



Health Service Innovation: Integration Of Outpatient Online Registration At RSAU Dr. M. Munir Malang

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Abstract. Dr. M. Munir Abdulrachman Saleh Air Force Hospital is a Class D Hospital owned by the Indonesian Air Force located in Pakis, Malang Regency. Electronic Medical Records are currently used as a form of transformation of the health care system in Indonesia. Based on the Minister of Health Regulation No. 24 of 2022, it states that all Health Facilities in Indonesia must organize Electronic Medical Records no later than December 2023. However, the use of Electronic Medical Records has not been widespread in health facilities in Indonesia. So, the purpose of this research is to develop an online Dr. M. Munir Abdulrachman Saleh Air Force Hospital outpatient registration application. This research uses a qualitative descriptive method and data collection using observation and interview methods with one of the medical record officers at Dr. M. Munir Abdulrachman Saleh Air Force Hospital. From the results of the study, the design of online registration of outpatients at Dr. M. Munir Abdulrachman Saleh Air Force Hospital to reduce the risk of errors in entering patient data to be registered. The test results show success in use as expected.

Keywords: Electronic Medical Records, Google Spreadsheet, Patient Registration.

1. INTRODUCTION

An information system is a system that can effectively and efficiently meet the needs and produce information that can be used as recommendations for decision making in an organization. Information systems can be adopted in all fields, including the health sector (Santi and Deharja, 2020). Information systems can be utilized for data and information service activities to prioritize patient safety, administration, consumer-focused services, the development of medical evidence and guidance for the protection of privacy (Achmad Jaelani Rusdi, 2022). The use of information systems in the medical field increases the accuracy of patient data collection and makes the outpatient registration process more efficient (Tominanto and Maryati, 2013). Information systems can improve the accuracy of patient data management, minimize errors, and ensure smooth implementation of the service process (Afdoli and Malau, 2019). Based on the Regulation of the Minister of Health of the Republic of Indonesia Number 82 of 2013 concerning Hospital Management Information Systems in Article 1 Paragraph 2, the Hospital Management Information System (hereinafter referred to

as SIMRS) is described as information communication technology. A system that configures the entire process of providing hospital services in a network format. Handling and integrating coordination, reporting, and management procedures to obtain precise and accurate information and is part of the health information system.

Health technology transformation is realized through the development and utilization of technology or digitalization. In Indonesia itself, the health sector has introduced technology and digitization through medical records. Medical records are files containing records and documents that contain patient identity, examination, treatment, procedures, and other services provided to patients. This implementation will be carried out as a health facility administration order. Medical records are useful for the basis of patient care and treatment, research and education materials, and various other benefits. Along with the times, medical records developed into electronic medical records which were later abbreviated as RME. According to Permenkes Number 24 of 2022 concerning medical records in Chapter 1 article 1 paragraph 2 states that Electronic Medical Records are medical records made using an electronic system intended for the implementation of medical records. Unfortunately, the implementation of Electronic Medical Records has not been fully carried out by health care facilities in Indonesia. Based on data from the Directorate of Referral Health Services (2020), there are only 74 out of 575 hospitals in Indonesia that implement RME in an integrated manner. Some other health facilities have also not used RME to the fullest. Electronic Medical Records have been shown to improve the quality and reliability of healthcare delivery when implemented and used appropriately (Janett and Yeracaris, 2020).

In the implementation of this Electronic Medical Record, as the main guard faced is to maximize the patient registration at the health service facility. It is known that the patient registration place is a place where the patient or patient's family and hospital staff have their first interaction and also a place for the registration process of new and old patients who visit the hospital to get services and treatment. Some patients decide to seek treatment at this health care facility by considering a comfortable reception area and satisfactory staff. In addition to supporting facilities, patient reception officers must master patient flow, medical record flow, and patient admission procedures so that officers can provide appropriate and fast service and information. Based on the results of observations when carrying out an internship for

approximately 4 months starting from February to June, what researchers get related to the Air Force Hospital dr. M. Munir Lanud Abdulrachman Saleh Malang is a type D class hospital which is owned by the air force which is located in Malang Regency, precisely in Pakis District. This hospital provides services in the health sector which are supported by specialist and sub-specialist doctor services and supported by adequate medical facilities.

The problems that occur at Dr. M. Munir Abdulrachman Saleh Air Force Hospital Malang are problems that occur in the patient registration section such as patient attendance time and the number of patients not known in advance, the duration of waiting for outpatient services that are still crowded and the accumulation of patients in the outpatient clinic. Based on the description of the problems above, we can conclude that it is necessary to have an online registration record for outpatients that is used as much as possible considering that it has now entered the 5.0 era.

Based on these conditions, in this case the researcher intends to create a Microsoft office excel spreadsheet related to recording online-based outpatient patient registration for Medical Records officers so that it can be accessed in several computers available in the Medical Records room. Microsoft office excel spreadsheet related to recording the registration of outpatient poly patients based online is expected to make it easier for patients and employees on duty because it will shorten the registration time and does not require a long time to queue. With the recording of online-based outpatient registration information, it is hoped that it can facilitate patients to register online via smartphone (can be through Mobile JKN and Whatsapp Medical Records Dr. M. Munir Abdulrachman Saleh Air Force Hospital Malang), evaluate and monitor the queue of outpatients in hospitals that have been integrated.

The development of the era of globalization using computer technology that is very sophisticated and modern will make it easier to process data that can save time and money. According to Risnawati et al (2020). The government strongly encourages the use of information systems, especially outpatient registration, so that it is useful for facilitating access to services and improving the quality of health services. The results of the information obtained will be very satisfying, useful and beneficial for an institution or agency that uses it. One technology that is simple in operation is Google Spreadsheets. The use of google

spreadsheets is easily accessible anywhere and anytime online which allows creating and formatting spreadsheets and can work with others.

