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# The Effectiveness of Electronic Medical Records (RME) On Hospital Service Quality

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## ABSTRACT

This study investigates The Medical Record Department (MRD) plays a pivotal role in the hospital administration framework at Shri Balaji Hospital, ensuring the efficient management and organization of patient health data. As an essential component of healthcare delivery, the MRD is responsible for maintaining accurate, comprehensive, and up-to-date records for all patients treated at the facility. This includes not only clinical data such as diagnosis, treatment plans, and surgical histories, but also administrative information vital for billing, insurance, and regulatory compliance.

At Shri Balaji Hospital, the MRD operates under strict protocols to guarantee the confidentiality and security of patient records in accordance with legal and ethical standards. The department is crucial for the coordination of multidisciplinary care, as it facilitates the timely and accurate sharing of medical information between healthcare professionals, thus ensuring continuity of care and improving patient outcomes.

The MRD also plays a significant role in hospital operations by supporting functions such as audits, quality control, and risk management. It ensures that the hospital adheres to national healthcare standards, including those set by accrediting bodies and government regulations. In this regard, the department's meticulous record-keeping supports the hospital's efforts in continuous quality improvement and patient safety initiatives.

## Introduction

Health Information System is a systematic way of managing information at all levels of government to provide healthcare services to the community. In providing services to the community, the health information system is a systemic management of information at all levels of government.

The EMR system has transformed healthcare systems across the globe, significantly impacting hospital service quality. This research works on the effect of adopting EMR systems in improving and enhancing the quality of hospital services in terms of patient care, organizational efficiency, accuracy of information, and communication among staff.

Analyzing data from hospitals with EMR, the research will show a better accuracy rate for medical records, more reductions in patients waiting times, and coordination of care on part of health providers. Additionally, it talks about the role of EMRs as one support tool to help in clinical decisions and adherence to health regulations. Although the systems pose a set of challenges, such as high initial investment costs, training requirements, and technical problems, the overall effect of EMRs in actual hospital service quality is positive and favors a better outcome for the patients, higher rates, and more efficient hospital management. Findings suggest that infusion of more investment to EMR infrastructures and training can maximize benefits for both the patient and healthcare provider.

 

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**Objective of the study**

1. To collect and preserve medical records for easy retrieval of healthcare information.

2. To index and code diseases and operations as per ICD-10.

3. Qualitative and quantitative analysis of health records: To develop and maintain an information base and mechanism for providing statistical data.

4. To control the movement of records for maintaining confidentiality.

5. To comply with medico-legal aspects and the related statutory laws of the country.

6. To provide records for research work.

**Literature review**

Bates et al. (2003) found that EMRs facilitate real-time access to patient information, enabling clinicians to make more informed decisions, which significantly reduces the likelihood of preventable errors. Additionally, McDonald et al. (2016) illustrates that EMRs can lead to safer treatments for patients by employing automatic alerts on possible interactions of the drugs administered, allergies as well as laboratory test results that necessitate urgent attention: this reduces the risks of delayed diagnoses or inappropriate treatments. These features contribute directly to an improvement in the quality of service offered in hospitals by making care more and timely

Singh et al. (2017) reported that fully integrated EMR systems can better monitor and track patient flow, thus improving scheduling of patients, faster response times, and an overall enhancement of operational performance. This is consistent with the finding of Hillestad et al. (2005), that a hospital using EMRs experiences a decrease in the repetition of tests, thereby saving time and resources.

EMRs enhance the interaction of healthcare teams with each other while also improving the quality of services in the hospital. Miller and Sim (2004) posited that integrated EMR systems for sharing patient data in the departments of radiology, pharmacy, and nursing will promote better coordinated and cohesive care

Weiner et al. (2014) concluded that EMR
systems could facilitate patient involvement by using online access to allow patients the capability of
viewing their medical files, test results, and schedules for their appointments.
This increases transparency, allowing the patients to have a better voice in determining healthcare options, thus incr easing hospital service effectiveness.

**Recommendations**

There are several recommendations to minimize obstacles in implementing RME. The first problem is the lack of facilities and infrastructure. In this case, hospitals must realize the importance of allocating procurement costs and routine infrastructure maintenance according to the needs of implementing electronic medical records. In addition, hospitals can maximize the fulfillment of needs and assess the readiness to implement RME. Finally, hospitals can cooperate with procuring goods and services on the advice of technology and informatics experts to meet the required infrastructure facilities.

Also, to overcome network disruptions that are errors, it is necessary to maintain the server regularly and not forget to back up data to minimize the occurrence of unwanted things, such as data loss due to malware viruses.

**Research Design**

The proposed research study will focus on the quantitative nature of the study while implementing a quasi-experimental design to evaluate the effect of EMRs on the quality of service of hospitals. Therefore, proposals have

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been made to collect information from hospitals that employ EMRs and hospital paper-based systems for the purpose of comparison. It will be a cross-sectional survey that will help the data to be obtained at a point in time; however, longitudinal approaches can also be adopted to understand changes over a period within hospitals before and after an EMR system.

**Population and Sample**

Hospitals, medical staff doctors, nurses, and administrative staff, and hospitalized patients that have an EMR system in place shall form the population for this study.

