

Analysis of the Implementation of Media Transfer of Conventional Inpatient Medical Record Files to Electronic Medical Records at the BLUD Buton Regency Hospital

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A B S T R A C T

The transfer of medical records from conventional to electronic formats is an effort to improve the efficiency, effectiveness, and quality of health information services in hospitals. At the Regional General Hospital (BLUD RSUD) of Buton Regency, issues were found related to the Standard Operating Procedures (SOP) in the implementation of media transfer. This study aims to examine the implementation of the media transfer of inpatient medical records from conventional to electronic formats using five key elements: human, machine, method, material, and budget. This research employs a descriptive method with a qualitative approach through in-depth interviews and observations. The analysis revealed that the human element still faces challenges in terms of digital competence and resistance to change. In terms of the machine aspect, the information technology infrastructure is relatively adequate; however, there are obstacles regarding system interoperability. The method element shows that no Standard Operating Procedures (SOPs) have been established. For the material element, physical documents are still used alongside the electronic system, leading to redundancy and data duplication risks. As for the budget aspect, it is based on the available financial resources. This study concludes that the implementation of medical record media transfer requires strengthening in human resources, system adjustments, and continuous evaluation to achieve optimal integration of electronic medical records.

INTRODUCTION

A hospital is a health service facility that provides comprehensive individual health care services, including inpatient care, outpatient care, and emergency services. Hospitals play a role as providers of comprehensive health services, encompassing preventive (disease prevention) and curative (treatment/healing) efforts for the community (Ministry of Health Regulation No. 30 of 2019, Article 1).

Media conversion is the process of transferring documents created or received from hard file (physical) format into soft file (electronic) format, so that they can be managed using information technology. An electronic archive is a record that is created, received, and stored in electronic format. The implementation of media conversion must take into account the completeness and integrity of both the physical condition and the information contained in the records (Media Conversion Guidelines No. 42 of 2023).

According to Laksono (2017), conceptually, media conversion is an effort to preserve static records that have high use value. Zulhalim (2013) states that media conversion is the process of reproducing or duplicating records into another medium. Thus, archival media conversion can be understood as the process of transferring records from one medium to another using scanning devices, in order to accelerate access to both active and inactive records and to protect the physical condition and information of the records.

In the context of this study, the media conversion of medical record documents refers to the process of duplicating paper-based medical records into digital files in PDF format, which are then stored on a server and can be reprinted at any time if needed (Rosalin, 2017).

Based on the study by I Made Juliarta Suputra et al. (2024) at Sanjiwani Regional General Hospital, prior to the implementation of media conversion, there were issues related to response time.

The provision of medical record files should comply with the Minimum Service Standards (MSS), which is 10 minutes; however, at Sanjiwani Hospital the provision time could reach up to 15 minutes. It is expected that after the implementation of electronic medical records, the response time will meet the MSS requirements. The total number of inpatient medical records was recorded at 58,996 files. The media conversion process began in December 2022, and by October 2023, 15,378 files had been scanned, accounting for approximately 26% of the total inpatient medical records. The slow progress of the media conversion process was caused by several obstacles, one of which was the limited number of medical record staff (I Made Juliarta Suputra et al., 2024).

Based on the preliminary observation conducted on March 10, 2025, at the BLUD Regional General Hospital of Buton Regency, it was found that the hospital had already implemented media conversion activities. However, the implementation of these activities has not yet been supported by the existence of a Standard Operating Procedure (SOP). It is expected that with the establishment of an SOP, media conversion activities can be carried out more effectively and in a more structured manner. Based on the above description, the researcher is interested in conducting a study entitled "Analysis of the Implementation of Inpatient Medical Record Conversion from Conventional to Electronic at the Regional Public Service Agency (BLUD) of the Regional General Hospital (RSUD) of Buton Regency."

