EVALUATION OF THE IMPLEMENTATION OF OUTPATIENT ELECTRONIC MEDICAL RECORDS (EMR) AT BLUD KOTA BAUBAU HOSPITAL USING THE TAM METHOD

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A B S T R A C T

BLUD RSUD Kota Baubau has 18 clinics that have implemented Electronic Medical Records since March 2022. Electronic Medical Records (RME) improve service delivery by offering faster, more accurate, and higher-quality care compared to paper records. health Service providers include hospitals, where the outpatient unit is a key department. Outpatient services cater to patients who do not require hospitalization. This study aims to evaluate the implementation of electronic medical records in this context in outpatient installations of BLUD RSUD Kota Baubau with aspects of benefits, convenience and interest. The research employs qualitative analysis with a descriptive approach. Data collection involves observation, interviews, and literature reviews. Problem identification is carried out using the Technology Acceptance Model (TAM), focusing on three key aspects: usability, ease of use, and behavioral intention. The interview results obtained from this study based on The perceived usefulness of electronic medical records is evident as it significantly speeds up and enhances the efficiency of officers' tasks. Interviews highlight that the system's ease of use simplifies and quickens the service process at the outpatient unit. Additionally, the behavioral intention aspect reveals that users find the electronic medical records indispensable and are enthusiastic about its ongoing use plan to use RME in the future.

INTRODUCTION

A hospital is a health care institution that organizes comprehensive individual health services that provide inpatient, outpatient, and emergency services (Kemenkes RI, 2020). A hospital is an institution that provides health services, which in this case focuses on providing health services to individuals or companies that cooperate with hospitals, in a full and complete manner, in this case from providing outpatient services to patients who do not need hospitalization, inpatient services for patients who need them, and emergency unit services. A hospital can certainly not carry out services to patients without the help of an integrated system in it (Gemilang et al., 2022).

According to the Minister of Health Regulation No. 30 of 2019 concerning hospitals is as a health care institution that organizes comprehensive health services that provide inpatient, outpatient, and emergency services (Mayang et al., 2024).

Hospitals must improve quality of health services by utilizing technological developments in order to compete well. One of the one of these technological developments is Electronic Medical Records (RME). The use of RME is the application of an information technology used in collection, data storage, data processing data and accessing data stored on patient medical records in a hospital hospital in a database management system that collects various sources of medical data (Maha Wirajaya & Made Umi Kartika Dewi, 2020).

According to Permenkes Number 269 / Menkes / III / 2008 Medical records are files that contain records and documents about patient identity, examination, treatment, actions and other services that have been provided to patients, must be made in writing, complete and clear or electronically (Penulisan et al., 2022).

A medical record is a written record (either paper-based or electronic) used to record all information on the outcomes of health services to a patient. This includes (but is not limited to) assessment findings, the plan of care to be provided, details of care and treatment implementation, integrated patient progress notes (CPPT), and discharge summary (Indradi Sudra, 2021).

Electronic medical records (RMEs) are sophisticated systems that manage health data digitally, including personal, medical, and clinical decision support information. By adopting RME, healthcare facilities seek to improve quality of care, enhance patient experience, ensure more accurate

documentation, reduce medical errors, and speed up access to patient information (Andriani et al., 2017).

The advancement of Electronic Medical Records (RME) in developed countries is rapid. In the United States, the digital revolution in healthcare began in 2004. Denmark, which has pioneered this innovation since the mid-1990s, went a step further in 2009 by adopting a comprehensive RME system at Anentire Hospital. In Japan, the trend of RME adoption is also growing rapidly, starting in 2000, demonstrating the country's commitment to modernizing the Healthcare system (Amin et al., 2021).

