Fishbone Diagram-Based Obstacles to The Use Of Electronic Medical Records to Enhance The Efficacy Of Medical Records at RSUD X

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Abstract : To support the efficacy of medical records at RSUD X, this study attempts to assess the challenges that have arisen and might arise in the adoption of electronic medical records. This study employs information mining techniques such as descriptive analysis and the fishbone method in conjunction with a review of the literature and several data evaluations. The author of this study discovered a number of things, including: 1) A portion of medical records are still kept paper based; 2) officers are ill-prepared to handle RME; 3) officers are not dispersed equally; 4) medical records workspaces are uncomfortable and unsuitable. In order to maintain the quality of care, the aforementioned issues must be used as a guide for improvement. Errors that are classified as minor obstacles may have an adverse effect on patients, other staff members, and the hospital. If these minor obstacles are consistently disregarded, they may also escalate into major ones.

IndexTerms **- Obstacles, Effectiveness, Service Quality, Electronic Medical Records.**

I.   INTRODUCTION

Overall physical, mental, and social well-being are components of health. The World Health Organization (WHO) defines health as a state of social, mental, and physical well-being that permits all people to lead economically and socially productive lives. Consequently, a person's productivity—that is, their ability to work and earn money—can also be used to gauge their level of health in addition to their physical, mental, and social well-being. According to the Health Law No. 36 of 2009, being in good physical, mental, spiritual, and social health enables individuals to lead economically and socially productive lives. the significance of preserving health, which calls for a number of actions, which hospital care and treatment constitute just a tiny portion (Ministry of Health of the Republic of Indonesia, 2011).

The definition of a hospital according to the Minister of Health Regulation Number 3 of 2020 concerning Hospital Classification and Licensing states that "A hospital is a health service institution that provides comprehensive individual health services that provide inpatient, outpatient and emergency services." Medical records is one of the many vocations found in health care facilities. A key component of delivering high-quality healthcare is having accurate and seamless medical records, which is something that the medical records profession helps to preserve.

According to Regulation of the Minister of Health of the Republic of Indonesia No. 24, 2022, medical records are files that include information about the identity of the patient as well as examinations, treatments, activities, and other services that the patient received at a health service facility. The rules that originally established a manual medical record system have changed to favor electronic medical records with the development of new technology.

Effective administration and high-quality patient care are made possible by Electronic Medical Records (EMR), a crucial technology tool for medical information management. To be more precise, EMR is regarded as a safe online information storage system that is available to several authorized users. It includes data from the past and present that is intended to promote integrated, sustainable, effective, and high-quality healthcare. Patient satisfaction, accurate recording, quick access to patient data, and a decrease in the frequency of clinical errors are among the results.

However, not all hospitals have had complete success implementing EMR, despite the technology's enormous potential benefits. Overcoming financial, policy, and technical obstacles is necessary. Furthermore, the degree of acceptance and involvement of medical professionals in embracing and becoming proficient with this new technology is a critical factor in the success of EMR implementation. The usage of EMR has a lot of potential when it comes to

raising the standard of patient care. Hospitals can streamline the treatment process, expedite diagnosis, enhance interdepartmental cooperation, and lower the risk of medical errors caused by incomplete or inaccurate information by implementing EMR effectively.

Therefore, it is crucial and pertinent to do study on how well RME can be used to raise the standard of patient care in hospitals. Hospitals can increase operational efficiency and offer patients better, more comprehensive care if they have a better understanding of how RME may be used and used. The use of information systems in health service management is one of the many disciplines that are impacted by the current worldwide phenomena of digital information development, which has reached a critical point. There are several advantages of using information systems for healthcare providers. (Asih & Indrayadi, 2023).

In light of this justification, the author decided to title his research " Fishbone Diagram-Based Obstacles to The Use Of 2 Electronic Medical Records to Enhance The Efficacy Of Medical Records at RSUD X." The objective of this study is to identify any barriers the author may identify following the process of examining the electronic medical record system at RSUD X in order to bolster the efficacy of the process of implementing medical records at RSUD X.

