Analysis Of The Use Of Electronic Medical Records In Health Clinic X

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Abstract

Electronic Medical Records are supporting technologies that encourage health services to reduce the risk of medical errors, speed up the service process, and save operational costs by providing easier access to health information systems to meet patient needs. This study examines the use of Electronic Medical Records at Health Clinic X. The purpose of this study was to determine the extent of the use of Electronic Medical Records at Health Clinic X, analyze the challenges in its implementation and provide suggestions to improve the efficiency and quality of health services. This study uses a descriptive research method with a qualitative approach. Qualitative research is based on primary and secondary data. Primary data collection techniques in this study include observation, interviews, and documentation. While secondary data is obtained from literature sources, journal articles, and expert theories for the benefit of researchers in finding information related to research problems. The results of this study indicate that in the use of Electronic Medical Records at Health Clinic X there are still obstacles in its implementation. Some of the problems are problems related to an unstable network that hinders the process of inputting patient data and servers that are often down. Despite the obstacles faced, this study highlights that Electronic Medical Records provide benefits such as increasing service efficiency, increasing user satisfaction and influencing the reduction of service waiting times.

Keyword: electronic medical records; health services; health clinics

1. Introduction

Medical records are archives that record all actions from the administrative process to the storage process by an agency within a certain period. A hospital must have medical records as a standard of health services so that it can provide the best service to patients (Kencana et al., 2019). According to the Regulation of the Minister of Health of the Republic of Indonesia No. 269/MENKES/III/2008, medical records require full protection because of their confidentiality concerning patient identity. Of course, the hospital has an obligation to maintain the security of documents so that they are not misused by irresponsible individuals. However, the regulation was updated by the Ministry of Health to the Regulation of the Minister of Health of the Republic of Indonesia Number 24 of 2022. This regulation requires every hospital in Indonesia to replace the manual medical record system with a digital one. All hospitals must implement Electronic Medical Records (EMR) no later than December 31, 2023. The transition from manual to digital systems is certainly not easy for some people. Several problems such as user resistance often occur because the adaptation process takes a long time.

A study shows that it is not easy to manage medical record archives. For example, Dr. Soeselo Slawi Regional Hospital which currently still uses manual active archives, although several units have used a computerized system. Some of the main problems that hinder the archive handling process usually include limited human resources and human error. So it can be concluded, the study conducted at the Sri Padang Health Center confirmed that the use of electronic medical records is still ineffective and there are still many obstacles in the input and storage process (Pradana & Dewi, n.d.) However, on the other hand, studies show that the use of electronic medical records allows for the management of patient data to be more efficient and accurate. However, obstacles such as inadequate infrastructure and minimal training of system users are still challenges to achieving this goal. (Puspita, 2021).

Based on the results of observations conducted by researchers at Health Clinic X, obstacles were found in the use of electronic medical records such as server down during use, thus inhibiting patient data input during registration. Of course, this will reduce the quality of patient health services at the clinic. Referring to these problems, the researchers further analyzed research on the use of electronic medical records in a study entitled **"Analysis of the Use of Electronic Medical Records at Health Clinic X".**

2. Literature Review

2.1 Definition of Electronic Medical Records

The definition of a medical record itself is a complete record of a patient's medical history and the medical procedures they receive during visits, treatments, and interventions (Amin et al., 2021). According to Ariani (2023), electronic medical records consist of a collection of patient information that is stored electronically and systematically. This is very important to improve the ease of information, improve the quality of care and increase patient satisfaction connected to the information system in an integrated hospital network.

Electronic medical records (EMR) can reduce workload, costs, and benefit patients due to the efficiency of healthcare processes. In addition, by providing comprehensive information about a patient's health history, EMR greatly supports sustainable and patient-oriented medical practices. This allows doctors to make better and more integrated medical decisions for patients (Setyadi & Nadjib, 2023).

Based on the definition of electronic medical records from the research above, it can be concluded that electronic medical records are a digital system that manages all patient medical data, from registration, use, to storage. EMR also encourages health services to be better and focuses on meeting patient needs with easier access to health information systems, helping medical personnel make better decisions and increasing the efficiency of health services. Ultimately, EMR helps reduce the risk of medical errors, speeds up the service process, and saves operational costs.

