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The Effect of the Online Tiered Referral System of BPJS Health on Patient Satisfaction at Royal Prima Hospital Medan In 2022

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Abstract
Minister of Health Regulation RI No. 001 of 2012, the referral system is the organization of health services that regulates the delegation of duties and responsibilities for health services reciprocally both vertically and horizontally. This study aims to analyze the effect of BPJS Health's online tiered referral system on Patient Satisfaction. This type of research is non-experimental quantitative research with a descriptive approach (cross-sectional survey) conducted at Royal Prima Medan Hospital in 2022. The population is all BPJS patients, determining the number of samples using Structural Equation Modeling (SEM), defined as many as 100 samples with a purposive sampling approach. Pearson Product Moment test validity test, Cronbach's Alpha> 0.70 reliability test. Univariate analysis using the Chi-Square test, multivariate analysis of multiple logistic regression test with a significance level of Sig. 0.05. The results of the study simultaneously, the variable Requirements (X1), Procedures (X2), Service Time (X3), Cost / Tariff (X4), Facilities and Prasanna (X9), have a relationship with the variable Job satisfaction with a p-value ≤ 0.05. Meanwhile, the variables of Service Type Product Specifications (X5), Implementer Competence (X6), Implementer Behavior (X7), and Complaint Handling (X8) have no relationship with the BPJS Health patient satisfaction variable with a significant p-value ≥ 0.05. In conclusion, of all the independent variables, namely Requirements, Procedures, Time, Cost, and Facilities, which are thought to affect BPJS Health patient satisfaction, the most influential is the cost variable with a p-value of 0.017 <0.05. The OR value obtained is 7.516, meaning that the costs incurred by patients for BPJS Health tiered referrals have a chance of 7.516 times to affect the BPJS Health patient satisfaction level.

Keywords: *Tiered Referral System, Patients, Satisfaction, Costs.*

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I. INTRODUCTION

By the mandate of Law No. 40 of 2004 concerning the National Social Security System (SJSN) and Law No. 24 of 2011 concerning the Social Security Organizing Agency (BPJS), it was determined that the operation of BPJS Health began on January 1, 2014,Furthermore, based on BPJS Health Regulation No. 1 of 2014, concerning the Implementation of Health Insurance, it states that health services for JKN participants are carried out in stages according to medical needs and compensation for health facilities starting from the First Level Health Facility (FKTP) of registered participants, except in emergencies. Therefore, people who seek treatment at a hospital with a BPJS Health card must first get a referral from a Primary Health Care Facility (2).

According to Minister of Health Regulation RI No. 001/2012, a referral system is a health service organization that regulates the delegation of tasks and responsibilities for health services reciprocally, both vertically and horizontally. The referral system is mandatory for patients who are health insurance or social health insurance participants and health service providers. Commercial health insurance participants follow the applicable rules per the insurance policy's provisions while still following tiered health services(3). The health service referral system organizes health services that regulate the delegation of tasks and responsibilities for health services reciprocally both vertically and horizontally, which participants in health insurance or social health insurance and all health facilities must implement. The referral system is organized to provide quality health services so that service objectives are achieved without using expensive costs; this is called effective and efficient(4).

Efficient here also means reduced waiting time in the referral process and reduced unnecessary referrals because they can be handled at the original health facility, either with the help of the latest technology, appropriate technology, or low-cost technology, which can still be accounted for. Presidential Regulation No. 82/2018, concerning Health Insurance CHAPTER V Implementation of Health Services, states that health

services for JKN participants are carried out in stages according to medical needs starting from the FKTP of registered participants, except in medical emergencies. The tiered referral system is one of the efforts to strengthen primary care to organize quality and cost control. Increasing health facility cooperation is one of the strategies to control the quality and Cost of health services(5).

The referral system regulates the flow from where and where a person with a particular health problem should go to check their health. The referral system aims to be both practical and efficient, reducing waiting time in the referral process and reducing unnecessary referrals because they can be handled at primary healthcare facilities. The 2014 BPJS Health Regulation explains that the number of patient referrals at FKTP should not exceed 15% of the total monthly BPJS patient visits. Implementing a system will not run well if the performance is not following the policy's provisions or guidelines. One of the problems in implementing a tiered referral system is the limited resources and essential infrastructure in health institutions to provide minimal health services(6).

