

Analysis of the Effectiveness of the Use of Electronic Medical Records for Outpatient Services

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A B S T R A C T

The effectiveness of the use of Electronic Medical Records (RME) plays an important role in improving the quality of outpatient services. At the BLUD of Baubau City Hospital, obstacles are still found in the form of unstable networks and system downtime that can affect the smooth running of services. This study aims to analyze the effectiveness of the use of RME in outpatient services from the aspects of tasks/functions, plans/programs, provisions/regulations, and ideal goals/conditions. The research uses a quantitative method with a descriptive approach and a cross-sectional design. The population is 60 people with a sample of 38 respondents selected using purposive sampling. Data were collected using a Likert scale questionnaire and analyzed univariately. The results showed an average value of effectiveness in the task/function aspect of 90.45%, plan/program 88.4%, provisions/regulations 87.98%, and ideal objectives/conditions 88.01%. All aspects are in the very good category. However, system disruptions in the form of errors or slow performance are still obstacles. In conclusion, the use of RME in outpatient services at the BLUD of Baubau City Hospital has gone very well and is able to support the effectiveness of health services.

The effectiveness of Electronic Medical Record (EMR) utilization plays an important role in improving the quality of outpatient healthcare services. At BLUD RSUD Kota Baubau, unstable network connections and system downtime were still identified as obstacles that could affect service continuity. This study aimed to analyze the effectiveness of EMR utilization in outpatient services based on task/function, planning/program, regulations/policies, and goals/ideal conditions. A quantitative descriptive method with a cross-sectional design was used. The population consisted of 60 people, with 38 respondents selected using purposive sampling. Data were collected using a Likert-scale questionnaire and analyzed using univariate analysis. The results showed average effectiveness scores of 90.45% for task/function, 88.4% for planning/program, 87.98% for regulations/policies, and 88.01% for goals/ideal conditions. All aspects were categorized as very good. However, occasional system disturbances, including errors and slow performance, remained a concern. The study concluded that EMR utilization in outpatient services at BLUD RSUD Kota Baubau had been implemented very well and supported healthcare service effectiveness.

INTRODUCTION

The development of information technology in the health sector has encouraged changes in the management of patient data and information in health care facilities. One form of application of this technology is Electronic Medical Records (RME), which is a system used to manage patient health data digitally so that information can be stored, accessed, and used to support the service process. Based on the Minister of Health Permenkes No.24, (2022) concerning Medical Records, health service facilities are required to maintain electronic medical records. The implementation of RME is expected to increase efficiency and accuracy in the management of patient information and support the creation of more effective health services. The effectiveness of the use of RME is not only seen from the availability of the system, but also from the ability of officers to use the system and the extent to which the system is able to support the implementation of health services.

Outpatient services are one of the important parts of hospital services that require fast, precise, complete, and sustainable management of patient information. In its implementation, RME can assist officers in the registration process, patient data input, service recording, and access to patient information. Therefore, the success of the implementation of RME is closely related to the ability of officers to carry out their duties and functions, the readiness of the plan or program to implement the system, compliance with provisions and regulations, and the achievement of the expected ideal goals and conditions. According to Latipah et al. (2021), the effectiveness of a program can be seen through the aspects of tasks/functions, plans/programs, provisions/regulations, and ideal goals/conditions. These four aspects can be used to see the extent to which the implementation of RME is able to provide support for the implementation of outpatient services.

BLUD of Baubau City Hospital is one of the health service facilities that has implemented Electronic Medical Records in outpatient services through the Khanza Hospital Management Information System (SIMRS). The implementation of the RME aims to support the service process and increase the effectiveness of patient information management. However, based on the results of initial observations carried out on February 13, 2026, several obstacles were still found in the implementation of RME, including unstable networks and disruptions to the system or *downtime*. These conditions can hinder the smooth service process if it occurs when the officer is providing input or needs access to patient data. In addition, system disruption can also affect service time and the effectiveness of the officer's work in completing work.