2.2 Benefits of Electronic Medical Records

It is undeniable that Electronic Medical Records (EMR) is one of the inventions that greatly helps the effectiveness of health services. In addition to being seen from the side of increasing efficiency, EMR is also very helpful from an economic perspective. This is certainly seen in relation to cost savings. EMR has an impact on reducing unnecessary service costs. In a study conducted by Erawantini & Wibowo (2019), the results of the evaluation of medical personnel on EMR with clinical decision support showed that users agreed that the content, format, ease of use, and the fact that EMR can really provide timely data.

In addition, research according to Ariani (2023), EMR has been proven to improve the efficiency of service quality in medical record units, increase user satisfaction, assist in patient case management, and improve collaboration between healthcare providers. Electronic medical records also positively affect the reduction of service waiting times, improve continuity of care, prevent duplication of inspections, and improve service efficiency. Therefore, EMR integration can produce many major benefits in providing more efficient, high-quality, and integrated healthcare.

Therefore, it can be concluded that Electronic Medical Records (EMR) provide very significant benefits for its users in making their work more coordinated and providing easy access for patients and medical personnel.

2.3 Advantages and Disadvantages of Electronic Medical Records

Based on research conducted by Kesuma (2023), electronic medical records have their own advantages and disadvantages. Some of the advantages that can be felt by users of the electronic medical record system are fast and easy access. This is certainly very beneficial because it affects the level of quality of health services. So that it can increase patient satisfaction. An integrated system between units or departments is also an advantage because it makes it easier for employees to coordinate. Electronic medical records also do not require special storage space, this makes it easier for hospital employees because they do not need to carry out maintenance on the room and archive documents periodically.

However, there are weaknesses in the use of electronic medical records, such as the high risk of being exposed to viruses so that hospitals need regular maintenance. Possibilities such as errors in the input or editing process can occur. It also requires high costs to develop and maintain the system to avoid things like piracy. Finally, electronic medical records will certainly depend heavily on electricity and internet networks. This makes every hospital have to ensure the availability of these supporting factors to maintain the effectiveness of the use of electronic medical records.

2.4 Success Factors for Electronic Medical Records

There are factors that support the successful implementation of the Electronic Medical Records (EMDR) system, including:

a. Technology factors: Need the right technology and appropriate infrastructure so that it can produce one of the success factors of EMR implementation. The right hardware and software supplies, as well as a constant network, support the significance of the effectiveness of the implementation of the Electronic Medical Record (EMR) system. (Widhy & Masyitoh, 2021).
b. Human factors: Studies show that lack of training in adapting to new systems can make it difficult for EMR to be successful. To produce effective adaptation, management must provide adequate training.(Ramdani et al., 2023).
c. Organizational factors: Organizational values that support change and adaptation to new technologies are equally important for the basic aspects of successful EMR implementation. Studies have shown that organizations that have proactive policies to improve the success of EMR systems tend to achieve implementation more quickly. (Ariani, 2023).
d. Effectiveness of use: EMR can be said to be successful if it provides clear convenience and efficiency for its users. Based on research, in increasing the success of EMR system implementation, users must feel the ease of accessibility and flexibility in using the system.
e. System alignment: It is critical that the RME is integrated with other hospital systems. Lack of system integration can lead to operational issues and decreased productivity, which impacts the overall success of the implementation.

Based on research studies from several experts, it can be concluded that the success factors in using the RME system include technological factors, human factors, organizational factors, effectiveness of use, and system alignment. This aspect is the basis for how health agencies can compile and implement efficient RME application methods for the long term. Therefore, both patients and health service medical personnel can feel the maximum utility of the RME system.

3. Material and Method

The researcher conducted the research at Health Clinic X, East Jakarta City. The researcher used Electronic Medical Records to conduct observations at Health Clinic X, which began on September 6, 2024.

3.1 Design Study

This study uses a descriptive research type with a qualitative approach. Basically, qualitative research aims to obtain a comprehensive perception related to problems in individuals and society (Rijal Fadli, 2021). Qualitative research is research that has a descriptive and analytical character. Something that describes and explains an event, incident, and social condition is called descriptive in qualitative research. While analysis in qualitative research is interpreted as interpretation and comparison of research data (Waruwu, 2023). The three methods of data collection in qualitative research are observation, interviews, and documentation studies. In addition, there is data obtained from literature sources, journal articles, books, expert theories for the benefit of researchers in seeking information related to research problems.

