

Analysis of Hospital Budget Management Control Based on Smart Hospital

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Abstract: Hospitals are crucial healthcare facilities where patients seek treatment, and effective budget management within hospitals significantly impacts their operational efficiency and financial performance. In the age of information technology and advanced healthcare solutions, the emergence of smart hospitals represents a new trend in the medical industry's evolution. Leveraging modern information technology can enhance the development of hospital IT systems and drive budget management toward greater intelligence. This paper begins by analyzing the influence of smart hospitals on hospital budget control. It then examines the current state of budget management control within smart hospitals. Finally, it proposes several strategies for budget management control in smart hospitals, aiming to provide guidance for relevant stakeholders.

Keywords: Smart hospital; Hospital management; Budget management; Financial control; Control strategies

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1. Introduction

The rapid growth of China's economy has spurred significant advancements in its healthcare sector. Influenced by modern information technology and driven by comprehensive reforms in the medical system, hospital budget management, particularly within smart hospitals, has seen steady progress. While hospitals are primarily centers for saving lives, their operational objectives also include financial viability. Effective budget management can reduce operating costs and enhance overall efficiency, especially within the realm of information technology.

Traditional budget management methods often suffer from inefficiencies and a lack of technological integration. To foster the sustained growth of hospitals and address deficiencies in budget management, it is imperative to strengthen hospital budgeting practices. This entails leveraging modern information technology and embracing smart hospital initiatives to optimize budget management processes.

2. The impact of smart hospitals on hospital budget control

2.1. Improvement of control accuracy

Smart hospitals heavily rely on various modern information technologies, such as big data, the Internet of Things (IoT), artificial intelligence (AI), and cloud computing. These technologies elevate the level of

information technology in patient diagnosis, treatment, nursing care, and overall hospital management, leading to a significant increase in control accuracy within hospital budget management ^[1]. Moreover, budget management within smart hospitals is characterized by enhanced transparency. Through information technology, hospital budgeting and related management data can be easily accessed, fostering a certain degree of data openness. This ensures the authenticity and credibility of the data, thereby boosting budgeting accuracy and control. Furthermore, smart hospitals provide convenient access to information regarding hospital income, expenditure, and patient medical conditions. This enhanced access to accurate budget management information brings hospital budgeting closer to real-world situations, gradually reducing budgeting errors.

2.2. Optimization of cost control

The advent of modern information technology has transformed the landscape of hospital budget management within smart hospitals, leading to effective optimization of cost control. Intelligent hospitals leverage advanced technical support, such as intelligent technologies and equipment, to elevate the sophistication of budget management. This facilitates the rational allocation of medical resources and enhances the level of personalized services and hospital customization. Additionally, efficient resource allocation reduces waste and improves resource utilization, thereby lowering investment in hospital operating costs and decreasing the overall cost of hospital budget management. Smart hospitals optimize the budget management process, enhance management efficiency, and effectively control and optimize operating costs, thereby enhancing the quality of hospital budget management and preventing economic losses. Furthermore, the intelligent features of smart hospitals reduce budget management errors and ensure standardization and uniformity, presenting favorable opportunities for the advancement of hospital budget management.

3. Analysis of the current situation of hospital budget management in smart hospitals

3.1. Lack of regularized budgeting

Hospital budgeting demands professionalism and adherence to standardized preparation standards. However, some hospitals under the smart hospital backdrop exhibit non-standardized budgeting practices, negatively impacting the effectiveness of budget management. This lack of standardization may lead to biased estimates of hospital income and expenditure. Whether due to overly optimistic income projections or underestimations of costs, such discrepancies can disrupt the hospital's financial equilibrium, reducing budget management efficiency and compromising the quality of medical services. Inadequate data information integrity is a common contributor to this lack of standardized budgeting. Comprehensive and accurate budgeting relies on the meticulous collection of diverse data. Insufficient or inaccurate information collection can degrade budgeting quality and escalate budgeting errors ^[2].

3.2. Lack of scientific controllability

Hospital budget management directly influences fund management and financial risk control. Non-standardized budgeting may undermine the scientific and practical aspects of hospital budget management. Given the continuous updating of hospital income and expenditure data, delayed or incomplete data collection or updates can compromise the scientific rigor of budget management. Coupled with inadequate expertise among budget management personnel, deficient professionalism, and limited market understanding, this may impede budget management's practicality. Consequently, financial control and hospital management become more challenging, potentially leading to increased financial risks and operational losses over time ^[3]. Moreover, the lack of

comprehension regarding market economic environments and industry trends among hospital budget managers may perpetuate outdated management concepts and modes, hindering the advancement of budget management's level of informatization and hampering the swift handling of emergencies.