The effectiveness of the use of RME is important to evaluate because the system that has been implemented does not necessarily run optimally in every aspect of its implementation. Officers as system users must have adequate abilities to operate RME, understand the flow of use, input data appropriately, and complete work according to the tasks and responsibilities that have been set. In addition to the ability of the officer, the success of RME is also influenced by the planning and implementation of the program, the existence of clear provisions or procedures, and the ability of the system to achieve service objectives. The results of my research show that the task/function aspect obtained an average of 90.45%, the plan/program of 88.4%, the provisions/regulations of 87.98%, and the ideal goal/condition of 88.01%. All of these aspects are in the very good category, but problems are still found in the form of systems that sometimes experience errors (*errors*).

Based on these conditions, an analysis of the effectiveness of the use of Electronic Medical Records in outpatient services needs to be carried out to find out the extent to which the implementation of the system has supported the implementation of services at the BLUD of Baubau City Hospital. Evaluation through the aspects of tasks/functions, plans/programs, provisions/regulations, and ideal goals/conditions can provide an overview of the success of the implementation of RME while showing the parts that still need improvement. The results of the study are expected to be evaluation material for hospitals in maintaining the implementation of RME that has been running well and improving the quality of systems and services. Thus, this study aims to analyze the effectiveness of the use of Electronic Medical Records in outpatient services at the BLUD of the Baubau City Hospital in 2026 based on the aspects of duties/functions, plans/programs, provisions/regulations, and ideal goals/conditions.

METHODS

This study uses a quantitative method with a descriptive approach and a cross-sectional design. The research population is 60 people and a sample of 38 respondents were selected using the purposive sampling technique. The research was carried out at the BLUD of Baubau City Hospital in April-May 2026. Primary data were obtained from officers involved in the implementation of RME using a structured questionnaire. The instrument used a Likert scale with four answer choices, namely 4 = very good, 3 = good, 2 = not good, and 1 = very poor. The assessment criteria were 0–25% very poor, 26–50% not good, 51–75% good, and 76–100% very good. The data were processed through data cleaning and analyzed using univariate analysis to obtain frequency and percentage distributions. The effectiveness variables were analyzed based on four aspects, namely tasks/functions, plans/programs, provisions/regulations, and ideal objectives/conditions. The instruments have been tested for validity and reliability; the reliability value of each aspect is 0.739; 0,808; 0,787; and 0.524, which is declared reliable in the source KTI.

RESULTS & DISCUSSION

Effectiveness Reviewed from the Aspect of Duties/Functions at BLUD of Baubau City Hospital

Table 1. Frequency Distribution of Effectiveness of Use of Electronic Medical Records Variables of Task/Function Competency

Yes	Task/Function Competencies	Effectiveness of Using Electronic Medical Records								Total	
		SB		B		TB		STB		Score	%
		F	%	F	%	F	%	F	%		
1	Officers are able to use the RME system well	38	100,0	0	0	0	0	0	0	152	100
2	Patient data input is carried out completely	24	63,2	14	36,8	0	0	0	0	138	90,78
3	The patient registration process through RME went smoothly	21	55,3	17	44,7	0	0	0	0	135	88,81
4	Officers understand the flow of RME usage	21	55,3	17	44,7	0	0	0	0	135	88,81
5	RME training helps improve officers' abilities	23	60,5	15	39,5	0	0	0	0	137	90,13
6	With the implementation of electronic medical records can improve the quality of my work	21	55,3	17	44,7	0	0	0	0	135	88,81
7	Electronic medical records make me work more thoroughly and can minimize errors in work	23	60,5	15	39,5	0	0	0	0	137	90,13
8	With the implementation of electronic medical records, I can complete the work according to the results that have been determined by the leadership	17	44,7	21	55,3	0	0	0	0	131	86,18
Average		90,45%									

The task/function aspect describes the ability of officers to carry out RME management according to their duties, including recording, updating, and accessing patient data appropriately and maintaining data security and confidentiality. The results of the study obtained an average of 90.45% and were classified as excellent. This shows that officers are able to use RME well to support outpatient services, starting from registration and data input to improving the quality and accuracy of work.

