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#### **Original Research Article**

# Patient centered care factors influencing trust and satisfaction in healthcare facility choice in Hanoi, Vietnam

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#### **Abstract**

**Introduction:** Vietnam's healthcare system follows a pyramid structure, directing patients to seek basic care at local levels and escalate complex cases to central hospitals. Despite high insurance coverage, economic burdens like out-of-pocket costs and travel expenses often prompt patients to bypass local care, making quality and trust key factors in hospital choice—an area this study explores through patient-centered care perspectives.

Aim and Objective: The factors influencing healthcare facility choice in Vietnam have not been widely explored.

Materials and Methods: An exploratory mixed methods patient and provider survey study (n=38) was conducted at a large hospital in Hanoi, Vietnam. The study explored fourteen patient-centered care (PCC) factors that might influence patients' trust and satisfaction in a healthcare facility, thereby, influencing their decisions on where to seek care – either to stay at their local health system or seek care further away. The patient survey results were compared with those of provider surveys to examine congruence of ratings.

**Result:** The quantitative ranking results of the PCC factors of both participant groups were similar. The following factors were valued highly by both patients and providers: perceived competency of providers (e.g. education, experience level); how providers answer questions and help to alleviate anxiety about medical treatment/procedure; and access to modern medical technology/treatments/resources.

**Conclusion**: These results show that both groups selected similar factors for both higher and lower levels of importance. Addressing these issues are important in any strategy aimed at influencing patient hospital choice.

Keywords: Patient-centered care, Trust, Patient satisfaction, Health facility choice, Vietnam, Health services accessibility

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# 1. Introduction

Vietnam's healthcare system is organized in a pyramidal structure designed to provide basic care locally through communal and provincial facilities while referring more complex cases to higher-level district and central hospitals (**Figure 1**). Despite nearly universal social health insurance—with approximately 87–90% of the population covered as of 2021, the financial realities for patients remain complex. Although the national insurance scheme provides

low or no-cost services for basic and preventive care, many patients who bypass local facilities incur significant out-of-pocket expenses when accessing central hospitals. These additional costs include higher consultation fees, specialized treatment charges, and travel expenses that are not consistently reimbursed.<sup>3,18</sup>

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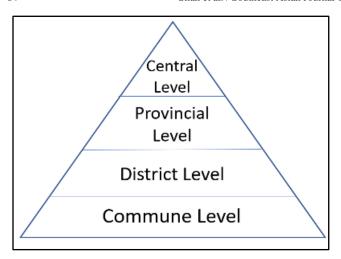


Figure 1: Vietnam's healthcare system organization

Economic factors play an essential role in healthcare decision-making in Vietnam. For many individuals, especially those not considered vulnerable, the potential for higher costs is a primary concern. Key questions include whether care at central hospitals is significantly more expensive, if transportation is readily accessible and affordable, and to what extent travel expenses are covered by insurance. Only when these cost issues are adequately addressed can subsequent evaluations of quality—such as provider competency, modern medical technology, and patient-centered communication—be fully appreciated.

By presenting these cost-related dynamics at the outset, we establish a comprehensive context that justifies our focus on quality of care as a decisive factor in patient choice. Recognizing and mitigating economic barriers clarifies why, after cost concerns are addressed, quality factors assume a central role in shaping patient trust and satisfaction within Vietnam's evolving healthcare landscape.

The healthcare system is inherently designed to encourage patients to seek initial care at local facilities. Yet, in practice, many patients bypass these centers to seek care at higher-level hospitals even for conditions that may not require specialized treatment. This trend not only leads to increased out-of-pocket costs—for both consultation and travel—but also contributes to overcrowding at central facilities and underutilization of local resources. <sup>2,3</sup> In addition, differences in medical training and certification between local and higher-level hospitals likely influence patient preferences. For example, a 2015 World Bank study reported significant differences in provider competency between commune health centers and district hospitals, suggesting that perceived expertise drives patients to opt for higher-level care.<sup>4</sup>

In recent years, Vietnam's Ministry of Health has implemented strategies to bolster the capacity of local hospitals by improving diagnostic capabilities and establishing more effective triage systems. These efforts aim

to ensure that routine care is managed locally, reserving higher-level facilities for genuinely complex cases.<sup>1</sup> A vital component of this strategy involves understanding what patients value in their healthcare experience.

