



Medical Billing Practices on Patients' Healthcare-Seeking Behavior in Rivers State University Teaching Hospital, Port Harcourt

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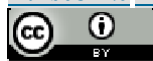
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ABSTRACT

This study examined medical billing practices and their influence on patients' healthcare-seeking behavior at the Rivers State University Teaching Hospital (RSUTH), Port Harcourt. A cross-sectional descriptive design was adopted, involving healthcare professionals and patients across internal medicine, family medicine, and surgical departments. Using a structured questionnaire and key-informant interviews, data were collected from doctors, nurses, and patients and analyzed using descriptive and inferential statistics, including Pearson correlation at a 0.05 significance level. Findings revealed that medical billing practices such as patient registration, verification of insurance, and departmental bill generation were prevalent. However, patients demonstrated mixed healthcare-seeking behaviors influenced by affordability, transparency, and out-of-pocket payment dependence. The study concludes that while billing procedures are well-established, systemic inefficiencies and lack of patient awareness influence care-seeking behavior. Recommendations include improved transparency, expansion of health insurance, and digitalization of billing systems to enhance patient trust and healthcare utilization

INTRODUCTION

Healthcare financing remains one of the most critical determinants of accessibility and sustainability in health systems worldwide. In developing nations such as Nigeria, out-of-pocket payment continues to dominate the financing landscape, often creating barriers to timely and equitable healthcare access. Medical billing constitutes an essential administrative mechanism that bridges healthcare delivery and institutional revenue generation. Accurate, transparent, and efficient billing practices not only ensure that hospitals remain financially viable but also influence patients' perceptions of fairness and affordability, ultimately shaping their healthcare-seeking behavior.

The Rivers State University Teaching Hospital (RSUTH) is a major tertiary healthcare facility serving Port Harcourt and surrounding communities. Despite its mandate to deliver high-quality, affordable care, the hospital faces challenges relating to billing transparency, record accuracy, and delayed verification processes. Patients have reported dissatisfaction with billing discrepancies, long waiting times for cost estimates, and uncertainty about insurance coverage. Such inefficiencies may discourage early care-seeking and encourage self-medication or the use of informal healthcare providers.

Previous studies (Ovie, 2023; Noor et al., 2022) suggest that billing practices especially those involving complex manual processes can significantly affect patients' willingness to seek formal medical attention. Limited empirical evidence, however, exists regarding how billing mechanisms influence healthcare-seeking behavior within Nigerian tertiary hospitals, particularly RSUTH. This study therefore investigates the structure and efficiency of billing processes at RSUTH, assesses their impact on patient decision-making, and explores strategies for improvement.

Despite the essential role of medical billing in ensuring financial accountability and service sustainability, its execution in Nigerian hospitals often lacks transparency and standardization. Many patients report uncertainty about cost components, while healthcare workers face administrative bottlenecks that delay billing accuracy. At RSUTH, anecdotal evidence suggests that while billing practices are in place, patients often experience frustration due to overbilling, unclear fee structures, and reliance on manual payment systems. This situation discourages timely healthcare-seeking behavior and increases the risk of self-medication. There is, therefore, a need to empirically assess the nature of billing practices at RSUTH and determine their influence on patients' healthcare-seeking behavior.

Objectives of the Study

1. To identify medical billing practices at the Rivers State University Teaching Hospital.
2. To examine patients' healthcare-seeking behavior in relation to these billing practices.
3. To determine how billing procedures influence patients' decisions to seek formal medical care.

LITERATURE REVIEW

Medical billing forms the administrative core of hospital finance and influences how patients engage with healthcare systems. According to Adebayo (2019), transparent and accurate billing enhances patients' trust and satisfaction, fostering long-term healthcare utilization. Conversely, unclear billing processes lead to financial anxiety and care avoidance. In Nigeria's predominantly cash-based system, medical bills often determine whether individuals pursue treatment or delay until conditions worsen. Globally, effective billing practices are integral to hospital management. In high-income countries, digital billing platforms and insurance verification systems streamline payment and improve accountability (Johnson & Lee, 2020). However, in many developing nations, manual billing procedures persist, resulting in inefficiencies and opportunities for error or exploitation (Olaoye et al., 2021). Such disparities contribute to the inequitable distribution of health services.

