drug items for each prescription sheet in full.

Keywords: ***Management, Digital and Decision***

INTRODUCTION

The rapid development of information technology in the digital era has had a significant impact on various sectors, including the health sector. In the pharmaceutical world, digital-based drug management has become an integral part of efforts to improve service quality, operational efficiency, and more accurate decision-making. One of the real applications of this technology application is a reporting system that utilizes digital platforms to monitor, manage, and document drug-related information. The use of digital-based drug management has great potential in improving the effectiveness and efficiency of reporting systems, which in turn has positive implications for decision-making in pharmaceutical installations. Based on the Regulation of the Minister of Health Number 72 of 2016 concerning Pharmaceutical Service Standards in Hospitals, it is stated that pharmaceutical service providers in hospitals must ensure the availability of pharmaceuticals, medical devices, and consumables medical materials that are safe, quality, useful, and affordable. The existence of drugs is a very important subject and must be maintained,

where the cost of drug spending budgets in developing countries can absorb around 40 to 50% of the total cost of hospitals. These large costs must of course be managed effectively and efficiently, considering that funds for the purchase of drugs in hospitals are not always in accordance with needs (Ministry of Health of the Republic of Indonesia, 2019). Accurate and timely reporting is essential in the pharmaceutical sector, both to ensure sufficient availability of drugs, to avoid stock shortages, and to detect potential problems related to drug use. Conventional reporting systems often face obstacles such as delays in data submission, recording errors, and difficulties in analyzing large amounts of data. Therefore, the role of digital-based drug management is very important to overcome these problems and bring the reporting system to a more efficient and effective level.

Drug management in pharmaceutical installations includes stages of selection, procurement, distribution, and use that are interrelated with each other so that they must be well coordinated so that each can function optimally. The disconnection between each stage will result in the existing drug supply and use system becoming inefficient (Rochmani et al., 2016). Effective and efficient drug management is an important part of improving the quality of health services, especially in pharmaceutical installations. Good drug management can improve drug availability, prevent shortage or excess inventory, and simplify the reporting process which is the basis for decision-making related to drug distribution and use policies. However, in many pharmaceutical installations, there are still challenges associated with manual-based drug management systems, which can result in errors in logging, delayed reports, and difficulties in monitoring drug inventories in real-time. With the development of information technology, the application of digital-based drug management offers solutions to improve the effectiveness and efficiency of drug management systems. Digital systems allow for faster and more accurate monitoring and reporting of medications, as well as making it easier to make more informed decisions based on available data.

The application of digital technology in drug management in Nabire Regency has the potential to have a big impact, both in terms of improving the quality of pharmaceutical services to the community, and in terms of operational efficiency of pharmaceutical installations. The use of digital-based drug management in pharmaceutical installations in Nabire Regency has great potential to improve a more efficient and accurate reporting system. With a more integrated system, reporting data can be obtained in real-time, allowing relevant parties to make more informed decisions in terms of procurement and distribution of medicines. Based on papua.tribunnews. com who reported on the Disorder of Drug Services at Nabire Hospital, namely According to Papuan health figures, drg Aloysius Giyai related to poor service at Nabire Hospital, Central Papua, After a sudden inspection (sidak) at the hospital, Decky Nawipa told the press that he received a number of complaints from Papuan Indigenous patients (OAP), especially related to drug services and BPJS membership. According to Aloysius, both the findings of the legislator who revealed the facts of the service complaint and the explanation from the Public Relations of Nabire Hospital are two facts that are true. The Nabire Hospital admitted that it was short of funds because it had paid medical debts since the disappearance of the Papua Healthy Card (PPP) program from 2020. In addition, Nabire Hospital, which belongs to the Nabire Regency Government, does not only serve the people of Nabire. This health facility also serves patients from seven other districts in Central Papua Province, and several surrounding districts outside Central Papua such as Waropen, Yapen, and Wondama. (https://papua.tribunnews.com accessed March 24, 2025)

Furthermore, based on the results of observations in Nabire Regency, although there are efforts to improve the drug management system, there are still obstacles in the implementation of the digital system to the maximum. This can be caused by various factors, such as limited technological infrastructure, lack of training for pharmacists, and limited funds for the development of digital-based systems. Based on the problems that have been raised above, the researcher is interested in conducting research and submitting a thesis entitled The Role of Digital-Based Drug Management in Increasing the Effectiveness and Efficiency of the Reporting System and Implications for Decision Making in the Pharmaceutical Installation of the Public Service Agency of the Regional General Hospital of Nabire Regency.

