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A Review of Electronic Medical Record Usage in Supporting the Patient Data Management Process at RSUD Bandung Kiwari

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Abstract: Electronic Medical Records (EMR) are part of the digital transformation in healthcare, playing a role in enhancing the effectiveness and efficiency of patient data management. However, EMR implementation still faces various challenges, such as delays in data entry, incomplete data, and limited system utilization. This study aims to examine the use of Electronic Medical Records (EMR) and the patient data management process at RSUD Bandung Kiwari. The study employed a quantitative method with a descriptive approach and a cross-sectional design. The sample size was set at 62 medical record staff members. Data were collected using a total sampling technique, encompassing the entire population, through a questionnaire instrument, and were analyzed descriptively using frequency distribution, percentages, and interval scale analysis. The results indicate that EMR usage achieved a mean score of 35.35, while the patient data management process achieved a mean score of 35.34, both falling into the very good category. A more detailed evaluation by indicator confirmed that seven parameters demonstrated very good performance, whereas the indicators for data accuracy and completeness fell into the good category. It can be concluded that EMR usage supports the patient data management process at RSUD Bandung Kiwari; however, improvements in data accuracy and completeness are still required to optimize EMR implementation.

Keywords: Electronic Medical Records, Patient Data Management, Health Information System, Hospital.

INTRODUCTION

The rapid advancement of information technology today has brought numerous innovations. All sectors of life are undergoing digital transformation, including the health sector. Therefore, hospitals, as the parties responsible for healthcare services, must adapt in various ways to make optimal use of information technology, one of which is by implementing Electronic Medical Records (EMR). According to the Ministry of Health of the Republic of Indonesia (2022) in Minister of Health Regulation No. 24 of 2022, an Electronic

Medical Record is a health document created using an electronic system and used in the administration of medical records. In line with this, the Government, through the Ministry of Health of the Republic of Indonesia, has since 2023 continued to accelerate the implementation of EMR connected to the SATUSEHAT platform across all healthcare facilities. This measure is intended to make services faster, easier, and compliant with clear standards (Andriani et al., 2022).

The presence of EMR plays an important role in supporting the patient data management process, which encompasses various activities such as collecting, storing, processing, and presenting health information effectively and efficiently (Hatta, 2012). In practice, hospitals require patient data that is complete, accurate, and accessible in a timely manner to support the smooth delivery of medical services, administrative activities, quality evaluation processes, and clinical decision-making (Istiqamah, 2025). Findings from previous studies further reinforce this statement. Putri et al. (2024), for example, demonstrated that EMR implementation can improve service efficiency while accelerating access to patient information. Meanwhile, Mukharram et al. (2024) found progress in terms of integration between work units, Juliansyah et al. (2025) observed improvements in recording accuracy, while Al Izza and Lailiyah (2024) emphasized the strengthening of medical record data security through EMR implementation. However, the success of its implementation is highly dependent on human resource conditions, the availability of technological infrastructure, user proficiency, and the level of organizational support and commitment (Siregar, 2024; Anggraini, 2024).

Several previous studies have shown that the use of Electronic Medical Records (EMR) helps improve the quality of health information management. Putri et al.'s (2024) research showed that EMR implementation can improve service efficiency and accelerate access to patient information. Mukharram et al. (2024) stated that EMR supports data integration between units, thereby facilitating service coordination. Juliansyah et al. (2025) found that EMR implementation improves the quality of patient documentation, while Al Izza and Lailiyah (2024) explained that EMR implementation plays a role in improving patient data security. Meanwhile, Siregar (2024) noted that the success of EMR implementation is influenced by several factors, such as human resource conditions, the availability of technological infrastructure, user proficiency, and the level of organizational support and commitment. These research findings demonstrate that EMR implementation has been extensively studied from various perspectives and provides benefits in supporting healthcare services as well as patient information management.

Nevertheless, most previous studies have focused primarily on the effectiveness of EMR implementation, service quality, work efficiency, or system evaluation. In contrast to these studies, the present study specifically focuses on the use of Electronic Medical Records in supporting the patient data management process, using primary data obtained directly from medical record staff at RSUD Bandung Kiwari. This study is expected to provide an empirical description of EMR usage in supporting the patient data management process in accordance with actual hospital conditions, while also complementing existing research findings.

