

Evaluation of E-Catalogue Drug Procurement with E-Purchasing and Non E-Purchasing Methods at RSUD Dekai, Yahukimo Regency, Papua Pegunungan Province, Year 2022

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DOI: <https://doi.org/10.52403/ijrr.20230785>

ABSTRACT

Background: In the healthcare service system in the era of health insurance coverage (JKN), the government implemented the drug procurement process based on an electronic catalogue (E-Catalogue) through e-purchasing and non-purchasing methods. The implementation of this system will affect the efficiency of procurement and availability of drugs, which can be assessed through the perception of pharmacists and the implementation of procurement. This study aims to evaluate human resources, budget, regulations, facilities and infrastructure; drug needs planning, drug ordering, contract agreements, delivery or distribution, and the level of drug availability after the implementation of drug procurement with e-purchasing and non-purchasing methods.

Methods: This study was conducted at Dekai Regional General Hospital (RSUD), Yahukimo Regency, from January to February 2023. A qualitative case study was conducted by interviewing five informants as respondents. The informant selection was performed using purposive sampling. The data were analyzed using interactive analysis through data collection and conclusion drawing.

Result: The results of this study show that human resources in terms of quantity are still insufficient, the budget is sufficient, but there is still unused funding, the regulations regarding e-purchasing procurement have been understood

and implemented, and the facilities and infrastructure regarding internet networks are unstable. Drug needs planning using consumption methods and does not have an Integrated Drug Planning Team, drug ordering takes a long time to be respondent to by suppliers, drug distribution takes a long time from suppliers and the expiration dates do not match the contract, resulting in a shortage of certain drugs at RSUD Dekai. The availability of drugs is not in accordance with the indicators set by the Directorate General of Pharmacy and Medical Devices. In response to this condition, the Yahukimo Regency Government, represented by the Head of RSUD Dekai, decided to use the non-purchasing method for E-Catalogue drug procurement.

Conclusion: In conclusion, the study reveals several challenges and issues in the implementation of drug procurement using e-purchasing and non-e-purchasing methods at RSUD Dekai, Yahukimo Regency. This includes a shortage of human resources, unused funding in the budget, unstable facilities and infrastructure, suboptimal drug needs planning, delays in drug ordering and distribution, a shortage of certain drugs, and insufficient drug availability.

Keywords: Evaluation of drug procurement, e-catalogue, e-purchasing, non-e-purchasing

INTRODUCTION

The government is responsible for the implementation of public health insurance. In the service system of the Health Insurance Era (JKN), the government implemented a drug procurement process based on an electronic catalog (e-catalogue) through the mechanism of e-purchasing and non-e-purchasing methods. Implementation of the system will affect procurement efficiency and drug availability, which can be assessed based on pharmacy perceptions and procurement implementation.

Based on the circular of the Minister of Health of the Republic of Indonesia No. 167 of 2014, government drug procurement must be carried out based on the principles of good and clean government administration and the principles of fairness, transparency, professionalism, and accountability so that an electronic drug catalog (e-catalogue), which contains price lists, specifications, and drug providers¹. Based on the circular, drug procurement in hospitals must be based on e-catalogs to ensure the availability and distribution of safe, quality, and efficacious drugs to meet the needs of health services².

Drugs are an important component, and their availability influences the success of implementing health efforts. With the enactment of a tiered system of class D regional hospitals (RSUD) as secondary facilities that handle referrals from primary facilities, they must work hard to procure drugs so that they are available and never empty through the implementation of the e-catalog system. The procurement of drugs is one of the elements in the drug management cycle that aims to ensure the availability of drugs with standard quality, in the right quantity, and at the minimum possible cost. The availability of drugs in the health sector must be provided to improve health quality. The Pharmacy Installation of the RSUD Dekai has implemented drug procurement system regulations with e-purchasing procedures based on e-catalogues in drug procurement. However, after this regulation was implemented, there were limited drug

stocks at the pharmacy installation at RSUD Dekai. This causes a delay in drug delivery.

E-purchasing is a procedure for purchasing goods and services using an electronic catalog system. E-purchasing is an electronic procurement method (e-procurement). E-procurement is an auction system for procuring goods and services by the government by utilizing internet-based technology, information and communication facilities. The drug e-procurement system based on the e-catalogue is a new drug procurement system in Indonesia that aims to increase the transparency, effectiveness and efficiency of the drug procurement process.

E-purchasing drugs are used to purchase drugs after the drug catalog system has been built¹. Drug e-catalogues are electronic information systems that list the types, technical specifications, and prices of drugs from various drug providers. Product providers and price information displayed through electronic catalogs can be accessed by buyers on their websites.

There are obstacles to the implementation of drug e-purchasing as a new drug procurement system. Obstacles in implementing repurchasing drugs based on the e-catalogue include (1) Medicines are not in the e-catalogue, (2) Orders are not responded to by the provider's pharmaceutical installation while the need is urgent and cannot be postponed, (3) The provider's pharmaceutical installation has agreed to the order but it is only available a few months later or the delivery time is too long, (4) Refusal of orders by the provider's pharmaceutical installation because stock is not available, (5) Provider's pharmaceutical installations are subject to administrative sanctions in the form of temporary suspension of activities, (6) E-purchasing operational constraints, (7) Private health facilities cannot procure by e-purchasing, (8) Payments are delayed, (9) Distributors do not fulfill agreements on delivery times, product expiration dates and product returns, (10) Distributors ask for shipping costs, (11) No pharmacy staff in ordering

drugs by the health office or public health center³.

The problem of drug management in pharmacy installations at RSUD Dekai in Yahukimo Regency is currently quite complex. Since the issuance of the Minister of Health Regulation No. 63 of 2014 concerning the e-catalogue drug procurement system, since 2015, drug procurement in Yahukimo Regency has been divided into two procurement systems: offline procurement (tender) and online procurement (e-catalogue).

Online procurement requires a computerized system and, of course, good Internet support, while the Internet network in Yahukimo Regency does not support it. This was one of the main obstacles. Another obstacle is the limited number of drug procurement officers who understand how to purchase drugs through the e-Catalogue. The following is a general presentation of the realization of drug procurement by E-Catalogue from 2015-2022 at the Dekai Hospital Pharmacy Installation, Yahukimo Regency.

