



Review on The Effectiveness of The Hospital in Bandung on The Use of Electronic Medical Records For Outpatient Registration

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Abstract : This study aims to analyze the effectiveness of the implementation of electronic medical records at Bandung City Hospital. The research methodology used is a qualitative method with a descriptive approach, through the identification of 5M (Man, Money, Material, Method, Machine). From the results of the research conducted, the researcher found three aspects that have shortcomings, namely the first in the Man aspect where medical recorders at outpatient registration still have educational qualifications that are not appropriate, the second in the Material aspect there are obstacles in access to electricity which is still not stable, and the system often crashes during registration so that it hampers service to patients, the third in the Machine aspect, namely the lack of patient label printing tools which are only available one in five outpatient registration counters. Based on the problems found, the researcher has suggestions, namely in the Man aspect, the hospital must recruit medical recorders who have educational qualifications in accordance with applicable regulations, for the Material aspect, the hospital must make improvements and maintenance of the system and also increase electrical power, then for the Machine aspect, the hospital must immediately contact vendors (third parties) to add patient label printing equipment.

IndexTerms - Effectiveness, Electronic Medical Records, Outpatient Registration

I. INTRODUCTION

According to Law Number 17 of 2003, a person's state of health covers their physical, mental, and social well-being and goes beyond simply being disease-free to allow people to lead lives that are worthwhile. Health service facilities are locations and/or instruments that the Central Government, Regional Government, and/or the community utilize to deliver health services to individuals or communities utilizing promotive, preventative, curative, rehabilitative, and/or palliative techniques.

According to Minister of Health Regulation No. 3, 2020, hospitals are medical facilities that offer complete individual health services, including inpatient, outpatient, and emergency care. In efforts to cure, prevent, and restore patient health, hospitals are the most crucial link in the chain (Sophiana Enjellin Anathasia & Dety Mulyanti, 2023).

Medical records are documents that include information about a patient's identity as well as details about their examinations, treatments, surgeries, and other services (Permenkes RI, 2022). Electronic medical records are the lifelong medical records of a patient in an electronic format containing all of their health information, recorded by one or more medical recorders in a coordinated way at every appointment with the patient. With the primary goal of delivering or enhancing effective and integrated health care and services, computers can access electronic medical records over a network (Khasanah Meilia, 2020).

On the release of Minister of Health Regulation Number 24 of 2022, which mandates that Electronic Medical Records be maintained by all Health Service Facilities by December 31, 2023, at the latest. Medical records developed with an electronic system designed for medical record management are known as electronic medical records. One of the information subsystems in the Health Service Facility that is linked to other subsystems in the facility is Electronic Medical Records.

Before getting medical care, patients must first register. During this process, their identity is recorded in a database file or book in their electronic medical record. Through the use of outpatient registration, patients can receive medical services without needing to stay overnight, including observation, diagnosis, treatment, and rehabilitation (Ghiffari, 2021).

An organization's effectiveness is a measure of how well or poorly it works in reaching its objectives. An organization is considered to have operated effectively if its objectives are met. The degree of efficacy and influence (results) of a program's output in reaching program objectives are indicated by effectiveness indicators. An organizational unit's work process will be more efficient the more the output generated contributes to achieving specified objectives (Yulitiawati & Rusmidarti, 2021).

Based at Jalan Hospital No. 22, Ujung Berung, Bandung City, West Java, Bandung City Hospital is the sole general hospital owned by the Bandung City Regional Government. As of March 2023, this hospital has been offering medical services through the Electronic Medical Record (RME) system, particularly in the area of outpatient registration. It was discovered that the Bandung City Regional Hospital experienced regular system failures when enrolling outpatients, which could interfere with the patient service process. The study titled "Analysis of the Effectiveness of Implementing Electronic Medical Records for Outpatient Registration in Bandung City Regional Hospital" piques the interest of academics based on these issues.