Findings obtained from preliminary observations conducted at RSUD Bandung Kiwari indicate that the utilization of EMR in the patient data management process has not been optimal. Several obstacles identified include difficulties in data entry, delays in completing patient data, and barriers at the processing stage through to an inefficient data-search process; consequently, the entire data management process has not yet run well. Based on these findings, this study aims to examine the use of Electronic Medical Records while simultaneously describing the patient data management process at RSUD Bandung Kiwari,

viewed from four aspects: the speed of data access, data accuracy and completeness, ease of data processing, and efficiency in patient data management.

METHODS

This study used a quantitative approach with a descriptive method and a cross-sectional design. The study was conducted at Rumah Sakit Umum Daerah (RSUD) Bandung Kiwari in May 2026. The research began by identifying the problem through preliminary observation at RSUD Bandung Kiwari and reviewing previous studies as a basis for developing the research instrument. A questionnaire was then constructed in accordance with the indicators of the variables under study, followed by validity and reliability testing to ensure that the instrument was suitable for use.

The study population comprised all medical record staff who use Electronic Medical Records (EMR) and are involved in patient data management, totaling 62 individuals. The sampling technique used was total sampling, meaning that all members of the population served as the sample in this study. The research variables comprised the use of Electronic Medical Records (EMR) as the independent variable, while the patient data management process served as the dependent variable. This dependent variable encompassed several aspects, namely the speed of data access, the level of data accuracy and completeness, and the ease and efficiency of managing patient data.

Data were collected using questionnaires, observation, and documentation. The research instrument used a Likert scale ranging from strongly agree (5) to strongly disagree (1). Validity testing was conducted using the corrected item-total correlation, with a required value greater than 0.30, and all 16 statements in the instrument were considered valid. Reliability testing was conducted using Cronbach's Alpha, yielding a result of 0.953, indicating that the instrument could be considered reliable. The data were then processed using IBM SPSS Statistics and analyzed descriptively through frequency distribution and interval scale analysis to describe EMR usage and the patient data management process.

RESULTS AND DISCUSSION

Validity and Reliability Test Results

Table 1. Instrument Validity Test Results

Number of Items	Validity Criteria	Result	Remarks
16	Corrected Item-Total Correlation > 0.30	All items met the criteria	Valid

Source: Research Results

Based on the validity test results using SPSS, all statements (P1 through P16) had item-total correlation values > 0.30. According to the criteria established by Ghozali (2018), all statements in the instrument were considered valid and thus suitable for use as a research instrument.

Table 2. Instrument Reliability Test Results

Number of Items	Cronbach's Alpha	Criteria	Remarks
16	0.953	> 0.60	Reliable

Source: Research Results

Based on the reliability test results using SPSS, a Cronbach's Alpha value of 0.953 was obtained, which is greater than 0.70; therefore, the research instrument was considered reliable and suitable for use as a data collection tool.

Variable Frequency Distribution Results

Table 3. Frequency Distribution of the Electronic Medical Record (EMR) Usage Variable

Response	Frequency	Percentage (%)
Strongly Agree (SA)	255	51.4%
Agree (A)	203	40.9%
Neutral (N)	30	6.0%
Disagree (D)	7	1.4%
Strongly Disagree (SD)	1	0.2%
Total	496	100%

Source: Research Results

Based on Table 3, most respondents answered strongly agree (51.4%) and agree (40.9%), while the neutral, disagree, and strongly disagree responses had lower percentages. These results indicate that respondents gave a positive assessment of the use of Electronic Medical Records (EMR) at RSUD Bandung Kiwari.

Table 4. Frequency Distribution of the Patient Data Management Process Variable

Response	Frequency	Percentage (%)
Strongly Agree (SA)	250	50.4%
Agree (A)	216	43.5%
Neutral (N)	24	4.8%
Disagree (D)	11	2.2%
Strongly Disagree (SD)	1	0.2%
Total	496	100%

Source: Research Results

Based on Table 4, most respondents answered strongly agree (50.4%) and agree (43.5%), while the neutral, disagree, and strongly disagree responses had relatively low percentages. These results indicate that the use of Electronic Medical Records supports the patient data management process at RSUD Bandung Kiwari.