In 2015, the Dekai Hospital Pharmacy Installation in Yahukimo Regency began purchasing drugs by e-catalogue, but experienced problems with drug distribution from providers. Obstacles in drug distribution/delivery from providers were caused by delays in inputting drug orders by drug procuring officers at the Dekai Hospital Pharmacy Unit in Yahukimo Regency, which at that time was constrained by inadequate internet facilities. In 2016 drug procurement by e-catalogue at the Dekai Hospital Pharmacy Installation in Yahukimo Regency was carried out by instructing one of the officers to input drug orders in Jayapura City due to inadequate internet network in Yahukimo Regency with the hope that ordering E-Catalogue drugs would be better than in before, however, inputting E-Catalogue drug orders requires a long time, so before the input is complete the existing staff must return to Dekai Hospital because there are still other important tasks. Procurement of drugs by e-

catalogue in 2017 experienced problems in terms of delivery or distribution of drugs from providers because, starting in 2017, the prices listed in the procurement of drugs by e-catalogue only reached the Capital City of Papua Province, Jayapura City.

The distribution of drugs from the capital city of Papua Province to the Yahukimo Regency is the responsibility of the local regency, while the Yahukimo Regional Government has not prepared a budget for this. Thus, new drugs were sent and arrived at Yahukimo in December 2017. In 2018, the e-catalogue drug procurement system using the e-purchasing method was changed to non-e-purchasing (offline). This was due to a large enough drug vacancy, so the Head of the Dekai Regional General Hospital (RSUD) adopted a policy to procure e-catalogue drugs using the e-purchasing method (offline).

From 2018 to 2022, the procurement of e-catalogue drugs will be carried out non-e-purchasing (offline) using e-catalogue prices, and the realization of e-catalogue drug procurement using the non-e-purchasing method will reach 100%.

MATERIALS & METHODS

This research utilizes qualitative methods to gather detailed information about the drug procurement process at RSUD Dekai in Yahukimo Regency. The methods used include direct observation, interviews, and document analysis. The research aims to understand and identify the obstacles related to drug procurement using both e-purchasing and non-e-purchasing methods. The descriptive research design with a qualitative approach helps to gain a deeper understanding of the issues at hand.

This research was conducted at RSUD Dekai, Yahukimo Regency from January to February 2023. The research informants for this study are individuals who hold positions of authority in the drug logistics management at the pharmacy installation of RSUD Dekai in Yahukimo Regency. The sampling method used is purposive sampling, based on the characteristics of the

pharmacist workforce and other healthcare personnel in the pharmacy installation and pharmacy section. The informants include the Head of Pharmacy Installation (Inf 01), Procurement Officer (Inf 02), Procurement Staff (Inf 03), PPHP Officer (Inf 04), and Warehouse Chief (Inf 05).

STATISTICAL ANALYSIS

The data analysis process for this research is conducted interactively and continuously until completion. The steps involved in interactive data analysis include data reduction, data presentation, and conclusions drawing and verifying. Data reduction involves simplifying, abstracting, and transforming raw data from field notes. Data is continuously reduced during data collection through summarization, coding, theme identification, cluster creation, partitioning, and note-taking. Data presentation involves organizing and presenting the information in a structured manner. Finally, conclusions are drawn and verified, which may include new findings, descriptions of relationships.

RESULT

Drug procurement at RSUD Dekai in Yahukimo Regency, Papua Pegunungan Province, is carried out using the E-purchasing procedure based on the E-catalogue. This method aims to improve the effectiveness and efficiency of drug procurement. The process involves various inputs, such as planning and budgeting, supplier selection, order placement, and receiving and evaluating the drugs. These inputs are supported by the use of an electronic catalog system. The outputs of the procurement process include timely delivery of drugs, cost savings, and improved inventory management.

1. Input in drug procurement at RSUD Dekai in Yahukimo Regency, Papua Pegunungan Province.

The input in drug procurement at RSUD Dekai in Yahukimo Regency, Papua Pegunungan Province refers to the various

factors and resources involved in the process. This can include human resources, the budget allocation, planning and forecasting of drug needs, identification of specific drugs required, and the establishment of procurement regulations and policies. Additionally, input may involve the selection and evaluation of suppliers, negotiations and agreements with vendors, and the availability of necessary infrastructure and technology for efficient procurement operations. These inputs contribute to ensuring a smooth and effective drug procurement process at RSUD Dekai.

1.1. Human Resources

Human Resources are one of the inputs for drug procurement through E-purchasing. The human resources involved in procurement are described through in-depth interviews and document analysis related to the human resources responsible for pharmacy procurement. Based on the results of in-depth interviews with several informants, it is known that there are 4 human resources in the procurement team of RSUD Dekai Yahukimo Regency, Papua Pegunungan Province. These include two procurement officials from RSUD Dekai, one procurement official from the local government budget, and one staff member. These procurement officials have their respective duties, including a procurement officer for general procurement and one for pharmaceutical procurement. The number of Pharmacy procurement officers responsible for E-purchasing of drugs consists of the Head of the Pharmacy Installation, assisted by two officers, one for planning and one for procurement staff.

Based on in-depth interviews conducted with informants, it is known that the number of procurement officers in the hospital is still lacking, especially since there is only one procurement staff member for all procurement activities, both general and pharmaceutical. Additionally, the

procurement officers also have multiple responsibilities, as they are responsible not only for procurement but also for drug planning and drug receiving.

Based on the explanation above, it can be concluded that the human resources involved in drug procurement through E-purchasing are still lacking in terms of quantity. However, in terms of quality, the procurement officers have a background in pharmacy education, as one of them is a pharmacist (Inf 01, Inf 02, and Inf 03).

1.2. Budget

Budget is one of the inputs that needs to be provided in the drug procurement activities at the hospital, whether it is through E-purchasing, auction, or other purchasing methods. Based on in-depth interviews with informants at RSUD Dekai in Yahukimo Regency, Papua Pegunungan Province, it is found that the availability of funds is sufficient to support the drug procurement process using E-purchasing procedures. The funds for drug procurement come from the local government budget (APBD) and RSUD Dekai's own budget. The allocated funds increase each year, so there have been no issues related to the E-purchasing drug procurement process, and the available budget is sufficient to cover the total amount required (Inf 01, Inf 02, and Inf 03). Based on the above explanation, it can be concluded that the budget for drug procurement through E-purchasing has sufficient funding available to facilitate the purchase of drugs. The funds come from the local government budget (APBD) and the hospital's own budget. Additionally, the budget has been used optimally, as there are no leftover funds or shortages observed.

