Identification of Critical Waste on Outpatient Installation in Universitas Sumatera Utara (USU) Hospital

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Abstract: Increasing the number of existing hospitals leads to increase a competition among hospitals. This condition causes hospital to become more competent by improving existing services, as well as providing continuous healthcare quality to every patient. Service system at outpatient installation of USU Hospital in BPJS patient often experiencing problem because there are still many waste at each part and patient service process become inefficient. Therefore, it is necessary to analyze critical waste identification to know the most dominant waste occurring in the process to doan action as soon as possible. The results obtained from the identification indicates that the most critical waste in BPJS patient service process is waiting, where the patient must wait for a long time starting from the registration process, inspection at polyclinic, and medicine- taking at the pharmacy.

1 INTRODUCTION

Hospital is a part of health resources are needed in supporting the implementation of health. Increasing the number of existing hospitals leads to increase a competition among hospitals. This condition causes hospital to become more competent by improving existing services, as well as providing continuous healthcare quality to every patient. Hospital services are now capital-intensive, labor-intensive, and technology-intensive in facing of global competition. Health care in hospitals is not only curative, but also rehabilitative which is both properties are implemented in an integrated manner through promotional and preventive efforts (UU RI No. 44 2009 About Hospital). Thus, the goal of hospital health services is not only for individual patients, but also for the families of patients and general public.

The study was conducted on an outpatient installation at USU hospital located in Medan. Outpatient installation is one of the existing installations at USU Hospital and has a special role in treating patients who need the treatment. The process flow of the outpatient installation begins with the queue number-taking, registering at registration section, investigating by the doctor at

the clinic, such as blood checks, CT scan, X-rays, and other investigations if necessary, and medicine-taking after medicine recipe by doctor at the pharmacy. Registration in the registration section is done by checking the patient card for the old patient while the new patient will perform the personal data-filling to input in medical record. After registering, patient moves to the clinic to check with the doctor. In this installation, there are 13 polyclinics consistof anesthesia poly, cardiac poly, ENT poly, eye poly, surgical poly, nerve poly, internist poly, pediatric poly, child development poly, pulmonary poly, obgyn poly, polyurium and genital poly, bone poly, and urology poly. After the investigation on one of the polyclinics is completed, the patient will receive a medicine recipe from the doctor if there is no investigation is required and go to the pharmacy to medicine-taking. If investigation is required, the patient will go to the laboratory for investigation and return to the polyclinic by bringing the investigation results after the investigation is complete. After that, the patient will receive the medicine recipe by the doctor and the patient go to the pharmacy to medicine-taking.

Outpatient installation at USU hospital treats general patients and BPJS insurance patients where the process of these two patients is only different at the end of the process. The general patient make a

payment after medicine-taking at the pharmacy as doctor medicine recipe while the BPJS insurancepatient does not need to make the payment. Patients BPJS insurance at USU hospital more than the general patient and BPJS insurance patients become the focus in this study. In the flow process of patient BPJS insurance, there are many problems due to a lot of waste on registration process, investigation by the doctor, and medicine-taking at the pharmacy. This is because there is still a lot of waste occurs at each section and patients must queue and wait for a long time at each process. This problem leads to patient satisfaction on the reduction service and critical waste is needed to identify each process in order to make repairs immediately.

Waste identification done by the activities description occurs of the service process into value added activities,necessary but non value added activities, and non value added activities lean approach (Syahputri, 2017). Lean is acontinuous effort to eliminate waste and increase the value added of products or services to provide value to costumer value (Gaspers and Fontana, 2011). However, the concept of lean applied in service-based fields. Lean in the field of service assumes the same principle, namely continuous improvementand waste. These principles are also currentlyapplied in many service businesses for examplecall centers, health care, higher education, software development,and other professional services (Ikatrinasari and Haryanto, 2014). Lean healthcare is a strategy focused on eliminating inefficiencies and giving more time to patient service activities(Lestie, 2006).