Frequency Distribution Results by Research Indicator

Table 5. Frequency Distribution by Research Indicator

Indicator	SA n (%)	A n (%)	N n (%)	D n (%)	SD n (%)
Ease of System Use	75 (60.5)	42 (33.9)	4 (3.2)	3 (2.4)	0 (0.0)
Ease of Data Entry	68 (54.8)	46 (37.1)	8 (6.5)	2 (1.6)	0 (0.0)
Data Integration Between Units	61 (49.2)	56 (45.2)	6 (4.8)	1 (0.8)	0 (0.0)
Data Security and Storage	51 (41.1)	59 (47.6)	13 (10.5)	1 (0.8)	0 (0.0)
Speed of Patient Data Access	68 (54.8)	52 (41.9)	4 (3.2)	0 (0.0)	0 (0.0)
Data Accuracy and Completeness	51 (41.1)	54 (43.5)	12 (9.7)	7 (5.6)	0 (0.0)
Ease of Data Processing	64 (51.6)	59 (47.6)	1 (0.8)	0 (0.0)	0 (0.0)
Efficiency of Patient Data Management	67 (54.0)	51 (41.1)	2 (1.6)	3 (2.4)	1 (0.8)

Source: Research Results

Based on Table 5, the majority of respondents answered agree and strongly agree across all research indicators. The highest percentage of strongly agree responses was found for the ease of system use indicator (60.5%), while the lowest was found for the data security and storage, and data accuracy and completeness indicators (41.1%). This indicates that the use of Electronic Medical Records (EMR) is considered to have supported the patient data management process at RSUD Bandung Kiwari.

Variable Analysis Results Based on Interval Scale

Table 6. Variable Analysis Results Based on Interval Scale

Variable	Mean	Interval	Category
Use of Electronic Medical Records	35.35	34.01–40.00	Very Good
Patient Data Management Process	35.34	34.01–40.00	Very Good

Source: Research Results

Based on Table 6, the results of the analysis based on the interval scale show that the Electronic Medical Record (EMR) Usage variable achieved a mean score of 35.35, placing it in the very good category. Meanwhile, the Patient Data Management Process variable achieved a mean score of 35.34, which also falls into the very good category.

Indicator Analysis Results Based on Interval Scale

Table 7. Indicator Analysis Results Based on Interval Scale

Indicator	Mean	Interval	Category
Ease of System Use	9.0	8.5–10.0	Very Good
Ease of Data Entry	8.9	8.5–10.0	Very Good
Data Integration Between Units	8.9	8.5–10.0	Very Good
Data Security and Storage	8.6	8.5–10.0	Very Good
Speed of Patient Data Access	9.0	8.5–10.0	Very Good
Data Accuracy and Completeness	8.4	6.9–8.4	Good
Ease of Data Processing	9.0	8.5–10.0	Very Good
Efficiency of Patient Data Management	8.9	8.5–10.0	Very Good

Source: Research Results

Based on Table 7, most indicators fall into the very good category. The highest mean value was obtained for the ease of system use indicator (9.0), while the lowest value was found for the data accuracy and completeness indicator (8.4), which remains in the good category. These results indicate that the use of Electronic Medical Records has supported the patient data management process, although the aspects of data accuracy and completeness still require improvement.

Use of Electronic Medical Records (EMR) at RSUD Bandung Kiwari

The results of the study show that the use of Electronic Medical Records (EMR) at RSUD Bandung Kiwari received a very good rating, based on the interval scale analysis with a mean score of 35.4. This result is supported by the frequency distribution, which shows that 51.4% of respondents answered strongly agree and 40.9% answered agree. Thus, more than 92.3% of respondents gave a positive assessment of EMR usage, indicating that EMR has been accepted and adopted by medical record staff at RSUD Bandung Kiwari.

These findings are consistent with the theory stating that an Electronic Medical Record is a system for recording health data in electronic form, used to support the process of recording medical records simultaneously and continuously (Ministry of Health of the Republic of Indonesia, 2022). In addition, hospital information systems aim to accelerate and simplify the process of collecting, processing, storing, and presenting patient data effectively and efficiently. The policy of the Ministry of Health of the Republic of Indonesia also encourages the implementation of EMR as part of the digital transformation of health services through integration with the SATUSEHAT platform (Ministry of Health of the Republic of Indonesia, 2023).

These findings are in line with the research of Putri et al. (2024), Siregar (2024), and Al Izza and Lailiyah (2024), which showed that the use of Electronic Medical Records can improve data management efficiency, accelerate access to patient information, improve recording accuracy, strengthen cooperation between service units, and enhance the quality of healthcare services. The consistency of these results can be explained by the fact that EMR use facilitates the process of recording, storing, retrieving, and presenting patient data digitally, thereby reducing dependence on paper-based documents. This mechanism helps staff obtain patient information more quickly, improves documentation accuracy, strengthens inter-unit coordination, and supports the efficiency of patient data management.