II.   RESEARCH METHODOLOGY

Research that uses precise data and a methodical approach to study phenomena is known as descriptive analysis. This study employed a cause and effect diagram, specifically a fishbone diagram. This uses a fishbone-like diagram to pinpoint the issue's root cause. As per Kathleen M. La Tour (2010: Health Information Management Concept, Principles, and Practice, Third Edition: page 968), the purpose of a fishbone diagram is to represent the underlying causes of a problem or condition graphically and to aid in performance improvement. To determine the most effective strategy for enhancing officer performance, the author analyzes issues and performs assessments. Additional data for this study are also obtained from literature studies. This data source may be derived from books, journals, papers, and earlier studies on the subject of the study.
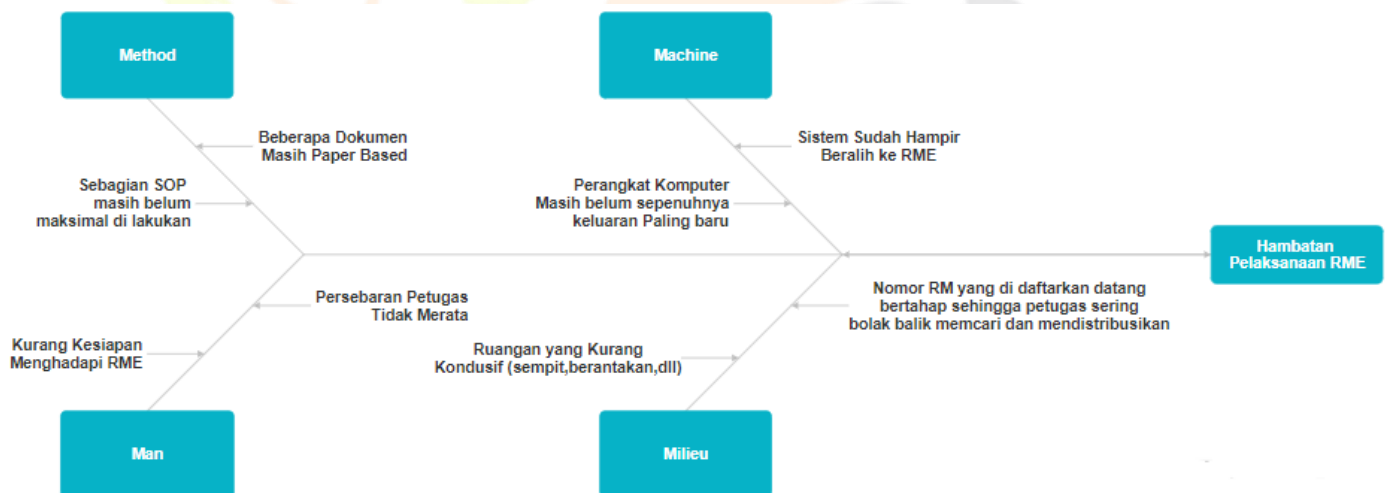
III.   RESULTS AND DISCUSSION

Figure 1. Fishbone Diagram

1. Aspect Analysis
a. Method Aspect

This method element is one of the analysis aspects of the fishbone method, which is a step of issue analysis. This method element covers the approach or procedure used by the system under analysis or whose issue is being looked for.

The effectiveness and work sequence, which were frequently less practical and rigid, were some reasons for the lack of implementation of performance according to SOP, which made it difficult to adapt to the reality of the actual service in the field. This was one of the methodological aspects of the author's research that the author criticized in the field. According to the author, officers are more willing to modify their behavior in between SOP and the realities of the job, and as a result, the appropriateness of the work sequence is frequently disregarded in an effort to maximize efficiency, even though it still achieves the same end result as SOP.

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b. Machine Aspect

This Machine aspect is one of the analysis aspects that is a stage of problem analysis in the fishbone method, this machine aspect includes the machine or technology of the system being analyzed or the system whose problem is being sought.

According to the author's research, the electronic medical record has almost been fully implemented; however, despite this progress, there are still some obstacles in the way of the implementation process, which, despite its small size, can still have an impact on patient health services. For instance, the author found that an unstable network—one that functions smoothly only during specific hours—causes disruptions to services, which are also uncontrollable if the network is congested at the same time due to its massive nature.

One of the potential causes of this issue could be that the computer equipment has not been updated completely. The author is aware that older hardware may encounter issues a little more frequently because updating to the newest version typically results in lengthy loading times. This idea, however, cannot be utilized to predict that devices from earlier versions would constantly run into the same problems.

c. Man Aspect

The milieu/Mother Nature aspect, which comprises the environment of the system under study or the system whose problem is being searched, is one of the analysis aspects that constitutes a stage of problem analysis in the fishbone technique.

Based on field experiences, it appears that a minor issue such as not being prepared for root cause error (RME) can escalate into a major hindrance if left unchecked, as it can lead to the formation of new negative habits. Patients, other officers, and the hospital may be impacted by this. In order to avoid patients and patient escorts complaining to health care officers about poor attitudes and failure to do their tasks, it would be preferable to hold minimum service standard training.

