

Integrating Complaint Analysis into Hospital Management: A Comparative Study of Surgical and Non-Surgical Complaints

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Abstract

Aims/Background In an era where patient-centred care is paramount, effectively managing and analyzing hospital complaints is crucial for improving service quality and patient satisfaction. This study examines hospital complaints to enhance management practices by differentiating between surgery-related and non-surgery-related grievances. By identifying patterns in complaint types and outcomes, we aim to inform targeted quality improvement strategies that address specific patient concerns and boost operational efficiency.

Methods The study utilized data from an internal complaint management system over one year. Complaints were categorized as either surgery-related or non-surgery-related. Descriptive statistics and cross-tabulation analysis were employed to examine the data. The sample comprised 132 complaints, with 67 being surgery-related and 65 non-surgery-related.

Results The analysis revealed that surgery-related complaints frequently involved issues with 'Patient Communication' and 'Surgical Error', while non-surgery-related complaints were primarily about the 'Medical Treatment Process'. The Surgery Department received the highest number of complaints, indicating a critical area for intervention. Additionally, the correlation between complaint types and outcomes provided insights into potential areas for improvement.

Conclusion The findings highlight the need for targeted communication training and procedural enhancements in surgical departments. Non-surgical departments should focus on improving treatment protocols and transparency. These strategies can reduce complaints and improve patient satisfaction. Future research should develop and test interventions based on these insights to further enhance healthcare quality.

Key words: hospital management; surgical complaints; non-surgical complaints; patient care; operational efficiency

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Introduction

Background

The management of patient complaints is a critical aspect of healthcare quality assurance, serving as a direct reflection of patient satisfaction and a potential indicator of clinical performance and patient safety (Mirzoev and Kane, 2018; Schwartz and Overton, 1992). In an era where patient-centred care is paramount, understanding and addressing patients' concerns and complaints is essential for any healthcare

facility committed to improving service quality and fostering a positive healthcare environment.

Effective complaint management not only provides a mechanism for resolving individual patient issues but also serves as a vital source of feedback for healthcare providers (Johnston and Mehra, 2002; van Dael et al, 2020). It highlights areas requiring attention, improvement, or even overhaul, whether in clinical procedures, patient-provider communication, or administrative processes. By systematically analyzing complaint data, healthcare facilities can identify patterns and trends that might otherwise remain obscured, offering actionable insights into enhancing patient care and operational efficiency (Beaupert et al, 2014; Hsieh, 2011; Idayanti et al, 2020).

Despite the acknowledged importance of managing patient complaints, there is a relative paucity of comprehensive analyses focusing on the specifics of these complaints, particularly in distinguishing between surgery-related and non-surgery-related complaints (Harrison et al, 2016; Jerng et al, 2018; Mirab et al, 2022). This differentiation is crucial, given the distinct nature and expectations that patients might have in surgical versus non-surgical contexts. The purpose of this study is to delve into the nuances of patient complaints within a comprehensive hospital setting, comparing and contrasting the characteristics of surgery-related versus non-surgery-related complaints. The goal is to uncover underlying patterns that could inform targeted quality improvement strategies.

The literature review underscores the crucial necessity for a systematic approach to managing patient complaints, particularly in distinguishing between surgery-related and non-surgery-related issues. While previous studies have offered valuable insights into the nature and impact of patient complaints, a comprehensive methodology to tackle the distinct challenges posed by these categories is lacking. This study aims to bridge this gap by employing a detailed and systematic approach to analyze patient complaints, thus offering actionable insights to improve hospital management practices (van Dael et al, 2020). The methodology section that follows outlines the specific steps taken to collect, clean, and analyze the data, ensuring that the research addresses the gaps identified in the literature.

This study is guided by the following core research questions.

- How do surgery-related and non-surgery-related complaints differ in terms of their frequency, nature, and outcomes?
- What are the most common reasons for patient complaints in surgical and non-surgical contexts, and what do these reasons indicate about patient expectations and experiences?
- How can the analysis of complaint data inform strategies for improving patient satisfaction and care quality, especially in high-complaint areas?

By addressing these questions, this research aims to provide valuable insights into ongoing efforts to enhance patient care quality, ensuring that healthcare services not only meet clinical standards but also align with patient expectations and needs. This study seeks to delineate the distinctions and commonalities between surgery-related and non-surgery-related complaints while integrating these findings into a broader hospital management framework. Effective management of these

complaints goes beyond resolving individual cases; it involves leveraging insights to refine hospital management practices. By implementing systematic changes based on complaint analysis, hospitals can enhance their operational strategies, leading to improved patient care, increased staff satisfaction, and optimized resource allocation. Thus, this research directly contributes to the field of hospital management by offering evidence-based recommendations that can enhance governance and oversight of hospital operations.

Study Overview

Managing and analyzing patient complaints in healthcare is a multidimensional issue that profoundly affects patient satisfaction, safety, and care quality. Research consistently underscores the significance of effective complaint management systems, indicating their pivotal role in service recovery, quality enhancement, and mitigating malpractice risks. This literature review synthesizes recent studies' findings on the nature of patient complaints in healthcare, specifically distinguishing between surgery-related and non-surgery-related complaints.

[Bendall-Lyon and Powers \(2001\)](#) emphasize the role of complaint management in the service recovery process, highlighting how effectively addressing complaints can lead to improved patient retention and satisfaction. This view is supported by [Hickson et al \(2002\)](#), who found a positive correlation between patient complaints and malpractice risk, suggesting that complaints can serve as a predictive tool for identifying potential areas of risk in clinical practice. [Wofford et al \(2004\)](#) conducted a qualitative study on patient complaints about physician behaviours, categorizing them into core issues such as disrespect and miscommunication, with implications for medical education and practice. Similarly, [Sarvani et al \(2022\)](#) noted that orthopedic surgeons receive a disproportionate number of unsolicited patient complaints, highlighting subspecialty-specific issues that require attention. The literature reveals that surgery-related complaints often centre around postoperative care quality, communication breakdowns, and professional conduct.