The study "Effectiveness of the Use of Electronic Medical Records on Outpatient Services at the Darul Arqam Clinic in Garut" by Zaki Much Farid et al. (2021) used qualitative methods with the descriptive approach, which describes the state of the subject or objects in research in the form of facts that appear in written data in accordance with the experienced environmental conditions. Purposive procedures are employed by researchers in subject selection, and they employ observation and interview techniques for data collecting, which are ultimately subjected to qualitative analysis.

as the issues raised in the journal were comparable to those the researcher encountered during her fieldwork practice at the Bandung City Regional Hospital, she was interested in using the same title to discuss the efficacy of electronic medical records. Researchers also employ descriptive qualitative methods, but by determining the 5M (Man, Method, Material, Money, Machine).

II. RESEARCH METHODOLOGY

Qualitative methods were used in the research, using a descriptive approach. When the researcher conducted fieldwork at the Bandung City Regional Hospital, they were able to formulate issues that arose during the outpatient registration installation. The type of data used in this study is primary data, which was gathered directly from observations and interviews about the efficacy of implementing electronic medical records for outpatient registration. Secondary data, which was gathered from earlier studies conducted within the last five years, is then used to round out the data. Data collection techniques were carried out using interviews and direct observation which were then analyzed qualitatively by asking several questions identified through the 5Ms (Man, Money, Material, Method, Machine). The selection of informants was carried out using a purposive sampling technique with three medical recorders who were deemed to know about outpatient registration in accordance with the research conducted. This study aims to analyze the level of effectiveness of the implementation of Electronic Medical Records on outpatient registration services at the Bandung City Regional Hospital. The time spent in this research is approximately 2 months, namely March - May 2024. The results obtained from this research are expected to increase the effectiveness and development of the Electronic Medical Record system at the Bandung City Hospital.

III. RESULTS AND DISCUSSION

A. RESULT

A list of the educational backgrounds of those working at the outpatient registration installation was compiled and is displayed in tabular form based on the findings of research that involved direct observation and interviews with three medical recorders who were on duty during field work practice at the Bandung City Regional Hospital.

Table 1: Bandung City Regional Hospital's Outpatient Medical Record Educational Requirements

COMPENSATION LIST FOR OUTPATIENTS AT BANDUNG CITY HOSPITAL				
No.	name	gender	age	Qualifications for Education
1	Medical Recorder 1	P	41	Bachelor of Economics
2	Medical Recorder 2	L	43	Bachelor of Fisheries Science
3	Medical Recorder 3	L	32	D-III Medical Records & Health Information
4	Medical Recorder 4	P	27	D-III Medical Records & Health Information
5	Medical Recorder 5	L	27	D-III Medical Records & Health Information
6	Medical Recorder 6	P	25	D-III Medical Records & Health Information
7	Medical Recorder 7	P	26	D-III Medical Records & Health Information
8	Medical Recorder 8	L	45	bachelor Public administration
9	Medical Recorder 9	L	44	Bachelor of Economics

Of the 9 medical recorders, 4 of them were not graduates of Medical Records & Health Information.



Figure 1. Application Initial Display Transmedic

The Transmedic application, which was launched in March 2023, is the Hospital Management Information System (SIMRS) that the Bandung City Regional Hospital uses. A flow chart showing the steps involved in outpatient registration from the time a patient arrives until they have finished registering is also included below.