METHOD

This study employs a descriptive method with a qualitative approach. The research aims to provide an overview and explanation of the process of converting conventional medical records into electronic medical records. The qualitative research method is used to examine the condition of the object in a natural setting, where the researcher serves as the primary instrument. Data collection techniques were carried out through triangulation (combination), data analysis was conducted inductively, and the results of qualitative research emphasize meaning rather than generalization. This study was conducted in February 2025. The descriptive qualitative method prioritizes data collection in the form of words or images rather than numbers. The collected data were then analyzed and described to make the findings easier for readers to understand.

RESULTS AND DISCUSSION

Based on face-to-face interviews conducted directly with the respondents, this study was carried out in depth using an interview guide as a reference.

Table 1. Characteristics of Respondents at the BLUD Regional General Hospital of Buton Regency

No	Respondent Code	Type of Respondent	Latest Education	Position
1.	Source Triangulation (AS)	Key Informant	Bachelor of Public Health	Head of Medical Records
2.	Respondent (AS)	Respondent	Bachelor of Public Health	Head of Medical Records
3.	Respondent (HJ)	Respondent	Diploma in Medical Records and Health Information (RMIK)	Registration
4.	Respondent (WD)	Respondent	Bachelor of Public Health	filing

Sumber: Data Primer, 2025

Based on the results of the interview regarding the 'Man' element related to human resources involved in the media transfer process, this is in line with the informant's statement as follows:

Table 2. Observation Results of Media Transfer Implementation for the Man Factor

No	Observed Aspect	Observation Result		
		Yes	No	Remarks
1.	Staff are skilled in using devices (scanner, computer, software)	✓		Available

2.	Staff are able to operate the medical record application	✓		Available
3.	Staff are thorough in scanning and saving data	✓		Available
4.	Staff can correctly identify documents before scanning	✓		Available

“Here, all medical record staff in the medical record room are involved.”

The results of this study are in line with previous research by Nurul Aprilyani Rusmulia, Nani Yuniar, and Sri Tungga Dewi entitled Overview of Readiness for the Implementation of Electronic Medical Records (EMR) at Bahteramas Regional General Hospital, Southeast Sulawesi Province. The study stated that the number of staff in the information and medical records department, as well as the number of doctors at Bahteramas Regional General Hospital, Southeast Sulawesi Province, was considered adequate in preparing for EMR implementation. The availability of sufficient healthcare personnel ensures the presence of staff to carry out the implementation, training, and maintenance of the EMR system. Nevertheless, the limited number of personnel did not become an obstacle in the EMR implementation process. All staff, both clinical and administrative, were involved in the planning of EMR implementation because both are directly related to medical record documentation. In addition, clinical staff, information staff, and medical record staff already had knowledge and experience related to EMR (Rusmulia et al., 2024).

Based on the interview results regarding the money element conducted by the researcher, it was found that the implementation is still awaiting funding availability from the central government. This is in line with the staff's statement as follows:

Table 3. Observation Results of Media Transfer Implementation for the Money Factor

No	Observed Aspect	Observation Result		
		Yes	No	Remarks
1.	A special budget for medical record media transfer is available	✓		Available
2.	Funds are used for maintenance of facilities and infrastructure	✓		Available
3.	Use of funds is well-documented	✓		Available
4.	The budget is used efficiently (not wasteful)	✓		Available

“For now, we are still waiting for assistance from the central government because the hospital's regional budget (APBD) is not yet available.”

This research is in line with previous studies, which emphasize that money or funding is an essential element that cannot be neglected. Funds act as the main instrument in achieving objectives, as every activity must be calculated rationally. This relates to the budget allocated for managing medical records to improve the quality of patient care. The availability of funds is crucial in determining the success of a system in healthcare facilities, enabling services to be delivered effectively and promptly in accordance with patient expectations. If funds are insufficient, particularly for the procurement of supporting equipment, service performance will decline. In the context of media transfer, money is understood as the amount of funding used to carry out media transfer activities (Pratiwi & Gita, 2022).

