

Research on the Construction of the Performance Evaluation Index System of Medical Scientific Research Funds

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Keywords: Medical scientific research, Performance evaluation, Index system

Abstract: in recent years, the Chinese government investment in medical research has increased significantly, and the performance management of medical research funds is becoming increasingly important. On the basis of analyzing the performance evaluation index system commonly used in China, the paper combines the actual situation of the scientific research projects in the medical industry.

1. Introduction

The report to the 19th CPC National Congress proposed that innovation is the primary driving force for development and the strategic support for building a modern economic system. Scientific and technological innovation can bring vitality to economic development, and promote and promote the continuous development of the whole economy and society. As one of the important components of China's national economy, the pharmaceutical industry plays a very important role in protecting and promoting people's health, improving the quality of life, and providing disaster relief and epidemic prevention.

The Chinese government's investment in the field of pharmaceutical scientific research also grows year by year with the rapid development of the whole pharmaceutical industry, which plays an important role in increasing the pace of scientific research in the pharmaceutical field, accelerating the formation of productivity, improving the transformation achievements of pharmaceutical scientific research, and shortening the gap with developed countries. At the same time, with the increasing investment of the government in medical research funds, more and more problems of adequate capital management have not been exposed. Therefore, how to strengthen standardized management in the implementation process of the whole project, build a scientific and reasonable performance evaluation index system of funds, and strengthen the dynamic supervision of fund implementation is a key problem in the control of medical research funds today.

2. Current Status of the Performance Evaluation of Medical Scientific Research Funds

At present, in order to do a good job in the management and use of funds and ensure the quality of research funds, China has issued a series of documents. In 2011, the Ministry of Finance promulgated the Interim Measures for the Management of Performance Evaluation of Financial Expenditure, which made detailed provisions on the performance and objectives, methods and standards, contents, targets, implementation procedures and management organization work, reporting system, contents of results and their application of performance evaluation of financial expenditures. In October 2017, the Ministry of Science and Technology, the Ministry of Finance and the Ministry of Human Resources and Social Security issued the Interim Measures for the Performance Evaluation of Central Scientific Research Institutions, which further clarified the division of tasks, standardized the general performance evaluation content and index system, and determined the evaluation indicators and weights according to the foundation, conditions, characteristics and responsibilities of each unit.

However, scientific research projects in China's pharmaceutical industry generally take the general performance evaluation index system in the annex of the Interim Measures for the Management of Financial Expenditure issued by the Ministry of Finance in 2011 as the performance appraisal system of scientific research funds for medical projects. Its evaluation index is relatively single, although it has the characteristics of good universality and simplicity, but unsatisfactory in professional pertinence, more is a mere formality, and the evaluation effect is greatly reduced. Therefore, to establish a reasonable and effective medical research funds performance index system and strictly implement, which is not only conducive to improve the pharmaceutical industry research implementation ability and risk control ability, improve incentive binding, improve fairness and the enthusiasm of researchers, can also improve the efficiency of research funds, prevent corruption, let research funds return to its original track, promote the healthy and steady development of medical research in China.

3. Problems Existing in the Performance Evaluation of Scientific Research Funds

In fact, the field of the Ministry of Finance general index system is relatively broad, performance evaluation index system should introduce dynamic adjustment mechanism according to the characteristics of the industry, not only to join the industry index, but also consider the characteristics of each unit introduced individual indicators, make the index system has special pertinence and practicality, which is also consistent with China issued in 2017, the interim performance evaluation measures of central scientific research institutions require units to determine their performance evaluation system. The pharmaceutical industry research drugs, research and development of new drugs, pharmaceutical research are in-depth exploration of unknown fields, need a lot of experiments, which requires high, sustained and stable capital investment. At the same time, in order to maintain the enthusiasm of medical researchers and the quality of projects, detailed reward and punishment measures should be formulated.

The deficiencies in the actual performance evaluation of the general system:

(1)The general index system does not take into account the problem of sufficient budget funds of medical projects, and the insufficient budget funds will cause congenital defects in scientific research projects, which cannot be solved with the progress of the project.

(2)Without taking into account the characteristics of the long period of scientific research projects in the medical industry, the sustainability of the budget investment of medical research funds is ignored. If the project does not get the effect in the middle and late stage, the risk of project abortion will be greatly increased.

(3)In terms of supervision and management, the general indicators only start from the business and financial aspects, and the content and means are relatively simple. There is no assessment of the

implementation of the project audit supervision system, nor the rewards and incentives of the project.

