

Research on the Management Systems of Maternal and Child Healthcare Institutions

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Abstract: As healthcare reform progresses, public hospitals face more pressure due to performance assessments by the "Performance Evaluation of National Tertiary Hospitals", changes in insurance payments, and the need to adjust income, develop disciplines, improve infrastructure, and innovate technologies. Thus, changing management and operations is necessary. This paper uses literature analysis and interviews to suggest that building the management system for maternal and child healthcare institutions should focus on integrating medical and health services facing the environment of medical reform and the requirements of high-quality development of public hospitals. It should include comprehensive budget management, internal controls, cost management, performance management, digital driving and technology use. By setting up a management system in hospitals and improving economic management, internal controls, financial and business integration, cost management, and the use of information technology, these institutions can achieve high-quality development.

Keywords: Maternal and Child Healthcare Institutions; Management System; Public Hospitals; High-Quality Development.

1. Introduction

As healthcare reform continues to deepen, public hospitals have entered a phase of high-quality development, demanding higher standards in internal operations and management. Strengthening operational management and enhancing precision are crucial measures in advancing the reform and development strategies of China's public hospitals. On May 14, 2021, the Chinese

government released the *Opinions on Promoting High-Quality Development of Public Hospitals*, highlighting the need to integrate business and finance as essential for achieving high-quality development. This document emphasizes that public hospitals should improve their operational management systems to enhance new development efficiencies. Maternal and child healthcare institutions, as a unique part of the healthcare system, face increasing operational pressures. These pressures arise from persistently low birth rates, zero markups on drugs and supplies, stringent national evaluations, and widespread implementation of DRG/DIP payment reforms. The previous focus on revenue growth and expansion is no longer effective [1]. It is crucial for these institutions to build an efficient, collaborative operational management system centered around integrating business and finance, aligning with national policy directions and internal management needs, to support high-quality development.

2. Analysis of the Current Operational Management of Maternal and Child Healthcare Institutions

2.1 Organizational Structure

Maternal and child healthcare institutions typically consist of management, clinical departments, healthcare divisions, and logistical support units. The management team, which includes positions such as the president, vice presidents, and department heads, oversees overall operations and decision-making. Clinical departments, including gynecology, obstetrics, pediatrics, and neonatology, are primarily responsible for diagnosis and treatment of diseases [2]. Healthcare divisions provide health education

and preventive care services and include departments such as maternal care, child healthcare, and health education. Logistical support units, such as finance, human resources, and IT, manage the daily operations and support functions. The organizational structure is complex, requiring clear delineation of responsibilities and effective communication and collaboration among departments to ensure smooth operations. However, issues like unclear responsibilities, ambiguous roles, and poor communication often arise, adversely affecting operational efficiency and service quality. Therefore, optimizing the organizational structure, clarifying departmental roles and responsibilities, and establishing effective communication and collaboration mechanisms are crucial for enhancing the operational management of these institutions.

2.2 Management Models

Current management models in maternal and child healthcare institutions commonly include departmental management, project management, and integrated management approaches. The departmental management model emphasizes the independent operation of each department, allowing them to manage based on their unique characteristics and needs. This model offers flexibility and high specialization, but can lead to separated operations and resource wastage. The project management model focuses on cross-departmental collaboration by forming project teams to integrate resources and efforts across departments for specific tasks, such as maternal and child healthcare projects or health education initiatives. This model enhances collaboration efficiency but requires scientific project management tools and methodologies. The integrated management model combines the strengths of both departmental and project management by establishing a unified management system and norms, achieving efficient resource allocation and collaborative management. This approach demands strong management capabilities and a high level of informatization to ensure efficient operations. Each management model has its advantages and drawbacks. Maternal and child healthcare institutions should select or optimize a management approach tailored to their specific circumstances to achieve optimal

management outcomes.

2.3 Current Operational Status

Investigation and data analysis reveal that maternal and child healthcare institutions commonly face issues such as inconsistent service quality, low management efficiency, and inadequate levels of informatization. Regarding service quality, there are significant disparities both between different institutions and within various departments of the same institution. The absence of unified service standards and quality control measures results in unstable service quality. In terms of management efficiency, inefficiencies arise from irrational organizational structures and unscientific management models, leading to improper resource allocation and affecting service outcomes. Informatization is lagging, with many institutions lacking integrated digital systems such as electronic medical records and online appointment systems, which hampers both operational efficiency and service levels. Moreover, high staff turnover, a shortage of professional talent, and inadequate training mechanisms further constrain operational management capabilities. Consequently, enhancing service quality, optimizing management models, advancing informatization, and improving human resource management are crucial steps in addressing these operational challenges within maternal and child healthcare institutions.

3. Main Operational Management Issues in Maternal and Child Healthcare Institutions

3.1 Simplistic Organizational Structure

Most maternal and child healthcare institutions employ a vertical management structure, which hinders routine communication and collaboration between functional departments, resulting in time inefficiencies.

