PREVENTIF: JURNAL KESEHATAN MASYARAKAT
FAKULTAS KESEHATAN MASYARAKAT UIVERSITAS TADULAKO
http://jurnal.fkm.untad.ac.id/index.php/preventif
ISSN (P) 2088-3536 ISSN (E) 2528-3375

# Readiness of Health Centers in Southwest Sumba Regency in Implementing Electronic Medical Records

**Ronaldus Asto Dadut * [1] , Ayu Trinugrahani Steven [2]**

[1,2] Bakti Sumba Health Polytechnic, Jl. Yos Sudarso – Ledegiring, Radamata, Kota Tambolaka District, Southwest Sumba Regency, East Nusa Tenggara, 87255

***Author's Email Correspondence ( * ): ronaldasto11@gmail.com (08113337507)***

***ABSTRACT***

*The implementation of Electronic Medical Records (EMR) is a key strategy to improve the quality, accuracy, and efficiency of healthcare services. However, its success largely depends on the organizational readiness and technical capacity of health facilities. East Nusa Tenggara, including Southwest Sumba Regency, faces challenges such as limited internet access, inadequate health information infrastructure, and a shortage of trained health information personnel, making a readiness assessment essential prior to EMR adoption. This study aims to analyze the readiness of Community Health Centers (Puskesmas) in Southwest Sumba Regency using the Doctors' Office Quality–Information Technology (DOQ-IT) instrument and to examine differences in readiness across facilities using One-Way ANOVA. This cross-sectional study involved 79 respondents from 16 Puskesmas. Data were collected using a validated and reliable DOQ-IT questionnaire and analyzed descriptively and inferentially. The findings show that overall EMR readiness is at a fairly ready, with strengths in organizational culture, leadership, strategic planning, workflow processes, staff capacity, and IT management. However, three critical components, information management, accountability, and IT infrastructure, remain insufficiently prepared. The One-Way ANOVA results indicate no significant differences in readiness between Puskesmas ($p > 0.05$), suggesting that capacity-building efforts can be implemented uniformly at the district level. Overall, this study highlights that successful EMR implementation requires strengthening both technical and organizational governance components, particularly in resource-limited settings such as Southwest Sumba Regency.*

***Keywords*** *: electronic medical record; DOQ-IT; health center; ANOVA; and Southwest Sumba.*

**Published by:**
**Tadulako University**
**Address**:
Jl.Soekarno Hatta KM 9. Kota Palu, Sulawesi Tengah, Indonesia.
**Phone:** +6282197505707
**Email:** preventifjournal.fkm@gmail.com

**Article history :**
Received : 29 07 2025
Accepted : 24 12 2025

licensed by Creative Commons Attribution-ShareAlike 4.0 International License.

## INTRODUCTION

Electronic Medical Record Systems (EMRS) are increasingly being adopted in both developed and developing countries because they are able to improve the effectiveness of services, the accuracy of clinical documentation, and the efficiency of medical decision-making. (1)(2) In Indonesia, the implementation of EMR has been made mandatory through the Minister of Health Regulation No. 24 of 2022, which requires all health service facilities, including Community Health Centers, to implement EMR no later than December 31, 2023.(3) However, the realization is still low, namely around 49% of Community Health Centers still record data manually and 21 provinces are below the national average in its implementation.(4)

In eastern Indonesia, Community Health Centers (Puskesmas) are the most widely used health facilities, including in East Nusa Tenggara (NTT) Province. Southwest Sumba Regency, which has a high prevalence of stunting, malaria, and diarrhea, relies on Community Health Centers as the frontline of health services.(5) However, this region also faces limitations in IT infrastructure and internet access, as well as a lack of health workers with health information system competencies, which can hinder the effectiveness of EMR implementation.(6)