1.3. Policy

The in-depth interviews and document analysis conducted by the researchers indicate that the policy of drug procurement through E-purchasing has been implemented since its issuance in 2013. This policy serves as a guideline for drug procurement. The policy is in the form of Minister of

Health Regulation No. 63 of 2014 on drug procurement based on the E-catalogue through E-purchasing. Additionally, the procurement officers also refer to Republic of Indonesia Presidential Regulation No. 4 of 2015 regarding government procurement of goods/services. This information is based on interviews with two informants, both of whom mentioned that E-purchasing of drugs refers to government policies and existing guidelines. The E-purchasing policy for drug procurement at RSUD Dekai is not well understood by the staff, and there are several procedures and technical guidelines related to drug procurement that have not been fully implemented. These include the standard operating procedures for drug and medical device planning and procurement, the technical guidelines for purchasing drugs through E-purchasing (Inf 01, and Inf 02).

1.4. Facilities and Infrastructures

Facilities and infrastructures are also one of the inputs that support the smoothness of drug procurement activities at RSUD Dekai. Data on facilities and infrastructure can be obtained through in-depth interviews, observations, and document analysis. Based on the results of in-depth interviews conducted with five informants, it is known that the facilities and infrastructure at RSUD Dekai are not sufficient to carry out the process of drug procurement through E-purchasing. As a result, there are problems or obstacles arising from the lack of facilities and infrastructure. Additionally, the internet facility at the hospital is not stable, causing difficulties in purchasing through online or internet-based services (Inf 01, Inf 02, Inf 03, Inf 04, and Inf 05).

2. Drug Procurement Process through E-Purchasing

There are several processes in drug procurement through E-purchasing. The first process is the drug needs planning process, followed by the drug ordering process, then the contract agreement

process, and finally the drug delivery or distribution process.

2.1. Drug Needs Planning Process

The drug needs planning process carried out by RSUD Dekai for drug procurement through E-purchasing is conducted using a consumption pattern. Data on drug procurement planning is obtained through in-depth interviews and document analysis. It is also supported by the review of standard operational procedures for drug and medical device planning, which includes the general planning process conducted by the supply coordinator in the warehouse. The coordinator compiles the drug and medical device usage data and reports from the warehouse manager, and then submits a procurement proposal when the stock is depleted. After submission, the head of the pharmacy department will categorize the types of procurement and develop a drug needs plan for each type of procurement. Finally, the head of the pharmacy department will communicate with the head of the medical service section. It can be concluded that the drug needs planning process starts with the supply coordinator compiling usage data using the consumption method. After the proposal is submitted to the head of the pharmacy department, the type of procurement will be determined based on the created needs plan. This allows for the separation of purchases through E-catalogue and non-E-catalogue methods (Inf 01, and Inf 02).

2.2. Drug Ordering

The drug ordering process at RSUD Dekai in Yahukimo Regency, Papua Pegunungan Province is divided into two types: ordering using the E-purchasing procedure based on the E-catalogue, and ordering using the non E-purchasing or non E-catalogue procedure. Ordering drugs using the E-purchasing procedure is the primary procedure that is established, but there are certain situations that may lead the procurement staff to make purchases outside of E-purchasing, although

the prices used are based on the E-catalogue (Inf 01, Inf 02, and Inf 05).

The process of ordering drugs outside the E-purchasing method is carried out through a public auction conducted by the procurement officer, who selects drugs with lower prices that are closer to the E-catalogue prices. The procurement officer prioritizes items with prices similar to the E-catalogue, taking into account the quality and expiration date of the drugs (Inf 02).

The auction process is conducted by the procurement officer, who gathers information about drugs from pharmaceutical companies. The procurement officer can search for information through the internet, via telephone, or from distributors who frequently offer their products. The main constraint in this auction process is the price. The procurement officer seeks prices that are close to or the same as the E-catalogue prices, but not many companies are able to meet these requirements. This information is based on interviews with informants who mentioned that purchases outside the E-catalogue are made through auctions (Inf 02).

Based on the interview, it is concluded that the drug ordering process through E-purchasing goes through several stages, namely approval from the head of the Pharmacy installation, head of the medical service section, and then the drugs can be ordered by the procurement officer on the website by logging in and following the existing procedures. Constraints in drug ordering through E-purchasing include insufficient drug quantities, slow response from distributors, and difficulty in contacting the contact person in the E-catalogue. These constraints cause the hospital to have to wait, and for drugs with low quantities, the hospital purchases them outside the E-catalogue (Inf 01, and Inf 02). Based on the explanation provided, it can be concluded that it is difficult for RSUD Dekai to order drugs using the E-purchasing procedure. This is due to the fact that the SPSE in Yahukimo Regency has not been

formed. With this condition, RSUD Dekai carries out E-catalogue drug ordering using the Non E-purchasing method. In the Non E-purchasing method, it is found that the shipping cost is slightly higher than the E-purchasing method. The main constraint in Non E-purchasing drug ordering is the waiting time for approval from the provider, as well as the relatively long submission of orders.

2.3. Contract Agreement Process

The procurement contract, hereinafter referred to as the contract, is a written agreement between the PPK (buyer) and the supplier of goods/services or self-management executor. Based on the document review conducted, it is known that the contract agreement is made after the complete data to be purchased, the PPK (buyer) downloads the procurement contract format and enters into a contract with the distributor/executor appointed by the supplier.

The existing agreement in the contract format example can be added to or reduced according to the agreed agreement between the PPK (buyer) and the distributor/executor. The drug procurement contract agreement at RSUD Dekai is often referred to as SP or agreement letter. If the purchase amount exceeds 50 million (fifty million) rupiah, a contract agreement letter (SPK) will be made, and if it is below 50 million (fifty million) rupiah, a regular agreement letter (SP) will be made. In addition, for narcotic/psychotropic/precursor drugs, a special letter of declaration from the pharmacy department and the signature of the head of the pharmacy installation must be added (Inf 01, and Inf 02).

