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THE LEAN HOSPITAL APPROACH TO CONTINUOUS IMPROVEMENT IN ENHANCING SERVICE QUALITY AT THE OUTPATIENT PHARMACY OF TALAUD REGIONAL GENERAL HOSPITAL IN 2019

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Abstract

The pharmacy is one of the medical support facilities in hospitals. However, there are still many problems encountered in its services that reduce patient satisfaction, such as inefficient room layout, inadequate drug supplies, and suboptimal service times. The purpose of this study is to identify critical waste and the root causes of critical waste in the process of serving outpatients at the Talaud Regional General Hospital Pharmacy. The method used in this study is a case study with a qualitative and quantitative approach. The stages of the study are observation of the service process flow, distribution of value and waste questionnaires, and interviews. The results of the value stream mapping obtained from the prescription dispensing service process showed a lead time of 24.89 minutes and a VAR of 63% for general patients, a lead time of 18.45 minutes and a VAR of 67% for BPJS patients, and a lead time of 14.72 minutes for non-dispensing prescriptions. VAR of 51% for general patients, and a lead time of 11.61 minutes and VAR of 56% for BPJS patients. The critical waste identified was transportation waste at 20.2%. The root causes of transportation waste were the distant layout of the rooms, the prescribed drugs not being available at the pharmacy, and the doctors' requests not matching those of the pharmacy.

Keywords: ***Critical Waste, Talaud Regional General Hospital Pharmacy Installation, Lean Hospital, Service Improvement.***

INTRODUCTION

Everyone has the right to a decent life, both in terms of personal and family health, including access to food, clothing, health care, and other necessary social services. Health efforts aim to maintain and improve health, and the places used to provide health services are called health facilities. One type of health facility that provides health services is a hospital. Hospitals are very important facilities in providing quality and affordable health services and can improve the health status of the community. Hospitals are also training centers for health workers and medical research centers (Depkes RI No 44 Tahun 2009). In order to improve the quality of its services, the hospital has developed health care facilities and infrastructure for patients, one of which is a pharmacy. IFRS is one of the business units in the hospital, including at Talaud Regional General Hospital, which is a medical support facility that provides direct services to patients, including emergency patients, inpatients, and outpatients. IFRS is a vital part of the hospital that is ready to serve patients 24 hours a day. In its development, IFRS is also affected by intense business competition, so efforts are needed from the Talaud Regional General Hospital Pharmacy Installation to continuously improve the quality of its services.

In reality, there are many problems often encountered in pharmaceutical services that result in unsatisfactory service for patients and their families. To overcome these problems, researchers used the Lean Hospital approach, which is a management system focused on service efficiency in IFRS that is considered effective in improving the quality of hospital services by reducing or eliminating various types of waste to increase patient satisfaction and safety. The application of these lean principles is expected to improve service quality, thereby contributing to the advancement of the hospital. Lean is a tool, management system, and common philosophy that can change the way hospitals are organized and managed. Lean is a methodology that enables hospitals to improve the quality of patient care by reducing errors and waiting times. Lean is a system for strengthening hospital organizations for the long term, reducing costs and risks while also facilitating growth and expansion. Lean helps break down barriers between disconnected departments, enabling different hospital departments to work better for the benefit of patients (Graban,

2011). Implementing lean concepts and lean hospital principles can reduce or even minimize waste or non-value-added activities and can also improve patient safety (Poksinska, 2010; Burgess and Radnor, 2013). Several studies describe how lean has influenced work efficiency and resources at King Abdullah University Hospital in Jordan, which successfully achieved savings of 45% in medication delivery time in the inpatient pharmacy unit (Al-Araidah et al., 2010). Additionally, Metro Health Hospital in Michigan successfully reduced medication administration time to patients by 33% by eliminating 5 non-value-added steps from 14 steps to 9 steps, resulting in a 40% reduction in medication errors and a reduction in annual medication inventory costs of $153,000 (Houghton, 2006). Research on the application of lean in drug procurement at Santa Maria Pemalang Hospital showed a reduction in the procurement process from 16 steps to 13 steps. From this research, it can be seen that the waste that occurs in the procurement process includes waste over processing, waste over production, waste human potential, waste waiting, waste inventory, waste motion, waste transportation, and waste defect (Prasetya, 2015).