Many previous studies have been conducted in a medical center or hospital in the world to identify waste using a lean healthcare approach. One study was conducted at Virginia Mason Medical Center in Washington. The same study has also been conducted at the anatomical pathologylabusing lean methods (Spear, 2005). However, there is still many research with lean healthcare done in hospital in Indonesia especially in Medan City. This research is aimed to identify waste from service process to reduce waste happened in outpatient installation, and service quality and increase consumer satisfaction.

2 METHODOLOGY

In this study object of this study is the flow of outpatient installation process of USU hospital specially BPJS insurance patient. Research begins by making observations to see and observe the condition occurs in the outpatient installation. After that, determines the purpose of research in accordance to existing conditions on the outpatient installation. Based on the purpose of research, data collected as input in problem solving. The data collected for data processing in the form of waste occurs at each process, the patient processing time at each part, and waiting time of the patient. Based on these data, data processing done as a solution to problems that occurs in the outpatient installation. The research is done by using lean concept. This approach is one of the best practices to identify waste that occurs in the work environment (Ehrlich, 2002) .Lean is a production practice aims to minimize waste along the value streams mapping and create more value to customers. According to lean principles, many use of resources does not deliver consumer value is a target for change, reduction or elimination (Arfman, 2014).

Problem solving with lean approach is done with several stages. The first stage is to map the service system of outpatient installation of USU hospital. The purpose of mapping is to know the process occurs in the outpatient installation of USU hospital at this time. Mapping is done by describing the service process of outpatient installation starting from the arrival of the patient until the patient returns. The result of this service installation system mapping is called the current state mapping service system and the flow of BPJS insurance patient service process on the outpatient installation of USU hospital. After obtaining big picture mapping, the next step is to identify the activity along the service system on the outpatient installation. This identification is done to know and calculate the percentage of activities including value added, non value added but necessary, and non value added categories. After the percentage at each activity is obtained, the next step is to identify the waste occurs in the service system of the outpatient installation. This waste identification aims to determine the waste occurs during the process and causing the patient service process be ineffective. Next stage is critical waste identification from the eight waste by distributing questionnaires to patients.

3 RESULT AND DISCUSSION

3.1 Current State Mapping

The process of describing the current state mapping service system on the outpatient installation of USU hospital is done from the arrival of the patient until

the patient returns. Current state mapping of service system BPJS insurance patient on an outpatient installation in USU hospital can be seen in Figure 1.
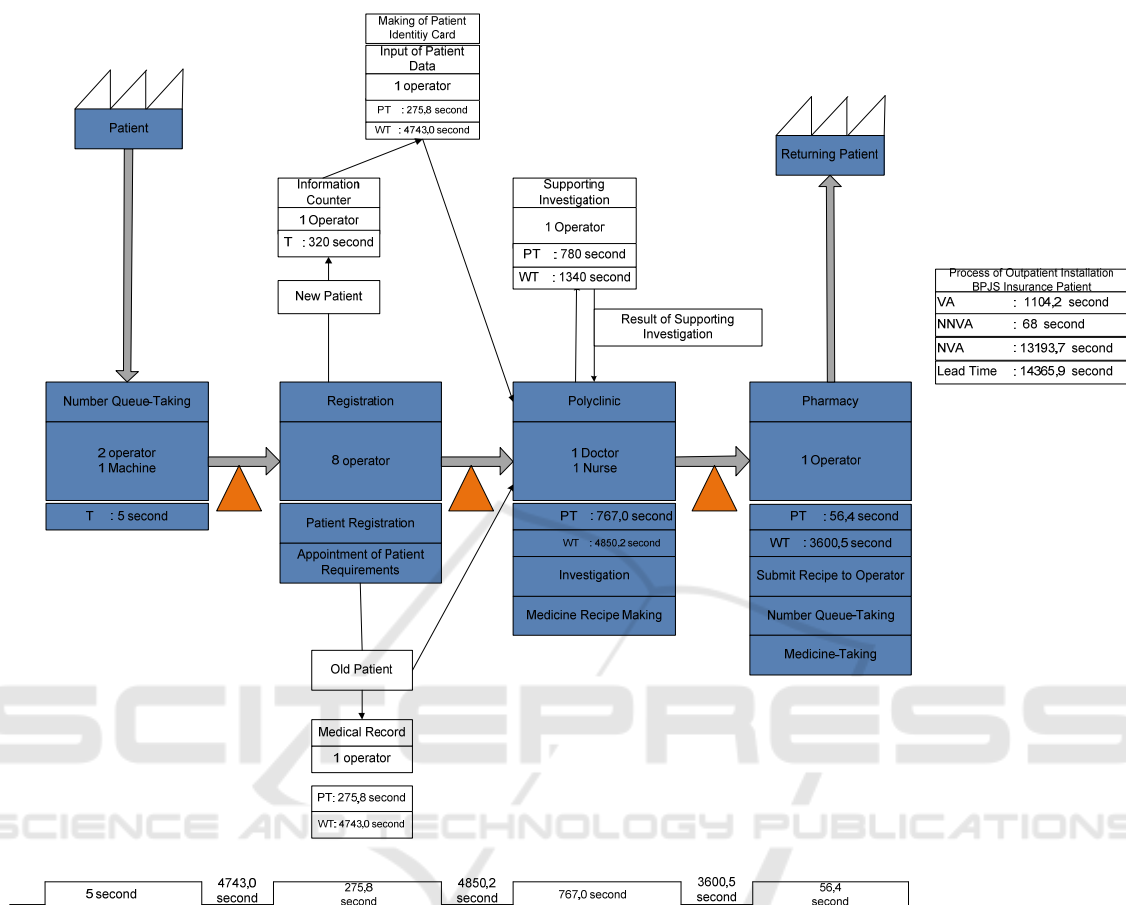