In the contract letter, there are regulations that need to be agreed upon. Based on the document review of the drug purchase agreement in the hospital, it is known that the contract letter (SP) specifies the details of the purchased goods, completion time, job requirements, delivery address, and late penalty. On the other hand, the work order letter (SPK) describes the details of the

goods, general terms including scope of work, applicable laws, self-service provider, SPK price, ownership rights, quality defects, taxation, transfer and/or subcontracting, schedule, utilization and risks, environmental maintenance, supervision and inspection, testing, work result reports, completion time, goods/service acceptance, work handover, SPK changes, compensation events, time extensions, SPK termination and termination, payments, penalties, dispute resolution, and prohibition of commission giving.

Based on the explanation above, it is concluded that the contract agreement is divided into two parts, SPK (Contract Agreement Letter) and SP (Agreement Letter), and for narcotic/psychotropic/precursor drugs, a special letter of declaration from the head of the pharmacy installation must be added. SPK is made for drug purchases above 50 million rupiah and SP is made for purchases below 50 million rupiah. This contract agreement letter is made by the PPK staff.

2.4. Drug Delivery or Distribution

After placing an order for drugs and finalizing a contract agreement, the distributor (supplier) will deliver the drugs to the buyer, RSUD Dekai, as per the agreed terms. The data for drug delivery and distribution is collected through in-depth interviews and document analysis. The document review reveals that the process of receiving drugs at RSUD Dekai follows established procedures. When the drugs are delivered, they are received by the Work Outcome Recipient (PPHP) team. This team is responsible for verifying the quantity, physical condition, and batch number of the drugs, ensuring they align with the previous e-purchasing agreement. This is the process of drug or goods receipt by the PPHP team. Based on the interview results, it is known that after the arrival of the drugs, the PPHP team will recheck the received drugs including the quantity, physical condition of the goods, expiration date, and batch number to ensure that the delivered drugs

are in accordance with the agreement. In this case, the researcher examines the suitability between the quantity, type, and timing of the drug delivery.

This is also supported by in-depth interviews with the PPHP personnel, who stated that the drug receipt from the PPHP team in 2022 often receives the correct quantity of drugs as per the established agreement. However, the delivery time from the distributor is frequently delayed, causing them to deliver the orders in instalments due to the reason that some of the ordered drug stocks are still empty.

These constraints lead to the procurement personnel having to purchase the deficient drugs as well as the drugs that have not arrived yet, in order to meet the hospital's drug needs. This is done using alternative funding sources (BPJS funds). Purchasing drugs outside the E-catalogue has differences in the pricing, with most of the time being more expensive than purchasing through the E-catalogue. Furthermore, the lengthy process of drug procurement results in the hospital's stock becoming limited and sometimes even empty (Inf 01, Inf 02, and Inf 04).

It can be concluded that the drugs are delivered from the distributor to the hospital and received by the PPHP team. The drug receiving process from the distributor follows the established procedures in the hospital. However, in the actual delivery, the drugs from the distributor do not reach 100% fulfilment. While the type of drugs matches the agreement, there are changes or addendums made to the contract to address the issue of timeliness in delivery.

3. Outputs of Drug Procurement through E-purchasing and non-E-purchasing:

The outputs of drug procurement through E-purchasing and non-E-purchasing methods refer to the results or outcomes of the procurement process using these different approaches. This can include the quantity and quality of drugs acquired the efficiency of the procurement process, adherence to

regulations and guidelines, and the satisfaction of both the buyer and supplier. These outputs can be evaluated and compared to assess the effectiveness of drug procurement strategies and identify areas for improvement.

Based on the report of empty books in the pharmacy warehouse of RSUD Dekai, it is known that the availability of drugs at RSUD Dekai in 2022 often includes drugs that are out of stock in the warehouse. The stockouts that occurred in 2016 amounted to 48 types of drugs and 53 types of drugs that were nearly depleted. Out of the 101 types of drugs that were out of stock or nearly depleted, 48% of them were drugs purchased through E-purchasing. This is also supported by the results of in-depth interviews conducted with informants, as they mentioned that the quantity of drugs this year is not satisfactory (Inf 05).

The factors that influence the availability of drugs in the warehouse are the delay in submitting orders, ordering when the drug stock is nearly depleted or already depleted. This is due to delayed submissions from the warehouse and the lack of an information system, resulting in manual monitoring of the quantity of drugs in the warehouse without any alerts when the drugs reach the minimum stock level. Additionally, there are constraints in the long waiting time for drugs from the drug distributor, caused by drug shortages at the distributor, and discrepancies in contracts between E-purchasing and non-E-purchasing with the distributor, such as incorrect quantities of drugs, which require the warehouse to submit another purchase request and prolong the waiting time for drugs. Furthermore, there have been instances of national drug shortages. These findings are based on interviews with three informants, all of whom mentioned that drug shortages are influenced by delays in ordering drugs (Inf 01, Inf 02, and Inf 05).

In summary, there have been significant drug shortages at RSUD Dekai's warehouse, with 48 types of drugs completely out of stock and 53 types of drugs nearly depleted

in 2021. Out of the 101 types of drugs that were affected, 48% were purchased through E-purchasing. The main causes of these shortages are the delay in submitting orders due to the lack of an information system with alerts for minimum stock levels, as well as delivery issues and unfulfilled orders through E-purchasing. These findings highlight the need for improved processes and systems to ensure adequate drug availability in the warehouse.

DISCUSSION

Procurement is one of the activities involved in the logistics management cycle. Procurement activities include planning and determining needs until logistics are received⁴. Drug procurement through e-purchasing is one of the government's designated methods for purchasing to meet the quality and price requirements of healthcare facilities, particularly hospitals. Drug procurement activities in hospitals are part of the pharmacy management cycle. The responsibility for drug procurement in hospitals lies with the hospital pharmacy department⁵.

The procurement of drugs through e-purchasing has been implemented by RSUD Dekai since the regulation was issued in 2015 until 2016. To assess its implementation in the hospital, the Logic Models theory is utilized, examining the input, process, and output of the e-catalogue program or policy. The input for drug procurement through e-purchasing includes human resources, budget, procedures, and facilities and infrastructure. The process of drug procurement through e-purchasing starts with needs planning, drug ordering, contract agreement, and drug delivery. The output of drug procurement through e-purchasing is the availability of drugs at RSUD Dekai.