2. MATERIALS AND METHODS

The research conducted by the author was carried out at Dr. M. Munir Abdulrachman Saleh Air Force Hospital Malang. The population of this research subject is medical record officers in Dr. M. Munir Abdulrachman Saleh Air Force Hospital Malang. The type of research used by this author uses qualitative descriptive methods. Descriptive research is a research method that analyzes, describes and summarizes various conditions, situations from various data collected in the form of interviews or observations regarding the problem under study that occurs in the field (Destriana, et al, 2020). This research data collection uses the observation method during the internship and interviews with one of the medical record officers who happens to be a Clinical Instructure (CI) at Dr. M. Munir Abdulrachman Saleh Air Force Hospital Malang.

Application Analysis

At this stage, data or information is collected through observation during the internship and also interviewing one of the medical record officers. Needs analysis has 2 types, namely functional and non-functional needs. Functional needs analysis is the processes carried out by the system. The functional needs of the proposed system are admin needs which consist of being able to delete, change, add patient data automatically. Non-functional requirements analysis describes system requirements that focus on the properties required by the system. Where these non-functional needs are divided into two, namely software and hardware. For software we can take from the use of Microsoft office excel which specifically here we use Google Sheets as software. For hardware we use a computer which will later be used as a means of recording outpatient online patient registration at Dr. M. Munir Abdulrachman Saleh Air Force Hospital Malang.

Application Design

To find out about the design needs of recording online registration of outpatients at Dr. M. Munir Abdurachman Saleh Air Force Hospital Malang, researchers made observations during the internship and conducted interviews with 1 (one) medical record officer who happened to be a Clinical Instructure (CI) at Dr. M. Munir Abdurachman Saleh Air Force Hospital Malang. Based on the results of these interviews, it is known that recording online registration of outpatients which is done manually is a little difficult for officers because they have to rewrite the online patient information in a special notebook for patients who have registered online. So that sometimes there are errors in patient data collection. Based on the analysis of the flow of online registration of outpatients that is currently running and with these problems, it is proposed by the researcher, namely the design of a new system to make it more efficient and effective for the needs of medical record officers to record outpatient online patient registration.

Entity Relationship Diagram (ERD) is one of the database modeling methods used to produce a conceptual scheme for the type or semantic data model of the system (Muhamad Muslihudin, et al., 2021: 48). The following is an ERD design on the outpatient online registration recording system as follows:

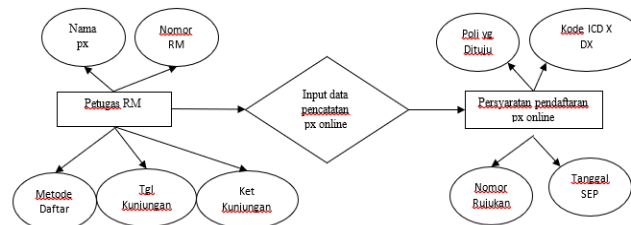


Figure 1. ERD Design of Outpatient Online Registration

Application Creations

There will be 11 items contained in the google spreadsheet. These items include sequence number, online registration date, medical record number, patient name, BPJS number, referral number, intended poly, date of referral letter, diagnosis ICD X code, method when registering, and information on ranap control or not.

Application Testing

Testing according to KBBI is an experimental process to determine the quality of something (deafness, endurance skills, and so on). It can also be interpreted that this test is part of a systematic planned system development plan or activity to test the quality of software. The software to be tested is related to recording online registration of outpatients. The purpose of testing this application is to ensure that the software created is in accordance with the needs previously determined (Aziz et al., 2020). From this resulting feature, officers can record online registration of outpatients in this google spreadsheet properly and correctly. This test was conducted or tested on 6 respondents who were also medical record officers at Dr. M. Munir Abdulrachman Saleh Air Force Hospital Malang.

Application Implementation

It has entered the implementation stage, where this implementation stage is the stage where the system is ready to be operated. Google spreadsheet itself has the benefit of being able to access data anywhere and anytime as long as the user has a google spreadsheet link that is being worked on, then the data can be stored online and also for data that is always real - time or data is always up to date so that it can facilitate users in using the application. At this stage the officers at Dr. M. Munir Abdulrachman Saleh Air Force Hospital Malang have slowly implemented google spreadsheet as needed. This is also in line with research (Novitasari, et al, 2022) which states that the google spreadsheet application is used online by users both when creating and editing data and is done while collaborating in real time with other users.

Based on the results of interviews with respondents, it is found that medical record officers have obstacles in the process of recording online registration of outpatients at Dr. M. Munir Abdulrachman Saleh Air Force Hospital Malang occurs due to lack of accuracy in recording and there is no application related to recording outpatient online patients so that in the qualitative analysis process it is still manual by using a notebook, therefore the researcher makes an application to overcome these problems by proposing a new system design in the form of google spreadsheet.

3. CONCLUSION

Based on the results of interviews with one of the medical record officers at Dr. M. Munir Abdulrachman Saleh Air Force Hospital Malang and research that has been done, it can be concluded that researchers have succeeded in creating an online outpatient registration record. The link to fill in the online registration of outpatients at Dr. M. Munir Abdulrachman Saleh Air Force Hospital Malang on Google Sheets can be accessed with the URL link below:

https://docs.google.com/spreadsheets/d/1czHNJpxWQMZYxvziWANpc_3wNSVTmbwV7N9sJPJXhfk/edit?usp=sharing It is hoped that after the creation of a recording method using Google Sheets can provide innovation and can be useful for medical record employees at Dr. M. Munir Abdulrachman Saleh Air Force Hospital Malang.

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