Patient Centered Care (PCC) is a model of care guided foremost by the needs and values of patients. It revolves around patient satisfaction and reflects patients' involvement in decision making and their role as partners in improving the quality of healthcare services.<sup>5</sup> PCC is an increasingly well-recognized and highly sought- after model of care around the globe and is defined as "respectful of and responsive to individual patient preferences, needs, and values, and ensures that patient values guide all clinical decisions".<sup>6</sup> Previous research has found that PCC has the potential to improve health outcomes and benefits, health-care systems, and quality of health-care provider engagement. In Vietnam, there is sparse research using PCC in a number of areas including OB-GYN, geriatrics, and digital technology.<sup>7-10</sup>

This study aims to apply established components of PCC research to elucidate the factors that influence hospital level choice from both the perspective of patients and providers. This study is the first to survey and compare Vietnamese patient and provider perspectives to identify how quality factors—beyond the economic considerations—affect patient trust and satisfaction, thereby guiding improvements in healthcare delivery. This knowledge can be used to develop culturally appropriate and relevant PCC operational definitions and improve the design of improving healthcare delivery in Vietnam.

#### 2. Materials and Methods

E Hospital is defined as a provincial general hospital located in Hanoi, Vietnam and is under the Ministry of Health. E Hospital provides medical examination services and treatments for the communities in Hanoi and surrounding areas. Fifteen district hospitals in the northern provinces are under the direction of E Hospital and 81 local facilities are supported by E Hospital for remote examination and consultation.

Patients and the public were not involved in the design, creation, or conduct of the research. Research questions were developed and informed by the study team, healthcare facility collaborators, and existing literature. The manuscript will be provided to the survey team in order to distribute to the involved patients.

#### 2.1. Data collection

This research was determined exempt from human subject research by the Duke University and E Hospital Institutional Review Board. Participants for the survey interviews were identified via a convenience sample of providers and patients from E-Hospital in Hanoi, Vietnam between July 2022 and August 2022. Participants were recruited to have a key informant interview with study staff. Email or phone call

invitation messages were delivered to potential participants and if a participant agreed to participate, this was done through telephone call or in person (preference of the participant and based on current local COVID recommendations). In person interviews were conducted at E-Hospital. Interview staff used established qualitative research techniques and an interview guide developed by the study team.

The interview guide aimed to understand factors that may impact patient selection of a healthcare facility to receive services (Appendix 1) and was broadly guided by the 2001 Institute of Medicine landmark report, "Crossing the Quality Chasm: A New Health System for the 21st Century" that called for a transformation of the US healthcare system to be guided by six aims: Safety, Effectiveness, Efficiency, Patient-Centeredness, Timeliness, and Equity.<sup>20</sup> The report adopted the Picker Institute definition of PCC that include six critical themes: Education and shared knowledge; Involvement of family and friends; Collaboration and team management; Sensitivity to nonmedical and spiritual dimensions; Respect for patient needs and preferences; and Free flow and accessible information. Based on these reports, we developed a survey soliciting participant ratings on 14 PCC factors hypothesized to potentially influence patients' perceptions of a healthcare facility, thereby, influencing their decisions on where to seek care. 11-13

Our surveyed PCC factors are categorized into the following related four themes: ease of care; coordinated teamwork; empathetic respect; and environmental reputation. Other variables captured included: demographic variables; self-rated health status; and frequency of care received in the past three years. Open-ended response options were offered as well. This survey was reviewed, translated, and modified by Vietnamese research collaborators for use. The interview lasted approximately 30 minutes and was recorded for later review and response classification into an electronic study database.