Developed countries commonly utilize Electronic Medical Records (EMRs) to heighten healthcare standards. However, in developing countries such as Indonesia, the main obstacle lies in the lack of information technology infrastructure that hinders the development of RME (Amin et al., 2021)

Based on research by (Rosalinda et al., 2021) on Evaluating the Implementation of Electronic Medical Records in the Outpatient unit of General Hospital X Bandung, it was revealed that Regional General Hospital X Bandung is still on the way to maximizing the potential of implementing electronic medical records. This technology has not been fully integrated in the daily operations of the hospital. Some of the main challenges identified include inadequate facilities and infrastructure, the absence of a dedicated team or staff dealing with electronic medical record implementation issues, and the absence of written policies and standard operating procedures (SOPs).

Based on the results of previous research conducted by (Febrianti et al., 2020), namely the Evaluation of Electronic Medical Records in the emergency and inpatient patient registration section at the K.R.M.T Wongsonegoro Hospital, Semarang City, stated that the results of this study indicate that from the aspect of usefulness, the use of electronic medical records (RME) in TPPGD and TPPRI accelerates and increases the effectiveness of the work of registration officers. From the aspect of convenience, interviews revealed that this system simplified and accelerated the registration process in both units. Meanwhile, from the aspect of interest, registration officers in TPPGD and TPPRI recognized the importance of recording electronic medical records and expressed their intention to continue using this system in the future.

Based on preliminary observations made by researchers on March 22, 2024 at BLUD RSUD Baubau City, there are 18 poly that have implemented Electronic Medical Records (RME), it is known that in implementing RME, especially in the Outpatient installation, although electronic medical records play an important role in improving service quality, there are still some shortcomings and problems, such as the occurrence of errors in the system that interfere with smooth operations. In addition, some officers still experience difficulties in operating the system, which has an impact on the efficiency of the registration and recording process. This shows that it is still necessary to improve the counter infrastructure that has made input errors, the facilities are adequate but not maximized and optimized, related to data security that is not fully secure, missing patient visit data, and poor quality goods. So that the author formulates the research objectives, namely evaluating the implementation of RME based on aspects of benefits, aspects of convenience, and aspects of behavioral interest.

METHODOLOGY

This research applies a qualitative descriptive method, where the results are presented in the form of in-depth narratives. This approach is designed to capture emerging phenomena and characteristics, by relying on various techniques such as observation, interviews, documentation, and literature review to gain a more comprehensive understanding (Hia et al., 2022). This research was conducted at BLUD RSUD Baubau City using data collection techniques used include observation, interviews, and documentation. The descriptive approach allows the presentation of data in the form of words and images, thus providing an in-depth understanding and clear visualization of the information studied. Data is obtained through interviews, observations, and documentation in the form of pictures and recordings, which together provide a complete and detailed picture of the phenomenon being studied. This method helps researchers explore information comprehensively and convey results in a way that is easier to understand. The subjects of this study were the head of SIMRS Installation (1 person) as a triangulation informant, medical record staff (1 person), registration counter officer (1 person), ENT poly officer (1 person), and pharmacy officer (1 person).

This study uses a data analysis method with the Technology Acceptance Model (TAM), introduced by Fred Davis in 1989, is a framework that reveals how individuals accept and utilize new technology. TAM is an evolution based on the Theory of Reasoned Action (TRA) which is devoted to

understanding how users accept and use information systems. This method aims to unravel the influence of various external factors on technology acceptance, by highlighting the role of user beliefs, attitudes, and intentions in the technology adoption process (Rosalinda et al., 2021).

The data analysis technique in this study consists of data reduction carried out to filter and simplify relevant information from the data collected. After the data is reduced, the data presentation will be presented in the form of narrative text. This method allows the delivery of detailed and structured information, describes research findings in the form of stories or descriptions that are easy to understand and provides deep insight into the results of the research.