(4) Although the output of the medical scientific research project considers more practical application, it also includes pharmacological research. Therefore, only the actual output of the project should not be considered, but the theoretical results are ignored.

(5) There is no assessment of the project publicity. The lack of information disclosure mechanism will lead to unequal information, breeding corruption, and then lead to the low efficiency of scientific research funds. The full disclosure of project information can improve the transparency of the project, thus forming a good atmosphere of joint supervision.

4. Construction of the Performance Evaluation Index System of Medical Scientific Research Funds

4.1 Principles of Performance Evaluation Index System

Currently, the construction of a performance evaluation index system usually follows the following principles:

(1) The Input-Operation-Output-Impact “principle

As one of all kinds of scientific research projects, the 1. medical scientific research project should also follow the objective law of the project promotion and management of “input-operation-output-influence”.

(2) Principles of economy, efficiency and efficiency

Capital management runs through the whole process throughout the project lifetime. Benefit refers to the scientific research output of science and technology special output, beneficial to the economic and social development; efficiency focuses on the production efficiency of scientific research special operation, output and input efficiency; the economic principle aims to emphasize the established goals, capital expenditure should achieve twice the result as much as possible, to minimize expenditure and optimize the expenditure structure.

4.2 Construction of the Index System

The current general performance evaluation system is also based on “input-operation-output-impact” principle and “3E” principle. Its first-level indicators are “project input, management supervision, project output, project benefit”, which is basically consistent with the structure of “input-operation-output-impact” structure, but its subordinate indicators do not fit the characteristics of “high technology, high input, high risk, long cycle and high yield”, which need to be improved.

(1) Project approval and investment level

The effect of scientific research fund investment depends on the compliance and clarity of project approval, the adequacy and sustainability of funds, so the project approval investment is divided into two secondary indicators: project approval and fund implementation. Project approval can be divided into two three-level indicators: the standardization of project approval and the reasonable and clear objectives. In the general index system, the three indicators of capital implementation only include the timely rate of funds in place, ignoring the project budget fund adequacy and subsequent capital investment sustainability is not considered, so the capital implementation can be divided into three three indicators: budget capital adequacy, the timely rate of funds in place and the sustainability of capital investment.

(2) Management and supervision level

Pharmaceutical research projects have large risks and long cycle, and need comprehensive supervision and management, so that the rights and responsibilities are invented. Therefore, we refine the direct effect of management supervision into three two indicators: business supervision, financial supervision and power and responsibility supervision. Business supervision is detailed into two three-level indicators, including business management system implementation and project quality control; financial supervision includes financial management system implementation and compliance with the use of funds; in order to maintain the enthusiasm of medical researchers and ensure the quality of the project, fully reward projects with major achievements and projects, so power and responsibility supervision is divided into the implementation of audit supervision system and the implementation of incentive reward and punishment system.

(3)Project output level

Project output is mainly used to evaluate the output of the project. For both drug research and theoretical pharmaceutical research projects, we should not only take published papers and works as the standard, but also pay attention to the project output, so we refine the output of medical research projects into two secondary indicators: scientific research project results and project output. The results of scientific research projects are detailed into two three-level indexes, respectively the level and quantity published by academic papers and works, and the number of patent applications; the project output can be refined into four two-level indicators: actual completion rate, timely completion rate, quality compliance rate and cost saving rate.

(4)Project benefit level

This level is mainly used to measure the social benefits of the project. Considering the transparency of the project to the public, it is divided into three three indicators, respectively ① public openness ②social benefits, sustainable impact and compliance of objectives ③satisfaction of the public or service objects.

After the construction of the above index system, the weight of the calculation index is further distributed according to the hierarchical analysis. Generally, the expert inquiry method is used to determine the comparison value, that is, the questionnaire is designed according to the performance evaluation index in the above table. In the questionnaire, different scores are designed according to the importance of the index and used to invite experts to score the index weight. According to the value of the index given by the experts, take the value of the primary level index, and then construct the judgment matrix and calculate the weight of the primary index, and conduct the consistency test on this basis. In the same way, the index weights of secondary and tertiary indicators are obtained, and finally the total score of comprehensive evaluation of the use performance of scientific research funds is obtained.

5. Conclusion

The performance evaluation of scientific research funds in the medical industry is a necessary work. Through the construction of a performance evaluation system in line with the characteristics of the industry, we can objectively evaluate the use performance of scientific research funds, help researchers find the correct research direction, realize the reasonable allocation of scientific research resources, and improve the use efficiency of funds.

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