3.2 Data Analysis

Data analysis in a qualitative study is a stage where important information is obtained in the form of research findings. Over a period, data analysis is carried out throughout the data

collection process. Qualitative data analysis is an interactive and ongoing process. Data analysis involves organizing data, forming categories, identifying themes and patterns, and writing reports. This data analysis has 4 processes, including:

a. Data collection: Data collection is the collection of information that allows a researcher to make assumptions and draw conclusions. Data presentation is the explanation of information in the form of complete stories and descriptions, which are arranged based on the main findings found in data reduction.
b. Data reduction: Data reduction is the process of selecting, focusing, and including all types of information that support the research data obtained and recorded. The data reduction process is basically a stage of qualitative data analysis that aims to sharpen, classify, direct, clarify, and focus by eliminating unimportant elements and simplifying unimportant elements.
c. Data display: In qualitative research, data presentation is the process of organizing information that allows conclusions to be drawn. This information can be presented in the form of brief descriptions, graphs, or other formats, which help researchers understand the problem at hand and plan further actions based on what they have understood.
d. Conclusions or verification: The final process of the above steps is called drawing conclusions. This is based on the data that has been analyzed and checked against the evidence found at the research site.

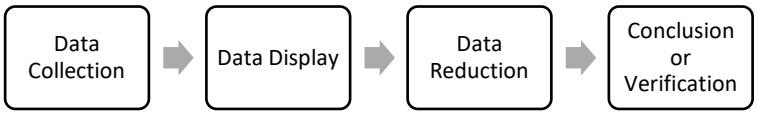

Figure 1. Data Analysis Component
Source: Data processed by researchers

4. Result

4.1 Data Description

To find out the use of Electronic Medical Record archives at Health Clinic X more comprehensively, the researcher used interview techniques to be able to dig up further information about the problem. This includes interviewing 4 participants who are employees assigned to take over the Electronic Medical Record (EMR) job description at Health Clinic X. Therefore, it is hoped that by being directly involved with informants who use EMR in their work, researchers can provide detailed representations in presenting data results related to the effectiveness of EMR use at Health Clinic X. The following is a list of participants that researchers interviewed.

Table 4.1 Participant Data
Source: Data processed by researchers

No	Participant	Length of Work	Age	Position
1.	Participant A	2 Years	24	Staf
2.	Participant B	3 Years	25	Staf
3.	Participant C	6 Month	26	Staf

4.	Participant D	2 Years	30	Staf

4.2 Data Result

To fulfill a comprehensive understanding regarding the use of Electronic Medical Records at Health Clinic X, researchers collected data through interviews, observations and literature studies. The purpose of this interview is to hope that the data and information obtained by researchers from informants or participants who directly handle Electronic Medical Records (EMR) can be obtained validly.

The use of Electronic Medical Records is an important aspect that needs to be studied in this modern era. The electronic medical record system is expected to improve operational efficiency, minimize administrative errors, and accelerate access to patient health information. To understand how effective this system is implemented, direct views from users involved in daily activities at the clinic are needed. Based on interviews that have been conducted, the use of electronic medical records to date has been quite efficient and smooth. However, there are still obstacles such as patients who do not bring their identity cards, which hinder the administrative process in filling in complete data for registration purposes.

In the use of electronic medical records, there are challenges experienced by users that can affect their effectiveness. Based on the results of interviews with medical personnel at Health Clinic X, this includes technical and operational aspects. The obstacles that occur when switching from manual to digital medical records are the long user adaptation process in understanding the new medical record system. In addition, network and signal constraints also occur quite often so that the data recording process is hampered. Users of the electronic medical record system at the clinic also said that the server is often down and cannot be accessed at all. Medical personnel at the clinic said that when there is a disruption to the server or network, the process of recording archive records is switched to manual. Another challenge is that the server does not have an automatic backup feature so that sometimes patient data that has been inputted years ago if searched again cannot be found.

Referring to the problems that often occur, Health Clinic X makes efforts to overcome existing problems. This includes educating patients to always bring their identity cards during the registration process so that the completeness of filling in patient data during the administration process is not disturbed. Then the clinic also often holds briefings with the team and superiors to discuss problems that often occur to be evaluated and find a way out together. Furthermore, servers and networks that are experiencing problems will be directly coordinated with the IT team so that they can be repaired as soon as possible.

5. Discussion

X Health Clinic in the use of medical record systems is designed to follow the development of the times into an Electronic Medical Record System (EMR). This system makes it easier for medical personnel to record patient data, up to the retrieval process. Based on the results of the research that has been done, the electronic medical record system at X Health Clinic has a feature in connecting patient information to doctors. In practice, this feature allows the use of the system to be well integrated. Employees simply input the patient's identity when registering the patient, then the information is connected to the nurse, after which it is forwarded directly to the doctor and then the doctor inputs the prescription into the pharmacy section, the last input process at the cashier.