RESULTS AND DISCUSSION

Evaluation of Electronic Medical Records (RME) Based on Aspects of Benefit at BLUD RSUD Baubau City

Based on the results of interviews with informants, the application of RME is very useful, not only officers who feel the benefits but patients also feel the benefits of the application of RME, but it is not optimal. This is in accordance with what was conveyed by the informant, who emphasized that:

Tabel 1. Informants' statements related to the implementation of RME based on the benefits aspect

"Yes, I think it is very useful, especially for us registration officers, we feel that with the RME our work is not too long so that patients are also satisfied".	Informant B, registration counter officer, June 24, 2024
"Yes, there is a time saving but it is not optimal because there are many obstacles, we don't have the facilities, we already have them, only for each place that is needed, there is only that the quality of the goods is sometimes not very good so it sometimes affects it too, but in general, if for time there is an effect, there is a time saving".	Informant Triangulation head of SIMRS, June 14, 2024

Source: Interview, 2024

Perceived usefulness describes a person's belief that using a system will increase productivity and performance. Previous studies confirm that this perception is the most influential key factor in determining the adoption and use of information systems, exceeding other elements in the same theoretical framework (Febrianti et al., 2020).

Based on Permenkes 24 of 2022, electronic medical records have various benefits, including Improving the quality of health services and providing legal certainty in the management of medical records are two crucial goals in the health system, and the main focus is to ensure security, confidentiality, and integrity, as well as availability. In addition, electronic medical records also support integrated digital-based health data management. With these benefits, all health care facilities, such as doctors' practices, dentists, other health workers, as well as various health facilities such as health centers, clinics, hospitals, pharmacies, health laboratories, centers, and other health facilities determined by the Minister of Health, have the responsibility to implement good medical record management standards. Each of these facilities must ensure that medical records are managed properly, maintain the security and confidentiality of patient data, and comply with applicable regulations and policies to provide quality and safe health services, are required to implement electronic medical records.

Based on the results of research at BLUD RSUD Baubau City obtained from the results of observations and in-depth interviews with informants, it is known that at BLUD RSUD Baubau City if there is a technical problem the officers contact the hospital IT team to overcome the problems that occur.

Evaluation of Electronic Medical Records (RME) Based on Aspects of Ease at BLUD RSUD Baubau City

Based on the results of interviews with informants, the application of RME is quite easy to run by officers because before running RME, the officers are trained first by the IT team of BLUD RSUD Kota Baubau. This is in accordance with what was conveyed by the informant, who emphasized that:

Tabel 2. Informants' statements related to the implementation of RME based on the aspect of ease

"Yes, of course it is easy to run, but at the beginning we must not have been too smooth but over time we will definitely get used to RME, especially if we apply it every day in patient registration".	Informant B, registration counter officer, June 24, 2024

Perceived ease of use refers to the extent to which a person feels that technology, especially computers, can be understood and used without difficulty. Tananjaya's research cited by Rohmah et al. (2020) shows that a person's decision to accept accounting software is influenced by satisfaction in using it, where one of the main factors is the ease of use of the system. Several indicators that indicate the ease of use of information technology include systems that are intuitive and quick to learn, able to carry out user commands efficiently, support the improvement of user skills, and simple and practical operations.

The successful implementation of RME is strongly influenced by adequate user competence. With the right skills, users can more easily integrate RME into their daily work according to their profession. During the initial stage of RME introduction, the hospital IT team has provided special training to all officers who will use this system, so that they understand how to operate RME and the features available, preparing them to make the most of this technology in their tasks (I Dewa Ayu & Lutfan Lazuardi, 2023).

In TAM (Technology Acceptance Model) theory, perceived user-friendliness refers to a person's belief that information technology can be used easily and without much difficulty. If the system is designed to be intuitive and not burdensome for users, then they are more likely to be interested in using it. This convenience also creates the impression that the system is not only practical but also useful, providing a sense of comfort and efficiency when working with the system, which ultimately increases overall technology acceptance (Purwandi et al., 2019).

Perceived ease of use relates to the extent to which interactions with information systems feel intuitive and easy to understand, and how easy it is for users to get the information needed to operate with the system. The more complicated and confusing a product is, the lower the interest and adoption. On the other hand, systems designed with ease in mind, which make it easier for users to interact and use features, will tend to get a more positive reception and be more widely accepted by users (Febrianti et al., 2020).

