

Service Optimization Approaches in the Out-Patient Department and their Impact on Patient Experience

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ABSTRACT

This study determined the level of service optimization approaches in the Out-Patient Department (OPD) of Far North Luzon General Hospital and Training Center, assessed patient satisfaction in terms of timeliness of care, responsiveness of healthcare staff, and empathy and respect, examined the relationship between service optimization and patient satisfaction, and proposed service improvement recommendations. A descriptive-correlational research design was employed involving 179 purposively selected OPD patients aged 18 years and above who completed outpatient services during the data collection period. Data were gathered using a structured questionnaire measuring service optimization (appointment and scheduling systems, patient flow and workflow efficiency, and physical environment and support services) and patient satisfaction (timeliness, responsiveness, empathy, and respect). Descriptive statistics (mean) and Pearson product-moment correlation were used for data analysis. Results revealed a high overall level of service optimization ($M=3.12$) and patient satisfaction ($M=3.19$). The appointment and scheduling system obtained the highest mean among optimization domains ($M=3.15$), while empathy and respect ranked highest among satisfaction dimensions ($M=3.25$). Correlation analysis showed a very strong and significant positive relationship between service optimization and patient satisfaction ($r=0.932, p<0.001$), leading to the rejection of the null hypothesis. The findings indicate that effective scheduling, efficient patient flow, and supportive physical environments significantly enhance patient satisfaction. The study recommends strengthening digital appointment systems, improving workflow efficiency, upgrading facilities and support services, sustaining staff development on responsiveness and empathy, and implementing continuous quality improvement and patient feedback mechanisms to maintain and further enhance OPD service quality.

Keywords: Service Optimization Approaches, Patient Satisfaction, Out-Patient Department

INTRODUCTION

The Outpatient Department (OPD) plays a vital role in healthcare delivery but continues to face challenges, including overcrowding, long waiting times, inefficient patient flow, and limited resources, which can affect service quality and patient satisfaction. To address these concerns, healthcare institutions have adopted service optimization approaches to improve operational efficiency, patient safety, and patient-centered care. International studies have demonstrated that strategies such as intelligent resource allocation and case management can significantly reduce delays and improve healthcare processes, while Philippine studies reveal persistent issues in queue management, accessibility, and system efficiency that influence patient experiences. This study aims to assess the level of service optimization approaches in

the OPD of Far North Luzon General Hospital and Training Center, determine patients' satisfaction with the timeliness of care, staff responsiveness, and empathy and respect, and examine the relationship between service optimization strategies and patient experience. The findings will serve as a basis for developing service improvement strategies to enhance outpatient healthcare delivery, operational efficiency, and overall patient satisfaction.

Statement of the Problem

This study aimed to determine the level of service optimization and its impact on patient satisfaction in the Outpatient Department of a Government Hospital. Specifically, it sought to assess the level of service optimization across the appointment and scheduling system, patient flow and workflow efficiency, and the physical environment and support services. It also aimed to determine the level of patient satisfaction with the timeliness of care, the responsiveness of healthcare staff, and empathy and respect. Furthermore, the study sought to determine whether a significant relationship exists between service optimization approaches and patient satisfaction in the Outpatient Department. Based on the findings, the study intended to propose service improvement recommendations to enhance patient satisfaction and strengthen outpatient healthcare delivery.

Scope and Delimitations

This study determined the level of service optimization approaches and patient satisfaction in the Outpatient Department (OPD) of Far North Luzon General Hospital and Training Center. It assessed service optimization in terms of the appointment and scheduling system, patient flow and workflow efficiency, and the physical environment and support services, as well as patient satisfaction in terms of the timeliness of care, the responsiveness of healthcare staff, and empathy and respect. Using a descriptive-correlational research design, the study involved 179 purposively selected patient-respondents who met the inclusion criteria. Data were gathered through an adapted survey questionnaire, and the study was limited to OPD patients during the two-week data collection period, with findings based on their perceptions and experiences.

Review of Related Literature

Recent literature highlights that optimizing healthcare services is an important strategy for improving operational efficiency and patient satisfaction through approaches such as simulation modeling, predictive analytics, digital transformation, and workflow improvement. These strategies have been shown to reduce service delays, improve patient flow, enhance resource allocation, and increase responsiveness in healthcare settings (Huang et al., 2024; Morales et al., 2024). However, optimization efforts are most effective when combined with comprehensive process redesign, effective communication systems, and improvements in both administrative and clinical services (Kanwel et al., 2024). Studies further emphasize that patient satisfaction in outpatient departments is influenced by multiple factors, including waiting time, service accessibility, staff responsiveness, communication, infrastructure quality, and interactions with healthcare providers (Bhatt et al., 2024; Dongre et al., 2025; Celestin Apouakone et al., 2025). Therefore, achieving sustainable improvements in outpatient

healthcare delivery requires an integrated approach that balances operational efficiency with patient-centered care principles (Peruzzo et al., 2025).

Theoretical Framework

The study is anchored in three nursing theories that support the relationship between service optimization and patient satisfaction. Locsin's Technological Competency as Caring in Nursing Theory emphasizes that technology enhances nursing care by improving access to information, workflow efficiency, and the timeliness of patient-centered services. Roy's Adaptation Model explains that optimized healthcare processes reduce patient stressors, such as delays and long waiting times, promoting positive adaptation and improved satisfaction. Meanwhile, Nightingale's Environmental Theory highlights the importance of a safe, organized, and supportive healthcare environment in improving patient comfort and outcomes. Together, these theories provide a framework for understanding how technological systems, efficient processes, and a quality healthcare environment contribute to enhanced outpatient service delivery and patient satisfaction.