# 2.2. Data analysis

For quantitative data, frequencies and percentages for categorical variables and descriptive statistics were calculated using Excel and STATA 18 Basic Edition (BE) software for data cleaning and analysis. For qualitative data responses, our analytic approach was informed by two established frameworks in patient-centered care which guided our survey development. First, as mentioned above, we drew on the IOM quality framework, which emphasizes the key domains of quality such as safety, effectiveness,

timeliness, efficiency, equity, and patient-centeredness.<sup>20</sup> Second, we integrated the Picker Principles of Patient-Centered Care, which focus on dimensions including respect for patient values, coordinated and integrated care, and the provision of clear and accessible information.<sup>13</sup> These frameworks guided both the development of our interview guide and the deductive coding template used in our rapid qualitative analysis. By aligning our data collection and analysis with these models, we ensured a systematic exploration of how both patients and providers perceive and prioritize elements of quality care. This alignment provided a robust structure for understanding the factors influencing healthcare facility selection in Vietnam, framing our findings within a broader context of established quality and patientcentered care standards. A rapid qualitative analysis approach was used. The reduced timeframe of rapid methods tends to be more deductive and explanatory than inductive and exploratory. In addition, interviewers summarized the qualitative data within 48 hours of completion. A deductive template to structure the analysis was used to create a summary for each respondents' qualitative responses. The summary template included factors that may impact patient satisfaction and trust of health care services at a given health care facility. After developing the template, research team members (AT, MJ) tested it by each coding the same interview, comparing and resolving discrepancies. The template was revised as needed.

#### 3. Results

# 3.1. Participant characteristics

There were 21 patients and 17 providers that participated in the study. 42% of the patients were between 36-59 years and another 29% were 60 years and above. The vast majority of patients (90%) had medium or very good status. No age was recorded from the providers. In terms of frequency of receiving care from a local hospital facility in the past 3 years, 81% of patients reported sometimes or frequently while about 15% reported rarely or never. 56% of providers reported sometimes or frequently receiving care while 38% reported rarely or never receiving care from local facilities in the past 3 years.

In terms of frequency of receiving care in the past 3 years from a national-level hospital facility, 88% of providers have done so as compared to 67% of patients. As for overall satisfaction level with care received and outcomes from any facility they used, providers had lower average levels of satisfaction than patients (6.8 vs. 8.3 on a scale of 1-10). See **Table 1** for summary of participant characteristics.

Table 1: Participant demographics and self-reported healthcare source and satisfaction

| Characteristics                                  | Patier                  | t (N=21)   | Provider (N=17) |      |
|--|-------------------------|------------|-----------------|------|
|  | n                       | %          | n               | %    |
| Age  |                         |            |                 |      |
| Under 25   | 2                       | 9.5        | N/a             | N/a  |
| 25 – 35  | 4                       | 19.0       | N/a             | N/a  |
| 36 – 59  | 9                       | 42.9       | N/a             | N/a  |
| 60 and above                                     | 6                       | 28.6       | N/a             | N/a  |
| Current health status                            |                         |            |                 |      |
| Poor   | 2                       | 9.5        | N/a             | N/a  |
| Medium   | 11                      | 52.4       | N/a             | N/a  |
| Very good  | 8                       | 38.1       | N/a             | N/a  |
| Excellent  | 0                       | 0.0        | N/a             | N/a  |
| Received care from local hospital facility in th | e past 3 years          |            |                 |      |
| Never  | 1                       | 4.8        | 5               | 31.3 |
| Rarely   | 2                       | 9.5        | 1               | 6.2  |
| Sometimes  | 8                       | 38.1       | 4               | 25.0 |
| Frequently                                       | 9                       | 42.9       | 5               | 31.3 |
| Very often                                       | 1                       | 4.7        | 1               | 6.2  |
| Received care from central/national hospital f   | acility in the past 3 y | ears       |                 |      |
| Yes  | 14                      | 66.7       | 15              | 88.2 |
| No   | 7                       | 7 33.3     |                 | 11.8 |
| Satisfaction level with health care and outcom   | e received from heal    | h facility |                 |      |
| $Mean \pm sd$                                    | 8.3                     | ± 1.0      | $6.8 \pm 0.6$   |      |
| Lowest   |                         | 6          | 6               |      |
| Highest  |                         | 10         | 8               |      |

