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The Impact of The Electronic Medical Record Transition Era on The Performance of Medical Record Staff at RSUD Al-Ihsan

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Abstract : The rapid advancement of technology significantly impacts the healthcare sector, particularly in Hospital Information Technology, particularly within the realm of Health Records. As more and more people have access to digital devices, healthcare is undergoing a digital revolution that is impacting the shift from paper to digital records. The purpose of this research is to analyze how the migration to electronic health records has affected the efficiency and effectiveness of the medical recorders used by RSUD Al-Ihsan. A quantitative method with a descriptive approach was utilized, employing a questionnaire as the research instrument distributed to 33 RME user medical recorders. With a hypothesis testing result demonstrating that variable x influences variable y by 27,7 percent, the results reveal that there is a link between medical recorders' performance and the shift to electronic medical records. Recommendations regarding the impact of Electronic Medical Records Transition on Medical Record Performance include continuously improving the quality of Electronic Medical Records until achieving robust and fully integrated electronic medical records for healthcare services, as well as evaluating the performance of medical recorders in managing electronic medical record files to ensure high-quality work.

IndexTerms **- Transition, Performance, Health, RME.**

I. INTRODUCTION

Every human being basically needs their health to function in life, and it also serves as a gauge of societal welfare. A nation's citizens can be considered prosperous if they have a good standard of health. Giving different health services to every member of society in an effort to raise health standards as much as feasible is one way that Indonesia has demonstrated its efforts to enhance health. Over time, the caliber of healthcare services also keeps getting better. As technology advances in the healthcare industry, this can be observed. (Awalia & Ulfah, 2023)

Hospitals are medical facilities with a high tech usage rate, capital, labor competence, and service density. A hospital is a type of healthcare facility. In accordance with the classification and licensing of hospitals as per PERMENKES No. 3 of 2020, An institution that provides extensive medical treatment to individuals, including inpatient, outpatient, and emergency services, is known as a hospital. Everything in the world is currently living through the fourth industrial revolution (IRR) and is rapidly approaching the fifth, which will be a refinement where technology will play a major role and explore the possibility of human-machine collaboration to create an inventive and productive work environment. One potential problem that might be identified is the growth within the healthcare industry, particularly with regard to the use of IT inside hospitals, particularly in the field of medical research. (Asih & Indrayadi, 2023).

There has been a transition from paper-based to electronic medical record administration as a consequence of the digital revolution of health care brought about by the growth of digital technology in modern civilization. As a still-evolving field, electronic medical records are one way technology is impacting the nation's healthcare system. The following is defined in PERMENKES No. 24 of 2022: "Medical Records are documents containing patient identity data, examinations, treatment, procedures, and other services that have been provided to patients." Section one of Article 1. "Electronic Medical Records are Medical Records created using an electronic system intended for Medical Records administrators," (Article 1 clause (2)). A medical recorder faces a challenge when Electronic Medical Records (RME) are implemented because, in this scenario, the recorder must be able to engage and work with technology while maintaining his professional integrity. RME implementation plays a significant role in hospital management.

As to the provisions of KEPMENKES RI No. 312 of 2020, which addresses the issue of professional standards for health information and medical recorders, health professionals are crucial to initiatives aimed at enhancing community access to high-

quality healthcare. A person who has completed RMIK Education in compliance with legal requirements is known as a Medical and Health Information Recorder, or PMIK. The task of preserving and serving medical records—both paper and digital—to present health information in hospitals, clinics, health insurance, healthcare facilities, and other settings that offer medical services and keep records is known as RMIK Service Management.

The ease with which medical recorders have adapted to the world of technology is directly tied to the shift from manually maintained medical records to electronic medical records. When it comes to quality, quantity, working hours, and collaboration to meet organizational objectives, employee performance is the outcome of their labor. (Sutrisno, 2019, hlm. 123). So, performance may be defined as the amount and quality of output produced by an employee. Employee motivation, pay rate, and working conditions are examples of independent variables that could have an effect on performance, which is a fixed variable.

In this case, the performance of medical recorders in their implementation to improve and provide better services to patients is closely related to the shift from manual to electronic medical records, according to the findings of research conducted during Field Work Practices (PKL) at Al-Ihsan Regional Hospital. Therefore, the researcher chose the title "THE IMPACT OF THE ELECTRONIC MEDICAL RECORD TRANSITION ERA ON THE PERFORMANCE OF MEDICAL RECORD STAFF AT RSUD AL-IHSAN".