LITERATURE REVIEW

Management Science

Management comes from the word to manage which means to manage. The term Management has been interpreted by various parties with different perspectives, such as management, coaching, management, administration, leadership, management, administration, and so on. For more details, there are several definitions or definitions of Management, which are as follows: John D. Millett limits management to: "*management is the process of directing and facilitating the work of people organized in formal groups to achieve a desired goal*" (Siswanto,

2021). According to G.R. Terry. (Budiyono, 2004) According to him, management is: "*management is a distinct process consisting of planing, organizing, actuating and controlling performed to determine and accomplish stated objectives by the use of human being and other resources* ".

Meanwhile, according to (Hasibuan, 2007) the definition of management is: "science and art regulate the process of utilizing human resources and other resources effectively and efficiently to achieve a certain goal". The author defines what management means here as an effort to develop and lead a collaborative team or group of people in an organization to handle, develop, carry, and manage an institution, whether educational, coaching or others. Management is needed by all organizations, because without management, all efforts will be wasted and achieving goals will be more difficult. As according to Hasibuan, the importance of management is applied in an organization, because basically human abilities are limited (physical, knowledge, time, and attention) while their needs are unlimited (Hasibuan, 2007). Efforts to meet the needs and limited ability to do work encourage humans to divide work, duties and responsibilities. With this division of labor, duties, and responsibilities, heavy and difficult work will be completed well and goals can be achieved.

Hospital Management

Hospital management is inseparable from the management process, because with management will direct or coordinate the completion of health service activities to achieve the health service goals that have been set. The main goal of public service management such as hospitals is the ability of service providers to provide quality services to the community. In relation to the provision of quality health services to the community, according to (Muninjaya, 2011) it is explained that: Improving the quality of health services to the community has been widely applied to various cutting-edge medical technologies used by hospitals. The production factor of the quality of health services comes from the officers/staff owned by the hospital itself, both doctors, nurses, administrative officers and other officers.

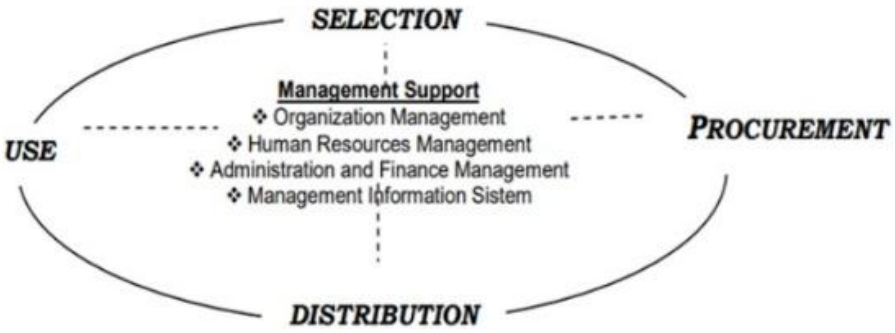
Herlambang further explained that: Hospital management as a "non-profit" institution must be developed with the best planning to provide quality services, but at the most optimal cost possible and get a residual business result (Herlambang, 2016). This planning process consists of two main activities, namely the preparation of plans by the leadership and the preparation of budgets by related parties. The description can be understood that hospital management is inseparable from the process of structuring or planning in preparing budgets or financial management as an effort to optimize the sustainability of the health service process to the community, in this case the manager has responsibility for obtaining smooth cash flow, to finance investments and operational activities of the Hospital. In this case, one of the roles of financial management is also to maximize the value of the hospital can mean a wider meaning than just maximizing profits, as an effort to maximize value can mean considering the value of money time, and maximizing value means considering various risks that will occur in relation to the flow of hospital income.

Medication Management

Good drug management ensures that drugs are always available whenever needed, in sufficient quantities and guaranteed quality, to support quality services in hospitals. The drugs needed are drugs that are medically necessary according to the circumstances of the local disease pattern, it has been scientifically proven that the drugs are useful and safe to use in the hospital concerned. Drug management concerns various stages and activities that are interrelated with each other. The disconnection between each stage and activity will lead to the inefficient supply and use of existing drug supply systems, affecting the performance of hospitals both medically, economically and socially. Another negative impact will reduce public trust in hospital services. Drug management in hospitals is one of the important elements in the overall managerial function of the hospital, as inefficiencies will have a negative impact on the hospital both medically and economically. The goal of drug management in hospitals is to make the necessary drugs available whenever needed, in sufficient quantities, guaranteed quality and affordable prices to support quality services. In a drug management system, each of the main functions is built based on the previous function and determines the next function (Liliek, 1998). Drug management can be understood more easily through a systems approach. The system in general is a network of work procedures that are interrelated and connected in a unit, namely goals that are created and designed to support efforts to achieve goals. Furthermore, drug management is "A network of interconnected procedures, gathering together to carry out an activity or complete a certain goal" (Jogiyanto, 2005:1).