For example, [Ronald et al \(2021\)](#) highlighted care quality and communication as primary concerns in their study on spine surgery complaints, while [Mirbod et al \(1995\)](#) pointed out the high risk of patient complaints due to post-surgical complications. [Tibble et al \(2018\)](#) further elaborated that surgeons receive more complaints compared to their physician peers, often focusing on communication and interpersonal behaviour. Several studies revealed the relationship between patient complaints and adverse surgical outcomes [Grandizio et al \(2021\)](#), and a correlation between complaint frequency and the rate of incidence of adverse surgical occurrences, particularly in cases with higher preoperative risk levels, suggesting that patient complaints could serve as early warning signs for potential complications ([Catron et al, 2016](#)).

Additionally, [Tapper et al \(2004\)](#) showed that analyzing complaints can reveal systemic issues and areas for improvement in healthcare settings. [Kynes et al \(2013\)](#) found heterogeneity in anesthesiology care, highlighting the necessity for targeted interventions to enhance patient experiences and reduce complaint. Similarly, ([Mann et al, 2012](#)) reported that the majority of patient complaints were ef-

fectively addressed through direct communication, underscoring the effectiveness of immediate response mechanisms in mitigating dissatisfaction.

The literature underscores the critical role of managing and analyzing patient complaints within healthcare settings, especially in distinguishing between surgery-related and non-surgery-related complaints. It emphasizes the importance for healthcare providers to establish comprehensive complaint management and analysis systems. These systems not only help identify areas requiring improvement but also contribute to enhancing patient satisfaction, safety, and care quality. As this study progresses, it aims to further elucidate the nuances between surgery-related and non-surgery-related complaints, providing insights into targeted strategies for quality improvement.

Methods

Data Collection

The foundation of our analysis was based on a meticulously compiled dataset from the hospital's internal complaint management system, encompassing a full year's worth of patient complaints. This dataset was categorized into two groups: complaints related to surgical procedures and those unrelated. Each entry included details such as the implicated department, method of complaint, identified risks, and resolution outcomes.

Selection and Exclusion Criteria

Complaints included in the study met specific criteria: they were lodged within the study period, categorized departments as surgical or non-surgical, and provided detailed information about the nature of the grievance. We excluded complaints that lacked essential details such as department or complaint nature, as well as duplicate entries, to maintain data integrity and focus.

Data Analysis

Statistical analysis was performed using SPSS Statistics for Windows, Version 26.0 (IBM Corp., Armonk, NY, USA). Descriptive statistics were used to summarize the characteristics of the complaints, and cross-tabulation analysis was employed to explore relationships between variables, such as the department involved and the primary reasons for complaints. Chi-square tests were conducted to assess the significance of these relationships, with a *p*-value of less than 0.05 considered statistically significant.

Ethical Considerations

To address ethical concerns and maintain credibility, all patient complaints were anonymized. Identifiable information was removed, and each complaint was assigned a unique identifier. All data handling procedures adhered to the hospital's ethical guidelines and data protection regulations, ensuring stringent ethical standards and safeguarding patient confidentiality.

Consideration of Contextual Factors

While our dataset spans a year, it's important to acknowledge potential influences of contextual factors such as changes in hospital policies, patient volume, and staff turnover, which could impact complaint patterns. Future research should take these variables into account to achieve a more comprehensive understanding of complaint trends.

Data Cleaning and Preparation

A thorough data-cleaning process was essential to ensure the reliability of our findings. This included checking for missing values and standardizing data formats, particularly for categorical variables such as departments and reasons for complaints, to establish a consistent analysis framework.

Analytical Approach and Visualization

Our approach encompassed both descriptive statistical analysis and cross-tabulation analysis. We mapped the landscape of patient complaints, identifying patterns and areas of concern. To facilitate the interpretation of complex data, we employed visualization techniques such as bar graphs and heatmaps. These visualizations highlighted the distribution of complaints and underscored prevalent reasons for patient dissatisfaction.

Research Findings

Analysis of Surgery-Related Complaints

This section outlines the basic characteristics of surgery-related complaint data, including the total number of complaints, the distribution across various departments, and the most common reasons for complaints. Through visual aids such as bar graphs and heatmaps, we present the distribution of different types of complaints, offering background information for deeper analysis.

The dataset consisted of a total of 132 complaints. Our analysis primarily centred on surgery-related complaints to explore the intricacies of patient grievances in these critical areas.

Outcome Distribution

The majority of the complaints resulted in outcomes other than death, indicating that while serious enough to be formally lodged, they did not lead to the most severe consequences (Fig. 1).

Distribution of Complaint Methods: The predominant method of lodging complaints was through visits, emphasizing patients' preference for direct interaction when filing grievances. This underscores the significance of maintaining open, face-to-face communication channels in healthcare settings (Fig. 2).

Departmental Complaints

The Surgery Department emerged as the primary recipient of complaints, suggesting a higher incidence of patient dissatisfaction or concerns in surgical care.

