

## ORIGINAL ARTICLE

# Optimization strategies for comprehensive budget management from the perspective of clinical departments

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## ABSTRACT

With the advancement on the reform of healthcare payment system and the zero-markup drug policy, hospitals are shifting their strategic focus from traditional revenue growth to cost control, which drives the need for robust comprehensive budget management. The implementation of comprehensive budgeting within clinical departments is particularly crucial to overall hospital budget management. Against this backdrop, this paper investigates the current state of daily budget execution, identifies existing challenges in a clinical department of a large Grade A Tertiary public hospital in Sichuan Province, summarizes the importance of implementing comprehensive budget management at the clinical department level and proposes adaptive, feasible optimization strategies for comprehensive budget management methods. These strategies are expected to enhance the efficiency and effectiveness of comprehensive budget management in clinical departments, improve the quality of refined management, and provide references for optimizing comprehensive budget management in clinical departments.

**Key words:** comprehensive budget management, clinical department, public hospital, optimization strategy

## INTRODUCTION

A large public hospital in Sichuan Province, operating as a Grade A Tertiary institution under the budget management of the National Health Commission, has explored and established a comprehensive budget management system characterized by “top-down integration, hierarchical compilation, and level-by-level aggregation”. While the developers fully consider the specific circumstances of each clinical department to design this system and employ a range of management tools to achieve refined management and optimized resource allocation, thereby enhancing the hospital’s service quality and operational efficiency. We found in practice that if clinical departments can effectively

manage their allocated budget items and effectively control departmental costs, they will maximize their potential, optimize their budget allocation structure, improve the efficiency and effectiveness of budget execution, and ultimately enhance the hospital’s overall competitiveness.

## IMPORTANCE OF EFFECTIVE COMPREHENSIVE BUDGET MANAGEMENT IN CLINICAL DEPARTMENTS

In 2021, to standardize budget management operations and strengthen budgetary discipline,<sup>[1]</sup> the National Health Commission issued the “Notice on Imple-

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menting the Measures for the Comprehensive Budget Management System in Public Hospitals", which introduced the concept of comprehensive budgeting and required hospitals to implement all-round budget management.<sup>[2]</sup> It specified that all clinical, medical technical, and logistical departments constitute the execution layer of comprehensive budget management, which shall collaborate with the Budget Management Office and relevant budget oversight departments in budget formulation while managing their own departmental budgets effectively, ensuring clear assignment of duties and individual responsibility.<sup>[3]</sup>

Clinical departments function as the fundamental budget execution units. Centered on the hospital's budget items and aligned with frontline clinical work, they decompose the hospital's overall budget targets at the departmental level. By integrating departmental operations with the hospital's financial budget management, they accurately reflect departmental workload, revenues, and expenditures, forming the smallest budget execution unit of a certain scale of financial control system within the department. Linking departmental budget execution outcomes to overall performance evaluation<sup>[4]</sup> helps clarify budgetary tasks and responsibility assignments, enables timely identification of vulnerabilities and internal/external risks, facilitates reasonable adjustment of revenue/expenditure balances with the hospital, and promotes the refinement of the clinical department's performance assessment framework. Controlling costs, enhancing resource allocation efficiency and economic benefits,<sup>[5]</sup> and increasing staff income serve to motivate departmental personnel, foster initiative and creativity, and ultimately achieve clinical department budget goals efficiently, thereby elevating the standard of budget management.

## **SPECIFIC PRACTICES OF COMPREHENSIVE BUDGET MANAGEMENT IN DEPARTMENT X**

To strengthen budgetary constraints and fully leverage the resource allocation and support functions of budget management, Department X closely aligned its asset allocation budgeting with the hospital's development strategy. Given the specific circumstances of departmental development, renovation projects, and discipline construction goals, the department established a comprehensive budget management organizational structure tailored to its needs.

### ***Organizational structure***

Department X implemented a comprehensive budget management organizational system comprising a department management team, a budget administrator, an equipment administrator, and fixed asset inventory

personnel. Budget responsibilities were decomposed and assigned to various budget responsibility units at different levels (Figure 1).<sup>[6]</sup>

### ***Comprehensive budget management functions of department X***

As a general budget clinical department, Department X represents the smallest responsibility unit within the hospital's budget system and the primary level for executing comprehensive budget management. Its key functions include: (1) the department head acts as the budget responsible person, accountable for the entire budget cycle: compilation, approval, execution, feedback, analysis, adjustment, settlement, and assessment;<sup>[7]</sup> (2) based on historical budget data, current development objectives, work tasks, and operational data, the department scientifically formulates its internal budget,<sup>[8]</sup> which is discussed and reviewed by the department management team before submission to the relevant oversight department; (3) the department regularly summarizes and analyzes budget execution, identifies variances, promptly adjusts deviations, and takes necessary corrective actions<sup>[9]</sup> to ensure smooth budget implementation; and (4) departmental budget management is conducted under the guidance of the oversight department, informed by joint discussions involving the budget administrator, equipment administrator, and fixed asset inventory personnel. Furthermore, the budget department needs to strengthen its contact with administrative functional departments to establish an effective communication and liaison mechanism with the budget oversight department.

