

# Implementation of Electronic Medical Records (ERm) in Hospital Services

Phonna Rida<sup>1</sup>

<sup>1</sup>Program Studies Masters Law Health University Development Panca Budi Medan

Email: <sup>1</sup>dr.phonnaridha@gmail.com

## Abstract

Background: Electronics Record Medical (e-RM) is a supporting technology that allows users to provide fast, precise and quality services compared to paper-based medical records. One of the providers of health services is a hospital. This study aim for evaluate application electronic record medical (e-RM) in Hospital services. Research methods covers studies literature related regulations and standards management Electronic Record Medical (eRM) in Indonesia, as well analysis to application electronic record medical (e-RM) on services hospital general. Study results literature this show impact positive because support home service sick, useful for administrative, access and transfer of information patient and helpful in clinical decision making, so efficient time costs, and minimizing error for patient safety. Conclusions of this study emphasize importance obedience to regulations law for ensure security, confidentiality and integrity of patient data. It is recommended that the hospital general do evaluation and adjustment to system electronic record medical (e- RM) which used so that system service integrated and efficient healthcare. This study give outlook about importance integration and compliance to standard law in management electronic record medical (e- RM) and it is recommended that the hospital general Dr. Fauziah Bireuen keep going renew system record medical electronic in a way periodically so that you can reduce happen slowness in the network computer.

**Keywords:** Electronic Applications Record Medical (e-RM)

## 1. INTRODUCTION

In the current era of globalization, development in the health sector is progressing very rapidly. Many developments in science and technology (science and technology) have been discovered, such as sophisticated equipment in the health sector which is very useful for simplifying the health service process in hospitals. Currently, world technology is entering the era of the industrial revolution which also has an impact on developments in the world of health, especially digital information technology. Hospitals (RS) related to e-RM. The globalization of information has caused the flow of information to become increasingly open and the health industry is faced with challenges and demands to use information technology as a support system for health services in hospitals. Therefore, hospital management is encouraged to make changes. changes and innovations in all fields to respond to the demands and needs of hospital consumers in the future. On the other hand, information and communication technology has had a disruptive impact or fundamental changes in people's lives. Information and communication technology is currently an important part of information management, especially information system technology in hospitals. Information is needed to provide, coordinate and integrate hospital services. Information is a resource that must be managed effectively by Human Resources (HR) in hospitals. Data collected by the Ministry of Health through the Hospital Information System (SIRS). In Indonesia, 128 hospitals (5%) already have SIMRS but are not functioning functionally. It turns out that there are still 425 hospitals (16%) that do not have SIMRS. However, still there are 745 hospitals (28%) that do not report is Already have SIMRS or not yet. Number of functional SIMRS Lots found in type C hospitals (597 hospitals) followed by type B hospitals (267 hospitals ). However from side proportions, functional SIMRS more Lots found in type A hospitals (79%) and type B hospitals (73%) (Siswati, 2022 ). Record medical at first done in a way conventional, that is through scrap paper, but enter marked 21st century with technology information, then use Record medical conventional

no enough. Record medical need be equipped with means technology for more effective, efficient and convenient service health to patients . In accordance with the program planned by the government realizing the Vision of Healthy Indonesia 2025, was established health development mission, namely improve and utilize source Power health includes source power man health, financing health, as well preparation pharmaceuticals and tools health.