Online referrals are implemented because there are several underlying conditions. First, the number of hospitals is currently limited and unevenly distributed. Second, online referrals can unravel the queues at the health facility receiving the referral by providing several destination options to participants. Third, patient satisfaction is abstract Patient satisfaction is influenced by several factors, such as patient membership registered with BPJS Kesehatan, the services obtained, and the costs incurred by patients at the First Level Health Facility. Finally, patient satisfaction will be fulfilled if the services follow their expectations(7).

The results of an observation survey conducted by researchers at the Royal Prima Medan Hospital obtained several negative responses related to the referral system imposed by BPJS, such as increasingly long and complicated referral procedures, feeling blocked from accessing health services according to the wishes of participants, long-distance referral facilities and others. Therefore, based on the above problems, the researcher is interested in examining "Analysis of the Effect of the Online Tiered Referral System of Bpjs Health on Patient Satisfaction at Rs Royal Prima Medan in 2022".

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II. RESEARCH METHODS

This type of research is non-experimental quantitative research with a descriptive approach (cross-sectional survey). This research was conducted at Royal Prima Medan Hospital, September to November 2022. The population is all BPJS patients who seek treatment at Royal Prima Medan. Determination of sample size using Structural Equation Modeling (SEM)(8), The minimum sample that must be taken in this study and the advice from Hair et al. then the number of samples taken in this study was determined to be 100 people. The sampling technique used in this study is based on the non-probability sampling method using a purposive sampling approach. The criteria for companies sampled in this study are as follows:

a. BPJS Health patients who receive outpatient / inpatient treatment at Royal Prima Hospital.
b. Willing to be a respondent and able to read and write.
c. Cooperative BPJS Health patients.

The validity test of the questionnaire to see the accuracy of the measuring instrument to measure the measured variables will be carried out using the Pearson Product Moment test. The reliability test in this study uses Cronbach's Alpha where a construct or variable is said to be reliable if it provides a Cronbach's Alpha value greater than 0.70.

Table 1. Aspects of Measurement of Independent (X) and Dependent (Y) Variables

Variable	Sub Variables	Number of Indicator Questions	Measurement Tools	Measure Result (Value Score)	Scale
BPJS Health Online Tiered Referral System	Requirements	1	Questionnaire	Strongly agree (SS) is given a score of 5. Agree (S) is given a score of 4. Moderately agree (CS) is given a score of 3. Disagree (TS) is given a score of 2. Strongly disagree (STS) is given a score of 1.	Likert
	Procedure	1			
	Service time	1			
	Cost/Tariff	1			
	Product Specification Type of Service	1			
	Executor Competence	1			
	Executor Behavior	1			
	Handling Complaints, Suggestions and Feedback	1			

Variable	Sub Variables	Number of Indicator Questions	Measurement Tools	Measure Result (Value Score)	Scale
	Facilities and Infrastructure	1			
Patient satisfaction with BPJS Health's online tiered referral policy	Satisfied Not Satisfied		Total elements of variable x	Satisfied> 50 % Not Satisfied<50%	Nominal

Univariate analysis, bivariate analysis using Chi-Square test, multivariate analysis of multiple logistic regression test with Sig level. 0.05.

III. RESULT AND DISCUSSION

Table 2. Chi-Square Test Results

Variable		Satisfaction		Total	*Pearson Chi-Square Asymp.Sig. (2-sided)*
		Not Satisfied	Satisfied		
Requirements	Not Easy	26	35	61	**0.010**
	Easy	7	32	39	
Procedure	Good	18	20	38	**0.017**
	Not Good	15	47	62	
Service Time	Not Fast	13	10	23	**0.006**
	Fast	20	57	77	
Cost/Rate	Not Efficient	25	26	51	**0.001**
	Efficient	8	41	49	
Product Specifications	Not Easy	31	58	89	**0.268**
	Easy	2	9	11	
Executor Competence	Not Skilled	31	57	88	**0.200**
	Skilled	2	10	12	
Executor Behavior	Unfriendly	32	58	90	**0.103**
	Friendly	1	9	10	
Complaint Handling	Not Walking	32	57	89	**0.074**
	Running	1	10	11	
Facilities/Infrastructure	Inadequate	13	12	25	**0.020**
	Adequate	20	55	75	

Source: Primary data processed, 2022.