1. Input for Drug Procurement through E-Purchasing

Input is the information or resources that need to be provided or available to carry out

a specific activity or process. Input plays a crucial role in a system. If the input is not adequately available, it can hinder the activities within a process or even prevent a system from achieving its goals. In this research, the drug procurement activities based on e-catalogue in a hospital should provide the necessary input to support those activities. The input for drug procurement through e-purchasing includes human resources, budget, procedures, facilities, and infrastructure.

1.1. Human Resources

Human resources play a crucial role in the attainment of organizational objectives. They are considered valuable assets for organizations, and their success is dependent on the integration of regulations, policies, and procedures related to human resources within the organization, ultimately contributing to the achievement of organizational goals⁶.

In the health sector, human resources are individuals whose primary responsibilities revolve around improving health. Within the pharmaceutical sector, human health resources are categorized into two groups: pharmaceutical professionals, including pharmacists, and pharmaceutical technical personnel⁷.

The drug procurement process at RSUD Dekai involves four people responsible for procurement, including two APBD procurement officials and one RSUD Dekai procurement official, plus one staff member. Planning for pharmaceutical drugs or e-purchasing is carried out by the head of the pharmaceutical installation with the assistance of a planning coordinator. The availability of human resources for drug procurement through e-purchasing can be assessed in terms of quantity and quality. In terms of quantity, the number of resources dedicated to e-purchasing is insufficient. The e-purchasing drug procurement officers have additional tasks that interfere with their performance, which is supported by

Ningsih's research (2013) at Dr. Eye Hospital in Yogyakarta, showing a negative relationship between workload and employee performance⁸. This finding is also consistent with Suryaningrum's research (2015) that highlights the impact of workload on performance⁹.

The stress experienced by health workers or nurses at PKU Muhammadiyah Yogyakarta Hospital has been linked to limited resources and the additional duties and functions of the e-catalogue-based drug procurement team, as identified in Adyaksa's research (2015)¹⁰. In terms of quality, the resources at RSUD Dekai are competent and possess a pharmaceutical educational background for the procurement process. The adherence to established procedures indicates the quality of these resources. According to pharmaceutical service standards, pharmaceutical installations should have pharmacists, pharmaceutical technical personnel, and other supporting staff. Dekai Hospital's pharmaceutical installation meets these requirements, with a pharmacist leading the team and assisted by pharmaceutical technical personnel. However, there is still room for improvement as these officers also have additional tasks, indicating a lack of dedicated personnel.

1.2. Budget

The budget plays a vital role in drug procurement in hospitals, aiding in goal achievement and activity control. It is sourced from hospital revenues, government budgets, regional government budget subsidies, and other non-binding sources. A well-structured budget facilitates drug planning and procurement. RSUD Dekai has a sufficient budget for both e-purchasing and non-e-purchasing activities, with an annual increase. The hospital has not faced any budget-related constraints, ensuring no shortages in drug procurement funds.

The budget for e-purchasing drugs is adequate, sourced from two different

channels, and the procurement officers do not encounter any fund shortages. This finding is supported by research conducted by Afriadi (2005)¹¹ and Ukai (2009)¹², which demonstrate that successful drug procurement relies on support from multiple budget sources and adherence to drug arrival schedules.

The hospital has maximized fund utilization, allocating all funds towards e-purchasing and non-e-purchasing drugs. Dekai Hospital has effectively utilized its budget, successfully procuring all planned drugs. Overall, Dekai Regional General Hospital in Yahukimo Regency possesses a sufficient budget for drug procurement through both e-purchasing and non-e-purchasing methods, ensuring optimal utilization of funds for drug procurement.

1.3. Policy

Policy is a series of concepts and principles that serve as guidelines and foundations for planning, leadership, and actions. This term can be applied to government, organizations, private sector groups, and individuals¹³. The e-catalogue-based drug procurement policy through e-purchasing aims to facilitate access to drug procurement in Indonesia. This policy was issued in 2013 and underwent slight changes in 2014. The implementation of e-purchasing in drug procurement at RSUD Dekai has been supported by technical guidelines. The implementation guidelines are provided through socialization conducted by the LKPP. The technical guidelines for the process of e-purchasing in drug procurement have been regulated and established in the minister of health regulation No.63 of 2014 concerning e-catalogue-based drug procurement through e-purchasing.

Every year, there are changes in the technical guidelines for e-purchasing drug procurement, but these changes are accompanied by socialization or guidance from the LKPP, making it easy for personnel to understand the changes that have been made. In addition to the procurement technical guidelines, there are also work procedures that must be implemented at RSUD Dekai Regional Hospital. Work procedures are part of the input for drug procurement, according to Nuraida (2008), procedures are the methods needed to carry out future activities, the sequence of activities to achieve specific goals, and guidelines for action¹⁴. Good work procedures will create clear and effective work coordination. RSUD Dekai has made work procedures for every activity at RSUD Dekai in Yahukimo Regency, Papua Pegunungan Province. The drug procurement work procedures are made in general for all purchasing procedures, both e-purchasing and non e-purchasing, because technically, technical instructions for purchasing drugs have been provided. Based on in-depth interviews, it is known that the procurement resources have understood and implemented the procedures and technical instructions for e-catalogue-based e-purchasing procurement because besides being easily understood, the hospital also receives guidance from the government. Knowledge and understanding of procedures are important, as research conducted by Sa'adah et al. (2014) at the Central Surgery Installation of Gambiran Kediri Regional General Hospital found that understanding standard operating procedures (SOP) is one of the factors influencing pharmaceutical supply efficiency¹⁵. The technical guidelines for drug procurement based on the e-catalogue have also been disseminated to all health

units and have been socialized. The implementation of procedures and technical instructions has started, including procurement procedures; drug needs planning, drug receipt, and e-purchasing technical instructions. Based on the above explanation, it is known that the procurement personnel at RSUD Dekai who have carried out drug procurement through e-purchasing have understood the given technical instructions and have implemented the procedures at the hospital.