The use of lean methods in Indonesia is still limited to the manufacturing industry, while its use in healthcare services is still very limited. Based on its principles, the lean method can be used in all types of organizations. Hospitals themselves are institutions that are dense with technology, labor, and capital. These three elements are closely related, so if not handled properly, they can cause problems that can reduce the performance of hospitals in providing effective and efficient services to patients. This statement is in line with the reality at Talaud Regional General Hospital. Potential problems can arise in all aspects/sections of the hospital, including the pharmacy, which is the responsibility of the IFRS department. This study aims to identify stakeholder value from the patient's perspective in order to reduce or eliminate waste from service processes that can cause difficulties for stakeholders.

LITERATURE REVIEW

The lean concept has been implemented in several hospitals and has yielded positive results for them. Several studies also describe that lean has a significant impact on work and resource efficiency. Some examples of successful lean implementation include King Abdullah University Hospital in Jordan, which achieved a 45% reduction in medication delivery time in the inpatient pharmacy unit (Al-Araidah et al., 2010). In addition, Metro Health Hospital in Michigan managed to reduce the time taken to administer medication to patients by 33% by eliminating 5 steps that did not add value, reducing the number of steps from 14 to 9, which resulted in a 40% reduction in medication errors and a reduction in annual medication supply costs of $153,000 (Houghton, 2006). Previous research on the application of lean in drug procurement at Santa Maria Pemalang Hospital showed a reduction in the procurement process from 16 steps to 13 steps. From this research, it can be seen that the waste that occurs in the procurement process includes waste over processing, waste over production, waste human potential, waste waiting, waste inventory, waste motion, waste transportation, and waste defect (Prasetya, 2015). Lean is needed in healthcare because the cost of providing healthcare services continues to increase, but patients or healthcare funders are unwilling to pay more, thus requiring a paradigm shift in the management and organization of hospitals. With the lean concept, it will be possible to improve the quality of hospital services, including reducing re-working processes and reducing patient length of stay, thereby reducing the need for hospital rooms. This improvement in quality will increase customer satisfaction because, in addition to ensuring patient safety, it can also reduce healthcare costs (Graban, 2011).

METHOD

This study is a case study with a qualitative approach for data obtained from observation, interviews, and questionnaires, and a quantitative approach for data obtained from waste identification processed using the Borda method. The data collection was obtained from observations, interviews, questionnaires, and document/data reviews from the hospital as material for consideration in the process of designing improvement proposals to improve the quality of service for outpatients at the Talaud Regional General Hospital Pharmacy Installation using the lean hospital approach. The use of the lean hospital concept requires researchers to constantly strive to deeply understand the problems experienced by patients, families, and employees working in the pharmacy of Talaud Regional General Hospital. The sample in this study consisted of all pharmaceutical personnel (pharmacists and TTKs) who were assigned to/involved in the service process at the Talaud Regional General Hospital Pharmacy, the head of the pharmacy, the head of the dispensary, patients, and families who used the services. Based on Lameshow's formula (1997), the minimum number of samples required in this study was 96 respondents, so in this study the researcher used 100 respondents. The focus of data collection in this study was to identify the service process for outpatients and families who were at least 17 years old, could write and read, and had used the services of the Talaud Regional General Hospital Pharmacy at least once. The sample in this study consisted of all pharmaceutical personnel

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RESULTS AND DISCUSSION

Value Stream Mapping (VSM) and Value Added Assessment (VAA) of Service Processes at the Talaud Regional General Hospital Pharmacy

Based on the results of observations conducted by researchers at the Talaud Regional General Hospital Pharmacy, prescription services are divided into two types: compounded and non-compounded prescriptions. Both types of services are different, so researchers divided them into different value stream mappings to make it easier to identify differences in terms of prescription service time.

