THE EFFECT OF ONLINE BPJS OUTPATIENT REGISTRATION ON THE EFFECTIVENESS OF HOME SERVICES PAKUWON GENERAL HOSPITAL SUMEDANG

Gina Yuliana[1], Irda Sari[2]
1.2Medical Records and Health Information Study Program
1.2Piksi Ganesha Polytechnic, Jl. Gatot Subroto No. 301 Bandung
E-mail: ginayuliana1004 @gmail.com [1] , irdasari13@gmail.com[2]

Abstract

Online registration through the Mobile JKN application is expected to speed up the administration process and reduce queues, thereby increasing efficiency, service quality, and patient satisfaction. This study aims to determine the effect of online outpatient BPJS registration on the effectiveness of services at Pakuwon Sumedang General Hospital. Descriptive quantitative methods were used with a sample of 100 patients, taken using the Slovin formula. Data were collected through questionnaires, observations, interviews, and literature studies, then analyzed with SPSS version 25. The results showed valid and reliable instruments with Cronbach's Alpha 0.936. There is a very strong relationship between online BPJS registration and service effectiveness ($r = 0.989$, $p < 0.01$). Simple linear regression shows a positive and significant effect with the equation $Y = 0.586 + 1.295X$. The coefficient of determination of 97.7% indicates a large contribution of online registration to service effectiveness. However, technical constraints and lack of system integration cause delays and difficulties, especially for elderly patients, so that service effectiveness is not optimal. It is recommended to improve the system and train officers to improve efficiency and patient satisfaction .

Keywords: Registration, BPJS Online, Service Effectiveness

INTRODUCTION

Health is a basic right owned by every individual, where this right must be respected and fulfilled by the state without distinguishing ethnicity, religion, political background, economy or social conditions (Dhynianti & Darmawan, 2024). Health service facilities are facilities that provide various types of health services to the community, including promotive, preventive, curative, to rehabilitative actions, organized by government and private agencies (Budo et al., 2020).

Hospital is a health service institution that organizes complete individual health services that provide inpatient, outpatient, and emergency services

(Peraturan Menteri Kesehatan No 3 Tahun, 2020). Hospitals are required to organize and provide optimal health services for the community, including services both directly and indirectly, such as those that take place in the medical records section (Sodikin & Sari, 2021).

Medical records according to (Peraturan Menteri Kesehatan Nomor 24, 2022). explains that medical records are documents containing patient identity data, examinations, treatments, actions, and other services that have been provided to patients. The duties of the medical records unit include patient registration services. Registration services are hospital administration services that record patient identity data and health information for the purposes of treatment and care.(Aulia & Sari, 2023).

The development of information technology has driven a transformation in the health service system, including in Indonesia. One significant innovation is the implementation of online registration for outpatients through the Mobile JKN application provided by BPJS Kesehatan. This innovation aims to improve service efficiency by reducing waiting times and speeding up the administrative process in hospitals (Maulana & Sari, 2023). Through applications such as Mobile JKN, patients can register independently before coming to the hospital, which is expected to improve the efficiency and effectiveness of services (Arnita & Yunengsih, 2024).

BPJS Kesehatan has adopted digital transformation to improve the efficiency and accessibility of healthcare services. One of its main innovations is the development of the Mobile JKN application, which allows participants to access various services independently through mobile devices. This application is designed to reduce the administrative burden at branch offices and make it easier for participants to manage their healthcare needs . The National Health Insurance System (JKN) is a health insurance program managed by the Social Security Administering Agency (BPJS) Health in Indonesia. JKN aims to provide better access to healthcare for all Indonesians

Pakuwon Sumedang General Hospital has innovated in the field of health services by implementing an online registration system for general patients and BPJS participants. This system is designed to speed up services, reduce queues, and simplify the registration process before patients come to the hospital. However, based on direct experience while working at the hospital, the

implementation of this system still faces obstacles, especially for elderly patients who have difficulty accessing and using the registration service independently, so they still need help from hospital staff.

Pakuwon Sumedang General Hospital has updated its service system by implementing online registration for general patients and BPJS participants. This innovation aims to speed up the service process, reduce queues, and provide convenience in registration before patients come to the hospital. However, based on experience while working at the hospital, there are still several obstacles in its implementation, especially for elderly patients who often have difficulty using the system independently, so they still need help from officers to complete the registration process.

Based on this, the author is interested in researching "The Effect of Online BPJS Outpatient Registration on the Effectiveness of Services at the Hospital."

METHOD

The research method used in this study is a quantitative method with a descriptive approach. According to (Sugiyono, 2022), the quantitative method is a research approach based on a positivist view, applied to research a particular population or sample with a sampling technique that is usually done randomly.

