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Healthcare Provider Engagement and Its Effects on Patient Rereferral: Insights from Indonesia

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Abstract

Background: In the highly competitive landscape of healthcare, nurturing strong relationships between referring healthcare providers and healthcare facilities is essential for maintaining patient loyalty. This study explores the factors influencing referring health care provider engagement and its subsequent impact on the willingness to rerefer to healthcare facilities.

Methods: A cross-sectional quantitative survey was conducted with 181 healthcare providers who regularly refer patients to a private hospital in Jakarta. Data were collected through an online structured questionnaire consisting of 29 questions. The following dimensions were covered: specialist characteristics, practice characteristics, healthcare provider-specialist interaction, patient-specialist interaction, returning referral, training opportunity, healthcare provider engagement, and willingness to rerefer to hospital. **Results**: The study yielded significant findings, with five out of the six antecedents associated with healthcare provider engagement demonstrating statistical significance (p < 0.05). The most significant coefficient value pertaining to healthcare provider engagement was observed in patient–specialist interaction ($\beta = 0.287$, p < 0.05). Furthermore, the analysis indicated a substantial and positive correlation between health care provider engagement and willingness to rerefer to the healthcare provider (p < 0.05).

Conclusions: Healthcare providers who demonstrate engagement with the hospital are likely willing to rerefer their patients to the hospital. Therefore, to increase the willingness to rerefer patients to the hospital, hospital management should prioritize fostering engagement with healthcare providers, particularly by improving patient and specialist interaction experiences.

Keywords: healthcare provider, referral system, Indonesia

INTRODUCTION

Amidst serious challenges in the healthcare sector, the Indonesian government strives to establish a robust health system for all citizens through initiatives such as the Social Security Administrator for Health (Badan Penyelenggara Jaminan Sosial/BPJS) and forming the Health Insurance (Jaminan Kesehatan National Nasional/JKN). As part of this effort, the BPJS also introduced a tiered referral system, facilitating the delegation of health service responsibilities vertically and horizontally among healthcare providers.¹ In Indonesia's tiered referral system, health services are categorized into three tiers. Primary health services, provided by the lowest-level healthcare facilities, such as primary health care clinics, constitute the first tier. Specialist health services, delivered by specialists or dental specialists, comprise the second tier. Subspecialty health services, performed by subspecialist doctors or dentists, represent the highest tier. Compliance with referral systems mandated by applicable laws and regulations is requisite for coverage under JKN.^{1,2}

The referral process entails active involvement from healthcare providers and patients. Therefore, measuring their willingness to recommend to others is crucial. Given that healthcare provider engagement is influenced by their experiences and can affect their willingness to recommend, hospitals should assess all factors or antecedents shaping the experience of referring patients.³ Establishing engagement between healthcare providers and hospital management is a multifaceted endeavor requiring collaboration across organizational and professional boundaries. Addressing differences in beliefs and values between these parties is crucial to achieving the shared objective of delivering optimal healthcare to patients.⁴

In Indonesia, the tiered referral system operates horizontally and vertically. In the former, referrals are carried out between same-level health services in cases where the referrer faces limitations such as facility or personnel constraints. In the latter, referrals are made between different-level health services, either upward or downward. However, many Indonesians are unaware of BPJS' tiered referral system. Instances of patient and health worker refusal often stem from reluctance to change existing processes by not referring patients. Private healthcare facilities, operating on a fee-for-service model, may prioritize financial considerations, potentially influencing referral practices on the basis of the costs associated with specialist consultations or procedures. By

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contrast, public healthcare facilities, subsidized by the government, typically prioritize medical necessity over financial concerns in referral decisions.^{1,2,5,6}

This study draws upon antecedents of healthcare provider engagement identified in previous research. These antecedents include specialist characteristics, past interactions between specialists and healthcare providers/patients, returning referrals, and training opportunities.⁷⁻¹² This study also investigates how these antecedents influence healthcare providers' willingness to rerefer patients based on their experiences with a hospital.⁷

METHODS

The data for this study were obtained through a crosssectional quantitative research approach. The study was conducted at a leading private hospital renowned for its excellent service values and international accreditation by the Joint Commission International. With a capacity of 350 patient beds, this hospital is considered a benchmark private hospital group in comparison to others nearby. As a comprehensive hospital, this Hospital receives referrals from other healthcare facilities, including primary healthcare clinics and the private practices of doctors and midwives.

The study collected questionnaires from healthcare practitioners, including general practitioners (GP) and midwives from private practices and clinics who have referred their patients to the hospital within the past year (August 2022–August 2023). A total of 183 healthcare practitioners participated in the study, comprising 30 primary healthcare clinics, 40 GP private practices, and 70 midwife private practices registered as referral healthcare providers to the hospital.