The drug management cycle includes four stages, namely: 1) selection, 2) procurement, 3) *distribution*, and 4) *user*. Each stage in the drug management cycle is interrelated, so it must be managed properly so that each can be

managed optimally. The interrelated stages in the drug management cycle require an organized supply system so that activities run well and support each other, so that the availability of drugs can be guaranteed that supports health services, and becomes a potential source of hospital income. The drug management cycle is supported by *management support factors* which include organization, administration and finance, Management Information Systems (SIM) and Human Resources (HR). Each stage of the drug management cycle must always be supported by the four *management supports* so that drug management can take place effectively and efficiently (Quick, 1984).



Source : Quick (Quick, 1984)

The success of the drug management cycle will depend on the ability to manage and consistently provide medicines of standard quality at affordable prices at all levels of the healthcare system. To sustain and expand successful interventions, medication management needs to be made stronger and more flexible through better management and increased resources to achieve digital-based medication management optimization. Digital-based drug management management is carried out through the implementation of a regular and continuous drug management information system that is integrated through an e-pharmacy system. The implementation of E-pharmacy focuses on the work of the electronic system, namely e-pharmacy itself which functionally plays a role in the management of computer-based drug information which in its work the electronic system of e-pharmacy as a data source, distributor or receiver as well as the storage and processing of information related to all distribution, service and governance activities of pharmaceutical business entities which are supervised and controlled directly through the e-pharmacy system by the Ministry of Health and related institutions.

E-pharmacy also serves as a guideline in drug services, namely serving the needs of drug demand by the community, both in the form of prescription and non-prescription drugs. In the implementation of its operations, e-pharmacy involves drug service providers such as pharmacies, clinics, hospitals, and so on. Then cooperate with parties engaged in the service sector, in this case related to accommodation for distributing drugs to the community through the services that have been provided which are part of the services of pharmacies, clinics, homes and so on as well as third parties who have agreed to cooperate in drug delivery with e-pharmacy PSEs. The Ministry of Health as the functional implementer of the e-pharmacy drug management information system process that regulates and controls the e-pharmacy system as a whole in the form of coaching and supervision of all drug-related activities and business entities, and health institutions, both public and private, that play a role in the operational implementation of the e-pharmacy system. So that with the creation of a drug management information system in the form of e-pharmacy, it is hoped that it can improve the quality of drug services to the community and drug management can be carried out effectively and efficiently by utilizing information technology, namely a computer-based system that is realized through the e-pharmacy system.

Effectiveness

The word effective comes from English, namely effective which means successful or something done successfully. Popular scientific dictionaries define effectiveness as the accuracy of use, use or support of goals. Effectiveness is the main element to achieve goals or objectives that have been determined in every organization, activity or program. It is called effective when goals or objectives are achieved as determined (Yanto & Eriyanti, 2019). Effectiveness is the appropriateness of a program to achieve the desired goals, and there is a comparison between inputs and outputs, the measure of effectiveness must be the level of satisfaction and the creation of conducive and high-intensity working relationships, meaning the measure of effectiveness of a sense of mutual ownership with a high level.

Efficiency

Efficiency is currently a major issue in various fields in relation to strategic positioning. The increasing level of competition and increasing scarcity of resources, which means higher prices, require every person or agency to carry out various innovations in improving the efficiency of resource use. Efficiency is a measure of comparing the plan to use input with the realized use or in other words the actual use (Mulyamah, 1987). Efficiency is the best comparison between inputs and outputs (the result between profits and the resources used) to produce the desired output. High efficiency indicates that the output produced is proportional to the input used, without waste or shortage. In other words, efficiency also means the use of minimal resources to produce a certain output. Efficiency is important to achieve goals in an optimal way. When an activity or process is efficient, profits can be maximized, costs can be minimized, productivity can be increased, and competitiveness can be strengthened.

Decision

Decision-making is an alternative process of action to achieve certain goals or objectives. Decision-making is carried out with a systematic approach to problems through the process of collecting data into information and adding factors that need to be considered in decision-making. Winardi explained that decision-making is the process of choosing a certain procedure from various alternative possibilities. Decision-making is always related to a problem and a solution is to be achieved. Literally, decision-making means cutting or deciding or practically reaching a conclusion (Alma, 2000).