Table 2: Mean scores of patient PCC factors, rated by patients and providers

|   | Patient (N=21) |         |      | Provider<br>(N=17) |         |      |
|---|----------------|---------|------|--------------------|---------|------|
|   | Mean ± sd      | Min-Max | Rank | Mean ± sd          | Min-Max | Rank |
| 1. Affordable cost of care  | 7.3±2.0        | 2-10    | 9    | 7.9±1.0            | 5-10    | 9    |
| 2. Timely access to appointments  | 7.0±2.0        | 3-10    | 11   | 7.6±2.1            | 2-10    | 10   |
| 3. Timely response to needed services or questions raised                                       | 7.6±1.3        | 6-10    | 7    | 8.2±1.1            | 7-10    | 7    |
| 4. Easy access to personal medical information  | 6.3±2.3        | 2-10    | 13   | 7.2±1.6            | 4-9     | 12   |
| 5. Providers explain medical information clearly before engaging in medical treatment/procedure | 7.7±1.5        | 5-10    | 6    | 8.7±1.2            | 7-10    | 3    |
| 6. Providers answer questions and help to alleviate anxiety about medical treatment/procedure   | 7.9±1.3        | 5-10    | 3    | 8.7±1.0            | 7-10    | 2    |
| 7. Providers given clear information about what to do for recovery when discharged to go home   | 7.5±1.2        | 5-10    | 8    | 8.4±1.1            | 6-10    | 5    |
| 8. Inquire about patient needs and preferences  | 6.6±1.7        | 3-10    | 12   | 6.7±1.5            | 4-9     | 13   |
| 9. Involve family and loved ones in care coordination, if acceptable to patient                 | 7.9±1.5        | 4-10    | 5    | 7.5±1.6            | 4-10    | 11   |
| 10. Acknowledge important non-medical and spiritual dimensions                                  | 4.6±2.7        | 1-10    | 14   | 5.7±1.5            | 2-8     | 14   |
| 11. Safety of environment   | 7.8±1.5        | 4-10    | 5    | 8.4±1.3            | 6-10    | 6    |
| 12. Perceived competency of providers   | 9.0±0.9        | 8-10    | 1    | 9.0±0.9            | 7-10    | 1    |

| 13. Access to modern medical    | 8.6±1.0 | 7-10    | 2  | 8.5±1.0 | 7-10    | 4 |
|---------------------------------|---------|---------|----|---------|---------|---|
| technology/treatments/resources |         |         |    |         |         |   |
| 14. Positive public reputation  | 7.3±2.4 | 2-10    | 10 | 7.9±0.8 | 7-10    | 8 |
| Total mean score                | 7.5±1.0 | 6.1-9.5 |    | 8.0±0.8 | 6.9-9.3 |   |

# 4. PCC Quantitative Results

The average patient score ratings of 14 patient centered care factors ranged between 4.6 to 9.0, and the average provider scores ranged from 5.7 to 9.0 (**Table 2**). A higher score indicated a higher level of importance placed on a particular factor in regards to its influence on trust and satisfaction in selecting a healthcare facility to receive services.

The top three factors of importance for patients in trusting and being satisfied with a healthcare facility were: 1) perceived competency of providers (education, experience level); 2) access to modern medical technology/treatments/resources; and 3) tied between a) providers answering questions and helping to alleviate anxiety about medical treatment/procedure and b) involving family and loved ones in care coordination as long as it was acceptable to patients (**Table 3**).

The top three factors of importance that healthcare providers predicted patients would find important were: 1) perceived competency of providers (education, experience level); 2) tied between a) how providers answer questions and help to alleviate anxiety about medical treatment/procedure and b) how providers explain medical information clearly before engaging in medical; and 3) access to modern medical technology/treatments/resources.

**Table 3:** Top ranked PCC factor mean scores for patients and providers

| PCC Factors of Importance  | Patient<br>Mean<br>Score | Provider<br>Mean<br>Score |
|--|--------------------------|---------------------------|
| Perceived Competency of Providers  | 9                        | 9                         |
| Access to Modern medical technology/treatments/ Resources  | 8.6                      | 8.5                       |
| Providers answer questions and<br>help to alleviate anxiety about<br>medical treatment/procedure | 7.9                      | 8.7                       |
| Involve family and loved ones in care coordination, if acceptable to patient                     | 7.9                      | 7.5                       |
| Providers explain medical information clearly before engaging in medical treatment/procedure     | 7.7                      | 8.7                       |

### 4.1. Common higher factors of importance

The perceived competency of providers in relation to education and experience was reported as the most important factor by both groups as factors that could influence patient trust and satisfaction in a healthcare facility. Both patient and provider average score of this factor was 9 (range 7 to 10). Another measure that was rated as very highly important for patients across both groups was access to modern medical technology/treatments/resources. The patients' and providers' average scores were 8.6 and 8.5 respectively (range 7 to 10). Three of the listed top choices also are related to how the provider interacts with the patient and reflect emotional intelligence skills such as empathy and effective communication.