1.4. Facilities and Infrastructures

Facilities and infrastructure are one of the inputs that need to be prepared to carry out an activity. In the Indonesian Ministry of Health Regulation No. 58 on pharmaceutical service standards in hospitals, pharmaceutical services in hospitals encompass two activities, which are managerial and clinical. These activities must be supported by human resources, facilities, and equipment. In order to support drug procurement activities through e-purchasing in the hospital, main facilities such as office/administration rooms need to be provided. Additionally, various equipment such as desks, chairs, bookshelves, computers/tick machines, office stationery, and telephones are needed (Ministry of Health Regulation No. 58, 2014). Furthermore, to ensure the smoothness of drug procurement through e-purchasing, internet access is necessary¹⁶. Complete facilities and infrastructure will facilitate the smooth process of drug procurement through e-purchasing in the Pharmacy department. Based on observations, in-depth interviews, and document analysis conducted at RSUD Dekai in Yahukimo Regency, Papua Pegunungan Province, it is known that there is a dedicated procurement room for

procurement activities. The equipment in this room includes a desk, chairs, bookshelves, a computer/typewriter, office supplies, a telephone, and fast internet access.

Based on the above explanation, it is known that RSUD Dekai has facilities and infrastructure that support the process of drug procurement through e-purchasing, such as a dedicated room equipped with a desk, chairs, bookshelves, computers, office supplies, and a telephone. However, the internet access is still relatively slow.

2. Drug Procurement Process Based on E-Purchasing and Non E-Purchasing

Based on Minister of Health Regulation No. 63 regarding Drug Procurement based on e-catalogue, it is known that there are several processes, namely: the process of drug needs planning, the process of ordering drugs through e-purchasing, the process of contract agreement, and the process of delivery or distribution.

2.1. The Process of Drug Needs Planning

The drug needs planning stage plays a crucial role in determining the appropriate types and quantities of drugs and pharmaceutical supplies for healthcare services. This planning process aligns with the basic healthcare needs and designated health program drugs. In the context of drug procurement through E-purchasing, drug needs planning serves as the first step to obtain the required drugs⁴.

Based on the Minister of Health of the Republic of Indonesia No. 58 concerning Standards for Pharmacy Services in Hospitals in 2014, planning needs to be carried out to avoid drug shortages by using methods that can be accounted for and the basics of planning that have been

determined include consumption, epidemiology, a combination of methods of consumption and epidemiology and are adjusted to the budget which are available¹⁶. Planning guidelines must also consider the available budget, priority setting, remaining inventory, past-period usage data, order waiting time, and planning.

Based on the in-depth interviews conducted as well as the results of the document review of the working procedures for planning drug requirements at RSUD Dekai, RSUD Dekai uses the consumption method to determine the plan for drug needs in pharmacies.

The Consumption Method is based on the analysis of drug consumption data for the previous year, so that later the results will obtain the required amount of drug. To obtain data on drug requirements that are close to accuracy, it is necessary to analyze the trend of drug use for the previous 3 (three) years or more. In addition, data such as drug lists, initial pretentiousness, receipts, disbursements, remaining stock, lost/damaged drugs, expiration, drug vacancies, average use, waiting time, safety stock, and development of visiting patterns are also needed. These data were required to perform calculations using the consumption method.

Planning for drug procurement through e-purchasing is accomplished by separating e-purchasing and non-e-purchasing purchases. After knowing how many drugs to buy, the officer can make a purchase package after seeing in the e-catalog which drugs are available, and then separate the drugs to be purchased e-purchasing and non-e-purchasing.

This is also in accordance with PMK No. 63 of 2014, that before placing an order for drugs, procurement officials will look at the list of drugs in the E-catalogue so that they

can determine the list of drug purchase packages based on the e-catalogue by e-purchasing. Based on the explanation above, it is known that the RSUD Dekai has implemented drug demand planning in accordance with PMK No. 63 of 2014 and Pharmacy Service Standards in Hospitals, namely, by using one of the methods of consumption, epidemiology, a combination of consumption and epidemiology methods, and adjusted to the budget provided. This planning method is also used for all purchasing methods, both e-purchasing and non-e-purchasing ones.

Planning using the consumption method is indeed one of the ways in standard pharmaceutical services, but for the purposes of planning itself, this method is still not appropriate because drug shortages are still found in hospitals.

Rahmawati (2015)¹⁷ and Badarudin (2015)¹⁸ also found that planning for drug procurement using the consumption method was not in accordance with needs and could not be used as a basis for assessing drug use; thus, there was often a shortage of drug stock in pharmaceutical warehouses.

This shows the importance of the drug requirement planning process in supporting the availability of a number of drugs in health.

Based on the explanation above, it is known that RSUD Dekai has planned drug needs using one of the methods in the 2014 Pharmaceutical Service Standards, but planning carried out by planning officers is still incomplete in accordance with the purpose of drug requirement planning, namely, to avoid drug shortages.

2.2. Medication Ordering Process

The process of ordering drugs is a step in purchasing drugs after having previously planned drugs; in carrying out the ordering

process, the procurement officer must also consider aspects of the distributor/seller, as well as the location of the seller, to avoid long waiting times and obtain quality drugs⁴.

After the issuance of a drug procurement policy based on e-catalogue by the government, the process of ordering drugs can now be done by e-purchasing, namely procedures for purchasing goods/services, in this case drugs, through an electronic catalog system (PMK No. 63 of 2014). At the beginning of the issuance of a drug procurement policy based on the e-catalogue, RSUD Dekai, Yahukimo Regency, Papua Pegunungan Province, implemented this regulation, namely from 2013 to 2016, from 2017 to now, by ordering non-e-purchasing drugs. The process of ordering drugs based on the e-catalogue by e-purchasing at RSUD Dekai was carried out by several parties, starting with the planning party, who proposed to the head of the pharmaceutical installation to be signed. After that, it is forwarded to the head of the medical service section, in this case as PPK, then the head of the medical service section will provide an official note to the procurement official to make purchases by e-purchasing or non-e-purchasing.

The process of ordering drugs carried out by the RSUD Dekai is carried out using the e-purchasing method, but if you encounter several obstacles, then the purchase will be made without e-purchasing. Non-purchase purchases can be made using either the auction method or direct appointment. The non-e-purchasing method was used because the procurement officer encountered an obstacle in the form of drug vacancies in the e-catalogue so that e-purchasing could not be made.