However, the indicator of the implementation of RME in helping officers complete work according to the results determined by the leadership obtained a good category percentage of 55.3%, so it still needs to be considered. These findings show that the ability to use the system is good, but the benefits of the system in achieving work targets have not been felt uniformly by all respondents. Based on the research findings, the aspects of duties and functions in the implementation of outpatient electronic medical records can be considered effective, as the personnel and staff have carried out their responsibilities well Muzuh, (2025).

The results of this study are in line with the research conducted by Wibowo, (2016), which states that task/function competencies have a close relationship with the effectiveness of employees' work in carrying out their duties and responsibilities. Task/function competence is related to the ability of individuals to carry out work in accordance with the main tasks and functions that have been set, including knowledge, skills, accuracy, and the ability to use work facilities to achieve organizational goals effectively and efficiently.

Based on the results of this study, it can be concluded that the better the competence of the duties/functions that the officer has in the use of Electronic Medical Records (RME), the more effective the implementation of outpatient services. In other words, the better the ability of the officer to operate the RME system, understand the flow of use, input data appropriately, and complete work according to the tasks and functions that have been determined, the effectiveness of the use of Electronic Medical Records in supporting health services will also increase.

Effectiveness Reviewed from the Plan/Program Aspect at BLUD of Baubau City Hospital

Table 2. Frequency Distribution of Effectiveness of Use of Electronic Medical Records Competency Variables Plan/Program

Yes	Plan/Program Competency	Effectiveness of Using Electronic Medical Records								Total	
		SB		B		TB		STB		Score	%
		F	%	F	%	F	%	F	%		
1	RME has been implemented according to the needs of users	16	42,1	22	57,9	0	0	0	0	130	85,52
2	The implementation of RME is carried out in stages to make it easier for users to adapt	18	47,4	20	52,6	0	0	0	0	132	86,84
3	The RME system helps and supports the outpatient service process	24	63,2	14	36,8	0	0	0	0	138	90,78
4	Data integration in the RME system makes it easier for users to access patient information.	20	52,6	18	47,4	0	0	0	0	134	88,15
5	RME improves outpatient service efficiency	27	71,1	11	28,9	0	0	0	0	141	92,76
6	My work became more effective after the implementation of electronic medical records	19	50,0	19	50,0	0	0	0	0	133	87,5
7	After the implementation of electronic medical records, the volume of my work became even less	17	44,7	20	52,6	1	2,6	0	0	130	85,52
8	RME can help my work get completed quickly	24	63,2	13	34,2	1	2,6	0	0	137	90,13
Average		88,4%									

The plan/program aspect assesses whether the implementation of RME has been planned and implemented in stages and is able to support the service process. The average score obtained is 88.4% and is included in the very good category. The indicator with the highest percentage is RME increasing the efficiency of outpatient services by 71.1% in the excellent category. The RME system is also considered to support the service process and help work be completed quickly.

These results show that the implementation of RME has provided benefits to service efficiency and user adaptation. However, a small percentage of respondents still consider that RME has not completely reduced the volume of work or accelerated the completion of work. Therefore, system development and workflow evaluation are still needed to make the benefits of RME more consistent.

The results of this study are in line with research conducted by Sedarmayanti, (2017), which states that plan/program competencies have a close relationship with the effectiveness of employees' work in implementing organizational programs and activities. Plan/program competencies are related to the ability of individuals to understand program objectives, implement work plans, and adjust to the implementation of new systems or policies in the organization. This competency includes the ability to adapt, understand program implementation procedures, utilize technology in work, and improve work efficiency and effectiveness to achieve organizational goals optimally.

Based on the results of this study, it can be concluded that the better the competence of the plan/program that the officer has in the use of Electronic Medical Records (RME), the more effective

the implementation of outpatient services. In other words, the better the planning and implementation of the RME program, the ability of officers to adapt to the system, understand the procedures for use, and utilize the system to support work, the effectiveness of the use of Electronic Medical Records in increasing efficiency, accelerating the completion of work, and supporting health services will also increase.

