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ANALYSIS OF THE BPJS PATIENT REGISTRATION INFORMATION SYSTEM USING THE FISHBONE METHOD IN CLINIC A BENGKULU CITY

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ABSTRACT

Problem: Patient registration is an important part of health services for patients, where officers ask for patient personal data so that further services can be provided for patients. If patient registration goes well, patients will receive service more quickly. Based on the writing, there are problems with the information system application in the form of network problems or application errors which hinder the smooth registration of patients. **Objective**: To find out the BPJS patient registration information system at Clinic A, Bengkulu City using the fishbone method (man, material and machine). **Method:** The type of research is descriptive qualitative observational with a case study approach with the subject being registration officers and the object of the p-care application. The data used is primary data with the instrument being a questionnaire which is processed and analyzed univariate. **Results:** It is known that the man aspect has met the qualifications, only the officers working are non-medical records officers, the material aspect has fulfilled some of the officers' needs in implementing BPJS patient registration and the machine aspect often experiences errors/slow network so they have to carry out manual registration. It is hoped that the performance of the p-care application will be improved by carrying out responsive monitoring and evaluation so that the existing system is better suited to clinic needs, thus improving the quality of service.

Keywords : *BPJS; Fishbone; p-care; System*

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1. INTRODUCTION

Along with advances in technology, information systems have experienced significant development. From paper-based and manual systems, we have moved to computer-based systems, and now we see a trend towards cloud-based systems, data analytics, artificial intelligence, and the Internet of Things (IoT). Information systems consist of several components, including hardware, software, databases, networks, and human resources. Effective integration of all these components allows information systems to function optimally. Proper implementation of information systems can bring a variety of benefits to organizations, including increased productivity, reduced costs, improved customer service, better decision making, and competitive advantage.

Information systems are also being developed in the health sector, namely in patient registration, according to the latest Minister of Health Regulation No. 24 of

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2022 requires all health service facilities (including clinics and independent practice places) to maintain electronic medical records no later than 31 December 2023. Data from hospitals in Indonesia, especially at RSUD K.R.M.T Wongsonegoro Semarang in 2019, amounted to 15,437 users from 199,188 patients (source: Medifirst 2000). Based on this data, the online registration system at RSUD K.R.M.T Wongsonegoro Semarang was around 8% of the total number of patients in 2019. In January 2020 there were 4,440 users and in February 2020 there were 3,928 users (source: Medifirst 2000). At Dr. Regional Hospital. Soeradji Tirtonegoro Klaten patients who used manual outpatient registration was 16.9% and for patients who registered online it was 83.1% of the total outpatients. With an average number of online outpatient patients of 1049 registrants. From the results of observations at Dr Soeroto Ngawi Regional Hospital which used online outpatient registration in September 2020, 11.21% of the total patients registered for outpatient treatment. With an average number of patients registering online for outpatient care of 4,148 patients. In October 2020 it was around 14.06% with an average number of patients registering online for outpatient care of 3,137 patients. In November 2020, 11.42% registered online, with an average of 2,548 patients.

The electronic system for administering electronic medical records can be an electronic system developed by the Ministry of Health, the health service facility itself, or the organizer or provider of the electronic system through collaboration. This information system allows patients to register quickly and efficiently, reduces the time required to fill out registration forms manually, with the information system, health workers can manage patient queues more effectively, minimize patient waiting time, increase patient satisfaction, enable recording and access easy access to electronic patient medical records, including disease history, test results and drug prescriptions. This helps doctors provide better and more coordinated services to patients, and most importantly the patient registration information system also provides protection for patient medical data, including through appropriate access arrangements and other data security measures. In the patient registration information system, it is divided into 2 types of patients, namely general patients and BPJS.

BPJS Health is an institution established to administer social security programs in Indonesia according to Law Number 40 of 2004 and Law Number 24 of 2011. In accordance with Law Number 40 of 2004 concerning the National Social Security System, BPJS is a non-profit legal entity that means an organization whose main source of funds comes from donations from members, where members who have contributed do not sue the organization for a return. BPJS has developed an information technology system as an effort to improve the quality of better services to participants or to a health facility. One of them is the creation of the Primary Care (P-Care) application.

The Primary Care application or commonly called the P-Care application is an application intended for web-based basic services created to support the payment process in first-level health facility services for BPJS Health participants. This system makes it easy to access data to the BPJS server, including the registration process, diagnosis, therapy, and laboratory services. First level health facilities that collaborate with BPJS Health are required to provide comprehensive health services, so that the health services provided must be broad and complete, covering all aspects or covering a wide scope in order to produce the best quality of service. (Inggil et al, 2020).