#### 4.2. Common factors of lower importance

A factor that was rated as the lowest importance for patients by both groups was "acknowledge important non-medical and spiritual dimensions". The patient group average score was 4.6 (range 1 to 10). The provider group average score was 5.7 (range 2 to 8). The measure "inquiring about patient needs and preferences" was also viewed with lower importance for patients by both groups (ranked 12th and 13th by patients and providers, respectively). The patient group had an average score of 6.6 (range 3 to 10). The provider average score was 6.7 (range 4 to 9). The averages for the factor of "positive public reputation (e.g., word of mouth; visible marketing campaigns)" were nearly the same. The patient group score of 7.3 (ranked 10th) was in line with the provider group score of 7.9 (ranked 8th). Both groups congruently ranked this factor to be of lower importance to patients in influencing their trust and satisfaction with a healthcare facility.

# 4.3. Non-similar factors of importance

A few measures had slightly varying results between patients and providers in terms of how important patients perceive the factor to be in determining their trust and satisfaction in a healthcare facility. Patients, on average, viewed the factor "providers explain medical information clearly before engaging in medical treatment/procedure" of slightly less importance than what providers thought they would rate it. The patient group average for this measure was.7.7 while the provider average score was 8.7. This was providers' 2<sup>nd</sup> highest rated PCC factor for what they thought patients would prioritize while patients ranked the factor as 6<sup>th</sup> most important. Another slightly disparate ranking of importance existed with the factor "Providers given clear information about what to do for recovery when discharged to go home".

Patient group rated this factor 8<sup>th</sup> in importance with a mean score of 7.5, and the provider group ranked it 5<sup>th</sup> with a mean score of 8.4, thereby believing that this factor was more significant to patients than it really was.

For the factor "involve family and loved ones in care coordination, if acceptable to patient", the patients had a higher average score of 7.9 as compared to the provider group average score of 7.5; when compared against other PCC factors, however, patients rated this factor as the 3rd highest and providers rated it as the 11<sup>th</sup> highest. Thus, patients found this PCC factor to be much more important than providers thought they would be in swaying their trust and satisfaction.

# 4.4. Relationship between participant factors and total PCC scores

In investigating the relationship between total PCC scores and independent variables of participant factors, our analysis yielded non-significant associations, as indicated by the pvalues, for all participant factors. The results are summarized as follows: (a) Providers had a total PCC score that was 3.2 points higher than patients although this difference was not statistically significant (p = 0.686); (b)The more often the participants received care from local hospital facility in the past three years, the higher PCC scores they had; and (c) Those who received care from a central/national hospital facility in the past 3 years also had higher total PCC score that those who received care from a local hospital facility, although this difference did not demonstrate statistical significance (p = 0.24); and satisfaction level with health care and outcomes did not show a statistically significant correlation with total PCC scores (p = 0.788). In summary, although our study data revealed observed trends, none of the examined independent variables were found to be statistically significant predictors of total PCC scores.

#### 4.5. Qualitative results

Both participant groups provided some additional openended qualitative comments (**Table 4**) last column) for select PCC factors to further explain what is important to them (or, for providers, what they think are important to patients) about these factors. There were also a few recurring additional influences raised, related to patient trust and satisfaction in healthcare facilities that were not directly captured in the 14 PCC factor measures. The concepts raised by providers as to what they thought patients deemed important included professionalism, attitude of provider commitment, and facility infrastructure. Patients specifically mentioned multiple times that the professionalism of doctors and nurses was important to their trust and satisfaction in their health care facility experience. Patients discussed professionalism in the context of the "attitude" that they perceived providers to have (Table 4). It was often likely that if one concept was mentioned (attitude or professionalism), the other was also mentioned in relation to how they felt that providers treated them. From the provider interviews, it was clear that while they prioritize professionalism as being important to patients, this concept was valued/ranked to a lesser extent. Providers seemed to view professionalism in the context of the attitude displayed while providing competent services to their patients.