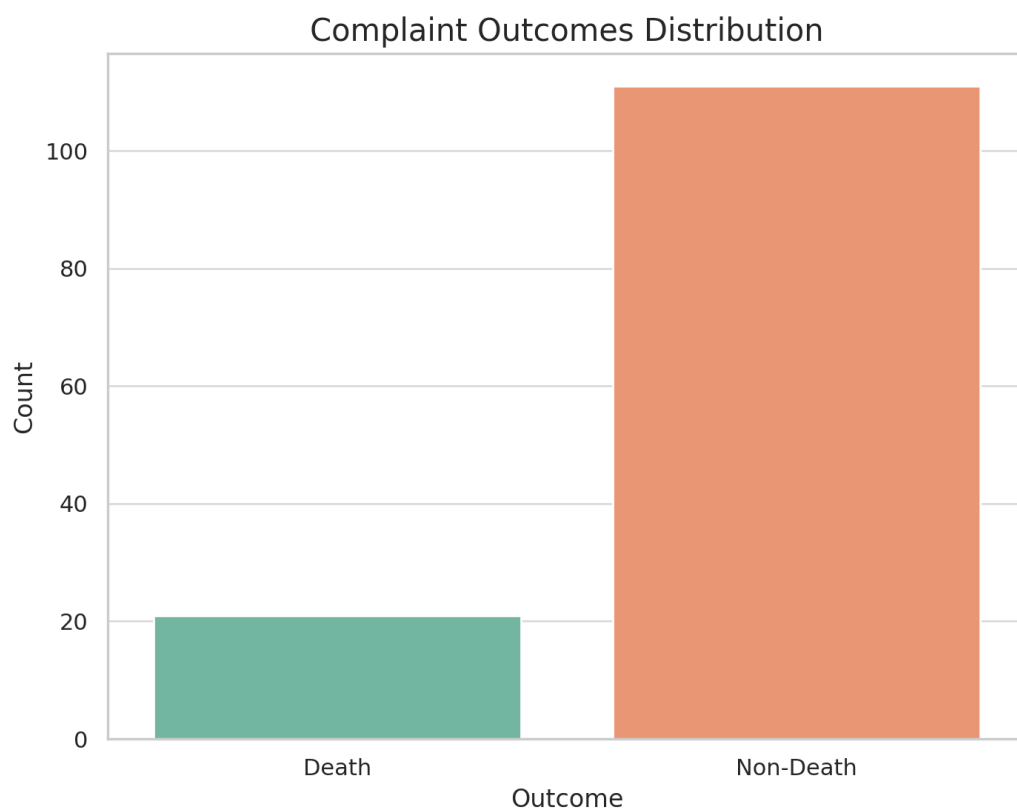


Fig. 1. Distribution of complaint outcomes.

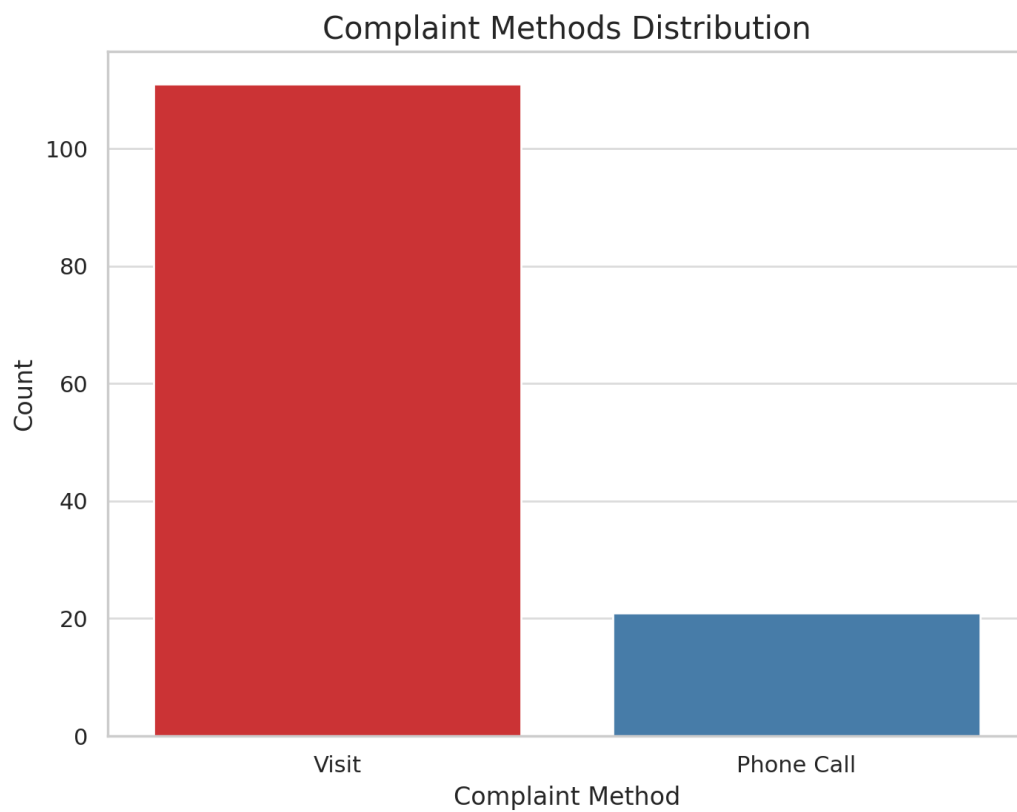


Fig. 2. Preferred methods for lodging complaints: an overview.

This highlights areas that may require improvement in surgical procedures, patient communication, and post-operative care (Fig. 3).