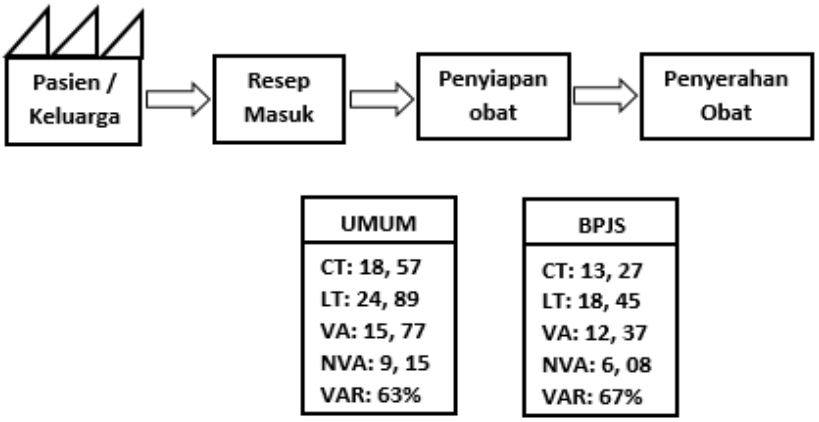

Figure 6. Value Stream Mapping of Compounded Prescription Services

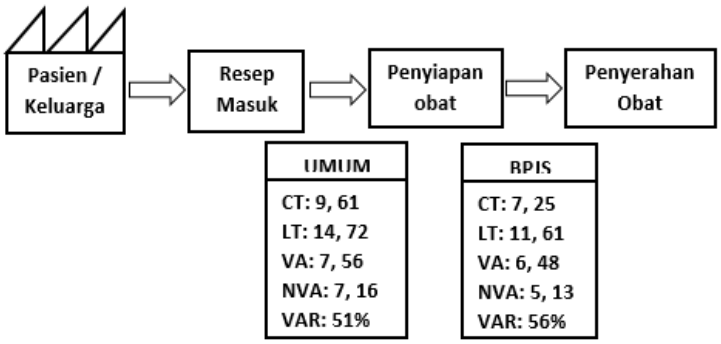

Figure 7. Value Stream Mapping of Non-Compounded Prescription Services

Time and service activity observations were conducted over 6 days on 48 prescriptions, divided into 24 compounded prescriptions (12 general patients and 12 BPJS patients) and 24 non-compounded prescriptions (12 general patients and 12 BPJS patients), where observations were made on compounded and non-compounded prescriptions during busy and non-busy times each day used as research samples in June-July 2019. The results of

the time calculations for each prescription service activity showed that the activities that caused the longest waiting times for patients were picking up medication, compounding medication, packaging medication, writing bills, writing labels, and writing prescription copies, as can be seen in Appendices 11A and 11B. These problems caused waste waiting (patients had to wait), waste transportation (patients had to go back and forth to pay at the administration section and buy medicine at outside pharmacies), and waste inventory (frequent drug shortages). The dispensing service for general patients and BPJS patients, as shown in Figure 6, resulted in a lead time for general patients of 24.89 minutes with a ratio of value-added activities to non-value-added activities of 15.77:9.15 and a VAR value of 63%. Meanwhile, for BPJS patients, the lead time obtained was 18.45 minutes with a ratio of value-added activities to non-value-added activities of 12.37:6.08 and a VAR value of 67%.

The non-compounded prescription service for general patients and BPJS patients, as shown in Figure 7, resulted in a lead time for general patients of 14.72 minutes with a ratio of value-added activities to non-value-added activities of 7.56:7.16 and a VAR value of 51%. Meanwhile, for BPJS patients, the lead time obtained was 11.61 minutes with a ratio of value-added activities to non-value-added activities of 6.48:5.13 and a VAR value of 56%.A company can be considered lean if the waste ratio (VAR) to total minimum activity exceeds 30% (Gasperz, 2011). This indicates that the measurement of waiting time for compounded and non-compounded prescriptions in the Pharmacy Department of Talaud Regional General Hospital in June-July 2019 was lean. It is considered lean because the time and service activities for outpatients at the Talaud Regional General Hospital Pharmacy Installation have a waste ratio (VAR) that exceeds the minimum total activity, namely 63% for general patient compounded prescriptions and 67% for BPJS patients, while for non-compounded prescriptions, it is 51% for general patients and 56% for BPJS patients. However, there are still several issues that need to be addressed to make services at the IFRS more effective and efficient. One of these is reducing the activity of writing prescription copies to minimize service time and enhance patient satisfaction, ensuring adequate drug availability and preventing patients from engaging in unwanted activities. The average waiting time for compounded and non-compounded prescription services has met the standard prescription service time based on Indonesian Minister of Health Decree No. 129/Menkes/SK/II/2008. The service time for compounded prescriptions is 60 minutes and the service time for non-compounded prescriptions is 30 minutes. The average dispensing time for compounded medications is 24.89 minutes (general patients) and 18.45 minutes (BPJS patients), while the average dispensing time for non-compounded medications is 14.72 minutes (general patients) and 11.61 minutes (BPJS patients).