Assessing community health center readiness is a key step before implementing EMR to ensure the digitalization process does not create technical or operational obstacles. One widely used instrument is the Doctors' Office Quality–Information Technology (DOQ-IT), which assesses various aspects of organizational and technical readiness, such as culture, leadership, strategy, information management, training, accountability, and IT support. This instrument has been proven effective in identifying weak components and providing a basis for developing interventions.(7) The readiness to implement electronic medical records in health services needs to be analyzed so that

it does not cause obstacles when electronic medical records are properly implemented.(8) Conducting a readiness analysis or assessment is fundamental before implementing electronic medical records, because it can help identify processes and priority scales, as well as form operational roles in supporting the optimal implementation of electronic medical records.(9)

The implementation of EMR requires the support of resources, competent health workers, and adequate information technology infrastructure. However, the Ministry of Health's 2021 mapping shows that there are still 745 Community Health Centers in 229 districts or cities that experience difficulties or even no internet access.(10) The four provinces with the lowest quality of internet access are East Nusa Tenggara, North Maluku, West Sulawesi, and Papua.(11) In addition, only 2.19% of Community Health Centers have health workers with special competencies in the field of health information, so that human resource readiness remains a major challenge.(4) This condition illustrates that Southwest Sumba Regency, which is in an area with limited internet access and a minimum of trained personnel, requires a comprehensive readiness assessment before EMR can be optimally implemented.(12)

Several previous studies have assessed the readiness of health facilities to implement EMR using the DOQ-IT instrument. Ariani examined the readiness of Community Health Centers in Denpasar City and showed that most DOQ-IT items were in the ready category, with weaknesses in the training and IT infrastructure aspects.(13) Meanwhile, Masyfufah assessed the readiness of Community Health Centers in Surabaya and found that accountability and information management were components that needed priority strengthening.(14) Hastuti's research on Community Health Centers in Boyolali Regency also identified variations in readiness between DOQ-IT items and emphasized the importance of organizational readiness before implementing EMR.(3)

While these studies provide important insights into RME readiness in various regions, two gaps remain under-explored. First, the three previous studies were conducted in areas with relatively better infrastructure, thus not reflecting conditions in resource-constrained areas like Southwest Sumba Regency. Second, previous studies generally focused solely on assessing readiness using the DOQ-IT, but failed to examine differences in readiness across community health centers (Puskesmas) through inferential analysis. Understanding variations across community health centers is crucial for determining whether intervention strategies should be centralized or unit-based.

Thus, this study has new contributions by (1) analyzing EMR readiness in the context of underdeveloped areas with high disease burden and limited IT infrastructure, and (2) statistically testing differences in readiness between Community Health Centers, so that it can provide more comprehensive empirical evidence for planning the digitalization of health services.

## METHODS

### *Participants and Study Design*

This type of research is descriptive research with a quantitative approach. This research was conducted on all health centers in Southwest Sumba Regency, totaling 16 health centers. The research took place from January 2024 to July 2024. The population of this study was all health workers in health centers in Southwest Sumba Regency. Sampling was carried out using simple random sampling, namely samples were taken randomly from health workers in health centers in Southwest Sumba Regency.

***Measurement and Procedures***

Data collection was conducted using a questionnaire distributed to health workers in health centers via Google Form. Researchers distributed questionnaires to every health worker in 16 health centers in Southwest Sumba Regency and 79 questionnaires were filled out and eligible for research.

Readiness for implementing electronic medical records in this study was measured using the DOQ-IT instrument, which consists of 2 variables, namely organizational alignment and organizational capacity. Organizational alignment consists of aspects of cultural readiness, leadership readiness, and strategic readiness. In organizational capacity, it consists of aspects of information management readiness, clinical and administrative staff readiness, training readiness, workflow process readiness, accountability readiness, financial and budget readiness, patient involvement readiness, information technology support and management readiness, and information technology infrastructure readiness.(15) In the organizational alignment variable, there are 8 questions, while the organizational capacity variable has 20 questions. The total research questionnaire consists of 28 questions with answer points ranging from 0 to 5. These answer points indicate three stages of readiness, namely not ready for answers 0-1, quite ready for answers 2-3, and very ready for answers 4-5.(15)