### ***Execution of daily operating funds in department X***

Due to internal execution issues or external factors like the pandemic, a significant portion of the department's budget could not be executed according to the originally approved special project funds. For example, in 2021, variances (both surpluses and shortfalls) for items such as office expenses and departmental training fees exceeded 20,000 CNY, indicating substantial deviations. In 2022, notable fluctuations were observed in departmental training fees, domestic training fees (Talent Revitalization Plan), and article publication fees, with variances around 30,000 CNY. The surplus for academic travel expenses approached 10,000 CNY, revealing a clear polarization in execution rates (Table 1).

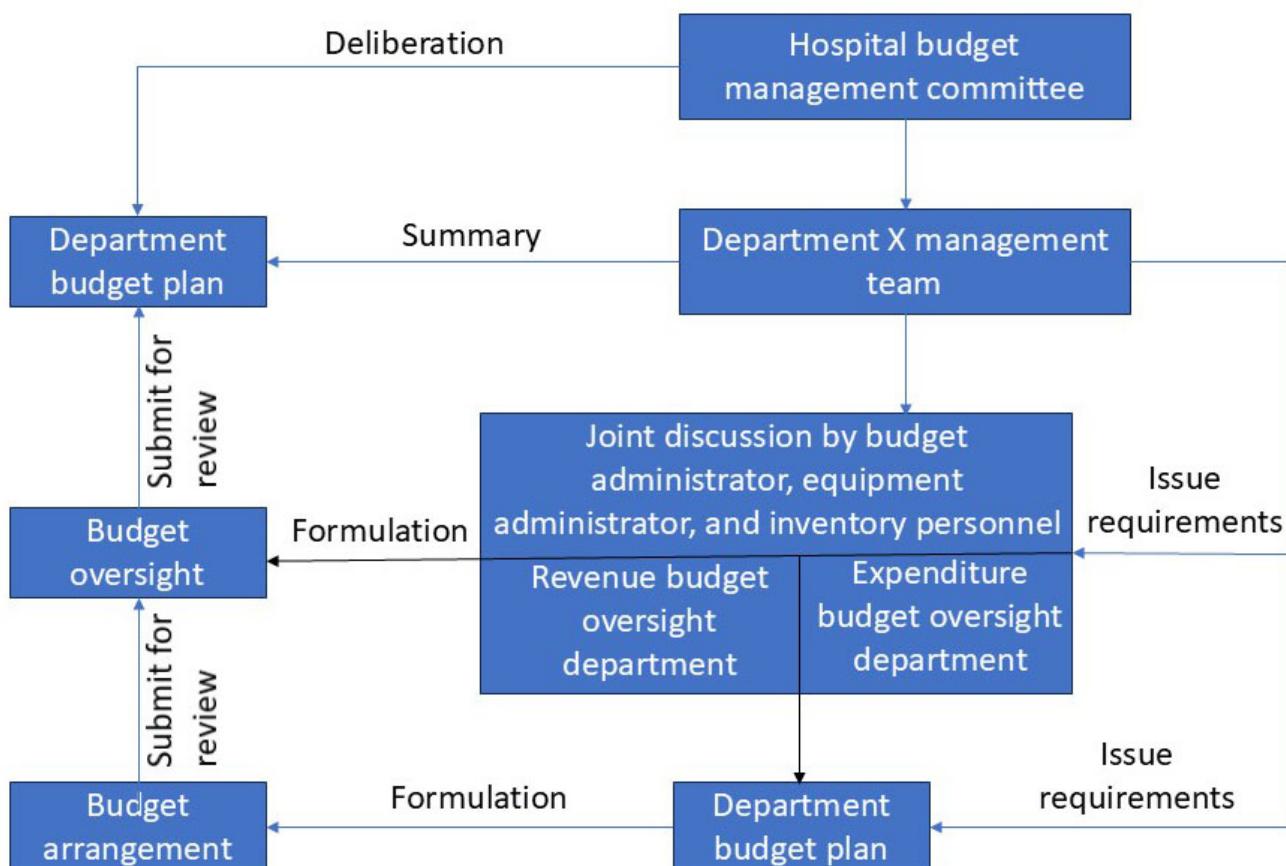
## **PROBLEMS IN THE COMPREHENSIVE BUDGET MANAGEMENT OF DEPARTMENT X**

While the hospital has made significant strides in comprehensive budget management under the new healthcare reforms,<sup>[10]</sup> some deficiencies have been