Purposive sampling was employed as the sampling strategy. To determine the minimum required sample

size, G*Power (version 3.1.9.4) was utilized, considering a significance level of 0.05, an effect size of 0.15, and a power of 0.95.13 Consequently, the study determined that a minimum sample size of 160 participants was needed. However, in August 2023, 183 participants completed the structured guestionnaires. The guestionnaires consisted of 29 questions, encompassing various dimensions: specialist characteristics (SCH) with three questions, practice characteristics (PCH) with three questions, healthcare provider-specialist interaction (HCP) with three questions, patient-specialist interaction (PSI)¹² with four questions, returning referral (RR)¹¹ with three questions, training opportunity (TOP)⁹ with three questions, healthcare provider engagement (HPE)⁸ with seven questions, and willingness to rerefer to hospital (WRH) with three questions. The conceptual research framework and hypotheses are depicted in Figure 1. SCH explores the features or characteristics owned by specialists/physicians in the hospital as referral recipients. PCH pertains to the defining features, attributes, or elements of a healthcare provider's practice or facility in primary healthcare settings. HCP focuses on the collaboration and communication between primary healthcare providers and specialists within the referral setting. PSI examines the consultation and engagement between a patient and a specialist for specialized care post referral. RR refers to a situation where a patient referred to a hospital for specialized care is subsequently sent back to the original referring healthcare professional or facility. TOP refers to the opportunity for healthcare providers from a referral clinic to undergo or receive training as part of their professional development. The training is an incentive to refer patients to a certain hospital. HPE assesses the level of involvement, commitment, and active participation of healthcare providers in a referring hospital. WRH gauges healthcare providers' openness or inclination to recommend or refer a patient back to a specific hospital for further medical treatment, services, or care.



FIGURE 1. Research conceptual framework

This study adhered to a previous recommendation to use a Likert scale of 1–6 for questions related to motive test, attitude test, and satisfaction test, as it offers higher reliability than the Likert scale of 5 points.¹⁴ Given that the majority of healthcare providers referring to the hospital are from Indonesia, the study applied a Likert scale of 1–6 instead of 1–5. Asian cultures, including Indonesia, tend to favor middle-level responses (e.g., selecting 3 on a 1–5 scale) on Likert scales than other cultures.^{14,15}

The questionnaire was translated from English to Bahasa Indonesia specifically for the study's purposes. To ensure the comprehensibility of all questions, content validity was evaluated by three experts from hospital management practitioners. These experts were asked to rate their level of agreement with items on a Likert scale ranging from 1 (strongly disagree) to 10 (strongly agree). They critically reviewed the translated questions, assessed the ability of each question to reflect the construct definition, and then provided scores for each item. The relevancy of the items to the translated questions was strengthened with the oral or written comments of the experts. Any comments or suggestions from each expert were duly considered to enhance the quality of the translated questionnaire.

SmartPLS[™] version 4.0 was selected for data analysis because of its bootstrapping option, which verifies significance during PLS-SEM analysis.¹⁶ This approach yields two types of output: the outer model or measurement model and the inner model. The former describes the relationship between indicators and their variables to confirm the reliability and validity of each indicator used in the model. The outer model analysis includes assessments of indicator reliability (outer loading), construct reliability (Cronbach's alpha and composite reliability), convergent validity (average variance extracted/AVE), and discriminant validity (Heterotrait-Monotrait ratio) to ensure the accuracy and dependability of every indicator in the research model. Hypothesis testing was also performed.¹⁷⁻¹⁹ This study conducted an inner model analysis incorporating a crossredundancy validation value of Q² to evaluate the model's predictive relevance and determined a coefficient determinant (R²) to assess prediction accuracy.¹⁶

In terms of safeguarding human rights and welfare during the study, the Universitas Pelita Harapan Ethics Committee thoroughly reviewed the procedure, including the information provided to potential subjects. The Department of Hospital Administration at Universitas Pelita Harapan (Ref. No. 008/M/EC-AGT/VIII/2023) approved the information provided to prospective participants.

RESULTS

Table 1 presents the demographic data of the 183 eligible participants. Among the respondents, 66% were midwives, and the remaining 34% were GPs from both private practices and clinics who refer their patients to this hospital. The majority of respondents referred patients to the hospital more than once (81%).

The first step of the PLS-SEM analysis involved assessing the reliability indicator (outer loading) of the reflective model. All indicators should possess loading values >0.708.¹⁹ The second step tested internal consistency. Constructs were considered reliable if they exhibited a Cronbach's alpha greater than 0.7 and composite reliability within the range of 0.7–0.95. The third step measured the AVE to assess convergent validity. The result showed that all of the constructs had an AVE ≥0.50, meeting the criteria set by the literature.¹⁹ The four reliability and validity testing criteria for the outer model analysis were successfully met, as described in Tables 2 and 3. The results of the outer model analysis are illustrated in Figure 2.