Facilities and medical equipment were also specifically mentioned by both patients and medical providers as influencing factors in their qualitative responses. Both mention how the advancement of a certain medical technology would push patients to go to a central hospital because they associate that with better care. In the qualitative results, better technology available at facilities were associated with alleviating patient concerns/ anxiety with medical procedures for patients.

The expertise of medical professionals was also mentioned several times as factors impacting satisfaction and trust, whereby some patients explicitly commented how the expertise was "bad" or "not good". Health care providers, in their comments, were also aware of how highly patients prioritize provider expertise.

Patients also discussed other factors that are important to them, such as faster recovery, and hygiene which was occasionally spoken about in the context of safety. Medical professionals discussed how access to medical services might depend on patients' distance from home to medical care facility and therefore patients might choose depending on where they can receive care most conveniently. However, patients did not mention this as a high factor affecting where they choose to find medical care, and distance to medical care was not discussed.

Table 4: Quotes from patients and providers on select PCC factors that influence healthcare facility trust & satisfaction

| PCC Factors                       | Mean Score | Mean Score | Qualitative Reflections of Patients and Providers        |
|-----------------------------------|------------|------------|--|
|                                   | (patient)  | (provider) | (participant ID)   |
| Perceived competency of providers | 9.0        | 9.0        | Patient  |
| (education, experience level)     |            |            | The expertise is not good enough (2)                     |
|                                   |            |            | Experience in medical treatment (8)                      |
|                                   |            |            | The professional qualifications of the doctors (12)      |
|                                   |            |            | Provider   |
|                                   |            |            | I think it's a matter of expertise. Patients always want |
|                                   |            |            | to recover quickly (22)                                  |

|   |     |     | High level of expertise (30)  |
|---|-----|-----|---|
|   |     |     | Doctors are much more experienced and professional  |
|   |     |     | in central line care (24)   |
| Access to modern medical technology/treatments/resources  | 8.6 | 8.0 | Patient   |
|   |     |     | The expertise is not good enough; the facilities are poor (2)                                 |
|   |     |     | For treatment, where there are more complete machines, many good doctors (10)                 |
|   |     |     | You can go to the Central Hospital for treatment, where there are more complete machines (10) |
|   |     |     | Provider (20)   |
|   |     |     | Facilities (medical equipment) and services (20)  |
|   |     |     | Modern supplies and equipment (30)  |
|   |     |     | A team of good and experienced doctors, and   |
| Providers ensure questions and  | 7.9 | 8.6 | modern equipment (34)  Patient  |
| Providers answer questions and help to alleviate anxiety about                                    | 7.9 | 8.0 | Facilities - Quality of medical examination and   |
| medical treatment/procedure   |     |     | treatment (7)   |
| medicar treatment/procedure   |     |     | How is the attitude of the medical staffs? (12)   |
|   |     |     | The attitude of medical staffs is not professional, not                                       |
|   |     |     | proper (4)  |
| _   |     |     | The attitude of the medical staff is not professional   |
|   |     |     | (2)   |
|   |     |     | Provider  |
|   |     |     | Professionalism, service attitude (31)  |
|   |     |     | Attentive care – Convenient (35)  |
| Involve family and loved ones in care coordination, if acceptable to patient                      | 7.9 | 7.5 | No comments   |
| Safety of environment (located in safe area; good security, proper COVID-19 prevention protocols) | 7.8 | 7.9 | No comments   |
| Providers explain medical   | 7.7 | 8.7 | Patient:  |
| information clearly before engaging in medical  |     |     | The attitude of medical staffs is not professional, not proper (4)                            |
| treatment/procedure   |     |     | The attitude of the medical staff is not professional (2)                                     |
| Timely response to needed services or questions raised  | 7.6 | 8.2 | No comments   |
| Providers given clear information about what to do for recovery when discharged to go home        | 7.5 | 8.4 | No comments   |
| Affordable cost of care   | 7.3 | 7.8 | No comments   |
| Positive public reputation (e.g., word of mouth; visible marketing campaigns)                     | 7.3 | 7.9 | No comments   |
| Timely Access to Appointments   | 7.0 | 7.5 | No comments   |
| Inquire about patient needs and preferences   | 6.6 | 6.7 | No comments   |
| Easy access to personal medical   | 6.3 | 7.2 | Provider  |
| information   | 0.3 | 1.2 | Distance from home to medical health care facility (21)                                       |
|   |     | _   | Distance to the health care center (23)   |
| Acknowledge important non-<br>medical and spiritual dimensions                                    | 4.6 | 5.7 | No comments   |