Source power health also includes mastery knowledge knowledge and technology health / medicine, as well as increasing data and information important his role. One of data and information (technology information about health that is in line with the current globalization is e-RM. In Indonesia, basic law use of e-RM in a institution service health protected by law. Therefore that, the Indonesian government made Constitution Republic of Indonesia (RI Law) which is related with system information in hospitals, regarding e-RM is Republic of Indonesia Law Number 44 of 2009 concerning Hospitals article 11 paragraph (1) letter (i) concerning system information and communication, Republic of Indonesia Law No.11 of 2008 concerning Information and Transactions Electronic /ITE, Republic of Indonesia Minister of Health Regulation (PMK) No. 269/MENKES/PER/III/2008 Article 2 paragraph (1) concerning record medical, which explains that ” record medical must made in a way written, complete and clear or in a way electronic. Apart from PMK RI No. 269 of 2008, SNARS/ Standards Accreditation hospital ( Standard Management Information and Record Medik /MIRM 8) explained hospital organize management record medical related care patient in accordance with regulation legislation . Legal basis this is what can be done made base law legitimate use of e-RM in hospitals ( Sudjana , 2020). Therefore that's the reason the use of e-RM is trusted can support demands progress technology information and communication, because based electronic as well as focused on patients and safety patient in a way integrated. The benefits of e-RM management are: support orderly administration in frame effort enhancement service health in a hospital supported by a system management record fast, precise, valuable, affordable medical care accountable. *The Institute of Medicine (IOM)* in (Kusrini, Lazuardi, & Rosyada, 2021) describes e-RM as system that can makes it easier data storage and information clinical patient, data entry and management, support decision, communication electronic about condition Effective patient, supporter safety patients, make it easier administration and reporting of demographic data, medical data, and can be completed with a support system decision. Facility service health implement e- RM as effort for increase quality service, satisfaction patient, accuracy documentation, reduce *clinical errors*, and speed up access patient data. Therefore, the literature study aims to provide information from previous research regarding the use of e-RM in health services in hospitals as a form of implementing advances in computer-based technology in hospitals.

## 2. METHODOLOGY

Method of writing this paper use search literature through *online database* from journal International, among others, Scopus and National journals , among others other Journals Management Indonesian Health Information, Journal Indonesian Nursing / JKI. Literature then limited from 2019 to 2023 with the keyword : Electronics Record Medical (e-RM) and service health at hospital. About 10 *online literature* obtained in studies this literature *online literature* international. Criteria inclusion additions used in studies literature This is the language used are Indonesian and Bahasa English, *full text*, and journal scientific. Article from journal International give information about benefit use of e-RM, perspective nurse to use of e-RM against safety patient effectiveness e-RM training towards ability in application at hospital e-RM training towards ability in application at hospital, regulation data protection general patient. Meanwhile, 2 journals domestically (Indonesia) provides information about aspect the law becomes base e-RM implementation, perception officer health to the role of e- RM as supporter implementation management service patients in hospital and evaluation benefit implementation e-RM system.

## 3. RESULTS AND DISCUSSION

**Table 1. Overview of Research Results**

No.	Title	Researcher	Results
1.	Effects of electronic medical records on patients safety culture: The perspective of nurses. 2019	Ozer, O Şantaş, F.	Analysis results disclose that variable control (type gender,level education, age , etc. ) and all dimensions notes medical electronic influence third dimensions culture safety patient. Variable control and all dimensions from notes medical electronic explained 41% of the total variance in process perception , 42.5% of the total variance in support management for safety patient, and 27.9% of the total

			variance in perception safety.
2.	Measuring nursing benefits of an electronic medical record system: A scoping review, 2019	Jedwab, Rebeccam Chalmers, Cheyne Dobroff, Naomi Redley, Bernice	120 <i>paper e-RM databased</i> found with search systematic through five stages <i>databases</i> . Articles from 2002-2017 are the majority of the US, 70% are study main, 7% is review papers, 5.8% are guidelines, 6.7% is review systematic where 3.3% is <i>database</i> and 30.8% are paper which Specific nursing. The result : the benefits of e-RM are decreasing time for documentation, improve communication <i>face to face</i> between nurses and patients. Disadvantages and complications patient can prevented, decreased error treatment, capable identify incident infection or sepsis, reducing incidence of DVT/ <i>Deep Vein Thrombosis</i> , incidence stop heart Can measured / monitored with the e-RM system, identification risk and assessment against delirium, can monitor incident wound press, patient falls, malnutrition, long hospital stay patient in hospital. However some do n't satisfied with implementation of e-RM because communication between discipline disturbed because nurse use up time for documentation. Findings mixture this caused because tool measure e-RM and methods as well as framework time is not consistent.
3.	Perception Officer Health Against Roles Record Medical Electronic As Supporter Management Service Patient in the hospital Clean House , 2019	Kusrini , Kusrini Blue , Lutfan Rosyada , Amrina	Perception nurse towards ( use, usefulness, behavior use or reception use of e-RM) at RS.Panti Rapih Yogyakarta states e-RM as supporter management implementation service health at the hospital., though Still there is problems at the input level and the process by which input data is recorded complete medical Still difficult and still a work in progress there is annoying <i>error</i> service. Based on UTAUT framework ( <i>Unified Theory of Acceptance and Use of Technology</i> ), problems This including category condition facility.
4.	Legal Aspects Record Medical Or Record Medical Electronic As Evidence In Transactions Therapeutics , 2020	Sudjana, Sudjana	Obligation power health or hospital for create and keep secret record medical or e-RM as well consequence its jurisdiction. Position Record medical or e-RM as tool evidence and strength according to law proof