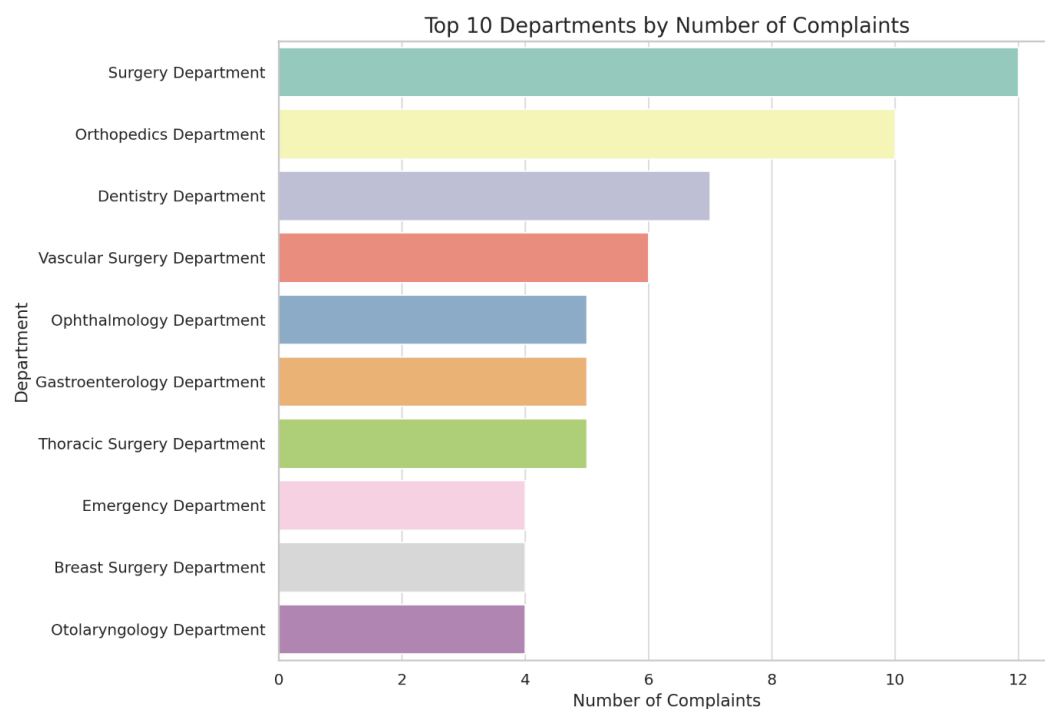


Fig. 3. Departments with the highest number of complaints.

Primary Reasons for Complaints

Patient Communication was identified as the most common primary reason for complaints, indicating that issues in communication between healthcare providers and patients significantly contribute to patient dissatisfaction in the surgical context. Enhancing communication strategies could therefore be a critical area for reducing complaints (Fig. 4).

Cross-Tabulation Analysis

The cross-tabulation analysis revealed insightful correlations between different aspects of the complaints, particularly between the outcomes of the complaints and whether a risk was reported, as well as the distribution of primary reasons for complaints across different departments.

Outcome vs. Reported Risk

The analysis uncovered a significant relationship between complaint outcomes and the reporting of risks. The heatmap visualization (Fig. 5) illustrates that the majority of complaints that did not result in death were also cases where no risks were reported. This suggests a potential gap in risk awareness or reporting mechanisms within the hospital's complaint management system. Enhancing these mechanisms could lead to earlier identification of risks and potentially prevent adverse outcomes.

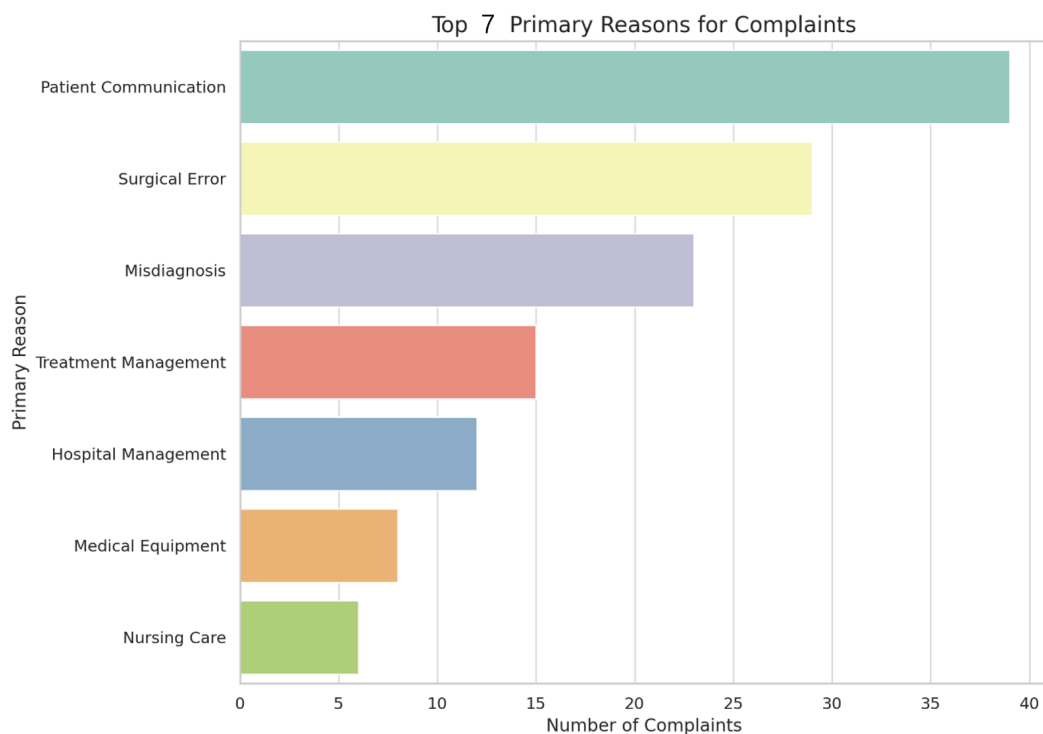


Fig. 4. Primary reasons for patient complaints: identifying key areas for improvement.