The questionnaire used has also passed the feasibility test procedure through a validity test using Pearson correlation and is declared valid if the calculated r> r-table (0.221) at α = 0.05.(16) The test results for 28 statements show a calculated r value of 0.525 - 0.952 which is greater than 0.221, so that each statement in this study can be declared valid. In addition, a reliability test was carried out using Cronbach's Alpha, and all indicators showed an α value (0.967) ≥ 0.70 which indicates a reliable instrument.

**Statistical Analysis and Research Ethics**

The data obtained were analyzed descriptively and inferentially using IBM SPSS Statistics software version 26.0. Descriptive analysis was conducted using the Doctor's Office Quality–Information Technology (DOQ-IT) method to assess the level of readiness of Community Health Centers in Southwest Sumba Regency in implementing EMR. Furthermore, inferential analysis was conducted using the One-Way ANOVA test to determine whether there were differences in the level of readiness for implementing EMR among the 16 Community Health Centers in Southwest Sumba Regency.(16)

## RESULTS

**Respondent Characteristics**

This study involved health workers from 16 health center in South West Sumba Regency. Based on the results of the survey conducted, there are 79 questionnaires collected. Of the 79 questionnaires known Kori Health center to become the largest medical personnel, namely a number of 12 medical personnel, Radamata Health center there are 9 medical personnel involved, then Palla Health center and Waimangura each have 8 medical personnel involved. If Cenge has 7 medical personnel, Bondo Kodi and Kawango Hari Health center each have 6 medical personnel involved, Elopada Health center has 5 medical personnel, Delu Depa Health center and Walla Ndimu each have 3 medical personnel involved, Watu Kawula Health center has 2 medical personnel involved, then Tena Teke Health center, Tenggaba, Weekombak, and Weri Lolo each have 1 medical personnel involved. In more detail the characteristics of the 79 medical personnel involved in the study are shown in Table 1 following.

PREVENTIF: JURNAL KESEHATAN MASYARAKAT
FAKULTAS KESEHATAN MASYARAKAT UIVERSITAS TADULAKO
http://jurnal.fkm.untad.ac.id/index.php/preventif
ISSN (P) 2088-3536 ISSN (E) 2528-3375

**Table 1.**
**Characteristics of Respondents**

| Characteristics | Number (n=79) | Percentage (%) |
|---|---|---|
| **Gender** | | |
| Male | 18 | 22,8 |
| Female | 61 | 77,2 |
| **Age** | | |
| 17 – 25 years old | 3 | 3,8 |
| 26 – 35 years old | 49 | 62,0 |
| 36 – 45 years old | 19 | 24,1 |
| 46 – 55 years old | 6 | 7,6 |
| 56 – 65 years old | 2 | 2,5 |
| **Responsibility** | | |
| Dentist | 3 | 3,8 |
| General Practitioner | 8 | 10,1 |
| Head of the health center | 9 | 11,4 |
| Head of Administration | 13 | 16,5 |
| Pharmacy | 7 | 8,9 |
| Emergency Installation | 4 | 5,1 |
| Laboratory | 7 | 8,9 |
| Registration | 13 | 16,5 |
| General | 4 | 5,1 |
| Inpatient Clinic | 6 | 7,6 |
| Outpatient Clinic | 5 | 6,3 |
| **Length of Work** | | |
| < 1 years | 6 | 7,6 |
| 1-3 years | 18 | 22,8 |
| > 3 years | 55 | 69,6 |
| **Education** | | |
| Diploma III | 46 | 58,2 |
| Master (S2) | 1 | 1,3 |
| Bachelor (S1) | 32 | 40,5 |