Identification of Stakeholder Value Based on the Patient's Perspective Towards Staff at the Talaud Regional General Hospital Pharmacy

The stakeholder value identified based on the lean concept in the service process at the Talaud Regional General Hospital Pharmacy is outpatients and their families.

Table 5. Results of Outpatient Value Identification at Talaud Regional General Hospital

No	Statement	Statement Results				Description (Those who answered No)
		Yes	%	No	%	
Product Value						
1.	Quality of medicines and medical devices	100	100%	0	0%	-
2.	Accuracy of medicines and medical devices	100	100%	0	0%	-
3.	Completeness of medicines and medical devices	100	100%	0	0%	-
4.	Brands of medicines and medical devices	82	82%	18	18%	9, 11, 17, 18, 21, 25, 27, 30, 36, 43, 45, 47, 60, 66, 69, 82, 83, 94.
5.	Labels/stickers on medicines	98	98%	2	2%	54, 75
6.	Packaging of medicines and medical devices	100	100%	0	0%	-
No	**Statement**	**Statement Results**				**Description (Those who answered No)**
		Yes	**%**	**No**	**%**	

Service value						
1.	Speed of receiving medicines and medical devices	100	100%	0	0%	
2.	Proficiency of pharmacists and TTK in answering questions about medicines	100	100%	0	0%	-
3.	Speed of staff in responding to patient needs	100	100%	0	0%	-
4.	Accuracy of information about medicines and medical devices	100	100%	0	0%	-
5.	Completeness of information about medicines and medical devices	100	100%	0	0%	-
6.	IFRS facilities and room areas	100	100%	0	0%	-
Value Patient Relationships and IFRS						
1.	Friendliness of Pharmacists and TTKs in service	100	100%	0	0%	-
2.	Appearance of Pharmacists and TTKs in service	94	94%	6	6%	9, 11, 81, 83, 90, 91
3.	Pharmacy understands the conditior and needs of patients	91	91%	9	9%	9, 18, 37, 40, 49, 60, 67, 97, 98
4.	Ease of communication with Pharmacists and TTKs	96	96%	4	4%	9, 11, 17, 18

Table 5 shows the results of value identification based on the patient's perspective, where 100 selected respondents filled out a questionnaire with three statements regarding product value, service, and patient-IFRS relationships. The results show that for the six statements given regarding product value, there were 4 statements that had 100% "Yes" answers, namely statements 1, 2, 3, and 6, while statement 4 had 18% 'No' answers. Based on the results of the value questionnaire distribution from the patient's perspective, the reason patients answered "No" was because they expected the necessary medicines and medical devices to be available without considering the brand and so on. Meanwhile, 2% of respondents answered "No" to statement no. 5 because the patient's family is a nurse, so they consider the drug label/labeling to be unimportant. The second statement regarding service value also contained six statements, all of which received 100% "Yes" answers and no "No" answers from any of the patients, as all statements regarding service were considered important by the patients, requiring attention from installation staff to maximize the service process.

The third statement regarding the value of the patient-IFRS relationship can be seen in the table, which shows that the only statement that received 100% "Yes" responses was statement no. 1, while 6% of respondents answered "No" to statement no. 2, because patients do not consider the appearance of staff to be important; what is important to patients is receiving quality service. Statement no. 3 received 9% of "No" responses, the reason being that the pharmacy installation does not understand the patient's condition (frequent drug shortages) as can be seen in tables 6 and 7 regarding waste inventory. Statement no. 4 received 6% of "No" responses from patients regarding the ease of communicating with pharmacists and pharmaceutical technical staff. Based on the results of observations obtained by researchers by distributing value questionnaires to outpatients and their families regarding suggestions/input from respondent 1 related to product value, it can be concluded that the supply of medicines at IFRS does not match patient demand or needs, the layout of the rooms is inefficient, and the facilities are inadequate. slow medication prescription services, and a lack of friendliness from staff towards patients cause patient dissatisfaction with the services provided.