There was no confirmation from the drug provider regarding the order made, as well as the long delivery from the drug distributor, so officers bought drugs outside of e-purchasing to meet drug needs at the hospital. Purchasing drugs using methods other than e-purchasing is in accordance

with the Republic of Indonesia Minister of Health No. 63 concerning Procurement of drugs based on e-catalogue by e-purchasing in 2014 and Implementation of Drug Procurement

Based on the e-catalogue in 2016 and evaluation of implementation in 2014 and 2015 (Directorate for Public Drug Development and Health Supplies, 2016), if obstacles are found in the absence of drug items in the e-catalogue portal so that they cannot carry out the purchasing process by e-purchasing, as well as obstacles such that it is not possible to make purchases by e-purchasing, purchases can be made in accordance with Presidential Regulation No. 70 of 2012. These purchases can use the auction method and direct appointment as well as other methods.

Based on the explanation above, RSUD Dekai made purchases outside of E-purchasing in accordance with the conditions specified by the Minister of Health of the Republic of Indonesia No. 63 of 2014 and the Directorate of Development of Public Medicines and Health Supplies 2016. Purchases using e-purchasing and non-e-purchasing procedures at RSUD Dekai have passed through how many stages, based on the technical guidelines for drug procurement based on the e-catalogue. Starting from PPK making a procurement implementation plan (this planning starts with pharmaceutical planning in the warehouse), the procurement official logs into the website and selects the e-procurement and e-purchasing applications to make packages, then inputs and sends purchase data for a purchase request, and a purchase agreement is sent from the provider, which can be in the form of rejection or acceptance, after which a contract agreement is made and the contract is executed.

Based on the explanation above, it can be concluded that RSUD Dekai, Yahukimo Regency, and Papua Pegunungan Province have implemented technical guidelines from the government in ordering drugs by e-purchasing and referring to Minister of

Health of the Republic of Indonesia No. 58 of 2014. In the e-purchasing ordering process, the hospital often encounters obstacles in the process so that it interferes with the implementation of drug purchases. The obstacle was in the form of waiting for approval from the seller, so the procurement officers had to wait a long time, while the need for the hospital had to be completed immediately.

This problem was also found in the routine evaluation results of the Directorate of Public Medicine and Health Supplies Development in 2014-2015 in reports of complaints from the work unit that there were still problems with the slow response of providers to orders and the difficulty in contacting drug providers³.

2.3. E-purchasing Contract Agreement Process

The contract agreement in e-catalogue procurement through e-purchasing is a written agreement between the buyer and seller, specifically between the PPK (Procurement Decision Maker) and the goods/services provider or self-management executor. Its purpose is to establish obligations for both parties involved, ensuring compliance with the agreed terms. In the context of pharmaceutical procurement, contract agreements are carried out following PMK No. 63 of 2014. The contract agreement process carried out by the Commitment Making Officer at RSUD Dekai, Yahukimo Regency, Papua Pegunungan Province, started from the e-purchasing process that was carried out previously, after which the PPK (buyer) downloaded the procurement contract format and entered into a contract with the distributor/work executor appointed by the provider. The existing agreement in the sample contract format can be added or subtracted according to the agreement between the PPK (buyer) and distributor/executor of the work.

Based on the explanation above, it is known that the contract agreement process carried out at the Dekai Hospital, Yahukimo

Regency, Papua Pegunungan Province, was in accordance with the technical instructions and referred to the RI Minister of Health No. 58 of 2014 concerning drug procurement based on the e-catalogue.

2.4. Process Delivery or distribution of drugs

Drug delivery or distribution is a process in which providers or distributors deliver drug orders based on established contractual agreements. This delivery must be in accordance with the contract, which contains the amount of drug, drug description, drug size, drug expiration date, and drug waiting time.

The process of sending goods from distributors will be received at the hospital; this section is called receiving goods/services in the form of drugs. According to the Pharmacy Service Standards at the receiving hospital, it is an activity to ensure conformity of the types, specifications, quantity, quality, delivery time, and money price stated in the contract or order letter with the physical condition received. All documents related to the receipt of goods must be properly stored.

Based on the results of the document review at RSUD Dekai, it is known that the process of receiving drugs from distributors at RSUD Dekai follows established procedures, and when the drugs arrive, the drugs are received by the work recipient (PPHP) to check the quantity, physical goods, and batch number according to the previous E-purchasing purchase agreement. Based on the results of reports on drug purchases based on the e-catalogue by e-purchasing, it was found that all types of drugs ordered were in accordance with what was received, but the realization of the contract at the time of drug delivery was not up to 100%, that is, only 98.29%. This shows that there was a discrepancy between the agreement made by the hospital and the distributor. This discrepancy is detrimental to the hospital in meeting its needs.

This discrepancy also occurred in Adyaksa's research (2014) conducted at the Denpasar

City Health Office, where drug distribution had experienced delays and drug realization did not reach 100%¹⁰. In addition, it was also found in the results of the Evaluation of the Implementation of drug procurement based on the E-catalogue that there were complaints from the Satker (Work Unit) that there were still pharmaceutical industries which had not fulfilled all orders from the Satker.

Additionally, time extensions or addendums (contract changes) are often used. This time extension made the warehouse party submit another request proposal because it was to anticipate drug vacancies in the warehouse, and this time delay resulted in a discrepancy with the plans made.

Obstacles in this long waiting time were also found in one of the obstacles in the availability of drugs in the JKN era: the drug e-catalogue in 2013-2015, one of the obstacles was the long waiting time¹⁹. According to Anshari (2009), delays in delivering goods by suppliers are one of the problems that often arise in the drug procurement process, resulting in drug vacancies²⁰.

This is also in line with the research conducted by Adyaksa in the city of Denpasar, where drug distribution has experienced delays and drug realization has not reached 100%¹⁰. The distributor's inability to fulfill the contract that has been made causes the procurement officer to buy more medicines that are lacking and medicines that have not yet arrived so that the drug needs in the hospital are met.

Purchasing drugs outside of e-purchasing has a difference in the total price, which is sometimes more expensive than purchasing drugs using e-purchasing. In addition, the process of buying drugs does not take the moment to make the existing stock at the hospital small and sometimes empty.

This is also in line with research conducted by Pratiwi (2011), who states that one of the factors that cause discrepancies in drug planning and procurement is drug waiting time²¹. In addition, research conducted by Pujawati at Panti Yogyakarta Hospital in

2015 showed that drug lead-time greatly affects stock safety in warehouses²².