Pharmaceutical Installations

According to the Minister of Health Regulation Number 72 of 2016, Pharmaceutical Installations are functional implementing units that organize all pharmaceutical activities in hospitals. Installation is "a facility that provides medical services, medical support services, research, development, education, training, and maintenance of hospital facilities. Meanwhile, Hospital Pharmacy is all aspects of pharmacy that are carried out in a hospital (Siregar & Amalia, 2004). The main task of Pharmaceutical Installations in hospitals is management ranging from planning, procurement, storage, preparation, compounding, prescription/order services, drug distribution to the control of all health supplies circulating and used in hospitals, both for inpatients, outpatients, and all units including hospital polyclinics (Siregar & Amalia, 2004).

METHOD

This type of research is qualitative research, which is research on data collected and expressed in the form of words and pictures, words arranged in sentences, for example sentences from interviews between researchers and informants. Qualitative research departs from the philosophy of constructivism, which assumes that reality is plural, interactive and an exchange of social experiences interpreted by individuals. Qualitative research is aimed at understanding social phenomena from the perspective of participants. Participants are people who are interviewed, observed, asked to provide data, opinions, thoughts, and perceptions (Sukmadinata, 2019). This study seeks to obtain as complete information as possible about the role of digital-based drug management in increasing the effectiveness and efficiency of the reporting system as well as its implications for decision-making in the Nabire Regency Pharmaceutical Installation. The research place used was at the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional General Hospital.

Parameters are a measure of the entire population that is estimated. is an indicator of a distribution of value measurement results that are used as a reference. A parameter is a measurable and constant quantity or variable of characteristics, dimensions, properties or values of a set of data (population) because it is considered important to understand the situation in solving a problem in order to meet the conditions for achieving the goal. Or it can be concluded that a parameter is a measuring tool for an existing problem, a parameter is also a value or reference that is passed with a certain time and becomes an influence on a problem. As a comparison parameter sets the external limits of the situation but does not help in assessing and statistics are the size of the sample and not of the population (Sugiyono, 2013). Operational is a complete set of instructions on what to observe, how to measure a variable or the concept of an operational definition to clarify the surrounding phenomena into a special category of variables (Walizer, 1987). Operations include important things in research that require explanation, understandable by many parties. Operations are specific, detailed, firm, and definite in describing the characteristics of research variables and other things that are considered important. Description or information that can explain the boundaries or certain parts

of a system so that it can be easier to understand by all groups. The intended limitation is the limitation of information and responsibility of each party of the Nabire Regency Regional General Hospital Installation.

Rumusan Masalah	Dimensi	Indikator	Sumber Informasi	Teknik Pengumpulan Data
Bagaimana peran manajemen obat berbasis digital dalam peningkatan efektivitas dan efisiensi sistem pelaporan serta implikasi pada pengambilan keputusan di instalasi farmasi Kabupaten Nabire	a. *Selection* (seleksi)	a. Kesesuaian item obat yang tersedia	Pegawai RSUD Kab. Nabire	wawancara observasi, dokumentasi
	b. *Procurement* (pengadaan)	a. Modal/ dana yang tersedia dengan keseluruhan dana yang dibutuhkan b. Pengadaan tiap item obat	Pegawai RSUD Kab. Nabire	wawancara, observasi, dokumentasi
	c. *Distribution* (distribusi)	a. Kecocokan antara obat Dengan kartu stock b. Tingkat ketersedian obat	Pegawai RSUD Kab. Nabire	wawancara, observasi, dokumentasi
	a. User (penggunaan)	a. Jumlah item obat tiap lembar resep b. Obat yang diberi label dengan benar	Pegawai RSUD Kab. Nabire	Wawancara, observasi, dokumentasi

The source of research data, namely people, events and documents that are considered important, namely primary and secondary (Moleong, 2017).

a. Primary Data Sources

Primary data sources are data sources that provide data directly from the first hand or data obtained directly from the source and obtained from the respondents who are researched, then recorded.

In writing this thesis, primary data was obtained through interviews or interview guides with leaders/managers and employees.

b. Secondary Data Sources

In this study, secondary sources were obtained from journals, the internet, and books regarding the role of digital-based drug management in increasing the effectiveness and efficiency of the reporting system and its implications for decision-making. And also archives or records and literature books in the Nabire Regency Regional General Hospital concerned. Specifically, it can be seen from the history of its establishment, organizational structure, and vision and mission.

