

Establishment Of Performance Evaluation System for Public Hospitals - Based on Balanced Scorecard

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Abstract. The four dimensions of the Balanced Scorecard – financial perspective, customer perspective, internal processes, and learning and growth can help hospitals establish performance evaluation system from an integrated perspective. This can play a significant role in improving the service quality for public hospitals. In this paper, a public hospital in Hebei province is used as an example to establish its performance evaluation system in order to provide a reference for the deepening of its performance management.

Keywords: Performance evaluation system; public hospitals, balanced scorecard, Analytic Hierarchy Process.

1. Introduction

With the further reform of China's health system, the competition in the medical market has become increasingly fierce, and the rapid increase of patients' medical expenses has made the problem of difficult and expensive medical care a common concern of society. Due to the special nature of the medical industry, information asymmetry, patients are in a vulnerable position, unable to judge and compare the service quality of medical institutions [1-3]. The lack of service function of medical institutions as service providers affects patients' satisfaction with medical institutions.

From the perspective of the current performance evaluation, the majority of hospitals lack an effective performance tracking feedback mechanism for departments and employees do not achieve the purpose of rewards and punishments through performance appraisal, which is not conducive to motivating employees to improve the quality of hospital services and achieve high-quality hospital development [4].

The Opinions on Promoting the High-Quality Development of Public Hospitals, released in June 2021, put forward new requirements for high-quality hospital development: building a new system, leading new trends, improving new efficiency, activating new dynamics, and building a new culture [5-7]. This can ensure the correct development direction of public hospitals, meet the people's health needs, and further promote and implement the Health China strategy [8].

The establishment of a set of systematic and comprehensive, operable public hospital performance appraisal index system is an urgent issue to be addressed. Such an index system can make the performance management of public hospitals more reasonable, guide the development direction of public hospitals, and gradually improve the quality of services to achieve high-quality development [9]. Therefore, this paper takes a public hospital in Hebei as an example to study the establishment of its performance evaluation index to improve its patient satisfaction, staff satisfaction, and service quality in order to provide reference for its high-quality development.

2. Methodology

This paper uses the Balanced Scorecard to develop a performance evaluation system for public hospitals, categorizing performance indicators according to the four dimensions of the Balanced Scorecard - financial, customer (patient), internal processes, and learning and growth. The Balanced Scorecard is a system of indicators designed according to the strategic requirements of an organization, and in this paper, the performance of public hospitals can be evaluated based on their

financial operations, patient satisfaction, quality of medical services, and human resource development.

After the initial development of the metrics, 15 experts in the field of hospital management were invited to rate the metrics and use the Analytic Hierarchy Process to derive the results of the analysis.

Table 1 shows the index system established in this paper based on the practice of a public hospital in Hebei. The primary indicators were established according to the dimensions of the balanced scorecard, and secondary indicators were defined under the primary indicators to evaluate the performance of the public hospital more specifically.

Table 1: Public Hospital Performance Evaluation System [10-15]

Goal	Criteria	Alternatives
Performance evaluation for public hospital	Financial perspective (Operational efficiency)	1. Resource efficiency
		2. Revenue and expenditure structure
		3. Cost management
		4. Budget management
	Customer perspective (Patient perspective)	1. Patient satisfaction
		2. Patient retention
		3. Market service capacity
	Internal process (Medical quality)	1. Quality and safety of medical services
		2. Medical service efficiency
		3. Medical insurance Implementation
		4. Convenience of medical services
	Learning and growth (Continuous development)	1. Human resources
		2. Academic development
3. Cooperation and communication		

Under financial performance indicators, resource efficiency refers to a hospital's ability to use its long-term or short-term assets to generate revenue; revenue and expenditure structure refers to the reasonableness of a public hospital's structural system of revenue and expenditure through different revenue and expenditure programs; cost management refers to the ability to control the cost of labor and resources required per unit of revenue; and budget management refers to the budgetary performance of revenue and expenditure. Budget management refers to the execution rate of revenue and expense budgets.

Under the customer perspective, patient satisfaction refers to the extent to which patients' expectations match their experience; patient retention refers to the rate at which patients return to the hospital; and market service capacity refers to the geographic radius of patients the hospital can serve.

Under Internal process, quality and safety of medical services refers to the effectiveness and safety of medical services; medical service efficiency refers to the utilization rate of hospital beds and the number of outpatient visits per physician; medical insurance implementation measures the percentage of drugs and health products that are not covered by health insurance; and convenience of medical services measures the convenience of patient access such as pre-surgical hospital days and emergency room stays.

Under learning and growth, human resources refers to the educational structure of hospital staff; academic development refers to the number of national research projects and funding allocation; and cooperation and communication e refers to the number of public hospitals and other domestic and international partner hospitals.

3. Result and Discussion

The following table shows the results of the Analytic Hierarchy Process.

Table 2: AHP Results at Criteria Level

Item	Eigenvector	Criteria Weight	CR
Financial perspective (Operational efficiency)	1.245	28.187%	0.002
Customer perspective (Patient perspective)	1.132	25.628%	
Internal process (Medical quality)	1.024	23.183%	
Learning and growth (Continuous development)	1.016	23.002%	

Table 3: AHP Results at Alternative Level along Financial Perspective (Operational efficiency)

Item	Eigenvector	Alternative Weight	Priority Weight	CR
Resource efficiency	1.024	22.996%	6.482%	0.004
Revenue and expenditure structure	1.213	27.240%	7.678%	
Cost management	1.124	25.241%	7.115%	
Budget management	1.092	24.523%	6.912%	

Table 4: AHP Results at Alternative Level along Customer Perspective (Patient perspective)

Item	Eigenvector	Alternative Weight	Priority Weight	CR
Patient satisfaction	1.217	37.830%	9.695%	0.002
Patient retention	1.024	31.831%	8.158%	
Market service capacity	0.976	30.339%	7.775%	

Table 5: AHP Results at Alternative Level along Internal Process
(Medical quality)

Item	Eigenvector	Alternative Weight	Priority Weight	CR
Quality and safety of medical services	1.123	26.324%	6.103%	0.004
Medical service efficiency	1.097	25.715%	5.962%	
Medical insurance Implementation	0.968	22.691%	5.260%	
Convenience of medical services	1.078	25.270%	5.858%	

Table 6: AHP Results at Alternative Level along Learning and growth
(Continuous Development)

Item	Eigenvector	Alternative Weight	Priority Weight	CR
Human resources	1.118	33.403%	7.683%	0.003
Academic development	1.203	35.943%	8.268%	
Cooperation and communication	1.026	30.654%	7.051%	

From the above data, it can be seen that, among the four dimensions of the balanced scorecard, the financial dimension (operational efficiency) accounts for a slightly higher proportion of the

performance evaluation than the other dimensions, while learning and growth (continuous development) is slightly lower than the other three dimensions. Of the four variables in the financial perspective (operational efficiency), revenue and expenditure structure have the highest weight.

4. Conclusion

This paper uses the balanced scorecard and hierarchical analysis to develop a performance evaluation system for public hospitals and finds that the financial perspective of a hospital's performance carries a greater weight in the overall hospital performance evaluation. The evaluation system can reflect the actual situation of a public hospital in Hebei and help improve the overall service quality and efficiency of the hospital. It also provides a reference for other public hospitals to establish a performance evaluation system that is consistent with their own hospital operation situations.

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