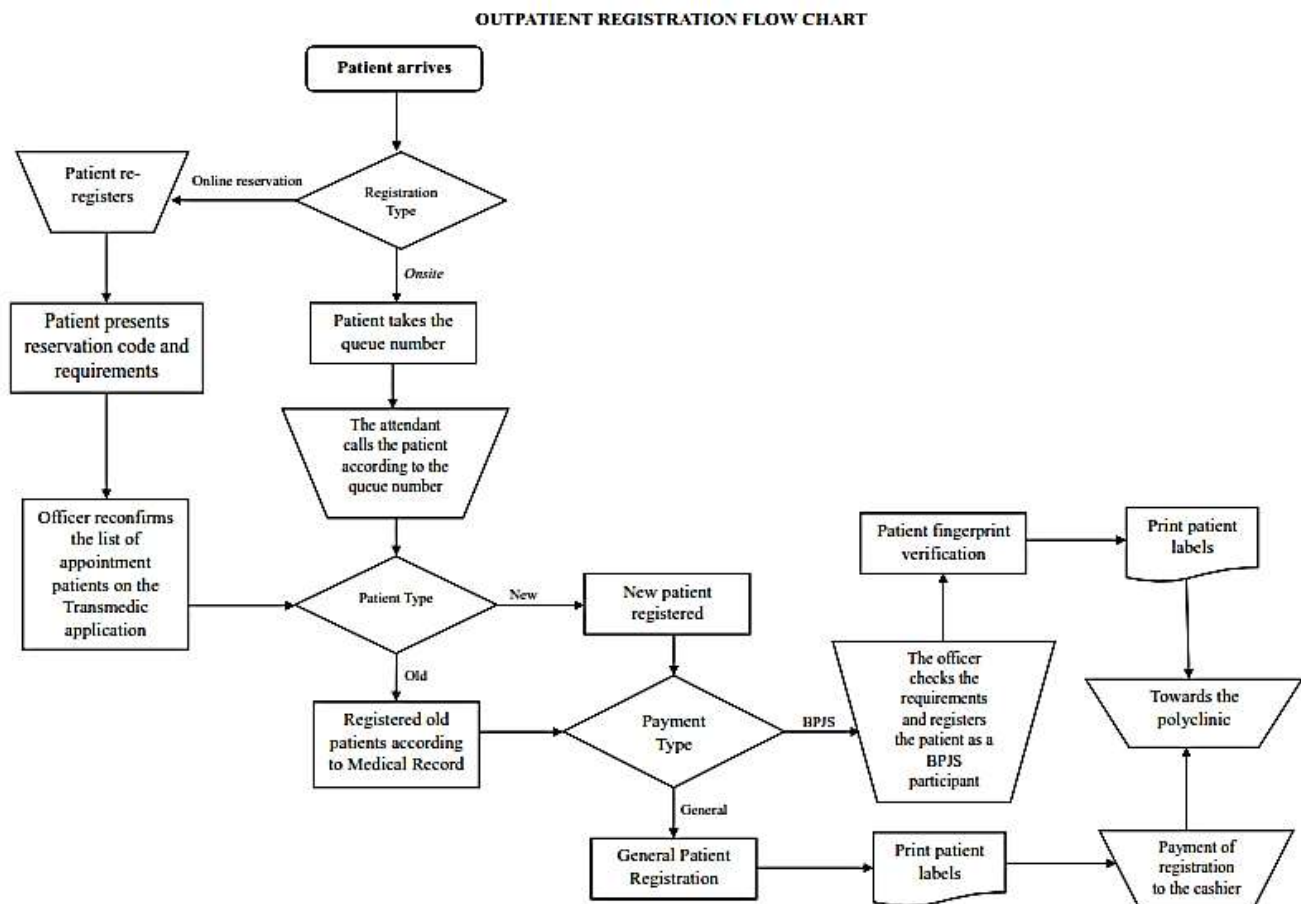


Figure 2. Outpatient Registration Flow Chart

B. DISCUSSION

a. The effectiveness of Bandung City Regional Hospital's use of electronic medical records for outpatient registration

There have been numerous advancements in the use of Electronic Medical Records (RME) in outpatient registration. Initially, there were issues with the use of EMR by a number of medical recorders while registering patients. Over time, electronic medical records have become increasingly useful and expedite the services offered. For example, a medical recorder may register a new patient in 3-5 minutes and an existing patient in 1-3 minutes from the time of admission until the patient's registration is complete. This demonstrates how well electronic medical record deployment maximizes patient access to timely healthcare treatments. On the other hand, the hospital's efforts are limited by a number of factors, including the 5M identification: Man (Human Resources), Money (Budget required), Material (Ingredients needed), Method (Method), and Machine (Machine).

b. Based on human factors, Bandung City Regional Hospital's implementation of electronic medical records for outpatient registration was evaluated for effectiveness (Human Resources)