**Table 1: Execution of daily operating funds in department X, 2021–2022 (CNY)**

Oversight department	Budget item	2021			2022		
		Approved	Executed	Balance	Approved	Executed	Balance
Logistics management department	Office expenses	40 000	5 083	34 917	5 703	6 820	-1 117
	Printing fees	1 327	357	970	400	426	-26
Human resources department	Departmental training fees	27 146	46 659	-19 513	10 400	4 230	6 170
	Domestic training expenses (Talent Revitalization Plan)*	0	0	0	30 000	0	30 000
Science & technology department	Academic travel expenses	1 269	1 600	-331	9 360	0	9 360
	Article publication fees	4 150	6 300	-2 150	5 800	32 443	-26 643
Publicity department	WeChat verification fees	200	0	200	200	0	200
	Publicity funds	3 200	0	3 200	0	0	0

Note: \*categorized as special project funds in 2022.



**Figure 1.** Comprehensive budget management organizational structure of department X.

exposed in the practical implementation at the clinical department level, which impede the optimal allocation of medical resources and hinder the realization of intended benefits from hospital-wide comprehensive budget management. The primary challenges identified in Department X include: (1) Insufficient awareness of comprehensive budget management. Departments generally formulate next year's budget based on the

previous year's figures without conducting thorough preliminary research and planning during budget formulation, which neglects medium and long-term strategic development plans, adversely affecting the department's sustainable growth; (2) Untimely feedback during execution.<sup>[11]</sup> Reimbursement personnel sometimes fail to follow the provisions to implement the budget items reported in the current year. Issues like budget carry-

overs, cross-year declarations, and prolonged reimbursement periods, particularly for training costs, prevent timely evaluation and adjustment of execution effectiveness; (3) Lack of professional expertise in budget compilation. Budget compilers in clinical departments are typically management team members lacking specialized knowledge in financial analysis and cost control. It is hardly possible to implement comprehensive budget management in accordance with specific requirements of the hospital, directly affecting the optimal allocation of medical resources; (4) Narrow understanding of comprehensive budget management. Budget execution personnel in clinical departments often focus narrowly on their unit's operational finances, developing different levels of understanding and knowledge of the hospital's comprehensive budget management concept,<sup>[12]</sup> which directly influence the effectiveness of the comprehensive budget management work of clinical departments; (5) Insufficient coordination between clinical departments and administrative functional departments. The financial department's information systems often cover only basic budget modules, limiting clinical departments' ability to perform holistic budget analysis. Additionally, the excessive number of approving authorities that projects shall be routed through, coupled with unclear budgeting procedures, result in inefficient budget execution; (6) Disconnect between clinical operations and finance hinders information sharing.<sup>[5]</sup> A typical example is that staff erroneously select the project of domestic training expenses, which are listed as special project funds, according to the original steps, and submit applications for several times, occupying the budget quota. When the quota is needed, the budget is insufficient and the application cannot be submitted, complicating budget control and consuming administrative resources;<sup>[7]</sup> (7) Lack of effective evaluation and adaptive management. Budget execution is inevitably influenced by external factors like force majeure events, patient volume fluctuations, and advancements in treatment technologies, necessitating timely assessment and adjustment; and (8) Lack of post-assessment and incentive mechanisms. Robust assessment and incentives are crucial for motivating frontline staff to actively engage in budget management and complete tasks efficiently. These challenges impede the effective implementation of comprehensive budget management in clinical departments, limiting its potential impact.

## DISCUSSION

### ***Budget management in clinical departments is key to comprehensive budget management***

Awareness of comprehensive budget management should be strengthened, especially among department leadership. The principles and practices of comprehensive

budget management should be integrated into daily departmental operations. Promotion and education concerning budget management in clinical departments should be enhanced, where the training on comprehensive budget management concepts is a top priority. In addition, efforts should be focused on empowering all frontline clinical staff to participate in departmental cost control. Only guided by budget performance value and the principle that "funding supports tasks, and no budget exists without a plan", clinical staff can gradually develop a closed-loop budget cycle of planning, scheduling, budgeting, execution, and evaluation. Fostering a positive budget execution environment ensures all staff understand the significance of comprehensive budget management, promoting top-down involvement and facilitating smooth implementation.