Billing practices also intersect with ethical considerations. Transparency and informed consent during cost estimation uphold patients' autonomy and rights (Fadaye & Ogunleye, 2022). When patients are unaware of expected charges, they experience "bill shock," which erodes trust in healthcare institutions. Studies in Ghana and Kenya found that lack of billing clarity directly affects patients' willingness to return for follow-up visits (Mensah et al., 2023). Health insurance plays a critical mediating role. Where national or private insurance coverage exists, out-of-pocket expenses decline, improving healthcare-seeking behavior (Uzochukwu & Eze, 2020). In Nigeria, however, enrollment in the National Health Insurance Authority scheme remains low, leaving many citizens exposed to unpredictable hospital bills (Nwosu et al., 2021). This systemic gap perpetuates inequality in health access.

Technological innovations, such as electronic billing and hospital management software, have transformed revenue cycles. According to Okeke (2022), automation minimizes human error and enhances traceability. Yet implementation costs and insufficient training often hinder adoption in public hospitals. Without automation, RSUTH and similar institutions face delays and inefficiencies that discourage patient patronage. Patients' healthcare-seeking behavior is influenced by multiple factors economic, sociocultural, and institutional. Anderson's Behavioral Model (1968) posits that predisposing, enabling, and need factors determine service use. Billing practices fall under "enabling factors," directly affecting accessibility. A study by Kazeem and Udo (2023) found that perceived affordability predicted hospital attendance among low-income groups in Nigeria.

Gender and educational status also shape how billing practices impact care-seeking. Women and less-educated individuals are often more sensitive to out-of-pocket costs (Ajayi et al., 2020). When hospital fees appear ambiguous or excessive, these groups may delay or forgo treatment, reinforcing health disparities across socioeconomic strata. In tertiary hospitals, billing often involves multiple departments, creating fragmented systems and duplication. Agbaje and Ekanem (2021) note that decentralized billing causes inconsistencies and disputes between patients and administrators. Integration through

centralized electronic billing could improve coordination and patient satisfaction.

Internationally, transparency initiatives have shown positive results. In the United States, publishing estimated procedure costs improved public trust and reduced billing complaints (Baker & Hughes, 2020). Similarly, digital receipts in India's government hospitals enhanced accountability (Sharma & Patel, 2021). These successes highlight the benefits of digitizing billing systems in Nigerian contexts.

Despite progress, challenges remain. Limited financial literacy among patients, coupled with weak consumer protection, leaves individuals vulnerable to overbilling or unnecessary charges (Eke & Okon, 2023). Therefore, reforms in billing practices must be accompanied by patient education, policy frameworks, and regular audits to ensure fairness and transparency.

Conceptual and Theoretical Framework

This study is anchored on the Andersen Behavioral Model of Health Service Use (Andersen, 1995), which explains that healthcare-seeking behavior is influenced by predisposing, enabling, and need factors. Predisposing factors include demographic variables such as age, gender, and education; enabling factors involve financial capacity, availability of services, and institutional factors such as billing systems; while need factors relate to perceived health conditions. In the context of RSUTH, medical billing serves as a key enabling factor that determines whether patients can access healthcare without financial distress. A transparent and efficient billing system promotes trust and utilization, whereas opaque or inconsistent billing deters service use. Conceptually, this study connects billing practices with patient decision-making, emphasizing affordability, accessibility, and perceived fairness as mediating variables.

METHODOLOGY

A cross-sectional descriptive survey design was used for this study. The study population included 57 doctors, 78 nurses, and 8,406 outpatients across internal medicine, family medicine, and surgical departments. Ten departmental heads were also interviewed as key informants. A sample of 384 participants was determined using Taro Yamane's (1967) formula at a 95 % confidence level and 0.05 margin of error. Stratified random sampling was applied to categorize healthcare professionals, followed by proportionate and simple random selection. Purposive sampling was used for departmental heads.

Data were collected through structured questionnaires and interview guides validated by three experts in health administration. Reliability testing yielded a Cronbach's alpha of 0.83, indicating high internal consistency. Data were analyzed using SPSS v26 with descriptive statistics and Pearson correlation at $p < 0.05$. Ethical clearance was obtained from the RSUTH Research Ethics Committee, and written informed consent was secured from all respondents.