3.3. Lack of efficient implementation

Budget management constitutes a vital component of hospital financial management, directly influencing operational and economic efficiencies. However, many hospitals, irrespective of public or private ownership, suffer from inefficient budget management execution, often stemming from internal budgeting shortcomings. Some hospital administrators prioritize economic benefits over social ones, resulting in overly optimistic income estimates and underestimations of expenditures during budgeting. Consequently, significant disparities arise between budget projections and actual income and expenditure, failing to reflect the hospital's true financial standing. Furthermore, inadequate budget implementation frequently leads to budget shortfalls, disrupting normal hospital operations and potentially compromising medical service quality. Additionally, lax management during budget implementation may exacerbate budget execution issues, leading to overspending or underspending and other undesirable outcomes ^[4].

4. The hospital budget management control strategy of smart hospitals

4.1. Standardizing hospital budgets

Under the backdrop of smart hospitals, hospital budgeting endeavors must prioritize standardization. Firstly, budget managers should possess professional qualifications in financial management, ensuring the scientific, rational, and standardized execution of budgeting tasks, thus averting any compromise in budgeting quality due to managerial incompetence. Secondly, budgeting should emphasize the comprehensive collection of diverse data and information. During the integration phase of budget content, budget personnel should gather business-related data pertinent to procurement alongside insights into the hospital's developmental status and financial standing. This approach furnishes detailed data for constructing the budget management system, guaranteeing the credibility and validity of budgeting content and upholding budgeting quality ^[5]. Finally, in selecting a budgeting program, budget staff should align with actual circumstances and budget management objectives while prioritizing a reference assessment mechanism to ensure that budgeting aligns with reality and enhances budgeting standardization.

4.2. Establishing a sound management system

Hospital budget management demands heightened professionalism, particularly within the framework of smart hospitals. To augment the scientific and operational aspects of budget management, financial managers should concentrate on establishing a robust budget management system, furnishing a systematic safeguard for budget management. Firstly, budget managers must update management concepts and adopt innovative management methods while ensuring real-time data updates and implementing a hierarchical management process. In this process, hospital management takes precedence, with budget management serving as a complementary function to ensure orderly budget management work and comprehensive and timely data collection ^[6]. Moreover, budget personnel should scientifically formulate budget management processes and content based on the hospital's operational conditions and financial status, rigorously controlling all expenditures to prevent cost wastage. Secondly, constructing the budget management system necessitates managers' comprehension of market economic environments, industry trends, and smart hospital budget management specifications. Leveraging information technology, managers should accurately grasp various raw data, ensuring that system construction

aligns with budget management requirements.

4.3. Enhancing budget execution

Budget management constitutes a pivotal aspect of hospital financial management and overall administration. Addressing insufficient execution in hospital budget management necessitates augmenting budget implementation. During the budget management and control phase, enhancing the efficacy of budget control entails managers bolstering the construction of the budget implementation supervision system. Viewed through the lens of smart hospitals, budget management execution correlates closely with its management mode and is influenced by budgetary impacts. Budget personnel must accurately estimate hospital income and expenditure while intensifying budget oversight to prevent instances of overspending or overbudgeting ^[7]. Furthermore, leveraging information technology, budget personnel should design budget management procedures systematically, update and optimize the budget management system, and reinforce data analysis to elevate budget management proficiency, thus furnishing a fundamental assurance for enhanced budget execution and propelling hospitals towards the realm of smart hospitals.

4.4. Implementing advanced systems

Intelligent hospitals epitomize the evolution of the information age, characterized by high levels of informatization and intelligence. To align hospital budget management with intelligent hospital management standards, attention must be directed toward the adoption and implementation of a mobile expenditure approval control system. Presently, in hospital budget management, electronic systems have gradually supplanted manual audits and budget approvals. If the approval amount exceeds the budget amount, the system issues a warning and rejects the submission of the reimbursement form. This approval not only alleviates human labor, enhancing budget approval efficiency, but also mitigates financial risks and curbs instances of overspending ^[8]. As an advanced system, the mobile expenditure approval control system seamlessly integrates budget management and approval, bolstering budget management proficiency, rationalizing hospital operating costs, and reinforcing fund control. Moreover, the system standardizes the reimbursement process, rigorously regulates reimbursement amounts, and facilitates real-time disclosure of reimbursement data and approval processes, enabling relevant hospital departments to monitor reimbursement progress promptly.

5. Conclusion

The development of smart hospitals represents the future trajectory of the medical industry. Within this framework, hospital budget management necessitates a paradigm shift towards intelligent transformation. Smart hospitals offer enhanced accuracy of control and optimized cost management, underscoring the imperative for financial controllers and budget managers to address deficiencies such as non-standardized budgeting, lack of scientific controllability, and inefficient implementation in current hospital budget management practices. By standardizing the preparation of hospital budgets, establishing robust management systems, increasing budget implementation efficacy, and incorporating advanced systems, hospitals can enhance their operational efficiency and facilitate long-term development.

Disclosure statement

The author declares no conflict of interest.

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