Waste Questionnaire Mapping Analysis at the Talaud Regional General Hospital Pharmacy

The researchers conducted an analysis using the Borda method, in which each type of waste was weighted by adding up each rank multiplied by its respective weight. Rank 1 had the highest weight, namely (n-1) or (8-1), so the weight for rank 1 was 7, while rank 8 had the lowest weight, namely 0. The highest result from the waste weighting was determined to be critical waste. The results of the waste questionnaire and weighting using the Borda method can be seen in Table 6.

Table 6. Results of Waste Questionnaire Analysis using the Borda Method

Waste Type	Rank								Value	Weight
	1	2	3	4	5	6	7	8		
Defects	0	0	2	1	3	2	2	3	29	0,080
Overproduction	0	0	2	3	1	2	3	2	32	0,088
Transportation	3	7	1	1	0	0	1	0	73	0,202
Waiting	3	2	4	2	1	0	1	0	65	0,180
Inventory	6	2	2	1	0	2	0	0	72	0,199
Motion	0	0	2	1	2	3	3	2	29	0,080
Overprocessing	0	1	1	2	4	1	3	1	36	0,099
Human Potential	1	1	0	1	1	2	1	6	25	0,088
Weight	7	6	5	4	3	2	1	0	361	
Total										

Source: Processed primary data from 2019.

Based on the results of the waste questionnaire calculations, the researchers first calculated the number of respondents who ranked each type. For example, in Table 6, there were two people who chose waste defect at rank 3 and one person at rank 4, and so on. Then, multiply the numbers in the rank column and multiply the numbers by the lowest weight and add the results of the multiplication for the same type until all are complete. Then, the results of the calculation are entered in the ranking column according to the type of waste. For example, in Table 5, the waste defect type (0x7) + (0x6) + (2x5) + (1x4) + (3x3) + (2x2) + (2x1) + (3x0) = 29. The next step is to add up the results of each type of waste to obtain a total value of 361. To determine the weight of each waste, divide the value by the total value. Based on the results of the waste questionnaire analysis using the Borda method, waste defects were found to be 8%, waste overproduction 8.8%, waste transportation 20.2%, waste waiting 18%, waste inventory 19.9%, waste motion 8%, waste overprocessing 9.9%, and waste human potential 6.9%. Therefore, it can be concluded that the most critical waste that often occurs in the Pharmacy Installation of Talaud Regional General Hospital is transportation waste with a percentage of 20.2%. The critical waste ranking can be seen in Table 7.

Table 7. Critical Waste Levels in the Pharmacy Installation of Talaud Regional General Hospital

Ranking	Type of Waste	Percentage (%)
1	*Transportation*	20,2%
2	*Inventory*	19,9%
3	*Waiting*	18%
4	*Overprocessing*	9,9%
5	*Overproduction*	8,8%
6	*Defect*	8%
7	*Motion*	8%
8	*Human Potential*	6,9%
	Total	**100%**

Source: Processed primary data from 2019.

Table 7 shows that waste transportation ranks first among types of waste. Waste transportation is waste that occurs due to excessive activities that do not add value, such as staff and patients going back and forth to get medicine because the prescribed medicine is not available at the pharmacy, obtaining health insurance, paying at the administration desk, and inefficient room layout. For further details, see Appendix 11, which explains that waste transportation occurs because patients always receive a copy of their prescription.

Analysis of the Root Causes of Critical Waste in the Service Process at the Talaud Regional General Hospital Pharmacy

The stage of identifying the root causes of waste transportation problems was carried out through in-depth interviews with the head of the pharmacy and some of the staff directly involved in the service process using the 5 Whys method.