Based on the results of the study, the health information system is in a stage of rapid development, where the use of e-RM in health services in hospitals has had a good impact. According to Ozer (2019), EMR records also have the most comprehensive capability in improving the quality of health services, so management support is also needed in its implementation. This is demonstrated by the results of research in Turkey in 2018 regarding the influence of nurses' views on EMR on patient safety culture, where the results of correlation analysis also revealed a significant correlation between scores for process and management support for patient safety ( $r = 0.673$ ;  $P < 0.001$ ), for process and safety perceptions ( $r=0.685$ ;  $P<.001$ ), and for management support for patient safety and safety perceptions ( $r=0.507$ ;  $P<.001$ ). The data shows that the highest correlation is between process and perception of safety for patient safety culture. The correlation between all EMR dimensions and all dimensions of patient safety culture ( $0.421 \leq r \leq 0.589$ ) is statistically significant in the same direction and at the intermediate level. All subdimensions are positively correlated ( $P < 0.001$ ) with each other (Özer & Şantaş, 2019). Apart from that, according to Jedwab (2019), the benefits of e-RM: communications (improves intra and interpersonal relationships between fellow medical professionals, such as face to face interactions with patients), preventable patient harms and complications (directly affects patient safety, for example the number of patient falls, incidence of pressure ulcers in patients, medication safety/security medication, identifying the risk of delirium, being able to identify risk factors, identifying incidents of infection/sepsis, for example Urinary Tract Infections/UTIs related to catheter use and early detection and treatment, the incidence of deep vein thrombosis has also decreased, increasing the efficiency and effectiveness of malnutrition identification, heart attacks have been successfully measured and monitored using the e-system. RM. The function of e-RM is to help improve routine monitoring in terms of disease management and long-term care for patients with chronic diseases in the treatment process. The experience and level of satisfaction with the implementation of e-RM varies from speed of access, service efficiency and because apart from the advantages there are also weaknesses where there are also nurses who feel dissatisfied with the e-RM system because it does not support clinical practice, hampers interdisciplinary communication and is time consuming. These varying findings can be caused by e-RM which may be inconsistent, the measurement methods used are less precise (Jedwab, 2019).