3.2 Overemphasis on Clinical over Operational Management

Hospital administrators often prioritize medical quality, safety, and standardized clinical services, while insufficiently focusing on operational management and resource efficiency [3]. The effective utilization of human, financial, and material resources, as well as the avoidance of ineffective and redundant resource allocation, require the

coordination and shared management experience of the hospital's operational management departments to provide informed guidance for decision-making.

3.3 Inadequate Informatization

Currently, many institutions possess individual comprehensive information systems but lack a complete information-sharing framework. For example, some hospitals have HIS, accounting, asset management, payroll, and logistics systems, but these operate independently, creating "information silos" [4]. Financial management systems are weak, with incomplete cost management procedures that remain superficial, relying solely on data analysis without aligning with the hospital's developmental needs to offer effective recommendations. Moreover, there is a lack of robust budgeting awareness and systems, preventing the effective integration of budget management with hospital strategic planning, leading to resource wastage.

4. Key Elements of the Operational Management System for Maternal and Child Healthcare Institutions

4.1 Inadequate Informatization

In the Guidelines on Strengthening the Operational Management of Public Hospitals issued by the Chinese government, "comprehensive budget management" is clearly defined as one of the "dual cores" of operational management. Maternal and child health institutions strategically allocate, utilize, and evaluate resources such as personnel, finances, materials, and technology to promote refined management and achieve high-quality development [5]. Comprehensive budget management aligns with the entire process of budget preparation, implementation analysis, and performance evaluation, matching the requirements for resource allocation, use, and evaluation in operational management. As a core of hospital operational management, it addresses how resources are allocated, thus becoming a starting point and essential tool for building the operational management system.

4.2 Internal Control

Internal control focuses on operational management. It emphasizes the integration of economic and business activities, addressing

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the issue of business-finance integration. Internal control is a crucial tool for solving this integration issue. The key to building an operational management system is leveraging new technology to enhance management processes and roles, thereby improving management efficiency.

4.3 Cost Management

Currently, maternal and child healthcare institutions face increasing complexity in their financial operations, including medical, educational, research, and preventive activities, as well as budget, asset, and resource management. As economic pressures grow, maintaining smooth hospital operations while ensuring public welfare and medical quality requires refined cost management to reduce expenses and mitigate operational risks [6]. From departmental costs to project costs, and further to single-disease and DRG/DIP costs, cost management focuses on refining management. This involves continuously detailing cost accounting items to enhance the practicality of cost analysis and decision support.

4.4 Performance Management

The national assessment indicators for tertiary public hospitals is a comprehensive measure, covering medical quality, operational efficiency, sustainable development, and satisfaction evaluation. These indicators guide the high-quality development of maternal and child healthcare institutions [7]. Operational efficiency, as a metric of refined and scientific management, directly affects medical quality, patient satisfaction, and hospital sustainability. However, performance management in hospitals often follows state-monitored indicators. Integrating the requirements of these national indicators into the operational management performance evaluation system is a pressing challenge for many hospitals.

4.5 Data-Driven Approach

The national assessment indicators for tertiary to meet high-quality development demands, maternal and child healthcare institutions need to build an operational management system centered around patients, driven by an operations data center (ODR) that integrates internal medical services with external healthcare, insurance, and pharmaceuticals.

This system ensures unified data, standards, and business logic, providing a basis for decision-making in resource allocation, utilization, and evaluation.

4.6 Technology Empowerment

The construction of an operational management system relies on new technology. By developing internal hospital management information systems, the integration of material, financial, business, and information flows is achieved. Effective linking of various information systems promotes connectivity and ensures that business and operational systems work together seamlessly. This integration guarantees the standardization, completeness, and effectiveness of data, supporting the use of operational data for statistics, analysis, evaluation, and monitoring [8]. From a methodological perspective, technology empowerment acts as a safeguard, built on a solid foundation of data-driven processes and internal control. It uses management tools like comprehensive budget and performance management to achieve the integration of business and financial activities, ultimately empowering decision-making in business and resource allocation.

5. Analysis of Building an Operational Management System for Maternal and Child Healthcare Institutions

Maternal and child healthcare institutions should seize strategic development opportunities, accumulate experience in risk management, deepen reform and opening-up, and accelerate the creation of a new financial development framework. By leveraging new technologies and achieving breakthroughs, these institutions can advance hospital reform and development.

5.1 Establishing a Comprehensive Hospital Operational Management Organization

The operational management committee adopts a "dual leader" responsibility system, with the hospital's top leaders as heads. The committee includes hospital leadership and has an operational management office located within the operations department. The office is led by the hospital director or the deputy director in charge of operations, with the head of the operations department as deputy director. Members are drawn from the heads of various

functional departments. Additionally, a dedicated operations assistant team is established under the operations department. This team conducts systematic, comprehensive operational analysis and guidance for each clinical and technical department. They are fully involved in understanding each department's activities, integrating clinical operations with hospital management to help improve operational efficiency continuously. Departments serve as the basic operational units, responsible for identifying and addressing development constraints and communicating with the operations assistant team. Major issues are thoroughly researched and planned, then submitted to the operational management committee and hospital executive meeting for approval and implementation. Drawing from Chinese and international best practices, maternal and child healthcare institutions should adopt a four-tier lean operational management framework, consisting of the operational management committee, operational management office, operations assistant team, and departments. (Figure 1)