One of the health service facilities that uses the P-Care Application is Clinic A, Bengkulu City. The majority of patients who visit the clinic are BPJS patients. The BPJS patient registration flow begins with registering via the Mobile-JKN Application, which is provided by BPJS and can be accessed via cellphone, thereby shortening the patient's time when registering, then the data of patients who have registered on the

Mobile-JKN Application will automatically be input into the P-Care Application ¬ and an internal application created by the clinic to issue a queue number for each patient, namely the Antrol Application, so that registration officers no longer need to input patient data but go directly to the poly patient's destination for treatment, this will also shorten service and patients can queue directly dipoli until called by the doctor. Patients who register at Clinic A in Bengkulu City are not only BPJS patients, there are also general patients, but general patients must register directly at the clinic and the registration flow used is also different from BPJS patients, in the general patient registration flow the officer inputs general patient data in the Antrol Application who will then immediately get a queue number and the patient can immediately receive service.

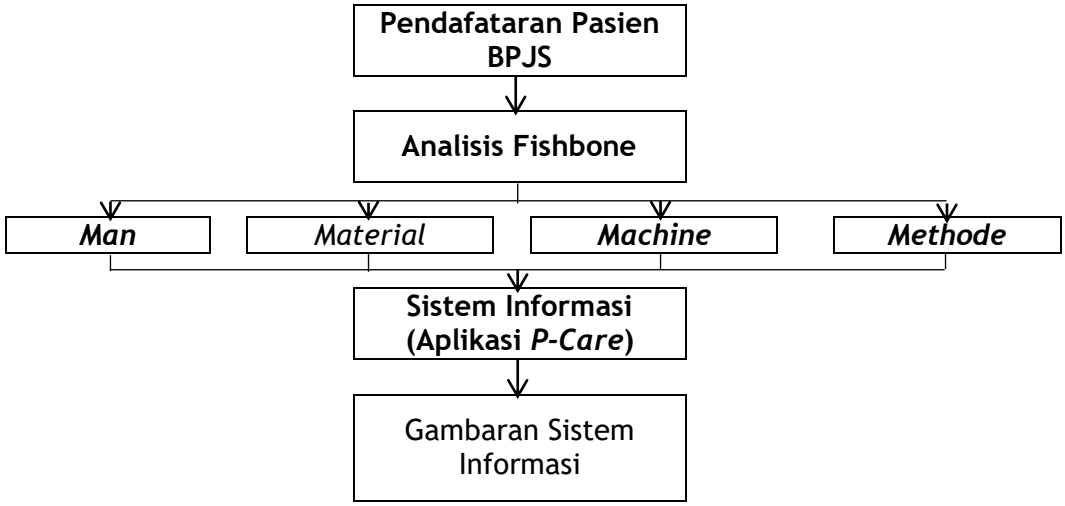
Based on an initial survey at Clinic A, Bengkulu City in March 2024, through interviews with registration officers it was found that the P-Care Application was easy to access so that officers did not experience difficulties when inputting patient data, however since the beginning of implementation until now its use has not been optimal due to several reasons. One of which is that errors often occur in the p-care application which results in long loading times, currently there are two known causes, namely system improvements from BPJS or network strength that does not match the size of the internet used.

Based on interviews with IT officers, the p-care information system has been implemented for a long time and has met the needs of officers in patient service, there are no problems with inputting identity data into the system because patient data is automatically input when patients register via the Mobile JKN application, the officer also said the system often experiences long loading times due to the network and website addresses which are often confused with p-care vaccines, sometimes it takes a little time when starting the service, the network at Clinic A in Bengkulu City uses a Local Area Network (LAN), which connects one device to another to run available information systems, which where in the case of a problem in the form of long loading, there are two causes, namely the network factor, where the system being implemented is used in several units, namely in the general poly registration, dental poly and doctor's office, where if one unit uses excessive network usage it will affect the system in other units and network repairs will cause the system to load for quite a long time, factors the second is that BPJS is currently carrying out system improvements which cause system errors for a while, for this reason it usually occurs 2/3 times a month with uncertain times and the problem is in the form of website addresses that are mixed up because the links are almost the same causing the algorithm Website systems are sometimes confused between p-care vaccine with p-care BPJS.