*Source : Primary Data, 2024*

PREVENTIF: JURNAL KESEHATAN MASYARAKAT
FAKULTAS KESEHATAN MASYARAKAT UIVERSITAS TADULAKO
http://jurnal.fkm.untad.ac.id/index.php/preventif
ISSN (P) 2088-3536 ISSN (E) 2528-3375

Based on the descriptive analysis shown in Table 1, medical personnel involved mostly female sexes total 61 people or 77.2 percent. The medical personnel involved mostly have a range of ages 26 to 35 years, which is still included in the millennial generation of 49 people or 62 percent. The responsibility or position of most medical personnel involved in the study are the Head of Administration and the Registration (13 persons) each, or 16.5 percent. The length of work of most medical personnel involved is more than 3 years a total of 55 people or 69.6 percent. The last education of most medical personnel involved in the study was graduates of Diploma III of 46 people or 58.2 percent. Therefore, it can be explained that most medical personnel of the Health center in South West Sumba Regency are medical personnel included in millennial generation that are easy to communicate and open with sufficient experience in the positions that are underway.

**Analysis of Readiness for Implementation of Electronic Medical Records (EMR) Using DOQ-IT Components**

This study measures the readiness to implement EMR in community health centers in Southwest Sumba Regency using the DOQ-IT method.

**Table 2.**
**Health center Conditions to Assess EMR Application Readiness**

| Category | Score | Range | Readiness |
|---|---|---|---|
| Health center alignment for RME | 29 | 16 – 30 | Quite ready |
| Health center capacity for RME | 47 | 34 - 66 | Quite ready |

*Source : Primary Data, 2024*

Based on the DOQ-IT analysis results in Table 2, the level of preparedness of Community Health Centers in Southwest Sumba Regency is categorized as moderately prepared, both in terms of organizational alignment (score 29) and institutional capacity and infrastructure (score 47). This indicates that, in general, Community Health Centers have a strategic direction and basic resources for EMR implementation, but still need strengthening in technical and managerial aspects.

**Table 3.**
**Readiness of 12 Items in Health center South West Sumba Regency**

| Category | Score | Range | Readiness |
|---|---|---|---|
| Culture | 3,25 | 2 – 3 | Quite ready |
| Leadership | 3,15 | 2 – 3 | Quite ready |
| Strategy | 3,42 | 2 – 3 | Quite ready |
| Information Management | 1,98 | 0 – 1 | Not ready |
| Clinical and administrative staff | 2,43 | 2 – 3 | Quite ready |
| Training | 2,84 | 2 – 3 | Quite ready |
| Workflow process | 2,57 | 2 – 3 | Quite ready |
| Accountability | 1,95 | 0 – 1 | Not ready |
| Finance and budget | 2,54 | 2 – 3 | Quite ready |
| Patient Engagement | 2,08 | 2 – 3 | Quite ready |
| IT support and management | 2,58 | 2 – 3 | Quite ready |
| IT Infrastructure | 1,90 | 0 – 1 | Not ready |

*Source : Primary Data, 2024*

Based on the assessment using the DOQ-IT instrument, the readiness for implementing EMR in Community Health Centers in Southwest Sumba Regency was evaluated through 12 main aspects that describe organizational conditions, work processes, and information technology support. The analysis results are presented in Table 3 and show variations in the level of readiness between aspects. In general, the majority of aspects are in the moderately ready category, indicating that most Community Health Centers have the basic foundations for adopting EMR. These aspects include organizational culture (score 3.25), leadership (score 3.15), strategy (score 3.42), clinical and administrative staff (score 2.43), training (score 2.84), workflow processes (score 2.57), finance and budget (score 2.54), patient engagement (score 2.08), and IT support and management (score 2.58).