Based on the findings from observations and interviews conducted by researchers at the BLUD Baubau City Hospital, especially the Outpatient Installation, it is known that the implementation of electronic medical records (RME) is quite easy to implement because prior to its implementation the officer has first conducted training with the hospital IT team, for obstacles or server interruptions that have occurred due to network connections, but the level of obstacles itself is not high and is quickly resolved by the hospital.

Evaluation of Electronic Medical Records (RME) Based on Interest Aspects at BLUD RSUD Baubau City

Based on the results of interviews with informants, officers have an interest in continuing to apply RME in the future because RME is very useful and easy to apply. This is in accordance with what was conveyed by the informant, who emphasized that:

Tabel 3. Informant statements related to the implementation of RME based on aspects of interest

"Yes, because here we run RME almost every day so we have felt the benefits, especially with RME we are quite helped, so as long as it is useful in our services we will definitely continue to run RME".	Informant C ENT clinic officer, July 5, 2024

Source: Interview, 2024

Behavioral intention is the urge or someone to take certain actions, or the tendency to continue to adopt certain technologies. This desire encourages individuals to engage in a behavior or activity if they have a strong interest or motivation to do so. Both factors, perceived ease of use and perceived usefulness, significantly influence behavioral intention to use. Users will be more eager to adopt technology if they feel that the technology not only provides benefits but is also easy to use. The combination of these two elements determines how much interest a person has in continuing to use the technology (Febrianti et al., 2020).

To ensure success in the implementation of electronic medical records, the interest of its users is needed. Interest is one of the psychological aspects that has a significant impact on behavior, influencing the extent to which a person is encouraged to engage in activities or make certain decisions. In addition, interest also serves as a source of motivation that encourages a person to do the activity they choose. Attitude is also an important factor in ensuring the successful use of electronic

medical records. According to Iin in (Gede Parama Putra Sukadana & Lestari, 2024), the greater the benefits perceived by users, the stronger their positive attitude towards using the system. Perceived benefits, ease of use, and perceived risks significantly shape user attitudes and interest in adopting electronic medical records.

Attitude towards the use of technological tools is referred to as a reflection of a person's positive or negative feelings towards a particular technology, based on their experience or interaction with the technology Davis et al in (Supriyati & Cholil, 2017), while according to Davis in (Supriyati & Cholil, 2017) defines attitude towards technology in the Technology Acceptance Model (TAM) Attitude towards technology use can be considered as an assessment of the impact a person feels when using a particular system in a work context.

Behavioral interest describes a person's drive or desire to engage in a particular action or activity. It is an internal motivation that drives individuals to carry out behaviors they find important or interesting. Previous research shows that behavioral interest is a reliable indicator to predict how much a person will use technology in practice (Purwandi et al., 2019).

Based on the findings from observations and interviews conducted by researchers at BLUD Baubau City Hospital, especially the Outpatient Installation, it is known that the implementation of electronic medical records (RME) is very helpful and makes it easier for officers to implement it so that there is a sense of wanting to continue using Medical Records.

CONCLUSION

From the results and analysis that have been described, we can draw conclusions, namely, The perceived usefulness aspect of the use of Electronic Medical Records (RME) in the outpatient BLUD of Baubau City Hospital is very beneficial for RME user officers and the benefits can be felt by patients and makes officer work very fast and effective RME but not optimal because sometimes there is poor quality goods, The aspect of ease (perceived ease of use) found from interviews indicates that officers feel that the RME application is very user-friendly and speeds up the service process and there is officer training by the Hospital IT team before implementing RME, The aspect of interest (behavioral intention to use) obtained from the results of interviews is that the implementation of electronic medical records (RME) is very helpful and makes it easier for officers to implement it so that there is a sense of wanting to continue using Electronic Medical Records (RME) in the future, seeing from the aspects of benefits and convenience that are strongly felt by officers using Electronic Medical Records (RME).

Based on the results and discussion above, the advice that researchers can give in this study is to strive for quality facilities and infrastructure in order to optimize the services provided to patients, especially the Outpatient Installation.

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