From Table 2 in this study, the Pearson Chi-Square value of each variable was obtained, with a significance level of 95% ($\alpha = 0.05$). Based on this comparison, the variables of Requirements (X1), Procedures (X2), Service time (X3), Cost / Tariff (X4), Facilities and Infrastructure (X9) have a p-value more minor than the 95% significance level ($\alpha = 0.05$). Therefore, based on this comparison, Ha is accepted, meaning that the variables of Requirements, Procedures, Service time, Cost / Tariff, and Facilities are related to the BPJS Health patient satisfaction variable.

While the variable Product Specification Type of Service (X5), Implementer Competence (X6), Implementer Behavior (X7), and Complaint Handling (X8) has a p-value more excellent than the 95% significance level ($\alpha = 0.05$), based on this comparison, H0 is accepted, the variables of Product Specification Type of Service, Implementer Competence, Implementer Behavior, and Complaint Handling, do not have a relationship with the BPJS Health patient satisfaction variable. Therefore, before the multivariate analysis is carried out with multiple logistic regression tests, each variable is tested separately for its significance level.

Variables with a signification level> 0.025, will be excluded or not included in the multivariate analysis of multiple logistic regression.

From table 3. the results obtained, that the variables of Requirements (x1), Procedures (x2), time (x3), Cost (x4), Infrastructure Facilities (x9), have a singnification value <0.025. Then these variables will be included in the multiple logistic regression test. Meanwhile, the variables of Product Specificity (x5), Implementer Competence (x6), Implementer Behavior (x7), Procurement Handling (x8), have a significance value> 0.025. Then these variables will not be included in the multivariate model test.

Table 3. Simple Logistic Regression Test Results

Variable	***P-value***	**Description**
Requirements	0.009	Candidate
Procedure	0.017	Candidate
Time	0.008	Candidate
Cost	0.000	Candidate
Product Specification	0.246	Not a Candidate
Executor Competence	0.177	Not a Candidate
Executor Behavior	0.074	Not a Candidate
Complaint Handling	0.049	Not Candidate
Facilities	0.022	Candidate

Source: Primary data processed, 2022

Table 4. Multivariate Approach

Variable	**B**	***P value***	**OR**	**95% C.I.for EXP(B)**	
				Lower	**Upper**
Requirements	-0.195	0.821	0.823	0.151	4.473
Procedure	1.001	0.059	2.722	0.961	7.708
Time	1.111	0.049	3.037	1.003	9.194
Cost	2.017	0.017	7.516	1.438	39.292
Means	1.016	0.075	2.762	0.903	8.454

Source: Primary data processed, 2022

Based on Table 4. it can be explained as follows of the independent variables, namely Requirements, Procedures, Time, Cost, and Facilities, which are thought to affect BPJS Health patient satisfaction; the most influential is the cost variable, with a p-value of 0.017 <0.05. Therefore, the OR value obtained is 7.516, meaning that the costs incurred by patients for BPJS Health tiered referrals have a 7.516 times chance of affecting the BPJS Health patient satisfaction level.

From the Chi-Square test results in this study, the Pearson Chi-Square value of each variable was obtained, with a significance level of 95% ($\alpha = 0.05$). Based on this comparison, the variables of Requirements (X1), Procedures (X2), Service time (X3), Cost / Tariff (X4), Facilities and Infrastructure (X9) have a p-value more minor than the 95% significance level ($\alpha = 0.05$.). Based on this comparison, Ha is accepted, meaning that the variables of Requirements, Procedures, Service time, Cost, Facilities, and Infrastructure are related to the BPJS Health patient satisfaction variable. In comparison, the variables Product Specification Type of Service (X5), Implementer Competence (X6), Implementer Behavior (X7), and Complaint Handling (X8) have a p-value more significant than the 95% significance level ($\alpha = 0.05$). Therefore, based on this comparison, H0 is accepted; the variable Product Specification Type of Service, Implementer Competence, Implementer Behavior, and Complaint Handling does not have a relationship with the BPJS Health patient satisfaction variable. This aligns with research by Armanda, 2016, where BPJS Health patients at the Tegal Selatan Health Center in Tegal City have a positive perception of the reliability dimension. Reliability variables with indicators of requirements, procedures, and speed of patient handling time means that the Tegal South Health Center Tegal City can provide services immediately, accurately (accurately), and satisfactorily. The procedure indicates this for admitting patients served quickly, easy patient admission procedures, doctors directly serving patients who come, nurses are ready to help patients at any time, and nurses pay attention to patient complaints / patient families(9).