In the context of RSUD Bandung Kiwari, the use of Electronic Medical Records has become part of the daily work process of medical record staff in managing patient data. Nevertheless, 1.4% of respondents still stated disagreement and 0.2% stated strong disagreement. This indicates that obstacles remain, such as differences in user understanding or technical system limitations, so that system evaluation, technological development, and improvement of user competence are still required for EMR implementation to run more optimally. To provide a more detailed picture of EMR usage at RSUD Bandung Kiwari, the following discussion is organized according to each indicator comprising the variable, namely ease of system use, ease of data entry, data integration between units, and data security and storage.

Ease of System Use

Based on the interval scale analysis, the ease of system use indicator achieved a mean score of 9.0, placing it in the very good category. This result is supported by the frequency distribution, which shows that 60.5% of respondents stated strongly agree and 33.9% stated agree. This finding is consistent with the research of Putri et al. (2024), which states that the implementation of Electronic Medical Records (EMR) makes it easier for healthcare workers to access patient information quickly and supports the efficiency of healthcare services. This result is also supported by the research of Juliansyah et al. (2025), which states that EMR implementation provides ease for users in accessing and managing patient information digitally. However, these benefits can be optimally achieved only if supported by user training, infrastructure readiness, and the system's ability to integrate with existing healthcare service systems. This condition may occur because the EMR system is designed with a display and workflow that align with user needs, making it easier for staff to operate the system. In the context of RSUD Bandung Kiwari, the ease of system use enables medical record staff to carry out their work more quickly and in a more structured manner.

Ease of Data Entry

Based on the interval scale analysis, the ease of data entry indicator achieved a mean score of 8.9, placing it in the very good category. This result is supported by the frequency distribution, which shows that 54.8% of respondents stated strongly agree and 37.1% stated agree. This finding is consistent with the research of Siregar (2024), which states that the use

of Electronic Medical Records can improve work efficiency by facilitating the data entry process.

This finding is also supported by the research of Juliansyah et al. (2025), which states that the implementation of Electronic Medical Records helps make the patient documentation process faster, more structured, and more efficient compared to manual recording. However, these benefits can be optimally achieved only if supported by user training and technological infrastructure readiness. This condition may occur because the system provides a structured data-entry format, making it easier for staff to document patient information. In the context of RSUD Bandung Kiwari, ease of data entry helps accelerate the service documentation process and reduces manual recording errors.

Data Integration Between Units

The data integration between units indicator achieved a mean score of 8.9, placing it in the very good category. This result is supported by the frequency distribution, which shows that 49.2% of respondents stated strongly agree and 45.2% stated agree, while 4.8% of respondents answered neutral and 0.8% stated disagree. This finding is consistent with the research of Mukharram (2024), which states that data integration within Electronic Medical Records makes it easier for various service units to continuously access patient information, thereby improving collaboration in service delivery and reducing data duplication. This mechanism occurs because data stored within the system can be accessed simultaneously by authorized service units. In the context of RSUD Bandung Kiwari, data integration helps staff obtain patient information without having to manually request medical record documents from other units. Nevertheless, Anggraini (2024) states that EMR implementation still faces challenges in the form of limited human resources, organizational factors, and data quality and integration that have not yet been optimal.

Data Security and Storage

The data security and storage indicator achieved a mean score of 8.6, placing it in the very good category. This result is supported by the frequency distribution, which shows that 41.1% of respondents stated strongly agree, 47.6% stated agree, and 10.5% gave a neutral response. These findings indicate that, although this indicator falls into the very good category, the aspect of data security and storage still requires greater attention compared to other indicators. This result is consistent with the research of Al Izza and Lailiyah (2024), which showed that data security constitutes one of the obstacles in implementing Electronic Medical Records in hospitals. In addition, Ardianto et al. (2024) explained that patient data security relates to the confidentiality, integrity, and availability of health information, thereby requiring a security system capable of reducing the risk of data loss or misuse. This condition may occur because the EMR system employs user access-rights settings and digital data storage. In the context of RSUD Bandung Kiwari, this mechanism helps maintain the confidentiality of patient information; however, the presence of respondents who gave a neutral response indicates that system security has not been fully perceived as optimal by all users, so improvements in the aspects of security and data management are still required.