#### 5. Discussion

This study represents the first effort to explore factors associated with healthcare facility selection in Vietnam from both patient and provider perspectives on patient-centered care (PCC). Our findings show that both groups consistently prioritized high-quality care—especially the perceived competency of providers and access to modern medical technology—as key determinants of patient trust and satisfaction. However, as highlighted in our Background section, quality considerations do not exist in a vacuum; economic factors remain a critical underpinning of healthcare decision-making in Vietnam. Despite nearly universal social health insurance coverage (90% of the population), patients continue to face significant out-of-pocket costs when seeking care at central hospitals.2 While insurance schemes ensure low or no-cost access to basic and preventive services, accessing higher-level care often entails higher consultation fees, specialized treatment charges, and travel expenses that are not consistently reimbursed. 3,18 For many patients, these financial barriers constitute the primary concern that influences their decision to bypass local facilities—even before quality differences are considered.

Once these cost-related issues are addressed or mitigated, quality factors such as provider expertise, of modern technology, availability and effective communication become the predominant influences on patient choice. In our study, both patients and providers ranked provider competency as the top factor, suggesting that when financial hurdles are lowered, patients are willing to focus on care quality. This high ranking on provider competency may also, in part, be due to the different levels of medical certification in Vietnam to be considered a physician. In a study conducted by the World Health Organization in 2015, patients shared that medical professionals employed at central hospitals are perceived to have achieved the highest level of education.<sup>3</sup> The qualities of technical proficiency and interpersonal communication are especially important in the field of surgery, as most patients would hesitate to undergo a surgical procedure unless they have a strong level of confidence and reliance on their surgeon.<sup>14</sup> Another very important and top ranked factor for groups was access to modern technology/treatments/resources, which was rated as the second highest factor for patients and 3<sup>rd</sup> highest for medical professionals. The Vietnamese Ministry of Health (MOH) in 2017 set out national goals for the protection, care, and improvement of people's health in the period to 2030. One of the five key priorities to achieve national health care goals is strengthening technology, medical sciences and human resources.<sup>1</sup> Given the high ranking by patients of modern medical technology, treatments and resources, importance of having modern technology can play a major role in patients deciding to seek their care. In qualitative comments shared, patients place high value on what they believe to be modern technology that a healthcare facility can

provide. Patients shared that for more serious medical issues, they are willing to travel for access to what they consider modern technology. Patients elaborated that even when they believe medical professionals to have high expertise and competency, when technology is lacking within a facility, the care is perceived as less quality. For the patients in this study, access to modern medical technology clearly plays a large role in effective medical care, and they place high value on this factor.

Interestingly, medical providers and patients agreed on ranking the following as the lowest factor: *acknowledging important non-medical and spiritual dimensions*. They both also ranked fairly low in the act of *inquiring about patient needs and preferences*. This may be a result of the traditionally patriarchal and hierarchical framework in Vietnam where health care providers are the "experts" and patients willingly defer to the expert opinions without question. <sup>15</sup> Thus, there is little motivation to inquire or share about patient needs or preferences. Reasons for this rationale should be explored further in future studies.