Table 8. Root Causes of Waste Transportation in the Service Process at the Talaud Regional General Hospital Pharmacy

No.	*WHY*	*ANSWER*
1.	- Why do patients always have to go back and forth to get their medicine, health insurance cards, and other requirements?	- Because the administrative section, polyclinic, and pharmacy are located far apart, and patients often have to go back and forth to buy medicine outside the hospital, also because patients sometimes forget to bring/leave their health insurance cards at the polyclinic.
2.	- Why are the administrative section, outpatient clinic, and pharmacy located far apart? - Why do patients always buy medicine outside?	- Because of limited space in the hospital, the hospital utilizes the available space. - Because the medications prescribed by doctors are sometimes not available at the pharmacy or are out of stock.
3.	- Why is space in the hospital still limited? - Why are the medications prescribed by doctors unavailable/always out of stock?	- Because adding facilities and other necessities is not easy and certainly requires a lot of money and time. - Because doctors sometimes prescribe medications that are not available at the pharmacy. Medication shortages often occur due to increased patient demand, and procuring medications takes a long time due to distance constraints (regional hospitals on islands).
4.	- Why do doctors prescribe drugs that are not available at the pharmacy? - Why do doctors' requests not match the stock/supply available at the pharmacy?	- Because doctors' requests sometimes do not match the pharmacy's supply/stock of drugs available at the pharmacy. - Because the hospital has not adjusted the doctor's request with the pharmacy, so the prescriptions that come in do not match the pharmacy's inventory because the pharmacy only plans for medication, but the next stage is carried out by the hospital, so sometimes the necessary medication is not available or out of stock.
5.	- Why has the hospital not adjusted doctors' requests to match the supplies available in the pharmacy?	- Because most of the doctors working at Talaud Regional General Hospital are contract doctors, it is very difficult to adjust doctors' requests and the pharmacy because within a few years the doctors on duty will be replaced by new doctors. Therefore, the procurement of medicines and medical equipment is still limited to/in accordance with needs.

Table 8 shows that the root causes of critical waste (Transportation) occurring in the Talaud Regional General Hospital Pharmacy Installation are due to the layout of rooms that are far apart/the existence of distances separating rooms, prescribed drugs not being available in the pharmacy installation, and doctor requests that are not in accordance with the pharmacy installation. This problem has an impact on patient dissatisfaction with the services at the Talaud Regional General Hospital Pharmacy. The results of this study are not much different from the study conducted by Yolla et al., 2014 at the Unisma Malang Islamic Hospital, regarding transportation waste as the root cause of the problem due to the distance between the polyclinic, payment location, examination location, Pharmacy Installation, and sometimes patients entering the wrong room due to unclear room directions.

Ideas and Suggestions for Improving Service Processes at the Talaud Regional General Hospital Pharmacy

The existence of waste in the service process at the Talaud Regional General Hospital Pharmacy indicates that the hospital cannot yet be considered fully lean. Therefore, a method is needed to reduce or minimize waste in the IFRS. To change and plan an improvement idea, consideration from the hospital is certainly needed because it is related to various policies and regulations that apply, as well as funds and various related elements. Prescription services at the Talaud Regional General Hospital pharmacy involve various activities that need to be minimized in order to improve service quality, such as waiting times, prescription copying, and billing. These activities are undesirable for patients and therefore need to be addressed by the hospital, particularly the pharmacy. The results of waste identification obtained from distributing questionnaires to IFRS officers show that one type of waste that needs to be minimized is transportation waste. The root cause of transportation waste is inefficient room layout (distant) or

the distance between rooms. Long distances can reduce the work efficiency of officers and cause patient dissatisfaction with the services provided by IFRS, so it is necessary to reorganize the rooms and service process flow from the time the patient arrives until the patient leaves so that the service runs well and optimally. Another cause of transportation waste is the availability of drugs that do not match the needs of patients, which is also related to inventory waste. Drug shortages or excess supplies of drugs and medical equipment at certain times or even at all times indicate that control over the management of drugs and medical equipment at the IFRS is poor/suboptimal (Fahrudin, 2006). Therefore, hospitals and the IFRS must exercise strict control and supply management to avoid drug shortages that can hinder every service process for patients and their families. Based on interviews with the head of the facility and some of the staff involved in the service process, an idea was generated to improve the service process by dividing tasks among staff members from the beginning of the service (prescription entry) to the end of the service (prescription and PIO delivery) and assigning queue numbers to patients to prevent errors in prescription services. This improvement idea can reduce/minimize patient waiting time, which is classified as waste waiting. Based on the improvement ideas obtained, a proposal can be made to improve the service process at the Talaud Regional General Hospital Pharmacy.