### ***Problem-solving capacity in clinical department budget management is essential for comprehensive budget management***

Budget management fundamentally concerns resource allocation. Firstly, we should compile budget based on the department's development goals, tasks, and actual operations, adopt scientific standards, establish a whole-process budget management mechanism that ensures budgetary goals, transparent execution, complete budget in line with procedures, excellent feedback, and apply suggestions practically to the whole-process budget management mechanism<sup>[13]</sup> to integrate budget with management, optimize business and workflows, and guarantee high-quality, efficient departmental budget execution. Secondly, we should focus on cost control in budget execution, strictly control the implementation of clinical department budget content, regularly summarize execution status, distinguish the factors in the execution, and promptly analyze, adjust, give feedback and improve, creating a daily expenditure evaluation system demanding accountability for results ("spending requires demonstrated effectiveness, ineffectiveness warrants accountability") and implementing holistic, all-round budget management involving all clinical staff. Lastly, budget feedback should prioritize cause analysis of variances.<sup>[14]</sup> We should focus on discrepancies between actual expenditures and remaining budgets, implement key performance indicators, clarify responsibility for variances, and continuously refine the budget management system to identify deficiencies, address gaps, and make up for shortcomings, thereby enhancing problem-solving capacity in clinical department budget management.

### ***Organizational structure and staffing are core link to comprehensive budget management***

As medical professionals, budget compilers in clinical departments possess strong clinical skills and familiarity with departmental data indicators, while financial staff

with financial knowledge often lack detailed understanding of clinical operations. Both are indispensable in promoting effective departmental budget execution and work jointly to compile department budgets. Clinical compilers should actively coordinate with hospital finance professionals, leverage respective expertise, proactively learn advanced budget management models, and participate in relevant training to ensure that each budget item can be implemented in detail and executed to the smallest budget unit.<sup>[15]</sup> We should attach importance to fostering talent development, focus on practical budget processes, enhance team building, and refine the departmental budget structure to strengthen the department's overall budget coordination capability.

### ***Internal budget assessment and supervision mechanisms are vital for comprehensive budget management***

First, zero-based budgeting principles should be adopted to avoid simple increments from the previous year, and implement real-time, phased monitoring and analysis of data rather than solely year-end reviews to ensure clarity and assessability. Second, it is necessary to re-evaluate internal budget items, scrutinize non-routine, non-essential, temporary expenditures from previous years and new items lacking proper justification, strengthen performance orientation, deeply integrate performance concepts and methods throughout the budget compilation process,<sup>[16]</sup> implement the integration of budgeting and performance management, enhance proactivity in compilation, and improve assessment and supervision mechanisms. Three, departmental budget activities and daily operations should be regularly monitored and supervised to prevent superficial or perfunctory implementation; and (4) Based on a comprehensive understanding of the hospital's overall goals and direction, departmental budget plans and their implementation should be promptly adjusted, monitored, and reviewed in accordance with external policy shifts.

### ***Informatization provides effective support for the entire cyclical process of comprehensive budget management***

Budget informatization management should be enhanced and robust communication channels should be established covering the entire budget process between finance and clinical departments. Systems should promptly identify weak links, assess risks, and issue alerts.<sup>[15]</sup> Clinical departments can utilize information platforms to monitor data changes in real time, track budget indicator performance, promptly revise approval nodes and outcomes, process data efficiently and accurately, achieve genuine budget and operational data sharing, and improve asset utilization. Simultaneously, they should compare current execution status with plans, make in-depth analysis of ongoing budget

items, decompose and holistically analyze these elements to scientifically evaluate the rationality of budget compilation.<sup>[17]</sup> Comprehensive budget management informatization forms a closed loop—pre-application, in-process improvement, post-feedback—for the entire departmental budget process, strengthening control and better demonstrating the effectiveness of budgetary oversight.<sup>[18]</sup>

In conclusion, this paper analyzed the current state of comprehensive budget management within a clinical department of a large public hospital and proposed corresponding optimization strategies. Facing increasing challenges and opportunities in the promotion of comprehensive budget management, clinical departments should emphasize detail-oriented management, establish scientific evaluation systems, continuously refine management mechanisms, strengthen budgetary discipline, and enhance management capabilities to maximize the role of comprehensive budget management. In practice, departments should adapt these strategies to their specific contexts, responding flexibly and continually optimizing their comprehensive budget management models to ensure sustained improvement and effectiveness.

## **DECLARATIONS**

### ***Author contributions***

All authors conceived the idea and contributed to the final manuscript.

### ***Use of large language models, AI and machine learning tools***

None declared.

### ***Informed consent***

Not applicable.

### ***Ethical approval***

Not applicable.

### ***Conflicts of interest***

There is no conflict of interest among the authors.

### ***Data sharing statement***

No additional data is available.

### ***Secondary publication declaration***

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