Effectiveness Reviewed from the Aspect of Provisions/Regulations at the BLUD of Baubau City Hospital

Table 3. Frequency Distribution of Effectiveness of Use of Electronic Medical Records Competency Variables Provisions/Regulations

Yes	Competence Provisions/Regulations	Effectiveness of Using Electronic Medical Records								Total	
		SB		B		TB		STB		Score	%
		F	%	F	%	F	%	F	%		
1	There are clear SOPs regarding the use of RME	23	60,5	15	39,5	0	0	0	0	137	90,13
2	Officers comply with SOPs in the use of RME	19	50,0	19	50,0	0	0	0	0	133	87,5
3	The RME system has security (username & password)	31	81,6	7	18,4	0	0	0	0	145	95,39
4	Hospital policy supports the use of RME	24	63,2	14	36,8	0	0	0	0	138	90,78
5	The procedure when the system error (downtime) is clear	21	55,3	17	44,7	0	0	0	0	135	88,81
6	The amount of work I handle always reaches the set target	15	39,5	22	57,9	1	2,6	0	0	128	84,21
7	I was able to meet the workload set by the leadership	10	26,3	28	73,7	0	0	0	0	124	81,57
8	My work is always completed on time	16	42,1	22	57,9	0	0	0	0	130	85,52
Average		87,98%									

The provisions/regulations aspects are related to compliance with SOPs, data security, the use of usernames and passwords, and the implementation of services according to hospital policies. The results of the study obtained an average of 87.98% with the category of very good. System security items through usernames and passwords obtained a very good percentage of 81.6%, while hospital policy support for the use of RME was 63.2% and the existence of clear SOPs was 60.5%.

Although overall very good, there are still respondents who consider that the work targets have not been fully achieved after the implementation of RME. This condition shows that compliance with the rules needs to go hand in hand with performance evaluation and operational support. Data security and confidentiality also need to be maintained through access control and consistent implementation of procedures.

The results of this study are in line with research conducted by Sutrisno, (2019), which states that the competence of provisions/regulations has a close relationship with the effectiveness of employees' work in carrying out their duties in accordance with the rules and standards that apply in the organization. Competence of provisions/regulations is related to the ability of individuals to understand, obey, and implement established policies, procedures, and operational standards. This competency includes compliance with SOPs, the ability to maintain data security and confidentiality, discipline at work, and the ability to complete work according to applicable targets and regulations so that it can support the improvement of organizational work effectiveness.

Based on the results of this study, it can be concluded that the better the competence of the provisions/regulations that officers have in the use of Electronic Medical Records (RME), the more effective the implementation of outpatient services. In other words, the better the ability of officers to understand and comply with SOPs, maintain the security and confidentiality of patient data, and carry out work in accordance with applicable policies and regulations, the effectiveness of the use of Electronic Medical Records in supporting health services will also increase.

Effectiveness Reviewed from the Aspect of Objectives/Ideal Conditions at BLUD of Baubau City Hospital

Table 4. Frequency Distribution of Effectiveness of Use of Electronic Medical Records Competency Variables Ideal Objectives/Conditions

Yes	Competence Goals/Ideal Conditions	Effectiveness of Using Electronic Medical Records								Total	
		SB		B		TB		STB		Score	%
		F	%	F	%	F	%	F	%		
1	RME accelerates patient service	23	60,5	15	39,5	0	0	0	0	137	90,13
2	RME makes it easier to access patient data	25	65,8	13	34,2	0	0	0	0	139	91,44
3	RME reduces logging errors	24	63,2	14	36,8	1	2,0	0	0	138	90,78
4	The use of RME increases service satisfaction	23	60,5	15	39,5	0	0	0	0	137	90,13
5	The RME system rarely experiences interruptions (errors/slowness)	1	2,6	22	57,9	15	39,5	0	0	100	65,78
6	I have always been disciplined in my time at work	15	39,5	23	60,5	0	0	0	0	129	84,86
7	I always make the best use of my time to get my work done on time	18	47,4	20	52,6	0	0	0	0	132	86,84
8	Electronic medical records help me work with focus so that work can be completed quickly	20	52,6	18	47,4	0	0	0	0	134	88,15
Average		88,01%									

The objective aspect/ideal condition assesses the expected final benefits of using RME, such as speeding up services, facilitating patient data access, reducing recording errors, and increasing the effectiveness of outpatient services. The results showed an average of 88.01% and were in the very good category. Respondents generally rated RME to support the achievement of service objectives.

