American Journal of Health Research
2025, Vol. 13, No. 3, pp. 178-185
https://doi.org/10.11648/j.ajhr.20251303.17

Research Article

Research on Performance Management Indicators for the Use of China's Local Basic Medical Insurance Funds — A Study Conducted on 86 Normative Documents

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Abstract

The scientific design of performance indicators for the use of medical insurance funds contributes to the dynamic development of China's medical insurance management from extensive to refined, from rigid to dynamic, and from procedural fairness to substantive fairness. This study conducted a literature review on the local legislative or policy norms regarding medical insurance performance indicators in 86 cities in China, analyzed the current status and existing problems in the design of medical insurance performance indicators in China, and finally proposed suggestions for future improvement paths. Research has found that in China, the basic framework for medical insurance performance has been established in various regions, including indicator objects, indicator content, assessment methods, and result application. However, there are still many imperfections in the design of China's medical insurance performance indicators, such as the lack of regional differences and an obvious "one size fits all" phenomenon, a lack of scientificity in the design of indicators, a single assessment subject, a lack of diversity in participation, and an imbalance in the reward and punishment mechanism. The core contradiction lies in the imbalance between "cost control targets" and "medical service laws" and "patient health needs." This study helps provide a macro-level overall understanding of the design of current Chinese medical insurance performance indicators.

Keywords

China's Medical Insurance Fund, Achievements, Performance Indicators, Examination of Normative Documents

1. Introduction

The performance management indicators for the use of China's basic medical insurance fund (hereinafter referred to as "medical insurance performance indicators") are quantitative assessment indicators developed based on the results of the use and expenditure of the basic medical insurance fund[1]. They are related to substantive issues such as year-end settlement of medical institutions, refund of relevant deposits, and renewal of medical insurance service agreements. They help to promote the dynamic development of medical insurance management from extensive to refined, from rigid to dynamic, and from procedural fairness to substantive fairness. The General Office of the State Council of China has emphasized in the "Guiding Opinions on Promoting the Reform of the Medical Security Fund Regulatory System" (State

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Received: 21 April 2025; **Accepted:** 3 June 2025; **Published:** 11 June 2025

Council Document [2020] No. 20) that "implementing performance management throughout the entire process of fund operation" and "innovating the comprehensive performance evaluation mechanism for designated pharmaceutical institutions." The Chinese medical insurance system is still in the initial exploration stage, and further research is needed on the related issues of medical insurance performance indicators. As for the field of healthcare, research on performance management in the Chinese academic community mainly focuses on hospital performance management and the summary of experience in individual pilot areas, while research on medical insurance performance indicators lacks a comprehensive exploration at the macro level.

2. Existing Research

The concept of performance management emerged in the late 1970s and gradually formed based on improving and developing traditional performance evaluation. However, academia has no unified concept regarding what "performance management" means. The management process should include planning, estimation, and revision. Some argue that performance management manages organizational performance, including planning, improvement, and evaluation [1]. Some people also believe that performance management includes explicitly four aspects: performance planning, performance management, performance evaluation, and reward performance [2]. In short, although there is currently no unified regulation on "performance management," it can be found that performance management is a complete system, and its indicators should involve multiple links to achieve positive interaction in management as much as possible. Research on performance indicators of China's medical insurance mainly focuses on the following two aspects.

2.1. Objectives of Designing Performance Indicators for Medical Insurance

There are various viewpoints in related research, such as the "two goals and dimensions" - the establishment of an evaluation index system for medical insurance funds should revolve around the two levels of medical service quality and control of medical expenses ("high quality and low price") [3]. The "Three Goals and Dimensions" - for example, the World Health Organization (WHO) believes that health level, responsiveness to diseases, and fairness of financial compensation are the three important goals of the health system performance evaluation system [4]. Some studies explore constructing a medical insurance development indicator system from the three dimensions of "reasonable financing, scientific policies, and effective governance" [5]. Some studies suggest that controlling medical expenses, ensuring the rationality of medical fees, and improving work efficiency should be the three medical insurance performance management goals [6]. Four or more goals and dimensions "- some studies suggest that China's medical insurance fund management performance should be evaluated from four dimensions: fundraising, fund pool management, service purchase, and handling management. Another study, based on the experience of foreign countries such as the UK, suggests that the regulatory indicator system for medical insurance funds should pursue goals of fairness, efficiency, quality, and sustainability [7].