These findings indicate that the Community Health Center has a policy direction, planning, and organizational culture that supports the digitalization of services, accompanied by efforts to improve staff competency and operational readiness in implementing the EMR

system. However, three critical aspects are categorized as not ready: information management (score 1.98), accountability (score 1.95), and IT infrastructure (score 1.90). Low scores in these three aspects indicate that the data management system, internal accountability mechanisms, and information technology facilities and infrastructure are inadequate to optimally run the electronic medical records system. Weaknesses in the IT infrastructure indicate limitations in hardware, networks, and other technical facilities, while weak information management and accountability indicate the absence of operational standards and good data governance.

**Analysis of Differences in Readiness for Implementing Electronic Medical Records (EMR) in Community Health Centers in Southwest Sumba Regency**

After conducting descriptive analysis using the DOQ-IT, this study continued the analysis process with an inferential test using One-Way ANOVA. The purpose of this analysis was to determine whether there were differences in the level of readiness for implementing EMR among the 16 Community Health Centers (Puskesmas) that served as the study sites.

**Table 4.**
**Homogeneity Test Results**

| Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| 1.165 | 11 | 63 | 0.330 |

*Source : Primary Data, 2024*

The test results showed a Levene Statistic value of 1.165 with a significance level of 0.330. Since the p-value is > 0.05, it can be concluded that the data has homogeneous variance. This condition meets the ANOVA assumptions, so the difference test analysis can proceed.

**Table 5.**
**ANOVA Test Results**

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 33.625 | 15 | 2.242 | 1.375 | 0.188 |
| Within Groups | 102.723 | 63 | 1.631 | | |
| Total | 136.348 | 78 | | | |

*Source : Primary Data, 2024*

The ANOVA test results showed an F value of 1.375 with a p value of 0.188 ($p > 0.05$). This finding indicates that there is no significant difference in the level of RME readiness between Community Health Centers. Therefore, although there are variations in readiness scores at each Community Health Center, these differences are not statistically significant enough to indicate differences in readiness between regions. Overall, the ANOVA results strengthen the descriptive findings that the readiness of Community Health Centers is generally at a relatively similar level, so that interventions to improve RME readiness can be carried out evenly across all Community Health Centers.

## DISCUSSION

Research aims to know the readiness of implementing electronic medical records in the Health center in South West Sumba Regency. Electronic medical records or RME is a medical record that uses electronic systems. In the Regulation of the Minister of Health (Permenkes) No. 24 of 2022 Article 3 paragraph 1 and 2 explained that each health facility has an obligation to organize an electronic medical record, the health facility in question is Health center. (17) On the other hand, the health center in South West Sumba Regency has not applied electronic medical records. Therefore, this study was conducted to measure the readiness of the health center in South West Sumba Regency in applying electronic medical records. The method used is the DOQ-IT method.

The results of the readiness measurement for the implementation of Electronic Medical Records (EMR) in the Community Health Centers of Southwest Sumba Regency using the DOQ-IT instrument indicate that in general, the community health centers are in the moderately prepared category both in terms of organizational alignment and organizational capacity. These findings indicate that the initial foundation for the transition from paper medical records to EMR has been formed, especially in aspects of organizational culture, leadership, strategy,

training, and IT management support. However, several gaps remain that could hinder successful implementation if not anticipated.

A more detailed review of the 12 DOQ-IT categories reveals that most aspects are in the moderately prepared category, including culture, leadership, strategy, clinical and administrative staff, training, workflow processes, finance and budgeting, patient engagement, and IT support and management. However, three aspects remain in the not-ready category: information management, accountability, and IT infrastructure. This pattern indicates that the organization's soft-side readiness, consisting of commitment, leadership, and training, is relatively better than its hard-side readiness, which relates to information systems, accountability mechanisms, and the availability of IT infrastructure. In fact, research results from Ariani et al. confirm that the availability of reliable infrastructure and information systems is a key factor in the success of RME as the backbone of clinical recording and managerial decision-making.