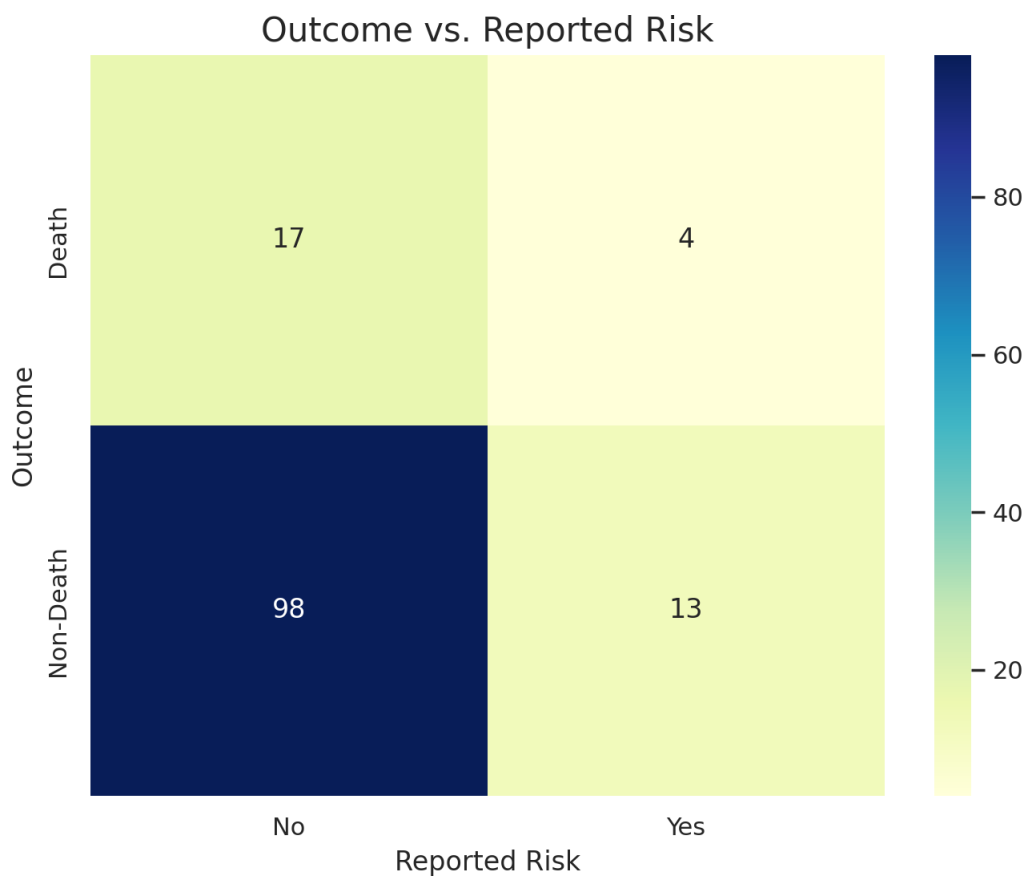


Fig. 5. Correlation between complaint outcomes and reported risks: a heatmap analysis.

Department vs. Primary Reason for Complaints

Our analysis extended to understanding how the reasons for complaints were distributed across various departments, with a focus on departments receiving the highest number of complaints. The heatmap (Fig. 6) illustrates a concentrated distribution of complaints related to ‘Patient Communication’ in the ‘Surgery Department’, highlighting a recurring issue of dissatisfaction in patient-provider communication within surgical care. This finding underscores the necessity for targeted interventions to enhance communication practices in departments with high complaint rates, aiming to improve patient satisfaction and reduce complaints.



Fig. 6. Analyzing complaint reasons across departments: insights from heatmap visualization.

Association Analysis between Departments and Complaint Reasons

An in-depth analysis was conducted to explore the relationship between departments and the primary reasons for complaints, aiming to identify areas where specific issues are predominantly concentrated. This analysis was visualized using a stacked bar chart (Fig. 7), which illustrates the distribution of complaint reasons across the top 10 departments with the highest number of complaints.

The visualization distinctly reveals that certain departments are more susceptible to complaints about specific issues. For instance, the Surgery Department shows a significant portion of complaints related to ‘Patient Communication’ and ‘Surgical Error’. Similarly, the Dermatology and Gynecology Departments exhibit a higher percentage of complaints related to ‘Treatment Management’. The Emer-