As noted in Table 1, the medical recorders employed at the Bandung City Regional Hospital's outpatient registration installation are not fully graduates of a minimum of D-III Medical Recording & Health Information. Of the nine medical recorders, four do not meet the minimal requirements for medical recorder education. Because it was not previously required for registration to be a medical recorder, information was collected indicating that not all of the registration officers at the Bandung City Hospital had credentials in medical record education. Therefore, in order to comply with Minister of Health Regulation Number 55 of 2013 about the Implementation of Medical Recorder Work, hospitals have to recruit new staff members in accordance with their respective disciplines. However, the time needed to register patients is rather effective, and the medical recorders on duty are quick to respond in order to overcome various issues that arise during registration, so it can be concluded that Human Resources (HR) is enough for outpatient registration.

c. An evaluation of the financial aspect of Bandung City Regional Hospital's implementation of electronic medical records for outpatient registration, with a budget in place

Bandung City Hospital works in conjunction with third-party providers to execute electronic medical records. As a result, the Hospital and the vendor (third party) have reached an agreement regarding the financial side (the necessary budget). Based only on financial considerations, the Bandung City Regional Hospital appears to have no financial limitations.

d. An evaluation of Bandung City Regional Hospital's use of electronic medical records for outpatient registration based on material aspects (materials needed)

The Transmedic application usually has errors, such as patients' names, dates of birth, and addresses not being listed, necessitating a thorough search. Additionally, the application lags when creating the SEP, requiring the use of a virtual claim application, which takes longer than usual. Finally, fingerprints for BPJS patients are frequently not detected, especially in elderly patients. These challenges impede the effectiveness of the So maintenance and improvements are required to ensure that services are delivered without hindrance and at their best. The second challenge is the ongoing unpredictability of electricity access; in only one month, there was a single power outage that complicated the registration procedure. On the other hand, according to the information gathered, the Bandung City Regional Hospital has worked to boost electrical power and offer a generator set (Genset) as backup power in case of a protracted power outage. implementation of electronic medical records for outpatient registration in the material aspect.

e. Method Aspects-Based Analysis of the Success of Electronic Medical Record Application for Outpatient Registration at Bandung City Regional Hospital

It is believed that the use of electronic medical records in the outpatient registration installation is efficient and compliant with the Bandung City Regional Hospital's Standard Operating Procedures (SPO). All medical recorders who oversee outpatient registration have a thorough understanding of the implemented outpatient registration flow. The majority of patients comprehended the outpatient registration flow procedure, according to researchers' firsthand observation, which is why the methodological use of electronic medical records was considered appropriate. During the transition time for adopting Transmedic as a service support system, medical recordists received training on how to utilize the application from a vendor (third party) approximately a year ago. in order that Transmedic is simple to use and understand for medical recordists.

f. A study of Bandung City Regional Hospital's use of electronic medical records for outpatient registration based on machine aspects

There is only one patient label printing device out of five available counters at the outpatient registration installation, showing issues with infrastructure and amenities based on the machine aspect. The fact that registered patients must visit a different counter with printing supplies may have an impact on how well the services are delivered. Thus, the patient's label is taken into account. In order to maximize the services offered and enable medical recorders who register patients to print patient labels straight from the register, hospitals can therefore become in touch with suppliers (third parties) to install patient label printing equipment at each counter.

IV. CONCLUSION

Three aspects want to be addressed based on the discussion of the 5M identification in the analysis of the effectiveness of implementing electronic medical records for outpatient registration at the Bandung City Regional Hospital. First, the Man aspect (Human Resources) has multiple medical recorders that still do not meet standards. Hospitals are required to hire medical recorders with minimum educational requirements who also meet applicable regulatory standards in terms of their educational background. Then, there are issues with infrastructure and facilities, including with the network system and inconsistent electricity availability. As a result, system maintenance and repairs, including the addition of electrical power, are required. Next, within the Machine domain, there is a problem where each counter does not have the needed patient label printing equipment, so the hospital needs to get in touch with the vendor (third party) right away to install the equipment. It appears suitable and satisfies the requirements in other areas like Money and Method.

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