The inner model analysis, depicted in Figure 3, evaluated Qsquared testing (Q² predict). The Q² predict result for HPE was 0.608, indicating large predictive relevance. The Q² predict result for WRH was 0.365, indicating medium predictive relevance. The closer the value is to 1, the stronger the predictive relevance ability of the related variables to forecast the same research output, irrespective of changes in data parameters.^{18,19}The result suggests that 64% of the variation in HPE can be explained by the independent variables within the model. The remaining 36% can be accounted for by other independent variables excluded in this research model. The 41.7% of the variation in WRH can be explained by the model's independent variables. The remaining 58.3% can be attributed to other independent variables not considered in this research model. Figure 3 illustrates the results of the inner model analysis.

TABLE 1. Demographic respondents (N = 183)

Category	N	%
Gender		
Male	24	13
Female	159	87
Occupation		
Midwife	121	66
GP Clinic	24	13
GP Private Practice	38	21
Last time referring		
<1 month	81	44
1–6 months	79	43
6–12 months	23	13
Total frequency of referring		
1 time	35	19
2–5 times	35	19
>5 times	113	62

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Variable/Indicator	Outer Loading	Cronbach's Alpha	Composite Reliability	Average Variance Extracted
HPE1	0.585			
HPE2	0.532			
HPE3	0.803			
HPE4	0.779	0.872	0.904	0.58
HPE5	0.856			
HPE6	0.862			
HPE7	0.846			
HCP1	0.695			
HCP2	0.818	0.727	0.847	0.65
HCP3	0.894			
PCH1	0.865			
PCH2	0.923	0.831	0.899	0.75
PCH3	0.804			
PSI1	0.872			
PSI2	0.907	0.892	0.926	0.76
PSI3	0.867	0.052	0.920	0.70
PSI4	0.831			
RRL1	0.733			
RRL2	0.908	0.8	0.884	0.72
RRL3	0.891			
SCH1	0.599			
SCH2	0.891	0.71	0.845	0.65
SCH3	0.896			
TOP1	0.895			
TOP2	0.926	0.899	0.937	0.83
TOP3	0.914			
WRH1	0.902		0.000	0.76
WRH2	0.881	0.844	0.906	0.76
WRH3	0.836			

TABLE 2. Reliability and validity testing

TABLE 3. The Heterotrait-Monotrait ratio res	ults
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	HCP	HPE	PSI	PCH	RRL	SCH	TOP
HCP	0.80						
PCH	0.67	0.76					
PSI	0.74	0.77	0.62				
RR	0.77	0.73	0.54	0.72			
SCH	0.59	0.59	0.57	0.49	0.59		
TOP	0.70	0.75	0.75	0.71	0.65	0.57	
WRH	0.58	0.75	0.57	0.67	0.63	0.25	0.64

Abbreviations: Specialist Characteristics (SCH), Practice Characteristics (PCH), Healthcare Provider–Specialist Interaction (HCP), Patient– Specialist Interaction (PSI), Returning Referral (RR), Training Opportunity (TOP), Healthcare Provider Engagement (HPE), Willingness to Rerefer to Hospital (WRH)









	Hypothesis	Standard Coefficient	95% CI	р
H1	Specialist Characteristic \rightarrow Healthcare Provider Engagement	0.052	-0.021 - 0.125	0.117
H2	Practice Characteristic \rightarrow Healthcare Provider Engagement	0.136	0.043 - 0.239	0.012
H3	Healthcare Provider–Specialist Interaction \rightarrow Healthcare Provider Engagement	0.174	0.091 - 0.263	0.000
H4	Patient–Specialist Interaction \rightarrow Healthcare Provider Engagement	0.287	0.173 – 0.387	0.000
H5	Returning Referral \rightarrow Healthcare Provider Engagement	0.176	0.081 – 0.272	0.001
H6	Training Opportunity \rightarrow Healthcare Provider Engagement	0.173	0.080 - 0.279	0.002
H7	Healthcare Provider Engagement \rightarrow Willingness to Rerefer Patients to Hospital	0.646	0.582 - 0.716	0.000

TABLE 4. Hypothesis testing results

Hypothesis testing using the bootstrapping procedure was conducted to determine the effect of the variables in the model and confirm whether the seven hypotheses proposed by this study were supported.¹⁶The results of the hypothesis analysis are described in Table 4. H1 is not supported, but H2–H7 are.

DISCUSSION

This study concentrates on improving patient care quality and the referral system from the perspectives of healthcare providers and hospitals, particularly in developing nations such as Indonesia, where the standard of healthcare must continually be raised.^{7–12,20} Of the six antecedents of HPE in this study, five were significantly associated.