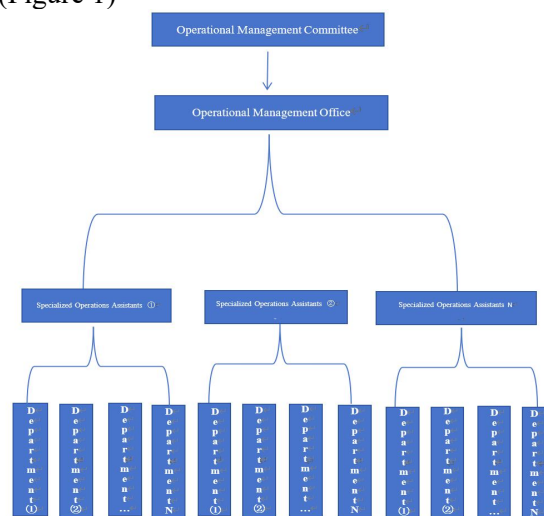


Figure 1. Operational Management Organization Framework

5.2 Enhancing High-Quality Financial Development in Hospitals

Economic management is crucial for the high-quality development of hospitals. The financial operations should gradually shift towards more refined management to improve service efficiency. Resource allocation should focus more on talent and technology rather than just material resources, enhancing the benefits for medical staff. By establishing a refined

management system, hospitals can improve quality and efficiency, increase the proportion of medical service income, and effectively tackle challenges such as zero markup on drugs and supplies, and healthcare payment reforms. Efforts should be made to reduce energy expenses per ten thousand yuan of income, actively explore new revenue sources, utilize existing assets, optimize expenditure, and enforce strict budget and cost management. It's important to strengthen the support for key projects and essential expenditures.

5.3 Deepening Internal Control and Strengthening the Use of Information Technology

The enhancement of internal control systems and management methods includes implementing work plans and defining responsibility lists. The focus is on improving quality and efficiency, increasing awareness of compliance, and ensuring legal and compliant hospital operations. An internal control manual can help streamline job processes, clarify business steps, conduct risk management analysis, identify risk points, and create response measures. Systems are revised and implemented effectively. The management of project funds is strengthened by establishing comprehensive processes for auditing, approval, accounting, and reconciliation. Multiple payment channels in the hospital are enabled, and reconciliation functions are improved. The guiding role of comprehensive budget management is utilized to control economic activities and achieve hospital operational goals [9].

5.4 Promoting Integration of Business and Finance

The integration of core hospital operations with financial management is emphasized, driving ongoing reform and innovation in financial mechanisms. This aims to enhance the effectiveness of financial services in supporting clinical development. By focusing on high-quality development and internal improvements, financial management transforms into value creation through improved management systems, redesigned business processes, optimized resource allocation, and strengthened analysis and evaluation. This effectively boosts financial management benefits and input-output

efficiency [10].

5.5 Continuously Enhancing Service Concepts and Standardizing Price Management

Creating inspection systems and standards for economic operations is important. This means organizing multi-departmental joint inspections on pricing and fees, rational drug use, secondary inventory management, high-value consumables, medical practices, internal control management, and budget execution. Suggestions and improvement measures are proposed, with follow-up to ensure effective implementation.

5.6 Strengthening Cost and Operational Management in Public Hospitals Using Information Technology

Enhancing employees' awareness of cost control and operational management is key. This includes exploring internal potential and adjusting the hospital's income structure. By integrating business and finance, hospitals can analyze the efficiency of resources like beds, staff, and equipment. Using various business and financial indicators, along with the distribution of major diseases, departments are guided to improve operational efficiency. Economic evaluations are conducted for the procurement of large medical equipment and medical consumables. The costs, benefits, payback period, and lifespan of purchased equipment are assessed to improve resource allocation analysis and management.

5.7 Fully Implementing "Living Frugally" Requirements

Adhering to expenditure standards involves adjusting projects that can be postponed and accelerating the use of consolidable funds to improve financial resource allocation efficiency. The financial expenditure structure is optimized by reviewing new expenses and exploring cost-saving opportunities. The focus remains on increasing revenue and reducing expenses, utilizing existing resources and new funds effectively. This optimization ensures the hospital's operational and development needs are met, particularly for key projects. Diversifying financing channels and seeking favorable financing policies helps in raising funds. Comprehensive analysis of accounts payable reduces debt risk and enhances the

hospital's economic benefits and operational efficiency.

6. Conclusions

Maternal and child healthcare institutions are vital to the public health system, tasked with ensuring the health of women and children. As economies grow and societies advance, living standards improve, leading to more diverse and personalized medical service demands. In maternal and child healthcare, the well-being of mothers and infants impacts both family happiness and societal stability. These institutions are essential in delivering quality medical care, promoting health education, and supporting scientific parenting. Due to the unique and complex nature of their services, it is crucial to establish an effective operational management system. This system should aim to enhance service quality, boost competitiveness, and support the hospital's development.

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