Proposed improvements to enhance service quality at the Talaud Regional General Hospital Pharmacy are as follows:

1. Implement the 5S method (seiri, seiton, seiso, seiketsu, shitsuke), which is recognized as an excellent lean approach to eliminating waste. This can be done by forming a core team with the aim of driving the implementation of the lean approach using the 5S method in daily activities.
2. Pharmacy management should add visual management (information boards) to reduce information deficiencies in the workplace and reduce the frequency of repeated questions from patients.
3. Standardize doctors' practice hours so that doctors practice at 8:00 a.m. on time and change the work schedule of staff by making them work on time. Equalize staff workloads to address the shortage of pharmacy staff in the prescription drug service process to eliminate waste of human potential (unutilized staff creativity).
4. Reorganize the service process flow at IFRS by dividing tasks among staff members from prescription entry to drug delivery to patients/drug information services and optimizing services with the available human resources, changing the prescription processing flow based on a more effective and efficient layout.
5. Changing the prescription service system at IFRS to a queue number system. This aims to minimize excessive work processes by employees when sorting medicines based on prescription arrival times, thereby speeding up service times to avoid patient complaints and reduce patient waiting times.
6. Reorganizing the service process flow from the time the patient arrives until the patient leaves (information desk, registration, cashier, insurance verification (BPJS/JKN/KIS), polyclinic, pharmacy must be close together to avoid excessive activity from patients (patients do not have to go back and forth because the distance between rooms is very far).
7. The hospital must adjust its planning for the procurement of medicines and medical equipment to the needs of the IFRS and the requests of doctors to avoid delays in treatment or patients having to buy medicines outside the hospital because the required medicines are out of stock. This also prevents the accumulation of unused medicines, which can lead to high expiration rates.
8. The hospital must establish regulations to discuss with doctors the suitability of prescriptions with the hospital formulary. This aims to minimize wasted time due to rework because the products received do not match the IFRS request and to prevent doctors from prescribing drugs that are not available in the pharmacy. The hospital also needs to conduct a study on drug planning based on previous drug consumption patterns to minimize drug supplies in the pharmacy and to avoid stock outs (drug shortages) and excessive drug accumulation, thereby promoting rational drug use.
9. Add one computer for IFRS officers to enter labels and payment/account receipts as well as patient queue numbers to reduce excessive processing time due to the manual system, thereby making the service process at the Talaud Regional General Hospital Pharmacy more efficient.

CONCLUSION

Based on the results of value stream mapping, it was found that the activities of VA, NVA, and NNVA in the service process at the Talaud Regional General Hospital Pharmacy had a waste ratio (VAR) that exceeded 30% of the minimum total activity. The results of stakeholder value identification based on the patient's perspective showed that of the three statements regarding product value, service value, and patient and IFRS relationship value, all were considered important by patients and their families. Based on critical waste analysis using the Borda method, it is

known that the most frequent waste in the Pharmacy Installation of Talaud Regional General Hospital is transportation waste at 20.2%. The root causes of transportation waste are the layout of rooms that are far apart, prescribed drugs that are not available at the pharmacy, and doctor requests that are not in accordance with the pharmacy. This problem has an impact on patient dissatisfaction with the services at the Talaud Regional General Hospital Pharmacy. Proposed improvements to the service process at the Talaud Regional General Hospital Pharmacy include implementing the 5S method, adding visual management, optimizing services with the existing number of human resources, changing the prescription workflow based on a more efficient and effective layout, evening out doctors' working hours so that they can practice on time, changing staff working hours, changing the prescription service system to a queue number system, planning medications according to IFRS requirements and doctors' requests, and adding one computer for IFRS staff to assist them in data entry, prescriptions, labels, and other needs.

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