Population

Sugiyono, (2022)explains that a population is a collection of objects or subjects that have certain characteristics and traits that have been determined by researchers to be studied and conclusions drawn.

The number of BPJS patient visits to the Hospital outpatient installation in 2025 was recorded at 7,589 visits in January, 7,477 in February, 7,121 in March, and 7,210 in April.

Sample

According to (Sugiyono, 2022)what is meant by a sample is "a portion of the number and characteristics possessed by the population". The determination of the number of samples is taken based on the Slovin formula in (Sugiyono, 2022) as follows:

$$n = \frac{N}{1 + Ne^2}$$

$$n = \frac{29397}{1 + 29397.(0,1)^2}$$

$$n = \frac{29397}{1 + 29397.(0,01)}$$

$$n = \frac{29397}{1 + 293,97}$$

$$n = \frac{29397}{294,97}$$

=99.66=100

Based on the calculation results above, a sample of 100 patients was obtained as a sample in this study.

Data collection

Data collection in this study was carried out through questionnaires, observations at Pakuwon Sumedang General Hospital, literature studies from various relevant sources, and interviews with patients at the hospital.

Data analysis

Data analysis in this study used SPSS software version 25 with validity test techniques to ensure that the instrument data truly reflects the research object, reliability test to test the consistency of measurement results, simple linear regression test to predict the effect of independent variables on dependent variables, and determination

coefficient test to measure the strength of the relationship between variables.

RESULTS AND DISCUSSION

The following are the results of data analysis obtained through processing using the SPSS version 25 application.

Validity Test Results

Validity testing is carried out to determine to what extent the questions in the questionnaire are able to measure what should be measured.

Table 1 Validity Test Results for Variables X and Y

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X01	26.5600	15,764	.832	.923
X02	26.7100	15.157	.794	.926
X03	26.6300	15,528	.743	.931
Y01	26.5600	15,764	.832	.923
Y02	26.7100	15.157	.794	.926
Y03	26.6300	15,528	.743	.931
Y04	26.5600	15,764	.832	.923

Source: Processed by the Author, SPSS 25

So, with DF = N-2 the result is DF = 10 0 -2, which is 9 8. So the value r_{tabel}obtained is in DF (degrees of freedom) = 9 8 with a value of 0.165. It can be stated that the 7 statements used as research instruments, the results of all questions *are valid* because r_{hitung}> r_{tabel}(the table r_{hitung}can be seen from *the item-total statistics table*).

Table 2 (Table r)

94	0.1689	0.2006	0.2371	0.2617	0.3307
95	0.1680	0.1996	0.2359	0.2604	0.3290
96	0.1671	0.1986	0.2347	0.2591	0.3274
97	0.1663	0.1975	0.2335	0.2578	0.3258
98	0.1654	0.1966	0.2324	0.2565	0.3242
99	0.1646	0.1956	0.2312	0.2552	0.3226
100	0.1638	0.1946	0.2301	0.2540	0.3211

Source: (Sugiyono 2022)

Reliability Test Results

Reliability testing is carried out to determine the extent to which the research instrument provides consistent results when used under the same conditions.

Table 3 Results of Reliability Test of Variables X and Y

Reliability Statistics

Cronbach's Alpha	N of Items
.936	7

Source: Processed by the Author, SPSS 25

The results of the reliability test using SPSS version 25 above show *a Cronbach's Alpha value* of 0.936 with 7 statement items (N *Of Items).* The questionnaire statement is declared *reliable* if *the Cronbach's Alpha value* is > than the specified limit of 0.60 (Priyatno, 2013: 30) . Based on the data above, it can be concluded that the answers to the results of the reliability test for each statement item in the questionnaire are said to be *reliable* (consistent), because *the Cronbach's Alpha value* is 0.936 > 0.60.

Correlation Test Results

The Pearson Product Moment correlation test was conducted to determine the relationship between two variables in the study.

Table 4 Correlation Test Results for Variables X and Y

Correlations

		BPJS RJ Registration	Service Effectiveness
BPJS RJ Registration	Pearson Correlation	1	.989 **
	Sig. (2-tailed)		.000
	N	100	100
Service Effectiveness	Pearson Correlation	.989 **	1
	Sig. (2-tailed)	.000	
	N	100	100

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Processed by the Author, SPSS 25

The dependent variable (variable X: BPJS RJ registration) and the independent variable (variable Y: service effectiveness) have a correlation coefficient value of 0.989 in the coefficient interval of 0.80-1,000 (according to Sugiyono, 2013:213), therefore it can be concluded that the degree of relationship in the interpretation of the correlation coefficient of the relationship is in the very strong category. In *the study of* determining the level *of significance* of ≤ 5% or 0.05 before the statistical test was carried out (McCall, 1975), it can be concluded that the results of the significance of the dependent variable and the

independent variable in *the Pearson Product Moment correlation test* above are said to be significant because ≤ 0.05, namely 0.00.