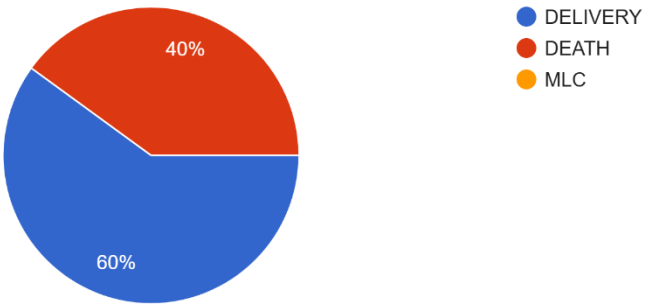
- Sample Size: Stratified random sampling will be used to recruit 60 respondents from patients and healthcare providers across different hospitals. The sample will be stratified by the size of the hospitals, patient demographics and EMR systems types used-whether commercial or in-house.
- Inclusion criteria: Hospitals with EMRs fully implemented at least one year ago
- Exclusion criteria: Hospitals with EMRs partially implemented, or are still in the process of full implementation.

**Data Collection Tools**

- Surveys/Questionnaires: A standardized questionnaire will be developed to collect information from healthcare professionals and patients. It will measure:
- The views of healthcare professionals on the efficiency of EMR, acceptability, and effect on clinical decision-making.
- Satisfaction of patients with waiting time, perceived quality of care, and experience in the hospital.
- Hospital Records: Other than the patient outcome, service delivery metrics will be obtained on data relating to wait times for patients, error rates, and performance of hospitals before and after the adoption of an EMR

**DATA ANALYSIS AND INTERPRETATION**

1. **MOSTLY WHICH CASE COME DEATH, DELIVERY, MLC DATA**




Here's a breakdown of the pie chart Most people (60%) believe that delivery cases are the most common. 40% believe that death cases are the most common. No one believes that MLC cases are the most common.

There seems to be a general perception that delivery cases are more frequent than other types of cases. However, it's important to note that this is just based on people's perceptions and not on actual data.

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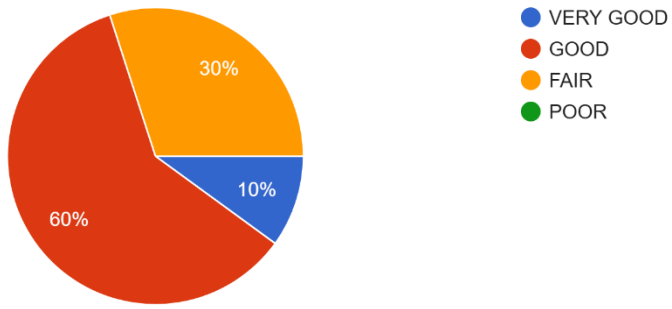
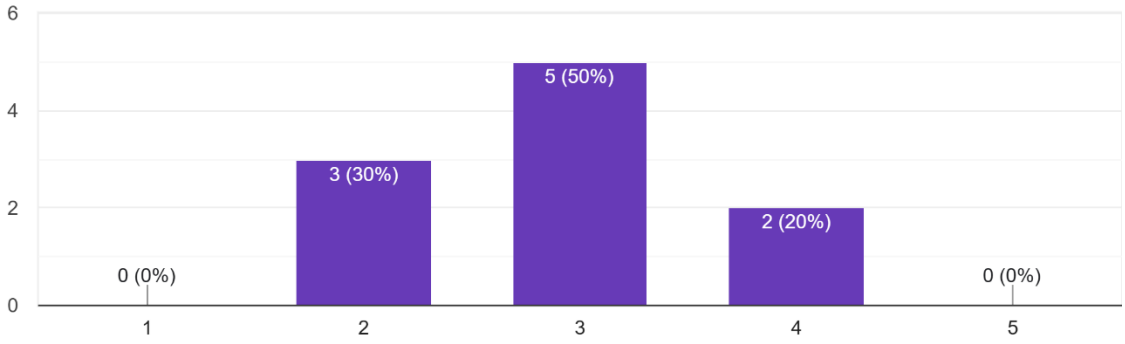
## 2. QUALITY OF SERVICE RENDERED WITHIN TIME BY MRDs




Here's a breakdown of the pie chart:

Most people (60%) think the quality of service rendered within time by MRDs is good. 30% think the quality of service is fair. 10% think the quality of service is very good. No one thinks the quality of service is poor. In other words: People are generally satisfied with the quality of service rendered within time by MRDs, but there is a significant portion who think it's just fair.

## 3. PATIENT SATISFACTION IS MEASURED (OVERALL MRD)




Here's a breakdown of the bar graph:

Half of the respondents (5 out of 10) gave the highest rating of 5 for patient satisfaction. 30% of respondents gave a rating of 3. 20% of respondents gave a rating of 4. No one gave a rating of 1, 2, or 6.

In other words: Overall, people are satisfied with the patient satisfaction measured for MRD. The majority gave the highest rating, and no one gave the lowest rating.