RESULTS

Table 1. Common Medical Billing Practices at RSUTH

Billing Procedures	Mean (\bar{x})	SD
Patient Registration	4.45	0.68
Verification of Insurance	3.96	1.02
Coded Diagnoses Used for Billing	3.01	1.33
Departmental Bill Generation	4.31	0.76
Billing at Point of Service	4.12	0.85
Treatment-Based Billing	3.98	0.91

The results indicate that patient registration (Mean = 4.45) and departmental bill generation (Mean = 4.31) were the most prevalent billing procedures at RSUTH. However, the use of coded diagnoses for billing was relatively low (Mean = 3.01), implying limited standardization in billing documentation. Patient registration and departmental bill generation were the most common practices, whereas the use of standardized coded diagnoses for billing was limited.

Table 2. Patients' Healthcare-Seeking Behavior at RSUTH

Behavior	Mean (\bar{x})	SD
Seek Over-the-Counter Medication	4.28	1.08
Consult with Pharmacist	4.21	0.92
Visit Primary Care Physician	4.07	1.02
Seek Specialist Care	4.21	0.93
Visit Emergency Clinic	3.89	1.01

Most patients exhibited active healthcare-seeking behaviors, particularly in consulting pharmacists and seeking specialist care (Mean = 4.21 each). However, reliance on over-the-counter medication (Mean = 4.28) reflects a tendency toward self-medication. Patients commonly sought care from pharmacists and specialists but also showed a strong tendency toward self-medication.

Table 3. Influence of Billing on Healthcare-Seeking Behavior

Influence Factors	Mean (\bar{x})	SD
Overreliance on Out-of-Pocket Payment	4.07	1.04
Concern for Overbilling	4.06	0.91
Lack of Billing Transparency	3.68	1.03
High Cost of Care	3.84	1.18

Influence Factors	Mean (\bar{x})	SD
Insufficient Funds for Treatment	3.91	1.02

Findings indicate that financial barriers, particularly overreliance on out-of-pocket payments (Mean = 4.07) and concerns for overbilling (Mean = 4.06), significantly influence patients' willingness to seek formal healthcare services. Financial constraints and perceived overbilling significantly deterred patients from seeking timely medical attention.

DISCUSSION

The findings indicate that RSUTH maintains structured but partially manual billing procedures dominated by patient registration and departmental bill generation. The limited use of standardized coding mirrors earlier reports by Agbaje and Ekanem (2021), suggesting persistent documentation gaps in Nigerian hospitals. The predominance of out-of-pocket payments remains a critical barrier to care, confirming prior observations by Nwosu et al. (2021) that high direct costs discourage hospital visits.

Patients' preference for over-the-counter medication and pharmacists underscores a coping strategy for avoiding perceived high hospital bills. Similar trends were noted by Ajayi et al. (2020), who observed increased self-medication in response to hospital fee inflation. The study also revealed significant concerns regarding overbilling and lack of transparency issues that erode trust in formal healthcare institutions.

The strong positive correlation between affordability and healthcare-seeking behavior implies that financial accessibility remains the strongest determinant of service utilization. Despite awareness of hospital services, many respondents admitted delaying or abandoning care due to insufficient funds. This aligns with Anderson's model, where enabling factors such as cost and availability govern health-service use.

The interviews with departmental heads revealed systemic inefficiencies, including fragmented billing responsibility and slow insurance verification. These inefficiencies not only delay service delivery but also frustrate patients. Digital integration and training were repeatedly mentioned as necessary reforms. The discussion suggests that improving billing transparency, standardization, and automation would positively influence healthcare-seeking behavior, enhance institutional trust, and optimize revenue management.

CONCLUSIONS AND RECOMMENDATIONS

This study concludes that while RSUTH has established medical billing systems, they are hindered by partial automation, insufficient transparency, and heavy reliance on out-of-pocket payments. These weaknesses significantly affect patients' healthcare-seeking behavior, encouraging self-medication and delayed consultations. To strengthen access and trust, hospitals must invest in transparent, technology-driven billing mechanisms and broaden health-insurance participation.

FURTHER STUDY

1. Implement centralized electronic billing systems with real-time insurance verification.
2. Train administrative staff in billing ethics, communication, and financial management.
3. Conduct periodic audits and patient-satisfaction surveys on billing procedures.

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