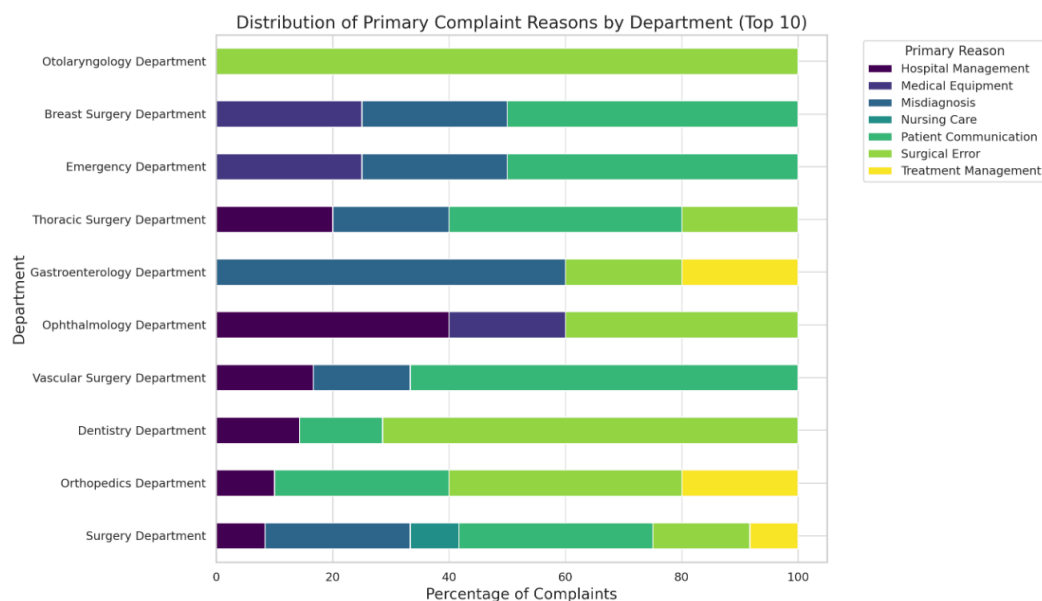


Fig. 7. Concentration of complaint reasons in top 10 departments: a stacked bar chart presentation.

gency Department stands out with a diverse range of complaint reasons, prominently including ‘Waiting Time’. Additionally, ‘Hospital Management’ complaints are relatively spread across departments. This analysis provides clarity on where specific issues are concentrated within the hospital departments, aiding in targeted interventions to address patient concerns effectively.

Analysis of Non-Surgical Complaints

The investigation into non-surgical complaints within the healthcare setting has revealed notable patterns and concentrations. The dataset comprises 65 complaints, reflecting concerns across 15 departments, with the Radiology Department being the most frequently cited.

Departmental Distribution of Complaints

The analysis reveals that complaints are not evenly distributed across departments, with the Radiology Department receiving the highest number of complaints. This highlights a potential area for targeted quality improvement measures to address the specific concerns raised by patients and their families regarding radiological services (Fig. 8).

Primary Reasons for Complaints

The primary reasons for complaints have been categorized into 11 categories, with ‘Medical Treatment Process’ identified as the most common grievance. This underscores a critical need to enhance the clarity and efficiency of the medical treatment process, aiming to reduce confusion and dissatisfaction among patients (Fig. 9).

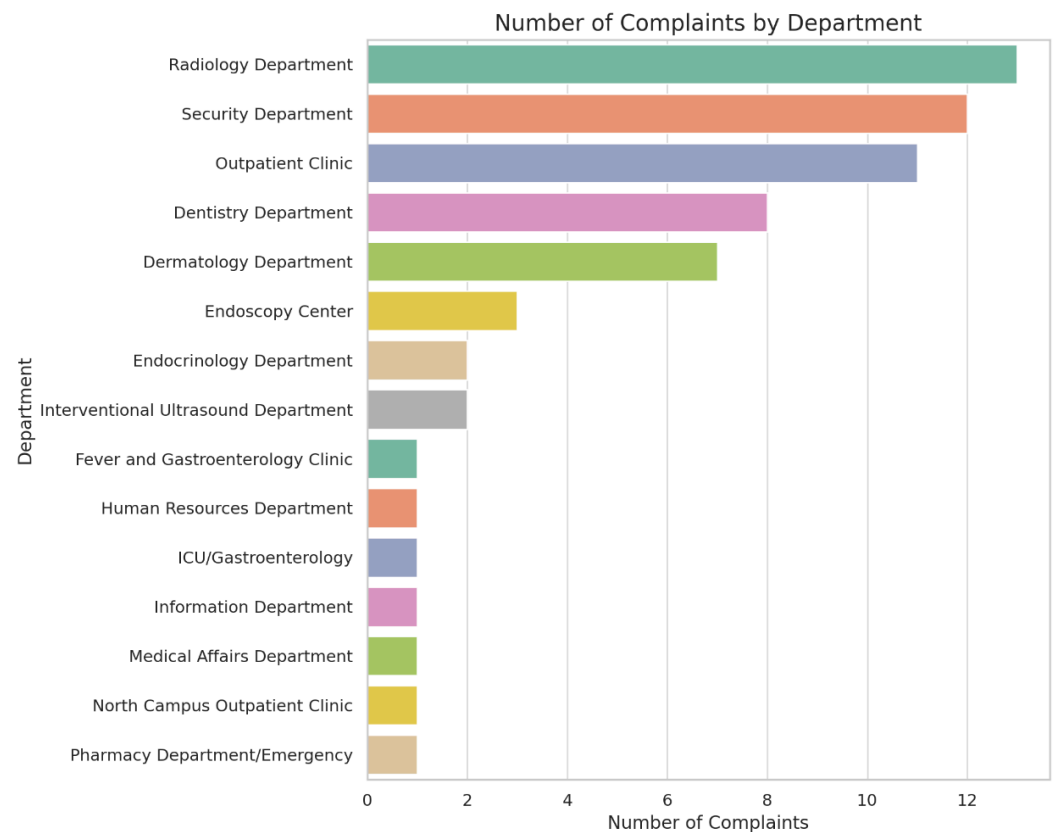


Fig. 8. Distribution of non-surgical complaints across departments.

Discussion

The analysis of patient complaints, encompassing both surgical and non-surgical contexts within the hospital, has yielded several insightful findings that underscore the multifaceted nature of patient dissatisfaction and highlight critical areas for healthcare quality improvement. This discussion aims to interpret these findings, consider their implications, and position them within the broader landscape of healthcare management research.