Whether or if the shift to EMRs is successful is the primary motivation for this study can affect the performance of medical recorders which can be seen from the quality of work, quantity, timeliness, effectiveness and independence.

II. RESEARCH METHODOLOGY

The science of conducting an honest scientific investigation is known as research methodology (Prof. Dr. Almasdi Syahza, SE., MP, 2021:21). Research using scientific principles is done with the intention of expanding knowledge in order to create science.

With "Transition to the Era of Electronic Medical Records" as the independent variable (variable x) and "Performance of Medical Recorders" as the dependent variable (variable y), this study employs a descriptive technique for quantitative approaches.

A total of forty-two people make up the study's population: all RME users from the medical records department. In the meantime, Stephen Isaac William B. Michael's formula and sample determination table, which he calculated, were utilized to determine the sample of 33 medical recorder who employed RME:

$$s = \frac{\lambda^2.N.P.Q}{d^2(N-1)+\lambda^2 P.Q}$$

$$s = \frac{3{,}841^2.42.0{,}5.0{,}5}{0{,}05^2(42-1)+3{,}841^2 0{,}5.0{,}5}$$

$$s = \frac{14{,}8.42.0{,}025}{0{,}05^2(42-1)+14{,}8.0{,}025}$$

$$s = \frac{15{,}54}{0{,}0025(41)+0{,}37}$$

$$s = \frac{15{,}54}{0{,}1025+0{,}37}$$

$$s = \frac{15{,}54}{0{,}4725} = 32{,}8 = 33 \text{ people}$$

explanation:
s = Number of Samples
N = Total Population
λ2 = Chi Square (degree of freedom 1 and error rate 5% chi square price = 3.841)
d = the difference between the expected sample and the difference that occurs. Difference (5%)
P = Q = 0,5

The samples were from a random sample collection approach, meaning that everyone who used Al-Ihsan Hospital's electronic medical records had an equal chance of being chosen as a sample. The sources of data and information used in this study were interviews, literature reviews, and observational data.

III. RESULTS AND DISCUSSION

A. Electronic Medical Records Transition Analysis

Table 1. Frequency Distribution of Electronic Medical Record Transition Questionnaire Results (Variable X)

CATEGORY	FREQUENCY	PROSENTAGE
STRONGLY AGREE	**83**	**50,3%**
AGREE	**68**	**41,2%**
DOUBT	**14**	**8,5%**
NOT AGREE	**0**	**0%**
STRONGLY NOT AGREE	**0**	**0%**

Source: Processed by researchers (2024)

Based on the data table, The frequency distribution of the responses to the X variable questionnaire (Electronic Medical Record Transition) was determined by looking at the above table. It was found that the highest score in the Strongly Agree category was 83, with a percentage of 50.3%; Agree was 68, with a percentage of 41.2%; and Doubt was 14, with a percentage of 8.5%.

B. Medical Recorder Performance Analysis

Table 2. Frequency Distribution of Medical Recorder Performance Questionnaire Results (Variable Y)

CATEGORY	FREQUENCY	PROSENTAGE
STRONGLY AGREE	**77**	**46,7%**
AGREE	**66**	**40,0%**
DOUBT	**22**	**13,3%**
NOT AGREE	**0**	**0%**
STRONGLY NOT AGREE	**0**	**0%**

Source: Processed by researchers (2024)

It was determined from the above table that the questionnaire results for variable Y (Medical Recorder Performance) had the highest frequency distribution. In the Strongly Agree category, the highest score was 77, with a percentage of 46.7%; Agree, with a percentage of 40.0%; and Doubt, with a percentage of 12.3%.

C. Validity Test

Validity is the degree of precision or accuracy with which a measuring device performs its intended function. Factor validity and item validity are the two types of validity that are tested in data gathering tools. (Dewi, 2018).

A significance level of 0.05 (5%) is typically employed in correlation coefficient significance tests to assess an item's suitability for use. Accordingly, if an item has a substantial correlation with the overall score, it is deemed legitimateTo do this validity test, two prominent SPSS testing techniques are Bivariate Pearson correlation (Pearson Moment Product) and Corrected Item-Total Correlation.

In order for a query item to be deemed valid, the count must be more than or equal to the table count. The calculated r-value accords with the r-product moment table at the 5% significance level. If the count of r is less than or equal to the table value of r, then the question item is deemed invalid.

Technically, SPSS 20 software was used for the research that the researchers conducted. The research tool employed in this study was a questionnaire that was distributed to 33 medical record officers (N=33) to the nearest 5% (0.05) level of significance. According to the moment table of the r-product, the results showed a r table of 0.344.