Based on the interview results regarding the material element conducted by the researcher, information was obtained related to the equipment used in carrying out media transfer activities. This is in line with the statement of the staff as follows:

Table 4. Observation Results of Media Transfer Implementation for the Material Factor

No	Observed Aspect	Observation Result
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		Yes	No	Remarks
1.	Patient physical medical records are completely available for digitization	✓		Available
2.	Folders for storing physical documents are available	✓		Available
3.	Paper for printing media transfer reports is available	✓		Available
4.	Consumables (ink, printer, labels, etc.) are available	✓		Available
5.	Medical records are neatly stored before and after scanning	✓		Available

“It’s good, but the scanning is still lacking.”

This research is consistent with a previous study by Nuranni Avianti entitled “Overview of the Readiness for the Implementation of Electronic Medical Records at RSUD Lukas Bangkalan.” The study stated that the internet network in the Hospital Management Information System (SIMRS) generally does not encounter significant problems. However, during cloudy weather the network sometimes slows down or experiences errors, particularly when many users access SIMRS simultaneously. Preventive measures against network disruptions can reduce the frequency of errors during service hours. The network plays a very important role in supporting access to SIMRS, which ultimately ensures the smooth implementation of healthcare services (Avianti, 2023).

Based on the interview results regarding the machine element conducted by the researcher, information was obtained related to the hardware used in carrying out media transfer activities. This is in line with the statement of the staff as follows:

Table 5. Observation Results of Media Transfer Implementation for the Machine Factor

No	Observed Aspect	Observation Result		
		Yes	No	Remarks
1.	Scanner is available and functioning	✓		Available
2.	Computer/laptop is available and usable	✓		Available
3.	Electronic medical record media transfer software/application is installed	✓		Available
4.	Scanner produces clear results and meets standards	✓		Available
5.	Computer/laptop functions normally (not prone to errors)	✓		Available

“Yes, all of those are available.”

This research is consistent with a previous study by Nuranni Avianti entitled “Overview of the Readiness for the Implementation of Electronic Medical Records at RSUD Lukas Bangkalan.” The study explained that the availability of computers in the hospital was limited to the medical records unit, emergency department, pharmacy, laboratory, and inpatient care, while in the outpatient unit, computers were not yet available in each polyclinic. In the medical records unit, supporting devices for the implementation of electronic medical records, such as printers and scanners, were already available, whereas in the registration unit only a printer was provided. The presence of a scanner in the medical records unit demonstrates one form of the hospital’s readiness to implement electronic medical records and is part of fulfilling infrastructure needs.

Based on the interview results regarding the method element conducted by the researcher, it was found that the media transfer process has not yet been supported by Standard Operating Procedures (SOP). This is in line with the statement of the staff as follows:

Tabel 6. Hasil Observasi Pelaksanaan Alih Media Untuk Faktor *Method*

No	Observed Aspect	Observation Result		
		Yes	No	Remarks
1.	The hospital has an SOP for electronic medical record media transfer		✓	No
2.	The SOP is available in written form and easily accessible to staff		✓	No
3.	Staff understand the media transfer procedures according to the SOP		✓	No

“Yes, there is no SOP yet.”

The method in healthcare services refers to standardized work procedures, either in the form of Standard Operating Procedures (SOP) or specific procedures for certain medical actions. In the context of media transfer, method refers to the applicable media transfer SOP. The SOP serves as a guideline containing a set of written instructions or detailed steps regarding the work process, thereby providing the most appropriate and effective way to carry out a task (Sukma & Siswati, 2017).

CONCLUSION

The conclusions of this study are as follows:

1. Man Aspect: The implementation of media transfer is carried out by all medical record staff assigned in the medical record unit.
2. Money Aspect: The implementation of media transfer uses a budget provided by the hospital.
3. Material Aspect: The availability of materials or facilities to support media transfer has been fulfilled.
4. Machine Aspect: The hospital has provided adequate facilities and infrastructure, including hardware such as computers, printers, scanners, and other supporting devices for the implementation of media transfer.
5. Method Aspect: The implementation of media transfer activities is not yet supported by Standard Operating Procedures (SOP).

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