Patient Data Management Process at RSUD Bandung Kiwari

The results of the study show that the patient data management process at RSUD Bandung Kiwari received a very good rating, based on the interval scale analysis with a mean score of 35.3. This result is supported by the frequency distribution, which shows that 50.4% of respondents answered strongly agree and 43.5% of respondents answered agree. Thus, as many as 93.9% of respondents gave a positive assessment of the patient data management process at RSUD Bandung Kiwari. This finding is consistent with the theory stating that

patient data management is part of a hospital information system that involves the processes of collecting, processing, storing, and presenting data to support healthcare services and decision-making (Hatta, 2012). In addition, patient data must be available completely, accurately, and in a timely manner in order to be used optimally in healthcare services (Istiqamah, 2025).

This finding is also consistent with the research of Juliansyah et al. (2025), which showed that the implementation of Electronic Medical Records can improve the effectiveness and efficiency of patient data management through faster, more integrated, and more accurate access to information. The consistency of these results can be explained by the fact that the use of Electronic Medical Records helps the processes of collecting, storing, processing, and presenting patient data to be carried out in an integrated manner within a single system. This mechanism helps staff obtain patient information more quickly, reduces duplication of recording, improves the accuracy of data processing, and supports healthcare services and decision-making more effectively.

At RSUD Bandung Kiwari, the use of Electronic Medical Records helps staff access and manage patient information, allowing the data management process to be carried out more effectively and efficiently compared to a manual system. Nevertheless, 2.2% of respondents still stated disagreement and 0.2% stated strong disagreement. This condition indicates that obstacles remain, such as slow data entry processes or inconsistencies in information between units. This finding is consistent with the research of Anggraini (2024), which states that the implementation of Electronic Medical Records still faces challenges in the form of limited human resources, organizational factors, and data quality that has not yet been optimal. Therefore, system evaluation, improvement of data quality, and strengthening of user competence need to be continuously carried out so that the patient data management process can run more optimally.

To provide a more detailed picture of the patient data management process at RSUD Bandung Kiwari, the following discussion is organized according to each indicator comprising the variable, namely speed of data access, data accuracy and completeness, ease of data processing, and efficiency of patient data management.

Speed of Data Access

The speed of patient data access indicator achieved a mean score of 9.0, placing it in the very good category. This result is supported by the frequency distribution, which shows that 54.8% of respondents stated strongly agree and 41.9% stated agree. This finding is consistent with the research of Siregar (2024), which explains that Electronic Medical Records are used to collect, store, process, and access patient data quickly and accurately, thereby improving the effectiveness of healthcare services. This finding is also supported by Juliansyah et al. (2025), who state that EMR implementation can accelerate access to patient information and improve the efficiency of healthcare services. In addition, Huffman (1999) states that the computerization of patient information makes medical data accessible more quickly, thereby helping to provide better healthcare services.

With this system, staff can directly obtain the information they need without having to search for physical documents. In Indonesia, this principle of digitalization has been legally mandated through Minister of Health Regulation No. 24 of 2022 concerning Medical Records. This regulation requires all healthcare facilities to provide Electronic Medical Records (EMR) in order to reduce operational delays and improve patient safety. In the context of RSUD Bandung Kiwari, EMR implementation has proven to make it easier for staff to access patient data in real time, thereby supporting a much more efficient information management process.

Data Accuracy and Completeness

Based on the interval scale analysis, the data accuracy and completeness indicator achieved a mean score of 8.4, placing it in the good category. This result is supported by the frequency distribution, which shows that 41.1% of respondents stated strongly agree, 43.5% stated agree, 9.7% answered neutral, and 5.6% stated disagree. This finding indicates that obstacles related to the accuracy and completeness of patient data still exist.

This finding is consistent with Huffman's (1999) theory, which states that the primary purpose of medical records is to document patient health information accurately, completely, and in a timely manner in order to support quality healthcare services. In addition, Mukharram et al. (2024) state that the implementation of Electronic Medical Records can improve the completeness of medical records, the quality of information, and the security of patient data management. However, Rusdiana and Sanjaya (2025) explain that data quality and accuracy in inputting patient information remain obstacles to EMR implementation, particularly if the recording process is not carried out consistently by users.

This condition may occur because the quality of data generated within the Electronic Medical Record system is highly dependent on the level of accuracy exercised by users during the process of inputting patient information. If data is not entered completely or errors occur during input, the accuracy and completeness of the data become less than optimal, which can affect the quality of information used in service delivery and decision-making.