Figure 1: Current State Mapping of Service System BPJS Insurance Patient on an Outpatient Installation in USU hospital.

Based on the figure above, it shows that the patient waiting for a long time at each part of the process flow. This is causing by several things such as a doctor has not arrive yet, the patient's medical record has not reached the clinic and doctor can not investigate the patient, and other causes makes the patient queue at each section.

3.2 Identification of Value Added, Non Value Added but Necessary, and Non Volue Added Activities

Identification is done by calculating the percentage at each activity after the activity is categorized according to the mapping on the current state mapping. The classification of activities is based on the type of activity in the organization (Hines, 2000).

Percentage of outpatient service activity for BPJS patients insurance can be seen in Table 1.

Table 1: Percentage of Outpatient Installation Service Activity for BPJS Patients Insurance.

Category	Percentage
Value added	12,73%
Necessary non value added	45,40%
Non value added	41,93%

Based on the table above obtaines that the outpatient installation service process for patients BPJS insurance producing necessary non-value added value activity of 45,40%. This result shows that there is still a lot of activity that necessary but it's not give value added because waste occurs in the service system and more identification is needed to identify the waste.

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3.3 Identification of Waste in BPJS Insurance Patient Service Process

Before determining the critical waste occurs in the outpatient installation service system, first stage is identify the wastes occurs in the system. Waste identification during the BPJS insurance patient service process on an outpatient installation is waiting, overprocessing, and inventory. Waiting occurs when the patient waits at each process, such as queuing for the registration process, queuing for examination with the doctor, and queuing to take medication at the pharmacy. Overprocessing occurs in the medical record where the patient must wait for the results of medical records to doctor investigation because medical record process has not optimal yet and irregular. Inventory occurs when doctors have to replace the medicine recipe because medicine are not available at pharmaciy.

From these four wastes, determines the critical waste by distributing questionnaires. The results of the questionnaires distribution shows that from the four wastes occurrs during the outpatient installation service process, waste waiting is the most critical waste which is the condition causes waiting processing every patient service process on the outpatient installation starting from the registration process, the investigation on the polyclinic section, and the medicine-taking in the pharmacy.

4 CONCLUSIONS

The process of patient service has not optimal yet done by waste identification in the process. This waste identification aims to determine the waste occurs during the process and causes the service process to the patient be ineffective. The results obtaines that the identification indicates the most critical waste in the BPJS insurance patient service process is waiting, where the patient must wait for a long time starting from the registration process, investigation on the polyclinic, and medicine- taking at the pharmacy.

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