Based on the explanation above, it is known that the Implementation of the Minister of Health of the Republic of Indonesia No. 63 of 2014 regarding the procurement of drugs based on the E-catalogue has been well implemented by RSUD Dekai, but in this application there are also obstacles in terms of receiving drugs, namely the number of drugs ordered does not match the order and extension of implementation time, which was changed (addendum), which affected the availability of drugs at RSUD Dekai.

3. Output of drug procurement by e-purchasing

The output of drug procurement through e-purchasing is the availability of drugs in a warehouse. The availability of drugs is a very important aspect of health services, because the treatment and prevention of various diseases cannot be separated from drug therapy or pharmacotherapy. Therefore, the presence of drugs in hospitals is important and must always be available because if the hospital cannot provide drugs, the service process at the hospital will be hampered.

In 2016, empty stocks were often found in the RSUD Dekai, Yahukimo Regency, Papua Pegunungan Province, besides that there were also medicines that were almost finished. It is known that there are as many as 48 kinds of drugs and 53 kinds of medicines that have almost exhausted stocks in Dekai Hospital warehouses and of the 101 types of medicines that are empty and almost finished 48% of these are medicines purchased by e-purchasing. This is not in line with the indicators set by the Director General of Pharmaceutical Development and Medical Devices 2010 that the percentage of dead stock should be 0% or that there should be no shortage of drugs at all.

Based on the above results, it is known that the RSUD Dekai pharmacy warehouse does not yet have sufficient drug availability for hospital needs. Vacancies and drug

shortages in warehouses are problems in drug availability in warehouses. The cause of vacancies and shortages in the number of drugs in the RSUD Dekai warehouse is caused by delays in submitting orders made because there is no information system that can provide a warning if the drug has entered the minimum stock; in addition, there are also constraints from not fulfilling the number of drugs by e-purchasing by distributors, time extension delivery of drugs, and there is a shortage of drugs.

By paying attention to the lead time, the hospital can anticipate delays in the arrival of drugs that have been ordered by both E-purchasing and non-E-purchasing. Based on the technical guidelines for the procurement of public drugs and health for basic health services (2008), procurement officers must pay attention to drug lead times so they can anticipate drug vacancies; in general, waiting times range from three to six months; therefore, procurement officers should have already placed an order.

This is also in accordance with research conducted by Pujawati (2015), which showed that drug lead time greatly affects the safety of drug stocks in hospitals, and various causes of vacancies result in pharmacy warehouses ordering more drugs and taking longer, resulting in drug vacancies at warehouse²². Drug vacancies can hamper pharmaceutical services in hospitals.

One of the efforts to be made if there is a drug shortage in the warehouse is to purchase drugs outside of the e-catalogue. Warehouse parties make purchases on credit from drug distributors and can purchase from pharmacies outside the hospital. Cito purchases or small purchases are not in line with the purpose of inventory control stated by Rangkuti (1996), one of which is to avoid small purchases²³.

Based on the explanation above, it is known that the availability of drugs at RSUD Dekai, Yahukimo Regency, Papua Pegunungan Province does not match the indicators set by the Director General of Pharmaceutical and Medical Devices

Development 2010. The reason for this vacancy is the delay in submitting orders, because there is no information system that can provide a warning if the drug has been hot.

CONCLUSION

1. Input for drug procurement through e-purchasing and non-purchasing

- a. The human resources at RSUD Dekai are not sufficient in number, but in terms of quality or background, they are sufficient to carry out e-purchasing and non-e-purchasing drug procurement processes.
- b. RSUD Dekai's budget for drug procurement by e-purchasing and non-e-purchasing is sufficient.
- c. Technical guidelines for e-purchasing and non-purchasing drug procurement policies have been established by procurement officials.
- d. The availability of facilities and infrastructure is sufficient but not optimal to support the e-purchasing drug procurement process.

2. The drug procurement process is based on e-purchasing and non-e-purchasing

- a. The process of planning drug needs based on e-catalogue e-purchasing is in accordance with PMK No. 63 of 2014 and Pharmaceutical Service Standard No. 58 of 2014 but still cannot avoid drug shortages. To anticipate this, the Head of RSUD Dekai adopted a policy to procure non-purchasing e-catalogue drugs.
- b. The process of ordering drugs by e-purchasing at RSUD Dekai was in accordance with PMK No. 63 of 2014, but the time of ordering was not in accordance with the 2014 Pharmaceutical Service Standards. The process of ordering non-e-purchasing e-catalogue drugs is performed to avoid discrepancies in the ordering time.
- c. E-purchasing drug contract agreement process at RSUD Dekai, Yahukimo

Regency complied with PMK No. 63 of 2014.

- d. The process of drug distribution or delivery by e-purchasing at RSUD Dekai based on the quantity, type, and time of delivery is not in accordance with the contract made. There were obstacles in the form of changes to the contract (addendum) related to the delivery time, causing drug vacancies.
- e. The process of procuring e-catalogue drugs at RSUD Dekai in 2014 – 2016 done by e-purchasing. 2018 until now, no e-purchasing has been conducted. This e-purchasing method changed because in 2016 and 2017, there were many drug vacancies in the pharmaceutical installation warehouse.

3. Drug procurement output based on e-catalogues by e-purchasing.

The availability of drugs in warehouses does not match the indicators has been established by the Director General of Pharmaceutical Development and Medical Devices in 2010 i.e. the percentage of dead stock should be 0% and there are as many as 30 kinds of medicines and 35 kinds of medicines that have almost finished stock at RSUD Dekai. This drug vacancy is caused by the number of drugs that are not all realized the time for drug delivery by distributors, a national drug vacancy, and the absence of an information system that can provide warnings about the number of drugs entering the minimum stock, so that ordering orders are not late.

Declaration by Authors

Acknowledgement: None

Source of Funding: None

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

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How to cite this article: Rachel Madao, Sarce Makaba, Dolfinus Y. Bouway, Arius Togodly, Rosmin M. Tingginehe, Yacob Ruru. Evaluation of E-Catalogue drug procurement with E-Purchasing and Non E-Purchasing methods at RSUD Dekai, Yahukimo Regency, Papua Pegunungan Province, Year 2022. *International Journal of Research and Review*. 2023; 10(7): 724-741.
DOI: <https://doi.org/10.52403/ijrr.20230785>