Because this type of research is descriptive-qualitative, the researcher uses several kinds of techniques, namely:

a. Interview/Interview

The interview technique used by the researcher is the guided interview technique, which is an interview conducted by the interviewer with several complete and detailed questions.

b. Documentation

The documentation in this study can be in the form of recordings or in writing. According to Soehartono, documentation is the collection of data that studies company documents, records, and books that are relevant to this research (dan Irawan, 2000). The data obtained from using documentation techniques in this study are, 1)

Organizational structure, 2) Employee data that is supportive in the research and 3) Other data that are relevant to the research.

c. Observation

An activity carried out by a researcher includes the activity of paying attention to an object using all five senses. In this case, the observations made are limited to the necessary materials in accordance with their objectives, which are focused on analyzing the role of digital-based drug management in increasing the effectiveness and efficiency of the reporting system as well as the implications for decision-making as well as the policies used and existing problems, by participating in daily work activities at the Nabire Regency Regional General Hospital.

In this study, the following data collection techniques were used:

a. Observation Techniques

It is a data collection technique in which the investigation conducts direct observation of the symptoms of the subject being investigated. In qualitative research, observations are clarified in 3 ways. First, observers can act as participants or non-participants. Second, observation can be carried out frankly or in disguise. Third, observations related to the research background and in this study used the first observation technique where the observer acted as a participant.

b. Interview Techniques

It is an oral question and answer process between researchers and resource persons by communicating directly. This technique is used to obtain the materials or data required by the researcher. The researcher immediately made observations to the place to be studied and also conducted interviews with several employees on the research object.

c. Documentation Techniques

Using this technique to collect data from non-human sources, these sources consist of documents and records. A recording is any writing/statement prepared by or for an individual or group with the purpose of proving the existence of an event. While "document" is used to refer to whether or not it is a record that is not specially prepared for a specific purpose, such as letters, diaries, special notes, photographs and so on.

d. Literature Engineering

The researcher studied the written literature from books that were used as guidelines and references. Articles, papers, or from the internet related to the title of the research thesis. In the literature technique, the author tries to collect the following data:

1) Learn concepts and theories from various sources that are related and support the problem being researched.
2) Study lecture materials and other written materials obtained previously.
3) Study specifically the sources that are the focus of the research

Researchers obtain data from several sources so that they need a tool or instrument to make it easier and process it. This research instrument is a tool to collect data. The research used the following data collection methods and instruments:

Jenis Metode	Jenis Instrumen	Sumber Data
Observasi	Panduan Observasi	RSUD Kab. Nabire
Wawancara	Pedoman Wawancara	Pemimpin dan Pegawai RSUD Kab. Nabire
Dokumentasi	Form Pencatatan Dokumen	RSUD Kab. Nabire
Studi Kepustakaan	Form Pencatatan Dokumen	Perpustakaan Kampus

The stages of qualitative data analysis are as follows:

a. Read/study data, tag keywords and ideas in the data
b. Learning keywords is intended to make it easy to find themes that come from data.
c. Write down the "model" found.
d. Data analysis begins by conducting an in-depth interview with a key informant, namely someone who truly understands and knows the situation of the research object (Moleong, 2019).

To test the validity of the data via:

a. Credibility

The credibility of the data is intended to prove the data collected is as it is actually without any engineering. The technique to achieve credibility uses triangulation, sources used by the presence of researchers in the field and discussions with colleagues in the field.

b. Redirects

Redirection as an empirical problem depends on the similarities between the sender and receiver contexts. To make such a diversion, the researcher searched for and collected empirical events about the similarities in the context. This certainly makes the researcher responsible for providing adequate descriptive data if they want to make a decision about diversion.

c. Dependency

This criterion is used to maintain caution about the possibility of errors in collecting data and interpreting data so that the data can be scientifically accounted for. Mistakes that may occur due to limited experience, time and knowledge. The way to establish the research process can be accounted for through internal parties, external parties and by supervisors.

d. Certainty

This criterion is used to assess the results of research conducted by checking data and information as well as interpreting research results.

RESULTS AND DISCUSSION

Data Presentation

In this discussion, the results of research on the role of digital-based drug management in increasing the effectiveness and efficiency of the reporting system and its implications on decision-making in the Pharmaceutical Installation of the Public Service Agency of the Regional General Hospital (RSUD) of Nabire Regency will be analyzed. The data presented are as follows:

a. *Selection*

At this stage, the General Service Agency of the Nabire Regency Regional General Hospital selects drugs that are needed for the next year. In its implementation, the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional General Hospital routinely annually prepares the needs of drugs and consumable medical materials by involving all managers of the Pharmaceutical Installation of the Nabire Regency Regional General Hospital. The following selection activities include:

a) Suitability of available Medicinal Items

Based on the results of the research on the suitability of drug items with the national list of essential drugs at the Pharmacy Installation of the Nabire Regency Regional General Hospital as of May 2025, as many as 278 types of drugs. Thus, the conformity of drug items with the list of national essential drugs at the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional General Hospital is still below the standards of the Ministry of Health of the Republic of Indonesia. The suitability of Drug Items with the national list of essential drugs can be seen in appendix no The application of the national essential drug list is intended to improve the accuracy, safety, rationality of the use of the quality of health services to the community, thus planning is needed that refers to the national list of essential drugs.