The predominance of non-death outcomes in complaints, while reassuring on one level, highlights the importance for hospitals to address factors beyond life-threatening errors. The high incidence of complaints related to ‘Patient Communication’ and ‘Medical Treatment Process’ indicates systemic issues in how information is communicated and treatments are administered. These findings suggest that while the technical quality of care may be satisfactory, there is a notable gap in meeting patient expectations regarding communication clarity and transparency in treatment processes. Addressing these areas could significantly enhance patient satisfaction and trust in healthcare services.

The descriptive statistics offer a comprehensive overview of how complaints are distributed across departments and the primary reasons behind them. To explicitly connect these findings with subsequent recommendations, it’s crucial to understand how these statistics pinpoint specific areas requiring attention within hospital management.

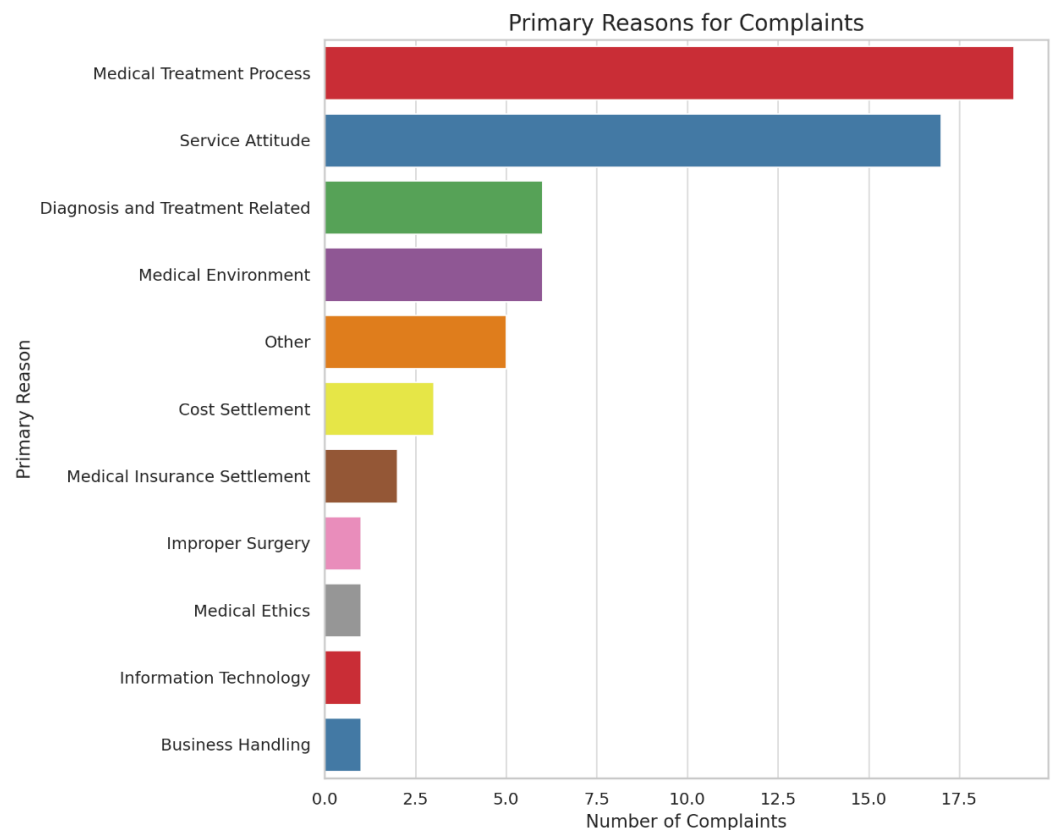


Fig. 9. Leading reasons for non-surgical complaints: a categorical analysis.

The high frequency of communication-related complaints in the Surgery Department, for example, clearly indicates the necessity for targeted communication training programs. These programs can enhance patient-provider interactions, ensuring that patients receive clear and consistent information about their treatment plans, thereby reducing dissatisfaction and complaints. Similarly, the significant number of complaints related to the medical treatment process in non-surgical departments suggests that streamlining treatment protocols and improving transparency can effectively address patient concerns. Implementing these targeted interventions can lead to improved patient experiences and better overall healthcare outcomes.

Moreover, the concentration of complaints in specific departments, notably the Surgery and Radiology Departments, suggests that these areas are perceived as particularly problematic by patients. This could be attributed to the high-stress nature of surgical treatments and diagnostic processes, underscoring the need for targeted interventions to enhance patient experiences in these departments.

These findings are consistent with existing literature emphasizing the critical role of effective communication and transparent treatment processes in improving patient satisfaction (Farzianpour et al, 2015). Furthermore, identifying specific departments as focal points for complaints aligns with studies that highlight areas within hospitals often associated with higher levels of patient dissatisfaction (Lewis and Petterson Gelandar, 2009). Addressing these concerns through targeted quality improvement initiatives can lead to better patient outcomes and enhanced hospital performance.

These findings highlight critical areas for intervention to improve communication strategies and surgical safety protocols in the Surgery Department. In the Dermatology and Gynecology Departments, addressing patients' expectations regarding treatment outcomes and enhancing the clarity of treatment plans are essential. The significant concern about 'Waiting Time' in the Emergency Department underscores the importance of efficient patient flow management and clear communication about wait times in emergency care settings. The distribution of 'Hospital Management' complaints across departments suggests a potential systemic issue that may necessitate organization-wide policy changes and training programs to address operational inefficiencies or patient-staff interactions.

By focusing on the highlighted areas, healthcare providers can implement targeted quality improvement initiatives, such as:

(1) Developing tailored communication training programs for departments with high complaints related to 'Patient Communication'.