From a Technology Acceptance Model (TAM) perspective, this situation can be explained by the fact that culture, leadership, strategy, training, and workflow processes are external variables that shape the perceived usefulness and perceived ease of use of EMR among healthcare workers. When leadership supports, training is provided, and workflows begin to be aligned, healthcare workers tend to perceive EMR as useful and easier to use. Conversely, weaknesses in information management, accountability, and IT infrastructure have the potential to reduce perceived usefulness and ease of use, as users will doubt the system's reliability, such as data quality, security, and continuity of service, and feel that using the system actually increases their workload. Within the TAM framework, low perceptions of usefulness and ease of use will ultimately hinder behavioral intentions and actual use of EMR.(18)

The results of the one-way ANOVA analysis showed a relatively even pattern of readiness across all community health centers in Southwest Sumba Regency. In other words, no one or two community health centers were significantly more prepared or significantly lagging behind

the others. This is important from a policy perspective, as it suggests that interventions to improve EMR readiness should be designed at the district level through the Health Office, such as joint policies, integrated infrastructure procurement, (19) and cross-community health center training programs, rather than just partial interventions at one or two facilities.(20)

When compared with previous research, these findings are relatively consistent but at a slightly lower level of readiness. Hastuti et al.'s study at Community Health Centers in Boyolali Regency showed that the level of readiness for RME implementation was in the very ready category with a total score of around 101 points, with the main strengths being human resources, work culture, leadership, and infrastructure that were considered mature.(3) Meanwhile, Ariani et al. who analyzed the readiness for RME implementation at the UPTD Community Health Center III North Denpasar also reported a very ready condition, with an average DOQ-IT score of 116.1, which fell into the III range. Specifically, the human resources component was categorized as quite ready, while the organizational work culture, governance and leadership, and IT infrastructure were already in the very ready category.(13)

Compared to these two locations, the community health centers in Southwest Sumba Regency are one level below. The difference lies primarily in their weak IT infrastructure and information management, while Boyolali and Denpasar already have more established hardware, networks, and information governance. Furthermore, the lack of accountability in Southwest Sumba indicates that the mechanisms for determining roles, procedures, and contracts with vendors are not as clear as in the cases in Surabaya and Denpasar. Other research confirms that clear roles and responsibilities are crucial for the sustainability of EHR implementation. This research finding also overlaps with Masyfufah and Uktutias' study on the readiness of the Surabaya City Health Office to face the Electronic Health Record (EHR) era. Using the DOQ-IT approach, the study found an organizational alignment score of 36 and an organizational capacity score of 68 for a total score of 104, which is categorized as quite strong, but still highlights areas for strengthening, such as the uneven use of E-Health and the need to

optimize the roles of clinical and IT staff.(14) A similar pattern was seen in Southwest Sumba Regency, where the culture, leadership, and strategy were quite conducive, but technical and systemic readiness, especially infrastructure, information management, and accountability, still requires stronger policy support and investment at the district level.(21)

When linked back to the TAM, the combined DOQ-IT and ANOVA test results provide a more comprehensive picture of healthcare workers' perceptions of the usefulness and ease of EMR, which are not solely determined by application features but also by the surrounding ecosystem, from community health center leadership and training availability to infrastructure support and the certainty of work procedures. In Southwest Sumba, organizational aspects that are already sufficiently prepared have the potential to be important capital for building perceived usefulness. EMR is considered capable of accelerating reporting and improving data quality. However, weaknesses in information management, accountability, and infrastructure can reduce perceived ease of use because healthcare workers are at risk of encountering a slow, unstable system or unclear procedures. If this condition is not immediately intervened, there is concern that the actual adoption of RME will not be optimal, even though national regulations require RME implementation in healthcare facilities.