The display of the number of drugs in the system in the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional General Hospital has shown the existence of drugs, but there are factors that affect the lack of utilization of essential drugs are the lack of prescription of essential drugs, incomplete availability, government commitment that is less on the side of services but on the original source of regional income and the intensive promotion of non-essential drugs. The types of drugs available are taken from the national list of essential drugs based on the Decree of the Minister of Health of the Republic of Indonesia No. HK.01.07/MENKES/395/2017 concerning the National List of Essential Drugs. In order to improve the quality of health services and to ensure the availability of more equitable and affordable drugs by the community, it is necessary to compile a list of national essential drugs. The national list of essential drugs is a list of selected drugs that are most needed and must be available in health care facilities according to their function and level. The national list of essential drugs must be applied consistently and continuously in the provision of health services in health care facilities.

b. *Procurement*

The *procurement* stage is the stage of planning and procurement of drug needs. Similar to the *selection stage*, the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional General Hospital carried out planning and procurement through stages, including:

a) Available Capital/Funds with Overall Funds Needed

The sufficiency of funds for the procurement of drugs has a great effect on hospital services, with sufficient funds, hospitals can procure according to needs so that they can ensure the availability of drugs for patients and will be able to improve the quality of health services. Based on the results of the calculation of the percentage of fund availability between the total funds needed in planning and the available funds, the percentage of funds at the Pharmaceutical Installation of the Nabire Regency Regional General Hospital Public Service Agency in 2025 is 36.65% of the total Nabire Regency Regional General Hospital Budget, the result of the calculation based on data from the Regional General Hospital Public Service Agency funds. When compared to the standard value, the percentage of the availability of drug planning funds in the Pharmaceutical Installation of the Public Service Agency of the Regional General Hospital of Nabire Regency has not met the standard value set by the Ministry of Health of the Republic of Indonesia (2008). The following is the capital/funds available with all the funds needed at the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional General Hospital.

The available capital funds at the Nabire Regency Regional General Hospital Public Service Agency in 2025 are 12,065,041,801. Meanwhile, based on the results of the calculations of the Head of Warehouse, the percentage allocation of funds for the procurement of drugs at the Pharmaceutical Installation of the Public Service Agency of the Regional General Hospital of Nabire Regency in 2025 is 36.65%. Based on the results of the interview, the budget calculation was obtained from the budget of the General Service Agency of the Nabire Regency Regional General Hospital. This is in accordance with the indicator of the Ministry of Health (2008) with a standard value of 30-40%, so the management of drugs in this indicator is efficient. This shows that the allocation of funds provided by hospitals to pharmaceuticals is sufficient to ensure the availability of drugs.

b) Procurement of each Drug Item

Procurement 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 a continuous activity starting from the selection, determination of the amount needed, adjustment between needs and funds, selection of procurement methods, selection of suppliers, determination of contract specifications, monitoring of the procurement process, and payment. The process of procuring drugs at the General Service Agency of the Nabire Regency Regional General Hospital begins by first submitting the use of the budget that has been proposed by the planning department and approved by the budget committee to the technical implementation officer of the activity and then to the commitment making official who will be assisted by the pharmaceutical supply planning unit to review the list of pharmaceutical supplies to be held, determine the amount of each drug item to be purchased and adjust to the financial situation. After everything is approved, the procurement service unit will choose the procurement method, choose a partner, make the terms of the work contract, issue an order letter and monitor the delivery of goods. The procurement of each Drug Item at the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional General Hospital as of May 2025 is 278 types of drugs.

c. *Distribution*

The distribution stage referred to in this study is a series of activities in order to ensure quality, stability, type, and quantity. The indicators used in evaluating the distribution stage are prioritized to see the match between drugs and stock cards and the level of drug availability carried out by the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional General Hospital include:

a) Compatibility between Medicine and Stock Cards

The purpose of matching drugs with stock cards is to assess the percentage accuracy of recording on stock cards with the physical amount of availability in pharmacies. The data is viewed through a stock card and compares directly to the physical amount of the drug. The Pharmacy Installation of the Nabire Regional General Hospital Public Service Agency, in addition to providing services to patients, officers also routinely record the

physical number of drugs with stock cards. Thus, stock recording is carried out to avoid the condition of drug stock in the category of empty, lacking, safe or excess and to affect the demand for drugs submitted.