Simple Linear Regression Test Results

A simple linear regression test is used to determine the effect of the independent variable (X) on the dependent variable (Y).

Table 5 Simple Linear Regression Test Results for Variables X and Y

Coefficients [a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.586	.267		2.195	.031
	BPJS RJ Registration	1.295	.020	.989	65.145	.000

a. Dependent Variable: Service Effectiveness

Source: Processed by the Author, SPSS 25

The results of the simple linear regression test above show a large constant value of 0.586 and a variable value of X of 1.295 so that the regression equation formula from the results is Y = 0.586 + 1.295 X, which means that in every 1% increase in value (X) then (Y) increases by 1.295. The regression coefficient value is positive so it can be said that the direction of influence between variables (X) and variables (Y) is positive.

Hypothesis Test Results

Hypothesis testing is carried out to test the truth of the assumptions or conjectures put forward in the research, namely regarding the influence or relationship between the independent variable (X) and the dependent variable (Y).

Table 6 Results of Hypothesis Testing of Variables X and Y

Coefficients [a]

Model	Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.

1	(Constant)	.586	.267		2.195	.031
	BPJS RJ Registration	1.295	.020	.989	65.145	.000

a. Dependent Variable: Service Effectiveness
Source: Processed by the Author, SPSS 25

The value T_{hitung} can be found to be 65.145 with α = 10% (0.1) with a two-*tailed test* and DF = N-2, namely DF = 100 – 2 = 98, so the value obtained is T_{tabel} of 1.660. The research hypothesis (H_1) can be accepted and the alternative hypothesis (H_0) is rejected if the value $T_{hitung} > T_{tabel}$.

Based on the test results above, it can be concluded that the research hypothesis statement (H_1), namely X against Y can be accepted and the alternative hypothesis (H_0) is rejected, because the value T_{hitung} of 65.145 > the value T_{tabel} of 1.660.

Table 7 (Table t)

95	0.67708	1.29053	1.66105	1.98525
96	0.67705	1.29043	1.66088	1.98498
97	0.67703	1.29034	1.66071	1.98472
98	0.67700	1.29025	1.66055	1.98447
99	0.67698	1.29016	1.66039	1.98422
100	0.67695	1.29007	1.66023	1.98397
101	0.67693	1.28999	1.66008	1.98373

Results of Determination Coefficient Test

The coefficient of determination test is carried out to determine how much the independent variable (X) is able to explain the variation in the dependent variable (Y).

Table 8 Results of the Determination Coefficient Test for Variables X and Y

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.989 [a]	.977	.977	.393

a. Predictors: (Constant), BPJS RJ Registration
Source: Processed by the Author, SPSS 25

Based on the results processed by the author using SPSS version 25, it is known that the coefficient of determination (*r2*) in the *R square column obtained is 0.977 or 97.7%, meaning* [that] X has a 97.7% influence on Y while the remaining 2.3% is influenced by other factors or variables not studied by the author.

The online BPJS outpatient registration indicators cover various aspects that focus on efficiency, quality of service, and patient satisfaction ((Umam, 2024)).

Efficiency Indicators

Efficiency indicators in outpatient online BPJS registration are crucial to speed up and simplify the patient registration process. However, at RSU Pakuwon Sumedang, the efficiency of this service is still constrained by frequent technical disruptions and unstable networks, so that the registration process is slow. In addition, the lack of integration between the online system and the hospital system slows down data verification, making patients have to wait longer. This causes patients to have less trust in online services and prefer manual registration which results in long queues and inefficient services.

Service Quality Indicators

The outpatient BPJS online registration indicator that emphasizes the quality of service is very important to improve health services at RSU Pakuwon Sumedang. However, the hospital still experiences obstacles such as incomplete and inaccurate data in the online registration system, so that the verification process upon patient arrival is slow and ineffective. This condition has the potential to reduce patient satisfaction because online services have not fully met the expectations of convenience and speed. Therefore, it is necessary to improve the system so that outpatient services at this hospital become more efficient and satisfy patients.

Patient Satisfaction Indicators

Outpatient online BPJS registration indicators that focus on patient satisfaction include ease of access, clarity of information, speed of service, and system reliability. Outpatient online BPJS registration at RSU Pakuwon Sumedang still faces obstacles such as less easy access, information that is not always updated, and technical disruptions and process delays. These problems

have an impact on low patient satisfaction and indicate the need for improvements to the online service system.