Conceptual Framework

In this study, the Input-Process-Output (IPO) model was utilized as the research paradigm, as shown in Figure 1. The level of service optimization in terms of appointment and scheduling system, patient flow and workflow efficiency, and physical environment and support services, and level of satisfaction in terms of timeliness of care, responsiveness of healthcare staff, and empathy and respect serve as the input. Analysis of the level of service optimization and patient satisfaction, and testing the significant relationship between the level of service optimization and patient satisfaction, served as the process, while a service improvement recommendation that may be proposed in the OPD to enhance patient satisfaction was the output of this study.

METHODOLOGY

Research Design

This study employed a descriptive-correlational research design to assess the level of service optimization approaches and their relationship to patient satisfaction in the Outpatient Department (OPD) of a government hospital. The descriptive component assessed the levels of service optimization and patient satisfaction, while the correlational component examined the significant relationship between service optimization approaches and patient satisfaction in the OPD.

Research Steps

This research began with a review of related literature to develop and adapt questionnaire items aligned with service optimization and patient satisfaction variables. After securing the necessary administrative permissions and ethical approvals, purposive sampling was used to select eligible OPD patients who had completed their consultations. Data were collected through surveys, reviewed for completeness, coded, and analyzed using mean scores and Pearson correlations to determine the level of service optimization, patient satisfaction, and their relationship.

Data Collection and Sample Selection

The study was conducted in the Outpatient Department of Far North Luzon General Hospital and Training Center, involving 179 purposively selected patient-respondents who met the inclusion criteria. Data were gathered through a two-part survey questionnaire over a two-week period after obtaining ethical clearance and institutional approval.

Data Analysis Methods

The collected data were analyzed using SPSS or Excel. A weighted mean was used to determine the levels of service optimization approaches and patient satisfaction on a 4-point Likert scale, while Pearson product-moment correlation was applied to assess the significant relationship and strength of association between service optimization and patient satisfaction dimensions in the OPD.

Research Hypotheses and Validation

This study tested the null hypothesis that there is no significant relationship between service optimization approaches and patient satisfaction in the OPD. Using Pearson bivariate correlation analysis, the results showed a strong significant relationship between the variables ($r = 0.932$, $p = 0.000$). Since the p -value was below the 0.05 significance level, the null hypothesis was rejected, indicating that service optimization approaches are significantly associated with patient satisfaction.

Study Limitations and Ethical Considerations

The study complied with ethical standards by obtaining approval from the Ethics Review Board and informed consent from all participants. It upheld the principles of autonomy, beneficence, non-maleficence, and justice while ensuring confidentiality and anonymity by using numerical codes. Research data were securely stored and will be permanently disposed of through shredding and digital deletion after the required five-year retention period.

RESULTS AND DISCUSSION

SOP 1. What is the level of service optimization approaches in the Out-Patient Department?

The findings indicate that respondents perceived the OPD services as highly optimized, reflecting efficient and well-organized processes. Among the assessed areas, the appointment and scheduling system was perceived as the most optimized, followed by patient flow and workflow efficiency, while physical environment and support services received the lowest assessment.

SOP 2. What is the level of patient satisfaction in the Out-Patient Department?

The findings show that patients had a high level of satisfaction with OPD services, particularly appreciating the empathy, respect, and responsiveness of healthcare staff. This indicates that patients perceive healthcare personnel as compassionate, courteous, and professional in their care delivery.

SOP 3. Is there a significant relationship between the level of service optimization approaches and patient satisfaction in the OPD?

Pearson correlation analysis revealed a strong, positive, and significant relationship between service optimization approaches and patient satisfaction. The findings indicate that

improvements in operational processes are closely associated with enhanced patient experiences and higher satisfaction levels.

SUMMARY

The study revealed high levels of service optimization and patient satisfaction in the Outpatient Department of Far North Luzon General Hospital and Training Center. Findings showed that efficient service processes and positive healthcare interactions contributed to better patient experiences. A significant positive relationship between service optimization approaches and patient satisfaction was established, leading to the rejection of the null hypothesis.

CONCLUSIONS

The Outpatient Department demonstrates a high level of service optimization through effective appointment systems, workflow management, and supportive facilities, providing an efficient framework for healthcare delivery. Patients also expressed high satisfaction with their care experience, highlighting the importance of healthcare personnel's courtesy, respect, responsiveness, and communication in meeting their expectations. Furthermore, the findings establish a strong relationship between operational optimization and patient satisfaction, indicating that improvements in scheduling systems and internal processes enhance outpatient experiences.

RECOMMENDATIONS

Based on the findings and conclusions of the study, the following recommendations are proposed. Hospital administrators may strengthen service optimization strategies by enhancing digital appointment systems, improving patient flow processes, and providing adequate facilities to support efficient service delivery. OPD managers and unit heads may regularly assess patient movement and workflow processes to identify and address operational bottlenecks. Human Resource Management may implement continuous training programs focused on customer service, therapeutic communication, and patient-centered care. Future researchers may further explore other factors influencing outpatient services, such as leadership practices, digital queue management systems, staffing adequacy, and patient health literacy.

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AI DECLARATION STATEMENT

AI-supported tools helped with grammar, refinement, and structure in creating this article. No AI tools were used to collect, analyze, or interpret raw empirical data; all authors are fully credited for their core academic contributions.

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