Also supported by the results of Wijaya's research. T. 2018, where the administrative service variable also has a Sig value. 0.025 less than 0.05, so it is concluded that the Administrative Services variable has a

positive and significant effect on the Satisfaction Level variable. This means that JKN KIS BPJS Health participants who are given good administrative services will feel satisfied with the service. BPJS Health patients at the Tegal Selatan Health Center in Tegal City have a positive perception of the tangible dimension of service quality. Service quality in the form of physical evidence, such as the appearance of employees, buildings, facilities, and equipment provided by the Tegal Selatan Health Center, is one of the elements in determining customer satisfaction. Customer satisfaction will automatically increase by improving the physical evidence provided because customers will feel satisfied and happy with the services provided(10).

These results are the same as Dewi's research. M in 2016, entitled the effect of Service Quality on BPJS User Patient satisfaction at the East Aceh Regency Medical Rehabilitation Hospital, where the significant results were obtained at α 5% and obtained 2.48 thus F count> F table (9.158> 2.48) can be stated that simultaneously the variables of physical evidence, reliability, responsiveness, assurance, and empathy have a significant effect on the satisfaction of BPJS user patients at the Medical Rehabilitation Hospital. So the hypothesis that states service quality (physical evidence, reliability, responsiveness, assurance, and empathy) simultaneously significantly affects the satisfaction of BPJS user patients(11).

Based on multivariate analysis, it can be concluded that of all the independent variables, namely Requirements, Procedures, Time, Cost, and Facilities, which are thought to affect BPJS Health patient satisfaction, the most influential is the cost variable with a p-value of 0.017 <0.05. The OR value obtained is 7.516, meaning that the costs incurred by patients for BPJS Health tiered referrals have a 7.516 times chance of affecting the BPJS Health patient satisfaction level. According to the author's assumption, BPJS Kesehatan tariffs/fees are pretty affordable for the community but can cover diseases that do require high costs—making people feel that the existence of BPJS Health gives satisfaction to BPJS Health patients at Royal Hospital. This study's results align with the results of research by Wijaya T, 2018, with the title Level of Satisfaction of JKN-KIS BPJS Health Participants in Palembang City, where the rates/fee variable has a Sig value. 0.003 less than 0.05, that the tariff/fee variable positively and significantly affects the Satisfaction Level variable. Where it is concluded that price has a positive and significant effect on the level of customer satisfaction. Supported by the results of Marhenta's research. 2018, in Karanganyar Regency, where the results of the study on the independent variable of financing have a significant effect on patient satisfaction to a funding t-count value of 7.599 with a significance of 0.000 less than 0.05, that patients at first-level health facilities in Karanganyar Regency get convenience and relief in terms of financing, especially for patients who cannot afford to get assistance from the government and the BPJS program in the form of free health fees(12).

IV. CONCLUSION

After analyzing and discussing the effect of the online tiered referral system on the satisfaction of BPJS participants at Royal Prima Medan Hospital 100 respondents, it was concluded that simultaneously, the variables of Requirements (X1), Procedures (X2), Service time (X3), Cost / Tariff (X4), Facilities and infrastructure (X9), have a relationship with the variable satisfaction Work. At the same time, the variable Product Specifications Type of Service (X5), Implementer Competence (X6), Implementer Behavior (X7), and Handling Complaints (X8) do not have a relationship with the BPJS Health patient satisfaction variable. Of all the independent variables, namely Requirements, Procedures, Time, Cost, and Facilities, that are thought to affect BPJS Health patient satisfaction, the most influential is the cost variable with a p-value of 0.017 <0.05. The OR value obtained is 7.516, meaning that the costs incurred by patients for BPJS Health tiered referrals have a 7.516 times chance of affecting the BPJS Health patient satisfaction level.

BPJS Health policies should not be made with a top-down approach, which is a one-sided approach from top to bottom, but a bottom-up approach, so that any changes to the BPJS Health policy system are indeed based on input or suggestions from all BPJS Health users. Future research is expected to expand the research area, to reach all levels of BPJS Kesehatan users in Medan city and the national scope. That is by collaborating with the regional and central BPJS Health so that it becomes a consideration for BPJS Health in making and determining policies related to the BPJS Health system.

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