Based on this description, it can be concluded that in an online-based outpatient registration system, the online-based outpatient registration system needs to be analyzed using a management tool. One of the management tools that can find the root cause of a problem is using a Fishbone Diagram. A Fishbone Diagram is a method for analyzing a problem or condition, sometimes this diagram is often called a cause-and-effect diagram or cause effect diagram. This diagram shows the impact or consequences of a problem, with all its causes. The consequences are written as the snout of the head, while the fish bones are filled with causes according to the problem. Fishbone Diagram elements used are man, material and machine. According to Annisa (2023), the fishbone diagram is a quality management tool that makes it possible to locate a problem to find a solution to the problem systematically which ultimately leads to the cause of a quality problem. The impact that occurs if the system continues to load and the website address is incorrect, the officer will have difficulty entering patient data and end up having to write it down manually and this will require more energy for the registration officer.

Based on the background, researchers will analyze the BPJS patient registration information system using the fishbone method using 3 analyzes namely Man, material, and machine. It is hoped that they can determine weaknesses which become recommendations for improvements that must be made and developed further, so as to improve quality services at Clinic A Bengkulu City.

2. THEORETICAL FRAMEWORK



3. METHODOLOGY

The type of research is descriptive qualitative observational with a case study approach with the subject being registration officers and the object of the p-care application. The data used is primary data with the instrument being a questionnaire which is processed and analyzed univariate.

4. RESULTS AND DISCUSSIONS

Online registration is a procedure for accepting patients who will seek treatment at the polyclinic, which is part of the health service procedure system. When registering at Clinic A, Bengkulu City, there is a registration procedure, namely online registration via Mobile-JKN, but sometimes many patients have not registered via Mobile-JKN so they have to be registered first by the registration officer.

a. Characteristics of BPJS patient Registration Officers (*Man*)

Man or human behavior is the involvement of humans as drivers who have roles, thoughts, hopes and ideas. In management, the most important factor is people. Humans make goals and humans also carry out the process to achieve their goals.

Based on the results of research conducted through observation, it was found that the registration system officers studied included gender, education level, length of service, and level of knowledge regarding the registration system. From the results of the interview, there were 3 registration officers with the latest education being Diploma III, Non-Medical Records Expert and 1 officer with a Bachelor's degree in Nursing. The criteria for staff at Clinic A in Bengkulu City have met the qualification standards for health workers. This is in line with PERMENKES Number 41 of 2016 concerning professional standards for medical recorders and health information with Diploma III educational qualifications. However, registration is one part of the medical record, this is not in accordance with the field taken by the officers because there is not a single officer in the field of medical records, there are exceptions for officers who have worked in the field of patient registration for more than 5 years, this is can prove the officer's ability to carry out tasks in patient registration.

According to Dian Pratama (2018), training is an important part of the human aspect of information systems. This paper uses the fishbone method to evaluate how inadequate training can impact the success of information system implementation. The results of the analysis show that deficiencies in training, as well as a lack of managerial support and user involvement, are often the main factors causing problems in information systems projects.

Based on observations, the author found that the number of 4 officers in Patient Registration is sufficient to assist in the patient registration process, but the number does not guarantee the quality of their work, education is also important in the implementation of patient registration, especially in the implementation of information systems, because with education officers are able to obtain basic knowledge. and skills in health services in the registration section.

b. Condition of Facilities and Infrastructure for Outpatient Registration (Material)

Materials or infrastructure are materials needed by the hospital. These materials consist of semi-finished materials and finished materials. The materials studied are computers, scanners, paper, CPUs, mice, etc. Hendra Wibowo (2020) said how material quality, such as hardware and software specifications, can influence the success of an information system. In fishbone analysis, the "material" aspect includes assessing the quality, compatibility, and maintainability of hardware and software. The findings of this paper show that problems such as inadequate specifications or hardware that becomes obsolete quickly are often the cause of failure in information system implementation

Based on the results of research at Clinic A, Bengkulu City, facilities and infrastructure are urgently needed. These facilities and infrastructure are ready-made or semi-finished, including: computer networks, paper, scanners, mice, keyboards and pens, to store patient data. Where these infrastructure facilities still have several obstacles when running, such as delays in connecting the computer to the Primary-Care Application so that officers have to register manually and there are several infrastructure facilities that are not yet available. To achieve good service, apart from people who are experts in their field, they must also be able to use materials as a means. This is in accordance with Rusdarti's theory that humans without materials and equipment will not achieve the expected goals (PM Hutauruk, 2021).