2.2. Specific Content on the Design of Performance Indicators for Medical Insurance

There are currently two approaches to research. One is the specific design of the overall performance indicator system for the medical insurance fund - research has constructed a set of primary indicators consisting of functional goals, operational processes, and social effects of the medical insurance system, as well as a medical insurance fund assessment and evaluation indicator system with six secondary indicators and twelve tertiary indicators [8]. Some studies have constructed a performance system for the use and operation of medical insurance funds from aspects such as expenditure and flow of medical insurance funds, cost control, and personal burden, including indicators such as per capita medical insurance fund expenditure, outpatient medical insurance fund use, inpatient medical insurance fund use, and medical insurance transfer to other places [9]. Based on foreign experience, a unified performance evaluation system for medical insurance funds has not yet been formed. Some studies suggest that payment performance evaluation should be the main content of medical insurance fund performance evaluation [10]. Some studies suggest that the performance of the medical insurance system should include indicators such as consistency, medical insurance coverage, accessibility, fund management, risk avoidance of losses, file management, and quality and prevention of medical services [11]. Some studies suggest that the performance of medical insurance funds can be evaluated based on indicators such as accessibility, burden of medical insurance, and effectiveness of medical services [12]. The second is the specific design of the performance indicator system for different entities' medical insurance - some studies have designed performance evaluation indicators for hospital medical insurance management based on the balanced scorecard model, including four primary indicators: medical insurance costs, medical insurance patients, medical insurance management, and learning and development [13]. A study has designed internal performance evaluation indicators for retail pharmacies in a particular city, including financial indicators, customer indicators, learning and growth indicators, internal business process indicators, etc. [14]. A study has designed an evaluation system for medical insurance agencies, including primary indicators such as medical insurance functional objectives, fund utilization, and the effectiveness of medical insurance policy

implementation, targeting the leading party in medical insurance service agreements [15]. Some studies suggest that it is necessary to establish a performance evaluation index system for primary illness insurance as soon as possible, with the level of protection and satisfaction of insured persons as the core, comprehensively considering factors such as protection effectiveness, handling efficiency, cost savings, service quality, and medical expense control various factors [16].

Different medical institutions in China have their own characteristics and diverse performance indicators for designing and exploring medical insurance performance indicators. However, at the same time, the exploration and research on medical insurance performance indicators are often placed under the practical research of a particular pharmaceutical institution or pharmaceutical group, and the overall comprehensive understanding of the systematic and specialized construction of China's medical insurance performance indicators is relatively weak, requiring further analysis and research.

3. Research Design

3.1. Research Sample

This article collects local legislative norms or policy norms related to medical insurance performance indicators or medical insurance performance assessments (including indicators) issued by 86 cities in China as research samples[2], covering Northeast China (9 cities), Northern China (11 cities), Northwest China (13 cities), Central China (9 cities), East China (25 cities, excluding Taiwan), South China (7 cities), and Southwest China (12 cities). The sample is based on the normative documents issued or formulated by the local municipal government or medical insurance department and does not include draft proposals. The deadline is December 31, 2024.

3.2. Research Methods

This study mainly uses literature statistical methods. By organizing and refining the content related to medical insurance performance indicators in the sample, the management objects, specific content, assessment methods, and application of results related to medical insurance performance indicators are statistically analyzed at four levels.

4. Results

4.1. Target Management Object

The management objects of medical insurance performance indicators in each city in the sample can be roughly divided into three categories.

4.1.1. General Management Objects

This regulation type is defined as "basic medical insurance performance evaluation" or "medical insurance bureau performance evaluation," its indicator management objects usually include medical insurance bureaus, designated institutions, handling institutions, etc.

4.1.2. Moderate Management Object

The performance management indicators closely related to the use of medical insurance funds or the performance management indicators for the use of a particular type or several types of medical insurance funds have performance management targets consistent with the broad scope of management targets.

4.1.3. Narrow or Specialized Management Objects

Provide performance indicators for a key link in using medical insurance funds or an important component in medical insurance management. There are four representative categories in the sample: developing performance management indicators for the management of medical insurance funds in two designated institutions, with the management targets being the two designated institutions. Develop performance management indicators for the reform of GIP/DRG payment methods, with the management targets being local designated medical institutions. Develop performance management indicators for the city's overall medical insurance fund, targeting different types of medical insurance funds. Develop performance management indicators for the closely knit county-level medical community, with the management target being the general hospital of the medical community and its member units. The relevant statistics are shown in Figure 1.

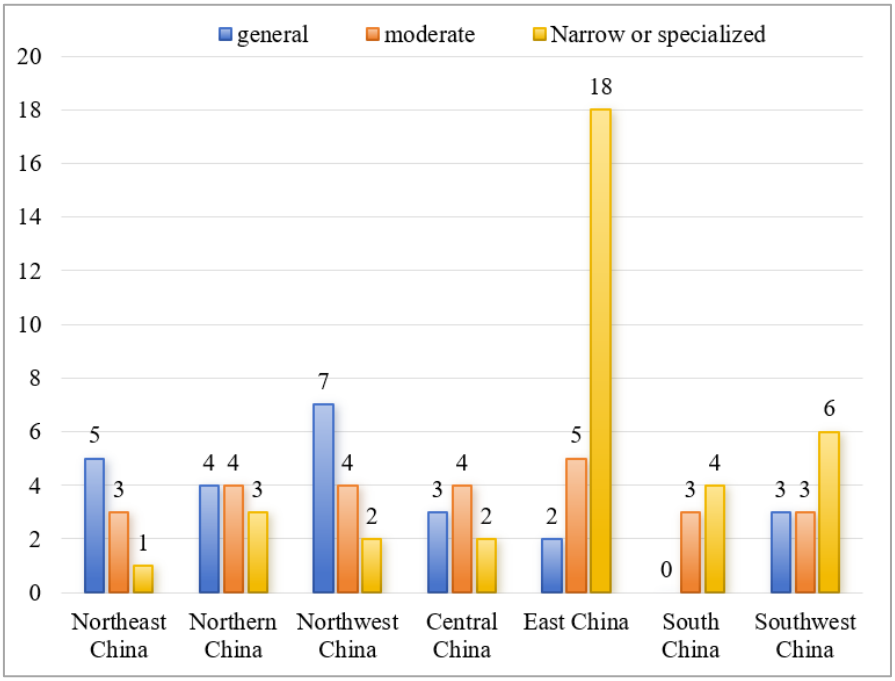

Figure 1. *Statistics of the types of medical insurance performance indicators management objects in different regions (Unit: item).*