One antecedent, SCH, showed an insignificant association with HPE. A previous study in Canada revealed that community type, rather than specialist supply, predicts variations in referrals. Despite the importance of specialist traits such as medical expertise, board certification, or reputation, healthcare professionals making referrals may assume that all specialists already possess these fundamental traits.²¹ This finding underscores the importance of establishing a good working relationship and rapport between primary care providers and specialists from the outset of the referral process. BPJS regulations in 2015 specified that the number of patient referrals in the first-level primary health facilities should not exceed 15% of the total monthly visits. Such rule imposes a constraint on the number of patients that can be referred each month.^{1,22,23} This limitation introduces a selective approach in identifying cases genuinely requiring specialized care. The restriction ensures that primary healthcare providers prioritize managing cases within their capacity, thus reducing the burden on higher-level healthcare facilities. The 15% referral ratio also acts as a mechanism for cost control and resource allocation. By curbing excessive referrals, healthcare systems can manage their resources efficiently, optimizing the use of primary healthcare services. This approach is often implemented to contain healthcare costs because each referral to a hospital involves additional expenditures.²²⁻²⁴

The most significant coefficient value with HPE is PSI (Coeff 0.287, p < 0.05). Patient factors play a crucial role in explaining referrals. Referrals considering patient preferences are likely to result in a positive patient experiences and higher satisfaction levels.^{25,26} Satisfied patients are engaged and likely to provide positive feedback, enhancing the reputation of both referring providers and specialists.^{27,28} In a study in the Middle East, referring patients to higher-level healthcare facilities also increase patients' satisfaction with their primary care physicians because it reflects the physicians' support with regard to their emotional problems.²⁹ Therefore, specialists must enhance patient interactions to ensure positive experiences while receiving care.

The results of this study indicate that HPE positively affects WRH. With the finding and the assistance of the hospital administration, the level of WRH may be increased.²⁸ Healthcare providers typically have specific choices of hospitals to which they refer their patients, influenced by past experiences. Primary healthcare providers identified several nonclinical factors to explain the continuation of specialty care when conducting patient referral.^{26,30} If past experiences are positive, healthcare providers are inclined to rerefer their patients to the same hospital.^{20,21,27}

Several suggestions for hospital leadership for operational implementation on the basis of the analysis conducted include the following: First, hospitals must establish effective feedback mechanisms, which are essential for continuous improvement. Hospitals should actively seek feedback from referring providers regarding their experiences and areas for improvement. Regularly reviewing and acting upon the feedback can strengthen relationships and enhance the overall referral process. Second, hospitals should provide training and education programs to healthcare providers. Hospitals can develop programs to address potential gaps in understanding and perceptions among healthcare professionals involved in the referral process. The training can include orientation sessions, workshops, and educational materials to ensure a clear understanding of expectations and standards. Third, hospitals that receive referrals should prioritize continuous quality improvement initiatives. Quality

improvements can enhance the reputation of the receiving hospital and instill confidence among referring providers. Examples related to rereferral are timeliness of follow-up appointments (target: ensure that at least 90% of referred patients have follow-up appointments scheduled within an acceptable timeframe), reduction in unplanned readmissions (target: achieve a 15% reduction in unplanned readmissions within six months), referral process efficiency (target: decrease the average referral processing time by 20%, promoting a more efficient and streamlined process), and clinical outcomes post rereferral (target may vary depending on each specialty).

The study has two limitations. First, it may be constrained by its exclusive focus on the Indonesian healthcare context. Cultural and regional factors can greatly influence HPE and patient behavior. These findings may not be transferable to healthcare systems in other countries or regions with distinct cultural norms, healthcare practices, and patient expectations. Researchers should be cautious about extrapolating the results to different cultural contexts. Second, the findings may not be applicable to other healthcare settings beyond the use of JKN/BPJS in private hospitals in Indonesia, limiting generalizability to other payment methods.

This study infers that establishing a robust referral system necessitates collaboration between healthcare providers and hospitals through active engagement. This collaborative effort fosters strong relationships between healthcare providers and hospitals, increasing the former's willingness to rerefer their patients, leading to improved patient outcomes and ultimately benefiting the hospital. Hospital management should devote considerable attention to fostering engagement based on all significant antecedents (i.e., practice characteristics, healthcare provider-specialist interaction, patientspecialist interaction, returning referral, and training opportunity) as incentives for referrals.

CONCLUSIONS

This study contributes to the growing body of literature about the effect of HPE on the willingness to rerefer patients to hospitals. The model shows that HPE with hospitals is influenced by their experiences and perceptions following patient referrals. Healthcare providers who actively engage with the hospital are inclined to rerefer their patients. Therefore, to enhance the willingness to rerefer patients to the hospital, hospital management should prioritize building engagement with healthcare providers who refer their patients. This emphasis should particularly focus on improving patient and specialist interactions.

CONFLICT OF INTEREST

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