**Implication**

Practically, the results of this study imply that the strategy for strengthening RME readiness in Southwest Sumba Regency is not sufficient to focus only on end-user training, but must also include: (1) the development of clear accountability policies and procedures (including roles, vendor contracts, and evaluation mechanisms), (2) adequate and equitable IT infrastructure investment among community health centers, and (3) strengthening the information management system so that RME data is truly utilized for planning, monitoring, and improving service quality. Improvements that can be made include establishing clearer work procedures and role allocations, developing contracts and vendor performance

evaluation mechanisms, strengthening data management and validation standards, and providing more stable hardware and internet connections across all community health centers. By improving these three areas of concern, it is hoped that perceptions of usefulness and ease of use will increase, which in turn will encourage healthcare workers' intentions and behavior to use EMR consistently and sustainably.

Theoretically, this study also strengthens the Technology Acceptance Model (TAM) framework, where factors in the DOQ-IT act as external variables that influence perceived usefulness and perceived ease of use. When information infrastructure and management are weak, perceptions of usefulness and ease of use also decrease, thus affecting healthcare workers' intentions to adopt EMR. The results of the t-test conducted showed no differences in readiness between Community Health Centers (Puskesmas), providing theoretical insight that digital readiness can be analyzed as a collective phenomenon at the district level, not just at the individual facility level. Thus, this study enriches the literature on organizational readiness and health technology adoption in primary care facilities.

This study has several limitations. Among them, it only assessed readiness based on the DOQ-IT instrument. Therefore, other aspects that could potentially influence the success of RME implementation, such as regulatory readiness, the district's digital ecosystem, regional budget support, and vendor capacity, were not analyzed in depth. Although the sample included all Community Health Centers (Puskesmas) in Southwest Sumba Regency, the number of respondents per Puskesmas was not balanced. The cross-sectional design of the study did not allow researchers to observe changes in readiness over time or measure the impact of specific interventions.

## CONCLUSIONS AND RECOMMENDATIONS

This study shows that overall, Community Health Centers in Southwest Sumba Regency are in the moderately prepared category for implementing Electronic Medical Records (EMR),

both in terms of organizational alignment and institutional capacity. Most DOQ-IT aspects have demonstrated adequate readiness, such as organizational culture, leadership, strategy, training, work processes, patient engagement, and IT support and management. However, there are three critical components that are still in the unprepared category: information management, accountability, and IT infrastructure, which have the potential to hinder the successful implementation of EMR if not immediately addressed. The results of the inferential test using One-Way ANOVA indicate that the level of readiness between Community Health Centers does not differ significantly, so that improvements can be addressed through a policy approach at the district level. This study confirms that readiness for EMR implementation is not only influenced by technical aspects, but also organizational factors, governance, and the digital ecosystem that supports the sustainable use of EMR. Several practical recommendations that can be carried out by the Community Health Center and the Southwest Sumba District Health Office are strengthening information management, improving Information Technology infrastructure, strengthening organizational accountability, carrying out district-based interventions, not per health center, the Health Service can create policies and programs to increase readiness in an integrated manner, including joint training, centralized procurement, and cross-health center monitoring.

## BIBLIOGRAPHY

1. Tilaar TS, Sewu PLS. Review of Electronic Medical Records in Indonesia and its Developments Based on Legal Regulations in Indonesia and its Harmonization with Electronic Health Records (Manual for Developing Countries). Daengku J Humanit Soc Sci Innov. 2023;3(3):422–30.
2. Pratama MH, Darnoto S. Analisis Strategi Pengembangan Rekam Medis Elektronik Di Instalasi Rawat Jalan Rsud Kota Yogyakarta. J Manaj Inf Kesehat Indones. 2017;5(1):34.
3. Hastuti ES, Sugiarsi S, Mulyono S. Analisis Tingkat Kesiapan Penerapan Rekam Medis Elektronik Di Puskesmas Wilayah Kabupaten Boyolali. J Manaj Inf Kesehat Indones. 2023;11(2).