According to (Pane et al., 2020), effectiveness is a dynamic condition related to products, services, people, processes and environments that meet or exceed expectations. The characteristics of public service effectiveness (Pane et al., 2020)include: Timeliness, Accuracy of service, Politeness and friendliness and Ease of obtaining service.

Timeliness Indicator

Punctuality is one of the important indicators in the effectiveness of public services, which includes the speed of waiting time and service process time that meets patient expectations. Timely service reflects efficient performance and responsiveness to community needs. However, at RSU Pakuwon Sumedang, punctuality is still a problem, especially in the online outpatient BPJS registration process. Patients often face delays in registration confirmation and long waiting times even though they have registered online. This shows that the system that should speed up services has not been running optimally and still requires evaluation and improvement, so that the goals of efficiency and patient satisfaction can be achieved optimally.

Indicators of Service Accuracy, Politeness and Friendliness

Accuracy of service and friendly attitude of officers are important parts of effective public service. However, in RSU Pakuwon Sumedang there are still complaints related to data errors during online registration and lack of friendliness of officers in serving patients. This shows the need for system improvement and improvement of officer service quality so that patient satisfaction can be increased.

Indicator of Ease of Obtaining Services

Ease of obtaining services is one indicator of the effectiveness of public services, which includes system access, supporting facilities, and officer readiness. At RSU Pakuwon Sumedang, the online outpatient BPJS registration service still faces obstacles such as an unresponsive system, confusing application display, minimal independent facilities, and limited assistance from officers. This shows that the effectiveness of the service is not yet fully optimal.

CONCLUSION

Online BPJS outpatient registration at Pakuwon Sumedang General Hospital has a positive and significant effect on service effectiveness, with an influence level of 97.7%. Although this innovation has increased efficiency and accelerated the administrative process, there are still a number of technical and operational obstacles that hinder service optimization, especially for elderly patients and in terms of network stability and system integration. Indicators of service effectiveness such as timeliness, data accuracy, politeness of officers, ease of access, and patient satisfaction have not been fully met optimally . Therefore , improvements are needed to the online registration system as well as improving the quality of services and training of officers to achieve more effective, efficient, and satisfying services for patients.

BIBLIOGRAPHY

Arnita, H., & Yunengsih, Y. (2024). The Effect of Implementing Online Registration Applications on Outpatient Registration Services at Hasna Medika Hospital, Cirebon. *Indonesian Journal: Informatics and Communication Management* , *5* (3), 2752–2760.

Aulia, A.-ZR, & Sari, I. (2023). Analysis of electronic medical records to support work effectiveness in the medical records unit at Hermina Pasteur Hospital. *Infokes (Health Information)* , *7* (1), 21–31.

Budo, A., Tulusan, F., & TAMPI, G. (2020). Effectiveness of Health Services at Pancaran Kasih Hospital, Manado. *Journal of Public Administration* , *6* (94).

Dhynianti, L., & Darmawan, ES (2024). Public Private Cooperation in Providing Primary Health Services in Jakarta. *Cahaya Mandalika Journal ISSN 2721-4796 (Online)* , *5* (1), 486–501.

Maulana, LR, & Sari, I. (2023). EFFECTIVENESS OF MOBILE JKN ON ONLINE REGISTRATION OF OUTPATIENT PATIENTS AT DUSTIRA HOSPITAL. *Proceedings* , *3* (2), 95–102.

Pane, T., TULUSAN, F., & Tampi, GB (2020). Effectiveness of Administrative Service Unit in Data Management at the Regional Secretariat of North Sulawesi Province. *Journal of Public Administration* , *6* (91).

Regulation of the Minister of Health No. 3 of 2020. *Concerning Hospital Classification and Licensing* . Jakarta: Minister of Health of the Republic of Indonesia.

Regulation of the Minister of Health Number 24. (2022). *Concerning Medical Records* . Jakarta: Minister of Health of the Republic of Indonesia.

Sodikin, RNA, & Sari, I. (2021). Analysis of Spatial Layout of Medical Record and Health Information Storage at Hospital X, Bandung City 2020. *Cerdika: Indonesian Scientific Journal* , *1* (9), 1217–1226.

Sugiyono. (2022). *Quantitative, Qualitative and R & D Research Methods* . Bandung: Alfabeta.

Umam, AB (2024). *Analysis of the Effectiveness of Online Registration Services for Outpatient BPJS Patients at Prof. Dr. IGNG Ngoerah General Hospital, Denpasar* .