This system makes it easier for employees because of its effectiveness in the administrative recording process. In the world of health, this electronic medical record is one of the most important aspects in managing patient identification. The process of inputting the electronic medical record system is faster because there is no need to input data manually. This is felt directly by the staff who manage the electronic medical record system. Users of electronic medical records also admit that they are fluent in using the system with all the features in it. This shows that the use of Electronic Medical Records (EMR) at Health Clinic X provides significant benefits in encouraging the effectiveness of patient data management.

Behind the many benefits provided by this electronic medical record system, of course, it is not free from several challenges. Based on interviews with system users, most stated that the most common challenges experienced include unstable signal constraints, servers that are often down, and user resistance when switching systems. These challenges emphasize that the use of EMR requires more attention, especially in terms of system management and maintenance. Electronic medical record archives do have advantages in the administration process because it is said that the implementation of their use is faster and more practical. However, the obstacles that occur indicate the need for maintenance both in terms of data security and development or training for human resources.

To overcome the various challenges of using electronic medical records, strategic steps are needed to be able to increase system efficiency while reducing the risk in handling various EMR problems faced at Health Clinic X. In its efforts, Health Clinic X not only provides education or training to system users, but also to patients regarding supporting documents in terms of improving the completeness of patient identity. Employees at the clinic actively urge and remind patients to bring their identity cards such as identity cards when registering. Then, to overcome user resistance to the use of electronic medical records, Health Clinic X focuses on taking an open communication approach to system users to allow users to discuss complaints or problems that they are or have faced when running the EMR system with their superiors. Furthermore, this input will be used as evaluation material in finding solutions to these problems.

Furthermore, Health Clinic X has taken several preventive measures to ensure that the electronic medical record system runs smoothly. To overcome problems that arise due to server errors, the clinic will coordinate with IT to quickly handle the technical problems so that the recording process is not hampered. In addition, Health Clinic X has a problem of losing patient data for data that has been stored too long in the system. To deal with obstacles in this case, the clinic has taken steps as a follow-up to handling the problem. The clinic ensures that employees or system users can carry out the data input process according to established procedures. This is done as an initial stage of preventing the potential for wider input errors.

It can be concluded that Health Clinic X has made various efforts as a follow-up to handle and prevent problems that will arise in the future. Some of the efforts made include providing education to patients regarding documents as supporting completeness in the registration process, conducting open communication for user resistance issues, and coordinating with the IT team to support the smooth running of the electronic medical record system.

6. Conclusion, Implication, and Recommendation

a. Conclusion

Based on the previous analysis, there are several conclusions including, the use of Electronic Medical Records (EMR) at Health Clinic X can be said to be effective in everyday use. This system makes it easier for system users because of its effectiveness in the administrative recording process. In addition to the benefits, challenges in the use of Electronic Medical Records (EMR) often occur in several aspects, such as technical aspects and in the management of human resources. The most common problems faced include unstable signal constraints, server errors, and user resistance during system transitions. To overcome this, there are several efforts made to overcome each problem that occurs at Health Clinic X including, including conducting open communication regarding user resistance issues, providing instructions to patients about the documents needed to support the registration process, and working with the IT team to support the electronic medical record system.

b. Implication

1. Theoretical Implications

The research results that have been obtained support previous research conducted by Amin et al. (2021), Erawantini & Wibowo (2019), Kesuma (2023), Widhy & Masyitoh (2021), Ramdani et al. (2023), Ariani (2023), Nuzula Belrado & Wahab (2024), Ratnaningsih et al. (2023), Salim et al. (2024). The results of this study support that the use of electronic medical records makes it easier for medical personnel in the administrative process because it is said to be faster and more efficient.

2. Practical Implications

Based on the results of the study, it shows that Health Clinic X can implement electronic medical records. On the other hand, this study provides benefits and information for Health Clinic X that can be applied to support better quality in the future.

c. Recommendation

Based on the research results that have been obtained, there are several recommendations for further research, including the following:

1. This research has a limited scope because it only has one variable. It is recommended that further research cover broader and more varied variables so that the results obtained are more in-depth and comprehensive.
2. It is hoped that further research can focus on making comparisons in the use of electronic medical records so that factors such as success and obstacles faced have a wider reach.
3. In-depth research is also recommended to be conducted regarding the integration of security aspects on electronic medical record servers to achieve patient data security from cybersecurity threats in today's digital era.

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