4. Centre for Indonesia's Strategic Development Initiatives. CISDI Health Outlook 2023: Saatnya Berubah. 2023.
5. Badan Pusat Statistik Provinsi Nusa Tenggara Timur. Jumlah Kasus Penyakit Menurut Kabupaten/Kota dan Jenis Penyakit (Jiwa), 2023 [Internet]. Badan Pusat Statistik. 2024 [cited 2024 Aug 20]. Available from: https://ntt.bps.go.id/id/statistics-table/2/MTQ4NSMy/jumlah-kasus-penyakit-menurut-kabupaten-kota-dan-jenis-penyakit.html
6. Kaja L. Standar Pelayanan Pusat Kesehatan Masyarakat. Fokus. 2023;21(1):89–98.
7. Masspro. EHR Assessment and Readiness Starter Assessment. In: The Medicare Quality Improvement Organization for Massachusetts. California; 2009. p. 1–11.
8. Praptana, Puspita Ningsih K, Santoso S, Sevtiani I. Pendampingan Penilaian Kesiapan Penerapan Rekam Medis Elektronik Menggunakan Metode DOQ-IT di RS Condong Catur Sleman. J Innov Community Empower. 2021;3(2):98–104.
9. Sudirahayu I, Harjoko A. Analisis Kesiapan Penerapan Rekam Medis Elektronik Menggunakan DOQ-IT di RSUD Dr. H. Abdul Moeloek Lampung. J Inf Syst Public Heal. 2017;1(3).
10. DTO Kementerian Kesehatan RI. Jalan Panjang Mengejar Pemerataan Akses Internet di Puskesmas Seluruh Indonesia [Internet]. Medium. 2024 [cited 2024 Aug 20]. Available from: https://medium.com/@dtokemkes/jalan-panjang-mengejar-pemerataan-akses-internet-di-puskesmas-seluruh-indonesia-6569f5e53aed
11. Badan Kebijakan Pembangunan Kesehatan. Survei Kesehatan Indonesia (SKI) Dalam Angka. Kementerian Kesehatan. 2023.
12. Dzulvawan N, Pramana S. Pemetaan Kesiapan Penerapan Telemedika di Indonesia. Indones Heal Inf Manag J. 2022;10(2):118–25.
13. Ariani LGS, Laksmini PA, Farmani PI, Wirajaya MKM. Analisis Kesiapan Penerapan Rekam Medis Elektronik di UPTD Puskesmas III Dinas Kesehatan Kecamatan Denpasar Utara. Indones Heal Inf Manag J. 2024;12(01):07–16.
14. Masyfufah L, Uktutias SAM. Kesiapan Dinas Kesehatan Kota Surabaya Menghadapi Era Electronic Health Record (EHR). J Kesehat Vokasional. 2021;6(1):24.
15. Masspro. EHR Assessment and Readiness Starter Assessment. The Medicare Quality Improvement Organization for Massachusetts. 2009;1–11.
16. Ghozali I. Aplikasi Analisis Multivariete Dengan Program IBM SPSS 26. Semarang: Universitas Diponegoro; 2021.
17. Putri ATD. Challenges in implementing electronic medical record in Indonesia healthcare facilities. J Med Hutama. 2023;4(3):3427–3431.
18. Davis FD. Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. MIS Q. 1989;1(1):319–40.
19. Darmawan AD. Indeks Pembangunan Teknologi Informasi dan Komunikasi - Sub Indeks

Penggunaan Periode 2017-2022. Katadata. 2024.
20. Husna, A., & Budiman L. Menghubungkan yang Tak Terhubung: Pelajaran untuk meningkatkan internet cepat dan reliabel dari Kabupaten Sumba Barat Daya. Makalah Kebijakan. 2024;(61):1–44.
21. Manganello J, Gerstner G, Pergolino K, Graham Y, Falisi A, Strogatz D. The relationship of health literacy with use of digital technology for health information: Implications for public health practice. J Public Heal Manag Pract. 2017;23(4):380–7.