Table 3. Results of Electronic Medical Record Transition Validity Test

NO	R COUNT	R TABLE (N=33)	EXPLANATION
X1	**0,827**	**0,344**	**VALID**
X2	**0,739**	**0,344**	**VALID**
X3	**0,916**	**0,344**	**VALID**
X4	**0,838**	**0,344**	**VALID**
X5	**0,801**	**0,344**	**VALID**

Source: Processed by researchers (SPSS 20,2024)

According to the above table, X1 has a calculated r value of 0.827, X2 has a calculated r value of 0.739, X3 has a calculated r value of 0.916, X4 has a calculated r value of 0.838, and X5 has a calculated r value of 0.803. The output obtained from the correlation value r-table is 0.344; hence, from these calculations, it can be seen that the questionnaire's questions are legitimate since r count ≥ r table.

Table 4. Medical Recorder Performance Validity Test Results

NO	R COUNT	R TABLE (N=33)	EXPLANATION
Y1	**0,466**	**0,344**	**VALID**
Y2	**0,453**	**0,344**	**VALID**
Y3	**0,638**	**0,344**	**VALID**
Y4	**0,678**	**0,344**	**VALID**
Y5	**0,691**	**0,344**	**VALID**

Source: Processed by researchers (SPSS 20,2024)

According to the aforementioned table, Y1's calculated r value is 0.466, Y2's calculated r value is 0.453, Y3's calculated r value is 0.638, Y4's calculated r value is 0.678, and Y5's calculated r value is 0.691. The output of the correlation value with the r table is 0.344. Therefore, these calculations lead us to believe that the questionnaire's questions are legitimate since r count ≥ r table.

D. Reliability Test

Suharsimi states that in Aziz's (2018: 50) research, reliability refers to the ability of a good instrument to be employed as a tool for collecting. As a measure of dependability, Cronbach's Alpha is used. If the Cronbach's Alpha coefficient is equal to or greater than 0.700, it is considered an excellent indicator of an instrument's dependability quality. The formula is used to assess reliability:

$$r_n = \left[\frac{k}{(k-1)}\right]\left[1 - \frac{\sum \sigma_b^2}{\sigma_t^2}\right]$$

Keterangan:

r_n : Reliabilitas instrument
k : Banyaknya butir pertanyaan
$\sum \sigma_b^2$: Jumlah varian butir
Σ_t^2 : Varian skor total

Table 5. Reliability Test Results of the Electronic Medical Record Transition Instrument

RELIABILITY STATISTICS

CRONBACH'S ALPHA	N of Items
.882	5

Source: Processed by researchers (SPSS 20,2024)

Based on the results obtained from SPSS 20 data processing, it was found that Cronbach's Alpha for variable Apart from that, Cronbach's Alpha is also greater than the r table, namely 0.882 > 0.344, which also means it is reliable.

Table 6. Reliability Test Results of Medical Recorder Performance Instruments

Reliability Statistics

Cronbach's Alpha	N of Items
.855	5

Source: Processed by researchers (SPSS 20,2024)

Based on the results obtained from SPSS 20 data processing, it was found that Cronbach's Alpha for variable Y (Medical Recorder Performance) was 0.855, which means this number is greater than 0.700 and can be supposedly dependable. In addition, the r table is less than Cronbach's Alpha, namely 0.855 > 0.344, which also means reliable.

E. Hypothesis Testing

H_0: There is no effect of the Electronic Medical Record Transition on the Performance of Medical Recorders at Al-Ihsan Regional Hospital

H_1: The Effect of Complete Electronic Medical Record Transition on the Performance of Medical Recorders at Al-Ihsan Regional Hospital

The t test method was employed in this study in conjunction with partial hypothesis testing. In accordance with Ghozali (2018:88), the t test is used to investigate the effects of each dependent variable separately. In order to discover correlations between the variables being studied, researchers often utilize the t test, which is a way for evaluating the link between many variables (Sugiyono, 2018:223).

Basics for Making T Test Decisions:

1. If the sig value < 0.05 or t count > t table then simultaneously there is an influence of variable X on variable Y
2. If the sig value > 0.05 or t count < t table then simultaneously there is no influence of variable X on variable Y

Formula for finding the t table value:
t table = (α/2 ; n-k-1 or df residual)
t table = (0,05/2 ; 33-2-1)
t table = (0,05/2 ; 30)
t table = (0,025 ; 30) = **2,042**

Table 7. Hypothesis t Test Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	20.702	.285		72.630	.000
	Electronic Medical Records Transition	-.044	.013	.526	3.445	.002

a. Dependent Variable: Medical Recorder Performance

Source: Processed by researchers (SPSS 20,2024)

According to the table above, sig = 0.001, namely < 0.05It follows that medical recorders' efficiency is impacted by the shift to electronic medical records. Furthermore, the t-table value of 2.042 is less than the t-count value of 3.445, hence it follows that the EMR Transition affects the Performance of Medical Recorders.