Health service facilities implement EMR as an effort to improve service quality, patient satisfaction, documentation accuracy, reduce clinical errors, and speed up access to patient data (Kursini, 2019). Electronic medical records are included in the category of electronic documents based on Law no. 19 of 2016 concerning Information and Electronic Transactions Article 11. As electronic documents, electronic medical record data must come from an electronic system that has electronic systems that have security reliability and can be accounted for so that they can be used as evidence. In implementing medical records, legal aspects must be considered, whether manual or electronic medical records. This aspect must be enforced so that clarity and legal protection for all components involved in medical services or health services in hospitals can be guaranteed. The function of medical records according to Minister of Health Regulation Number 24 of 2022 is to improve the quality of health services, provide legal certainty in the administration and management of medical records, guarantee the security, confidentiality, integrity and availability of medical record data, and realize the administration and management of digital-based medical records and integrated. Apart from that, other functions also include patient billing, electronic ordering for investigations and receiving investigation results, electronic prescribing, recording clinical information and in some cases, decision support software. The broad capabilities of e-RM have led to its recognition as an important tool for improving patient safety and quality of care, especially by promoting evidence-based medicine. Electronic medical records also have several benefits. Among other things, RME can reduce paper use, maximize patient documentation, improve communication of information among doctors and other staff, increase access to patient medical information, guarantee errors, optimize billing and make it easier to change services, make it easier to access data for research, and improve quality. Despite the benefits of e-RM, and the potential for quality improvements, overall acceptance rates are quite low and they face several challenges. For example, this method is different from the normal work style of doctors, advances in information technology in a region, and the need for greater capabilities in terms of computerization which costs quite a lot of money. Finally, in this discussion, the activities of maintaining medical records cover at least several things.

### *Article 13*

(1) Activities for administering Electronic Medical Records consist of at least:

- a. Patient registration;
- b. distribution of Electronic Medical Record data;
- c. filling in clinical information;
- d. Electronic Medical Record information processing;

- e. inputting data for financing claims;
- f. electronic medical record storage;
- g. quality assurance of Electronic Medical Records; And
- h. transfer the contents of the Electronic Medical Record.

#### 4. CONCLUSION

Based on results discussion in on so obtained the conclusion is that it is important to comply with regulations set by the Ministry of Health, not only to ensure the security and confidentiality of patient data, but also to enable data interoperability between health service providers. The implementation of e-RM provides information and benefits in hospital health services as a form of implementing advances in computer-based technology in hospitals. Apart from administrative benefits, the benefits of accessing and transferring patient information, time efficiency, costs and patient safety are important points in the 2018 SNARS assessment indicators in this connection regarding information and medical record management standards. However, the implementation of e-RM has not been developed optimally in all hospitals in Indonesia compared to hospitals in several other developing countries. Therefore, nurses and other health professionals must be trained in the use of e-RM information technology so as to reduce the occurrence of medical errors, unwanted handwriting errors in nursing/medical practice, because they can have fatal consequences for patient safety. Variables that also play an important role in implementing e-RM are, level of knowledge, employee motivation/participation, teamwork, compliance with applicable standards and procedures, relevant policies and e-RM programs that must be developed according to needs, educational support through training, management support, adequate infrastructure, HR readiness. System changes in the EMR create confusion for nurses, threaten ethical and legal issues related to the use of electronic patient data and reduce nurses' ability to think critically. To reduce this negative impact, nurses need to have sufficient knowledge about e-RM system design so that they can develop a medical record system to be more complete and in accordance with the needs of each care unit so that they are able to implement best practices for patient care, collaborating with other sectors in terms of EMR development and supporting research based on evidence practice.

#### REFERENCES

- Jedwab , R.M., Chalmers, C., Dobroff , N., Redley,B . (2019). Measuring nursing benefits of an electronic medical record system: A scoping review. *Collegian* . doi:[https:// doi.org/10.1016/j.colegn.2019.01.003](https://doi.org/10.1016/j.colegn.2019.01.003)
- Kusrini, K., Lazuardi, L., & Rosyada, A. (2016). Health workers' perceptions of the role of electronic medical records as supporting patient service management in neat nursing homes. *Journal of Public Health Information Systems* (Vol 1, No 2 (2016)), 16-22.
- Özer, & Şantaş, F. (2019). Effects of electronic medical records on patient safety culture: The perspective of nurses. *Journal of Evaluation in Clinical Practice* . doi:10.1111/ jep.13174
- Siswati. 2022. Review of the Implementation of the Outpatient Electronic Medical Record System at the Jakarta Harbor Hospital. Faculty of Health Sciences, Esa Unggul University, Jakarta.
- Sudjana, S. (2020). Legal Aspects of Medical Records or Electronic Medical Records as Evidence in Therapeutic Transactions. *VEJ Veritas et Justitia*, 3(2), 359-383.