b) Drug Availability Rate

The results of the research conducted at the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional Hospital for the level of drug availability were 12 months. This shows that the level of drug availability at the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional General Hospital is safe. Safe stock is a condition of inventory at the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional General Hospital to meet the use of drugs related to pharmaceutical services. This shows that the availability of drugs is available with the right type, quantity and time so that pharmaceutical services can run well. The aim is to assess the level of drug availability and then compare it with the number of drugs in the Pharmaceutical Installation of the Public Service Agency of the Regional General Hospital, Nabire Regency.

d. *User*

The *user* stage is a series of activities in order to distribute/hand over pharmaceutical preparations, medical devices, and consumable medical materials from the storage site to the patient while still ensuring the quality, type, quantity, timeliness and rationale of drug use. Descriptions related to Users include:

a) Number of Drug Items Per Prescription Sheet

The number of drug items per prescription sheet describes the average number of drug items per prescription sheet. The number of drug items per prescription sheet can describe the rationale for drug use, especially in the case of polypharmacy incidents at the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional General Hospital. The number of drug items per prescription is important to evaluate and monitor, because based on a study, the more drug items in each prescription (polypharmacy), the greater the risk factor for drug interaction events. The calculation of the average number of drugs per prescription sheet aims to determine whether there is a tendency of polypharmacy in prescription (WHO, 1993). The calculation of the average number of drugs is obtained from the division of the total number of drugs prescribed by the total sample sheet (WHO, 1993). Because concoction recipes are still widely used, the calculation of the number of drugs is based on the number of drug items prescribed, not the number of R/ in one prescription sheet. This is because the recipe must also be considered. The amount of medication prescribed to the patient is adjusted to the patient's condition. The large number of drugs can increase the occurrence of drug interactions, the occurrence of side effects, confuse patients, and decrease patient adherence in taking medication. In addition, the increasing number of drugs given will increase drug costs.

b) Properly Labeled Drugs

Based on research at the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional General Hospital, the labeling is in accordance with rules such as pharmacy name, telephone number, prescription number, patient name, rules of use, drug name, drug strength, pharmacist name and pharmacist signature. Drugs that have been prepared or formulated according to the prescription then need to be given a label or label. The color of the drug label also needs to be considered. The white etiquette color is used for internal (oral) medicines, while blue is for external medicines. Given the importance of drug etiquette, the improvement of indicator values.

Discussion of Research Results

Indicators of drug management consist of a series of descriptions (about or situation) about the drug management process (Quick, 1984). As for this study, the analysis of the drug management process was carried out according to the following policy dimensions:

a. *Selection*

The Selection Stage in drug management is an activity of preparing a list of essential drugs or formularies at the Pharmaceutical Installation of the Public Service Agency of the Regional General Hospital of Nabire Regency as the basis for guidelines for the selection of drugs for therapy and standardization of drug use. The process of this activity began from reviewing health problems that occurred in the area of the Public Service Agency of the Nabire Regency Regional General Hospital, identifying the selection of therapy, form and dosage of drugs, determining drug selection criteria based on the national formulary, reviewing the previous year's drug data and paying attention to the proposals of functional medical staff.

The drug selection stage at the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional General Hospital aims to get the type and number of essential drug items as needed, avoid drug vacuums and increase the use of drugs rationally. The analysis of drug management in this study at the selection stage was carried out by ensuring the suitability of the number of drug items available at the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional General Hospital with the number of drug items included in the formulary of the Pharmaceutical Installation of the Nabire Regional General Hospital and the national formulary. The *selection stage* is related to the role of digital-based drug management in increasing the effectiveness and efficiency of the reporting system as well as the implications for decision-making at the Pharmaceutical Installation of the Public Service Agency of the Regional General Hospital of Nabire Regency routinely annually compiling drug needs by involving all managers with activities to adjust available drug items but still below the standards of the Ministry of Health of the Republic of Indonesia.

b. *Procurement*

The method used for planning the drug needs of the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional General Hospital is a combination method and the procurement of drugs is carried out by direct procurement to pharmaceutical wholesalers who have been trusted and meet criteria such as the price of the planned drug and the delivery time of the drug is fast or the lead time is short. The procurement of drugs for the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional General Hospital refers to two methods, namely the procurement of e-catalog drugs is carried out 1 time in 1 year and regular procurement is carried out based on proposals every month.