In the context of RSUD Bandung Kiwari, the results show that the data accuracy and completeness indicator is the only indicator that falls into the good category, while the other indicators fall into the very good category. This indicates that, although the use of Electronic Medical Records has supported patient data management, improvements in the accuracy of data entry, adherence to documentation standards, and periodic evaluation of data quality are still required so that the accuracy and completeness of patient data can be further optimized.

Ease of Data Processing

Based on the interval scale analysis, the ease of data processing indicator achieved a mean score of 9.0, placing it in the very good category. This result is supported by the frequency distribution, which shows that 51.6% of respondents strongly agreed and 47.6% agreed. This finding indicates that the data processing process is considered easy to carry out by staff. This is consistent with Huffman's (1999) view that the primary purpose of medical records is to record patient health information accurately and completely in order to support higher-quality healthcare services. This classic principle is reinforced by national regulation through Minister of Health Regulation No. 24 of 2022, which affirms that the accuracy of clinical documentation within electronic systems is crucial in reducing the risk of medical error in hospitals. This finding is also supported by Mukharram (2024), who showed that the use of Electronic Medical Records (EMR) can significantly improve document completeness, information quality, and security in patient data management. However, Rusdiana and Sanjaya (2025) and Anggraini (2024) caution that data quality and input accuracy remain major challenges in EMR implementation. This condition may occur because the digitalization process still depends on the level of user accuracy. If data is not entered completely or errors occur during entry, the quality of the resulting information becomes less than optimal. In the context of RSUD Bandung Kiwari, there remains the possibility of inaccurate or incomplete patient data, so improved discipline and accuracy among medical staff at every stage of data entry is required.

Efficiency of Data Management

The efficiency of patient data management indicator achieved a mean score of 8.9, placing it in the very good category. This result is supported by the frequency distribution,

which shows that 54.0% of respondents stated strongly agree and 41.1% stated agree. This finding is consistent with the research of Putri et al. (2024), which showed that Electronic Medical Records can improve the efficiency of healthcare services and patient data management. This result is also supported by Mujtahidah and Istiqamah (2025), who state that EMR implementation has succeeded in improving service efficiency, accuracy in recording documents, cooperation between services, and accelerating patient service time. Nevertheless, EMR implementation still faces difficulties, such as limited facilities and lack of training for personnel. In addition, Huffman (1999) states that by computerizing medical records, patient information can be made available more quickly and in a more integrated manner, thereby making it easier for healthcare workers to provide more efficient services. This is validated by an evaluation study of the implementation of Minister of Health Regulation No. 24 of 2022 by Siregar (2024), which showed that the digitalization of the medical record workflow genuinely reduces patient waiting time and improves the operational efficiency of health facilities compared to traditional paper-based methods. This finding is further supported by Hatta (2012), who emphasizes that medical records have a primary purpose of supporting patient care as well as a secondary purpose as a data source for research, education, and quality evaluation activities. This acceleration of function can be achieved because the implementation of Electronic Medical Records (EMR) is able to eliminate the use of paper documents, accelerate data retrieval, and simplify the processing of clinical information. At RSUD Bandung Kiwari, this digital system helps staff complete their work more quickly, allowing the patient data management process to run smoothly and responsively.

CONCLUSIONS

Conclusion

1. The use of Electronic Medical Records (EMR) at RSUD Bandung Kiwari achieved a mean score of 35.35, falling into the very good category. This result indicates that EMR usage has been well utilized in supporting patient data management at RSUD Bandung Kiwari.
2. The patient data management process at RSUD Bandung Kiwari achieved a mean score of 35.34, falling into the very good category. Most indicators fall into the very good category; however, the data accuracy and completeness indicator falls into the good category and therefore still requires attention and improvement.

Limitations

This study has several limitations. It was conducted at a single hospital (RSUD Bandung Kiwari) using a cross-sectional design, so the findings reflect a specific point in time and cannot yet be generalized to other hospitals or healthcare facilities. The sample was limited to 62 medical record staff members, and data were collected using a self-reported questionnaire, which may be subject to respondents' subjective perceptions rather than objective system performance measures.

Recommendations

Future research is expected to examine the factors influencing data accuracy and completeness and to evaluate EMR implementation in other healthcare units or facilities, in order to develop a more comprehensive understanding of EMR usage in supporting patient data management.

Author Contributions

Both authors made significant contributions to this study. Feby Febrianti was responsible for research conceptualization, data collection, data analysis, and drafting of the manuscript. Nadia Rizki Pratami contributed to the formulation of the conceptual framework, interpretation of results, and critical review and revision of the manuscript. Both authors have read and approved the final version of the article for publication.

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