The term "F-test" in this research refers to simultaneous testing, in which we assess a regression model's parameter significance collectively. Finding out if at least one independent variable significantly affects the model is the aim of this simultaneous test.

Basis for Making F Test Decisions:

1. If the sig value < 0.05 or F count > F table then simultaneously there is an influence of variable X on variable Y
2. If the sig value is > 0.05 or F count < F table then simultaneously there is no influence of variable X on variable Y

The F Table value for N=33 is 1.87

Table 8. Hypothesis F Test Results

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.449	1	.449	11.865	.002[b]
	Residual	1.174	31	.038		
	Total	1.623	32			

a. Dependent Variable: Medical Recorder Performance

b. Predictors: (Constant), Electronic Medical Records Transition

Source: Processed by researchers (SPSS 20,2024)

According to the table above, sig = 0.001, namely < 0.05, I have come to the conclusion that the EMR Transition affects the Performance of Medical Recorders. The calculated F results also show that 11.865 > 1.87 (F table), Hence, it's safe to say that EMR Transition affects the Performance of Medical Recorders.

Table 9. Percentage of Influence of Variable X (Electronic Medical Record Transition) on Variable Y (Performance of Medical Recorders)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.526[a]	.277	.253	.195

a. Predictors: (Constant), Electronic Medical Records Transition

Source: Processed by researchers (SPSS 20,2024)

Percentage of Influence = R Square x 100%
= 0,277 x 100% = **27,7%**

If the values of tcount > ttable, F count > F table, and the results of the hypothesis test above reveal a significant value of 0.002, then the research hypothesis (H1) may be accepted and the alternative hypothesis (H0) can be rejected..

The Electronic Medical Record Transition and the Performance of Medical Recorders are known to be related, with a percentage influence of 27.7%, according to the hypothesis test results. These results likewise indicate a positive value, indicating that the medical recorder's performance will improve with a better electronic medical record transition (achieving maximum RME).

According to Uslu & Stausberg (2021), RME has emerged as a viable option for hospitals looking to enhance the effectiveness, precision, and caliber of healthcare services. This is due to the advancement of information technology as well as the growing demand for accessibility and integration of medical data. There are several advantages to using electronic medical records for hospitals and healthcare professionals. (Asih & Indrayadi, 2023). Uslu & Stausberg (2021) state that RME has become a competitive alternative for hospitals seeking to improve the efficiency, accuracy, and standard of care provided. This is a result of the development of information technology in addition to the rising demand for medical data integration and accessibility. Healthcare providers and hospitals can benefit from electronic medical records in a number of ways.

RME adoption in Indonesian hospitals is generally a positive step toward the provision of more integrated, safe, and effective healthcare services (Setiatin & Susanto, 2021). The RME transition stage is still facing a number of implementation-related issues, including personnel training and data security. RME is a highly beneficial investment for hospitals and society at large because of its long-term benefits in raising the caliber of healthcare services.

IV. CONCLUSION

One of the first developments in hospital information technology is the transition to electronic health records. Better health care is another outcome of electronic medical record use. Medical recorders' efficiency is greatly affected by how EMRs are managed. For example, the presence of electronic medical records facilitates officers' data processing. All health professionals can benefit from electronic medical records. With the Electronic Medical Record, patient medical information can be accessed quickly and efficiently. Coordination between all health workers can be done easily through Electronic Medical Records, because data processing is done via computer, not manually, which requires medical recorders to meet each polyclinic to retrieve files.

However, there will always be a number of implementation-related difficulties that need for ongoing improvements to both the governance and the quality of the electronic medical record. Training employees on performance management and data security are two other issues that need to be taken into account. Research on the effects of the transition to an electronic medical record on the performance of medical recorders can benefit from two things: assessing medical recorders' management performance and keeping up quality improvements in EMRs until they fully integrate into a competent electronic medical record for health services. files from electronic medical records to produce high-quality work.

Therefore, the adoption of Electronic Medical Records is a step in the right direction towards safer, more integrated, effective, and efficient health services that should benefit everyone involved in the medical field as well as society at large.

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