The analysis of drug management in this study is at the stage of providing available capital/funds with all the funds needed sourced from the APBD and the Special Autonomy Fund as well as the procurement of each drug item until May 2025 as many as 278 types of drugs. The *Procurement stage* related to the role of digital-based drug management in increasing the effectiveness and efficiency of the reporting system as well as its implications on decision-making at the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional General Hospital carried out planning and procurement through the stages of providing available capital/funds with all the funds needed sourced from the APBD and the Special Autonomy Fund and the procurement of each drug item per May In 2025, there will be 278 types of drugs.

c. *Distribution*

The drug distribution stage at the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional General Hospital is an activity carried out by distributing medicines from pharmaceutical warehouses to emergency pharmacies, outpatient pharmacies and inpatient pharmacies. Drug distribution includes several stages including receipt, examination, control and storage. The form of drug distribution at the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional General Hospital is carried out centrally where the storage and distribution of all drugs or pharmaceutical goods is centered in one place in the pharmaceutical installation. Observations at the distribution stage were carried out using the compatibility indicator between the physical drug and the stock card. From the observation results of each drug item, it is equipped with a stock card containing the date, number of incoming items, number of outgoing items, remaining stock and information. The Distribution Stage related to the role of digital-based drug management in increasing the effectiveness and efficiency of the reporting system as well as its implications on decision-making at the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional General Hospital looks at the compatibility between drugs and stock cards to avoid the condition of drug stock in the category of empty, under, safe or excess and to affect the demand for drugs submitted as well as for the level of drug availability for 12 months.

d. *User*

Drug management at the stage of use at the Pharmacy Installation of the Public Service Agency of the Nabire Regency Regional General Hospital is an activity that includes the preparation stage by doctors, services/administration of drugs and evaluation of drug use, starting from preparing/formulating drugs, and handing over drugs accompanied by providing drug information to patients. The goal is to protect patients from diseases related to the drugs given. Detecting that therapy is administered simultaneously, preventing the occurrence of drug toxicity and improving patient adherence through the pharmacy function of the clinic. Observations at the stage of use were carried out using the percentage indicator of the drug that was not prescribed.

Based on the results of observations at the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional General Hospital, there are several drug items that cannot be served at the hospital pharmacy. To anticipate this. The Pharmacy Installation of the General Service Agency of the Nabire Regency Regional General Hospital has a cooperative pharmacy so that patients can be directed to the pharmacy to redeem their medicines. In addition, pharmacy officers submit a proposal for drug substitution that has the same effect or indication if the patient's condition cannot wait. *User* (Usage) related to the role of digital-based drug management in increasing the effectiveness and efficiency of the reporting system as well as the implications for decision-making at the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional General Hospital, the number of drug items per prescription sheet has been listed in the system, but there are several drug items that cannot be served and drugs that are properly labeled are in accordance with the rules.

Recommendations

From the results of the research that has been carried out, several things have been found so that they can be realized properly, there are several recommendations that can be input for related parties, in this case the General Service Agency of the Nabire Regency Regional Hospital. The recommendations are as follows:

a. Conducting evaluations at the *selection stage* routinely every year to compile drug needs by involving all managers with activities to adjust available drug items to meet the standards of the Ministry of Health of the Republic of Indonesia.
b. Monitoring at the *procurement* stage in planning and procurement activities for the provision of drugs so that the available capital/funds with all the funds needed sourced from the APBD and the Special Autonomy Fund are in accordance with needs.
c. Monitoring at the *distribution* stage by looking at the match between drugs and stock cards to avoid the condition of drug stock in the category of empty, lacking, safe or excess so that drug stock is controlled.

Make improvements at the *user stage* so that when you see the number of drug items each prescription sheet is listed and provide drugs that are not available before so that patients do not look for drugs at the Nabire Regency Regional General Hospital.

CONCLUSION

The role of digital-based drug management in increasing the effectiveness and efficiency of the reporting system as well as its implications for decision-making in the Pharmaceutical Installation of the Public Service Agency of the Nabire Regency Regional General Hospital is still not going well. These indications can be seen in the following: The selection stage routinely prepares drug needs every year by involving all managers with activities to adjust available drug items but still below the standards of the Ministry of Health of the Republic of Indonesia. The procurement stage by planning and procurement through the stages of providing available capital/funds with all the funds needed sourced from the APBD and the Special Autonomy Fund and the procurement of each drug item as of May 2025 as many as 278 types of drugs. The distribution stage is by looking at the compatibility between drugs and stock cards to avoid the condition of drug stock in the category of empty, lacking, safe or excess and to affect the demand for the submitted drugs as well as the level of drug availability for 12 months. The user stage by looking at the number of drug items per prescription sheet is listed in the system, but there are some drug items that cannot be served and drugs that are properly labeled are in accordance with the rules.

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