Based on observations, it was found that 4 computers were in good condition and could be used well, 4 keyboards on each available computer, 4 mice on each available computer and could be used well, 4 CPUs in good condition without constraints, there is 1 printer located at the general poly registration and can be used properly, 1 scanner is in good condition and can be used, there are 2 pens at each registration table which can be used properly, there is 1 ream of paper provided at the poly registration general and dental clinic.

According to researchers, these facilities and infrastructure can support officers in helping complete data on patients who register online, but from the results of observations, researchers see that registration officers still use cellphones to scan data, this proves that the registration equipment has not been fully used by registration officers. Procurement and checking of facilities and infrastructure is carried out every time the goods are needed and are damaged, but the officer said that this would be done if only damage was found or not within the specified time.

c. BPJS Patient Registration System (Machine)

Machines or software for outpatient registration are equipment including technology used to assist in operations to produce goods and services. The equipment used can provide convenience or produce greater profits and create work efficiency

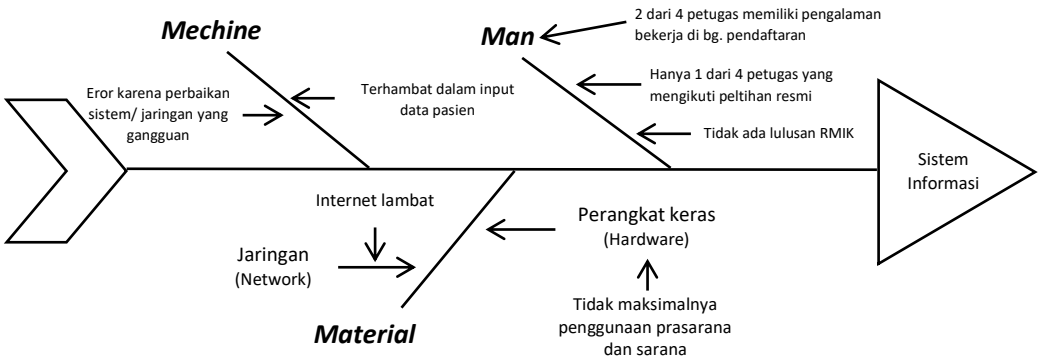
in hospital institutions. The equipment studied is the system used to register BPJS patients, namely the Primary-Care Application.

The Primary Care (P-Care) application is a health service information system application that is accessed online specifically for users of First Level Health Facilities (FKTP) which was designed and developed to serve patients specifically for BPJS Health participants. With this application, FKTP can record medical records of BPJS participant patients seeking treatment in the form of the number of patient visits, patient complaints, treatment therapy given, referrals, and patient drug prescriptions online (Siti, 2022).

Software generally functions to control the use of hardware, help with calculations, connect with other software and other things such as operating systems, programming languages and others (Rahman and Alfarizi, 2014). Based on the results of the writing, the information system at Clinic A in Bengkulu City can be used well under normal circumstances. If the registration system does not meet the requirements, it can affect the level of service to patients. Machines or software used to provide convenience or produce greater profits and create work efficiency. According to researchers, the information system at Clinic A in Bengkulu City is very helpful for officers in inputting BPJS patients for treatment, but there are obstacles, namely errors in the system which hinder the registration of BPJS patients.

d. *Fishbone* Diagram

Based on the results of interviews and observations of informants, the root causes of the problem were depicted using a fishbone diagram as follows:



A fishbone diagram or cause and effect diagram contains a description of the relationship between a problem and the factors that cause the problem. The Fishbone diagram in this writing is used to find the root cause of problems related to problems in each aspect of the Fishbone Diagram at Clinic A, Bengkulu City

The Man aspect has an important role in the running of the information system, with the ability of the registration officer the system can be run easily and input can run smoothly, the man aspect has a relationship with the material and machine aspects because with good hardware equipment that can be used it will not interfere with the registration process. patients, as well as the machine aspect, the Primary Care Application makes it easier for officers to input patient data and an information system with menus that are easy for officers to understand can speed up patient registration times.

The problem with the machine aspect (P-care Application) is loading the application which causes the application to not be able to be used when a patient registers. In the material aspect, the problem is that the network is often slow so officers have to wait for the loading to complete to register. The solution currently used is to replace the internet with a mobile phone hotspot. In the method aspect,

due to network/application problems, officers are forced to register manually in order to serve patients quickly.

5. CONCLUSION

Analysis of the Patient Registration Information System can use various methods including the fishbone method by looking at the elements of man, machine, material and method so that weaknesses can be identified which can become recommendations for future improvements, so as to improve the quality of service at Clinic A, Bengkulu City.

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