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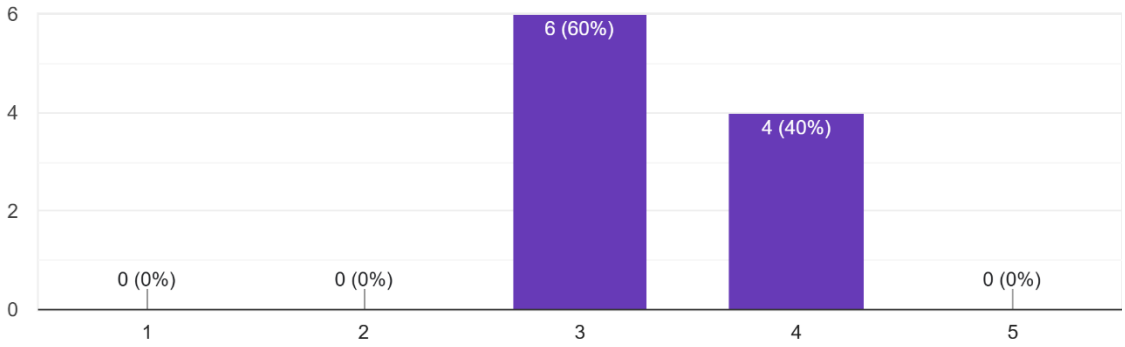
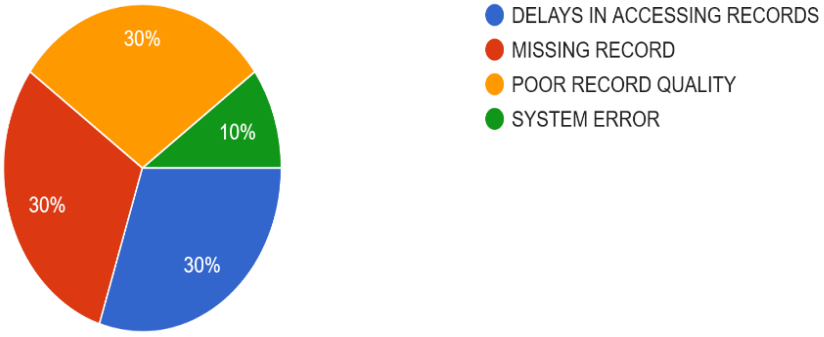
## 4. CONVENIENCE IDENTIFYING MRD LOCATION




Here's a breakdown of the bar graph: 60% of respondents gave a rating of 3 for convenience in identifying MRD location. 40% of respondents gave a rating of 4. No one gave a rating of 1, 2, or 5.

In other words: People find it moderately convenient to identify MRD location. Most people gave it a rating of 3, with a smaller group giving it a rating of 4.

## 5. WHAT IS THE MOST COMMON ISSUE YOU FACE WHEN RETRIEVING MEDICAL RECORDS?




Here's a breakdown of the pie chart: 30% of respondents said delays in accessing records are the most common issue. 30% of respondents said missing records are the most common issue. 30% of respondents said poor record quality is the most common issue.10% of respondents said system errors are the most common issue.

## FINDING SUGGESTIONS

- Choose an EMR application that is scalable with the growth of the organization. The smaller health providers would not use all the functionalities available in a larger system. Modular or scalable would avoid over-investment in non-essential functionality.
- Deploy a standardized solution within departments and sites of an organization. Avoiding redundancy, less customized set up and training goes a long way in saving costs in the long term.
- Due to the cost of an up-front EMR system, inefficiency usually arises from poor adoption or inadequate training. Appropriate, long-term training on the EMR for medical staff and administrators will avert expense due to costly errors.
- It should also be integrated harmoniously with clinical workflows to minimize disruption of healthcare providers and reduce the time they spend on tasks in administrative use. Optimization of work-flow should help improve productivity, labor cost savings, while increasing patient throughput.

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## FUTURE SCOPE

- Future of EMRs: The other most likely trend in the future of EMR systems involves more incorporation of AI and machine learning algorithms. Those may aid in predictive analytics, decision support, and personalized medicine, thereby improving patient results while minimizing costs.
- Interoperability between different healthcare platforms, as is the focus of future EMRs, will enable smooth, routine data exchange across hospitals, pharmacies, insurance firms, and other providers, which will lead to the avoidance of duplicated services, improving care coordination, and lowering costs.

As telemedicine and remote patient monitoring become more widely applied, this will make it easier to connect them with an EMR, thereby greatly increasing the access of patients to care while at the same time releasing pressure off physical healthcare facilities. In likelihood, this will further decrease overhead costs and enhance efficiency, especially in rural and underdeveloped areas.

## Conclusion

The application of EMR in several hospitals in Indonesia has been implemented; several hospitals have implemented it properly and have benefited from the implementation of EMR, such as increasing the efficiency of time and personnel in providing health services to patients. Patients also get convenience in getting treatment from doctors. In addition, implementing EMR also benefits the resulting internal and external report data to be faster, more precise, and more accurate. In implementing EMR, there are also obstacles, such as a lack of facilities and infrastructure to support the implementation of EMR and disruption to networks or connections in hospitals. Other obstacles include the absence of a unique team, written policies, and related SOP.

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