However, system disruptions in the form of errors or slow performance are still an obstacle. In the RME system indicator, the percentage of the excellent category is only 2.6%, while the good category is 57.9% and the bad category is 39.5%. This finding is an important note because technical glitches can reduce the benefits of RME which should speed up and streamline services.

The results of this study are in line with research conducted by Mangkunegara, (2017), which states that the competence of ideal goals/conditions has a close relationship with the effectiveness of employees' work in achieving optimal work results. Ideal goal/condition competencies are related to the individual's ability to understand organizational goals, create effective working conditions, and utilize the work system to improve service quality and work productivity. This competency includes the ability to work in a disciplined manner, utilize time effectively, reduce errors in work, and increase the speed and accuracy of services so that organizational goals can be achieved optimally.

Based on the results of this study, it can be concluded that the better the competence of the objective/ideal conditions that the officer has in the use of Electronic Medical Records (RME), the more effective the implementation of outpatient services. In other words, the better the ability of officers to utilize the RME system to speed up services, facilitate access to patient data, reduce recording errors, and improve discipline and punctuality, the effectiveness of the use of Electronic Medical Records in supporting health services will also increase. However, system disruptions such as errors or slowness still need to be considered because they can affect the smooth running of services and the effectiveness of officers' work.

Table 5. the Effectiveness of the Use of Electronic Medical Records

Aspects	Average (%)	Categories
Duties/Functions	90,45	Excellent
Plans/Programs	88,4	Excellent

Conditions/Regulations	87,98	Excellent
Ideal Destination/Conditions	88,01	Excellent

The results of the study show that all aspects of the effectiveness of the use of RME are in the very good category. The highest score is found in the task/function aspect at 90.45%, while the lowest score is found in the provision/regulatory aspect at 87.98%. The findings show that RME in general has been able to support the implementation of outpatient services, although there is still room for improvement in several indicators.

CONCLUSION

Conclusion

Based on the results of the research on the analysis of the effectiveness of the use of electronic medical records for outpatient services at the BLUD of Baubau City Hospital which was analyzed through (Competence of Duties/Functions, Plan/Program, Provisions/Regulations, Objectives/Ideal Conditions), it can be concluded that in general the officers feel quite satisfied, although there are still a number of limitations that need attention.

- The Level of Effectiveness of the Use of Electronic Medical Records for Outpatient Services at BLUD of Baubau City Hospital in the Task/Function dimension, namely 38 respondents, had an average score of 90.45% which means that they are in the category of "Very Good" (76 – 100%).
- The level of effectiveness of the use of Electronic Medical Records for Outpatient Services at BLUD of Baubau City Hospital in the Plan/Program dimension of 38 respondents had an average score of 88.4% which means that they were in the "Very Good" category (76 – 100%).
- The level of effectiveness of the use of Electronic Medical Records for Outpatient Services at the BLUD of Baubau City Hospital in the dimension of Provisions/Regulations, namely 38 respondents, had an average score of 87.98% which means that they were in the category of "Very Good" (76 – 100%).
- The level of effectiveness of the use of Electronic Medical Records for Outpatient Services at the BLUD of Baubau City Hospital in the dimension of Ideal Objectives/Conditions, namely 38 respondents, had an average score of 88.01% which means that they are in the category of "Very Good" (76 – 100%).

Research Limitations

This study has several limitations, namely the research was only conducted on outpatient services with a sample of **38 respondents**. Data collection using questionnaires so that the results of the research were based on respondents' perceptions. In addition, there are still obstacles in the form of system disruptions (*errors/slowness*) and unstable networks that can affect the implementation of services and respondents' assessment of the effectiveness of RME.

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