(2) Reviewing and enhancing surgical safety measures in departments prone to 'Surgical Error' complaints.

(3) Implementing patient flow optimization strategies in areas where 'Waiting Time' is a significant concern.

To enhance the clarity of our conclusions, we explicitly link the data on non-death outcomes in complaints to managerial focus. The high frequency of non-death complaints indicates that while addressing life-threatening errors is crucial, there is also a significant need to address broader patient satisfaction issues. This is underscored by patient complaints highlighting communication challenges and procedural clarity.

In future research, incorporating qualitative input from patient surveys or staff interviews could provide deeper insights into these issues. Additionally, refining the definition of "risk" related to complaints to encompass potential hazards or vulnerabilities in patient care—such as procedural errors, communication breakdowns, and operational inefficiencies—would be beneficial. A precise understanding of these risks helps prioritize areas for safety improvements and enhances complaint management strategies.

The findings of this study hold significant implications for hospital management, particularly in utilizing complaints as a management tool. By identifying specific areas that generate the most complaints, particularly in surgical and radiological departments, hospital administrators can better prioritize resource allocation and training to address these critical areas.

The correlation between complaint types and patient outcomes provides hospital managers with a vital metric for evaluating the effectiveness of current management practices and patient safety protocols. Integrating complaint data into regular management reviews can significantly enhance operational decision-making and strategic planning.

Furthermore, the high incidence of communication-related complaints in surgical departments underscores the necessity for targeted communication training programs for healthcare providers. These programs should focus on improving

patient-provider interactions, ensuring clear communication of medical information, and effectively managing patient expectations.

Distinct patterns observed in non-surgical complaints, such as issues with the medical treatment process, suggest a need for hospitals to streamline treatment protocols and enhance transparency. Addressing these areas can reduce patient complaints as well as foster a more trusting and satisfactory patient experience.

Future research should build on these findings to develop and test interventions aimed at resolving these highlighted issues. This would contribute to a comprehensive framework for enhancing healthcare quality and patient satisfaction on a broader scale.

From a hospital management perspective, enhancing management quality involves several strategic initiatives based on insights garnered from this study. Firstly, implementing a dynamic complaint handling system that not only addresses individual issues but also aggregates data for systemic analysis is crucial. This system should include training programs for staff on effective communication and risk awareness, particularly in departments with high complaint rates. Secondly, hospital managers should consider establishing a cross-departmental task force dedicated to integrating complaint data with quality assurance processes. This task force would develop targeted interventions based on emerging trends in complaint data, enhancing the hospital's responsiveness to patient needs and expectations. Finally, enhancing transparency with patients regarding treatment processes and outcomes can significantly reduce complaints, thereby improving patient satisfaction and trust. These measures collectively ensure that hospitals are not only centers of medical excellence but also champions of patient-centred care. Such initiatives are essential for fostering a culture of continuous improvement and patient-focused healthcare delivery.

This study's findings both validate and expand upon current theories in healthcare management, particularly regarding complaint management. Our research confirms existing theories that underscore the critical role of effective communication and procedural transparency in mitigating patient dissatisfaction. However, it also challenges the predominant focus on life-threatening errors by highlighting the substantial impact of non-death complaints on overall patient satisfaction.

This study is not without its limitations. The reliance on complaint data recorded within a single hospital's management system may not capture the full spectrum of patient complaints, as not all dissatisfied patients may choose to lodge formal complaints. Additionally, categorizing complaints into surgical and non-surgical categories may oversimplify the complexities of complaints that could span across both categories.

Future research should aim to broaden the scope of analysis by including multiple hospitals and healthcare settings to validate the generalizability of these findings. Incorporating qualitative studies to explore patient narratives behind complaints could provide deeper insights into specific aspects of communication and treatment processes needing improvement. Furthermore, investigating the effectiveness of targeted interventions aimed at addressing identified areas of concern will be crucial in translating findings into actionable solutions.

Conclusion

This study contributes to hospital management by systematically analyzing patient complaints, and distinguishing between surgical and non-surgical grievances. It underscores the importance of targeted communication training and enhanced procedural transparency, guiding hospital administrators to prioritize resource allocation and staff training. Integrating complaint data into management reviews can enhance patient satisfaction and care quality. We recommend that future research expand on these findings by incorporating qualitative insights and testing interventions aimed at addressing identified issues.

Key Points

- The study distinguishes between complaints related to surgical procedures and those unrelated, facilitating precise identification of issues and improvement areas.
- Emphasizes integrating complaint data into hospital management systems to enhance patient care and operational efficiency.
- The research analyzes complaint types and outcomes while proposing targeted quality improvement strategies, aiming to enhance service quality and patient satisfaction.
- Highlights the crucial role of communication training and procedural transparency in reducing patient complaints and improving overall patient experience.

Availability of Data and Materials

All data included in this study are available upon request by contact with the corresponding author.

Author Contributions

JLQ, BL, and GPF designed the research study. BL and DFS conducted the research. GPF and RJL provided assistance and guidance on the analysis. XYL and YXW analyzed the data. JLQ drafted the manuscript. All authors contributed to significant editorial changes in the manuscript. All authors read and approved the final manuscript. All authors have sufficiently participated in the work and agree to be accountable for all aspects of the work.

Ethics Approval and Consent to Participate

This study was approved by the Ethics Committee of Ningbo City No. 2 Hospital (Approval Number: PJ-NBEY-KY-2019-034-01). All participants gave verbal informed consent.

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Conflict of Interest

The authors declare no conflict of interest.

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