Furthermore, the unequal allocation of officers poses a potential iceberg issue since a concentrated burden in one section will impede the flow of work among other divisions. It's strongly suggested to calculate the workload for each division since better officer distribution will balance the workload and improve service quality by preventing any division from becoming overly fatigued when other divisions are at ease.

d. Milieu/Mother Nature Aspect

The milieu/Mother Nature aspect, which comprises the environment of the system under study or the system whose problem is being searched, is one of the analysis aspects that constitutes a stage of problem analysis in the fishbone technique.

A messy workspace can also reduce enthusiasm in working. It is anticipated that maintaining a supportive and conducive environment will lessen the workload felt by officers, particularly in the medical record storage room. A less conducive room can also affect the performance of officers. A dirty and messy room can also hinder work because it will be difficult to find the patient's medical record number. Medical record officers will find it easier to locate and re-enter files that will or have been utilized if they have organized patient files, therefore this will be even better if they are also encouraged to do so.

Officers must go back and forth to obtain the patient's RM number from the registration department and/or deliver medical records to the polyclinic gradually as a result of the patient's RM number not being registered simultaneously. This challenge can be overcome if the medical record installation is able to view the patient's registered medical record number. This is a difficult task, though, as it requires connecting the medical record installation to the registration system in order to facilitate easy access and improve performance. This will require some budgetary funds and the purchase of auxiliary technology, and not all hospitals have been able to implement it because of resource constraints.

2. Analysis of efficiency

a. Method Analysis

Table 1. Efficiency Analysis based on method aspects

Issues	Result		Exp.
	expected	**actualization**	
Document	All documents are in electronic form	Some documents are still documented on paper	**Not Effective Yet**
SOP	All service and non-service officers implement the previously designed work SOP's to the maximum and with full responsibility.	Not all service officers understand and implement SOP's because they are not used to it and feel awkward implementing it.	**Not Effective Yet**

b. Machine Analysis

Table 2. Efficiency Analysis based on machine aspects

Issues	Result		Exp.
	expected	**actualization**	
RME (software)	The system is fully integrated with Electronic Medical Records.	Some systems have been integrated with Electronic Medical Records, but there are obstacles in several parts of the system that are difficult to integrate and combine with the latest Electronic Medical Records system.	**Not Effective Yet**
Computer (Hardware)	Computer devices already use the latest types and models.	Some computers are still the output of the opponent and some are the newest. Until the problem of equalization and integration of the electronic medical record system is hampered, perhaps one of the reasons is because of the suitable hardware and windows specifications used on old computers.	**Not Effective Yet**

c. Man Analysis

Table 3. Efficiency Analysis based on man aspects

Issues	Result		Exp.
	expected	**actualization**	
Placement	placement of medical service employees to the appropriate number and duties.	Several divisions that require quite a lot of human resources are still lacking, and several divisions have excess human resources because patients are piling up in one division without considering other divisions that support the implementation of good medical services for patients.	**Not Effective Yet**
Readiness	Service officers are very	Service officers who are	**Not Effective Yet**

ready to face the dynamics of changing manual/hybrid medical records to Electronic Medical Records	accustomed to the old work sequence may be surprised and need time to carry out work with the new methods and SOP's issued to adapt to the latest system.	

d. Milieu Analysis

Table 4. Efficiency Analysis based on milieu aspects

Issues	Result		Exp.
	expected	actualization	
Work Space Condition	supportive, conducive, clean, neat, well-arranged room conditions.	In several divisions that lack human resources, room maintenance is not carried out properly because carrying out the main tasks is very difficult for one person to do all the work so that there is no opportunity to organize the room.	**Not Effective Yet**
Work Effectiveness	The system is integrated into the medical record storage room so that the filling officer does not leave the work station for things that do not require special attention, for example, taking data on the medical record numbers of patients who come to receive services.	In practice, filling officers still need to record the medical record numbers of patients who visit the registration division, which is a little further away. This means that if electronic medical record network access is added right away, filling officers will have to spend more time and effort on tasks that should be able to be handled by the system, particularly access to patient registration data (the general identity of the patient) in divisions that require it immediately.	**Not Effective Yet**

IV.   CONCLUSION

From the author's explanation above, the author can draw the conclusion that the implementation of Electronic Medical Records is not yet effective and efficient according to what the author has explained in several tables above. The author assumes that obstacles will always exist, maybe in the form of large obstacles or small obstacles, but no matter how big the obstacles are in the implementation of this electronic medical record, it will still have a little influence on maintaining the quality and efficiency of the performance of medical record officers because if left without a solution, of course it will pile up and become an even bigger obstacle.

According to the author, we can focus more on the specifics of every division that has encountered difficulties and on the opportunities that present themselves or the signs of impending difficulties that may be avoided before they become difficulties.

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