On the other hand, our findings reveal that patients and providers do not always see eye-to-eye regarding other PCC dimensions, such as the role of family involvement or the clarity of post-discharge instructions. A factor that was ranked 4th highest for patients is involve family and loved ones in care coordination, if acceptable to patient. This factor, in contrast, was placed much lower on the scale for medical providers, as 10th out of 14 factors. In a recent study by Ho and Jenkins (2021), authors explain how, in Vietnam, "decisions are often taken collectively [with the family], however with little information.<sup>17</sup> Final decisions often rest on the oldest son or male in the family, especially if disagreements need to be resolved". 16 The patriarchal nature of Vietnam society could explain why the factor of family involvement in medical decisions is viewed highly among patients whereas medical professionals do not see this as important in the clinical recommendations they provide

Of note, several patient interviews were an emotion evoking experience and the interview took more time than predicted because participants had a lot to share with the interviewer. It was emotional because they expressed that they had never been given an opportunity to reflect directly on their past healthcare experiences and contemplate the specific factors that influenced their selection in healthcare facilities.

Our study has several limitations. First, the nature of the study, with its small sample size and non-probability sampling, is exploratory. In this study, participant characteristics were not significantly associated with PCC factor ranking, but that may be due to small sample size. Secondly, for the question regarding the PCC factor "Safety of environment", it was not clear how respondents operationalized this factor – examples given in the survey really spoke to different concepts of safety (i.e., physical

safety of where facility is located vs. COVID-19 health safety protocol). Thus, it was challenging to fully understand what participants were referring to when they thought of "safety". Future studies would need to define this concept of safety more clearly so that appropriate interventions can be offered to address the issues that were raised.

Patients were sampled from only one hospital, which is a larger central specialty hospital. During post-survey follow-up with interviewers, it was determined that nine out of twenty of the patients interviewed lived outside the local Hanoi area. For future studies, collecting this type of information upfront as well as interviewing patients/medical professionals at a district, provincial, or commune hospital setting as well as at central hospitals is essential.

The study also did not ask survey questions about health insurance coverage and qualitatively it was not mentioned by patients. However, even if most are covered by universal social health care insurance, there are increasing out of pocket costs to the patient as they move up the healthcare system to more specialty hospitals. Furthermore, there are a growing number of private facilities and private insurance Future research should further explore the quantitative impact of out-of-pocket expenses and uncovered travel costs on healthcare facility selection. Understanding the relative weight of economic versus quality factors will be crucial for designing integrated interventions that enhance both the affordability and the quality of care across the healthcare system. Addressing these dual challenges is essential for developing policies and interventions that ensure equitable access to high-quality healthcare across all levels of the system. Any strategy aimed at optimizing healthcare utilization must simultaneously address the economic barriers that persist despite broad insurance coverage and the quality improvements needed to bolster confidence in local services.

# 6. Conclusion

Based on these initial findings, there are potential interventions to consider to improve utilization at local hospitals. First, improving the training and equipment at local hospitals should be prioritized. Furthermore, these efforts should be effectively communicated and shared with the community to increase their confidence and trust in the local facility. Decentralizing the concentration of skilled medical professionals and modern technology are modifiable actions that can improve the delivery of health care services throughout Vietnam. Further understanding on the PCC factors that are important to Vietnamese patients will help to guide development of relevant strategies to address and improve utilization of local health care facilities.

#### 6.1. Extra

Practice implications for implementing medical innovations

To facilitate organizational changes, hospital administrators and executives can gather knowledge regarding the social connections and influence of clinician leaders. Specifically, understanding the presence of influential individuals such as champions or opinion leaders can assist in managerial strategies aimed at introducing new medical technology and innovations within the organization.<sup>18</sup>

# 7. Ethical Committee Approval

This research was granted human subjects exemption from further IRB review by the Duke Health System Institutional Review Board.

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Isha Shah drafted and edited the manuscript, had full access to all data, and approved the final version. Lien Tran and Walter T. Lee\* conceived the study, collected and verified data, had full data access, contributed to editing, and approved the final manuscript.

Mahika Jammula had full data access, contributed to editing and approved final version. Huu Cong Nguyen and Anh Tran\* contributed to study conception, had full access to all data, participated in editing, and approved the final version. Luu Hoang Linh and Do Thi Thanh Thuy contributed to data collection, had full access to all data, edited the manuscript, and approved the final version. \*Cosenior authors.

#### 9. Conflict of Interest

The authors have no conflicts our interest.

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