4.2. Index System Content

There are two types of performance indicators for medical insurance in the sample. One type is the macro indicators of a small number of regions, which belong to the content system of government performance indicators. The content of the indicator system is relatively simple, and only 7 cities in the sample adopt this type. The remaining 79 cities adopt a separately established medical insurance performance indicator system based on local medical insurance management characteristics and the operation rules of medical insurance funds. These indicator systems are different, with varying proportions and assigned scores. Overall, these indicators can be divided into observation indicators and evaluation indicators.

4.2.1. Observation Indicators

These indicators are also known as qualitative indicators. They cannot be directly quantified through scoring, so they are usually not included in the score calculation. They can also be divided into indicators related to the construction and operation mechanism of the medical insurance fund regulatory system, the standardized implementation of medical insurance fund regulatory policies, etc. Their weight is relatively low, and some regions have not been included.

4.2.2. Evaluation Indicators

These indicators are also known as quantitative indicators. This type of indicator can be defined and measured numerically and can generally be directly scored. It is the main content of the medical insurance performance indicator system. After sorting, the sample's quantitative indicator categories, weight ranges[3], and typical indicator examples are shown in Table 1. The emphasis on medical insurance performance indicators varies slightly among different regions in the sample, as shown in Table 2[4].

Table 1. *Types of evaluation indicators (quantitative indicators), weight ranges, and statistical examples.*

Indicator category	Weight ranges	Typical indicator examples
Fund security and operational efficiency	30%-40%	Fund balance rate, cumulative balance payable months, average cost growth rate, noncompliant cost recovery rate
Effect of payment method reform	20%-30%	DRG/DIP coverage rate, implementation rate of payment by disease, implementation rate of surplus retention/overspending sharing mechanism
Normative behavior of medical services	15%-25%	Proportion of unreasonable medical expenses, compliance rate of high-value consumables usage, growth rate of chronic disease expenses

Indicator category	Weight ranges	Typical indicator examples
Insurance coverage and guarantee level	10%-15%	Participation rate, participation rate of disadvantaged groups, actual reimbursement ratio for hospitalization, settlement rate for medical treatment in different locations
Informationization and regulatory capabilities	5%-10%	Intelligent monitoring coverage, considerable data screening accuracy, discovery rate of flight inspection problems
Public satisfaction and sense of gain	5%-10%	Satisfaction of insured individuals, medical institutions

Table 2. Characteristics of medical insurance performance indicators in different regions and statistical examples.

Area	Characteristic content of indicators	Typical indicator examples
East and South China regions	1) Focus on payment method reform and refined fee control	DRG/DIP payment weight can reach 25% -35%, higher than the national average level, increase the weight of information monitoring (10% -15%), focusing on intelligent auditing and big data analysis
	2) Reduce the safety weight of the fund	Due to sufficient fund balance, the weight may be reduced to 25% -30%
Northeast, North, and Central China regions	Focus on fund security and sustainability	The weight of fund security can reach 40% -50%, with a focus on deficit risk warning and clearing duplicate insurance coverage. The participation rate and the protection weight for disadvantaged groups have been increased to 15% -20% to ensure that all eligible individuals are covered.
Northwest and Southwest China regions	The weight of payment method reform is relatively low DRG/DIP	Weight is approximately 15% -20% (limited by the level of informatization in medical institutions)

4.3. Indicator Assessment Method

Regarding the evaluation methods for medical insurance performance indicators, most regions in the sample adopt comprehensive management evaluation methods, including the following two categories.

4.3.1. Horizontal—Self-assessment and Assessment by Others

The term 'other party' here mainly refers to the medical insurance bureau or handling agency, which stipulates that some indicators in the medical insurance performance indicator system (such as information technology indicators, satisfaction indicators, etc.) can be entrusted to third-party professional institutions for responsibility.

4.3.2. Vertical - Daily Assessment and Year-end Assessment

The assessment generally consists of different forms, such as system data extraction, material submission, on-site spot checks, and verification. Medical insurance departments nationwide are building an "Internet plus" medical insurance system to monitor the operation and use of medical insurance funds through big data computing. Therefore, some regions with relatively developed economies and rich medical resources capture the information technology platform and even directly generate performance indicator assessment results. However, it should also be noted that there are still many areas where performance management cannot be fully achieved through information technology platforms, especially in urban areas such as the northwest and southwest, where manual assessment is still the primary method. The overall evaluation of medical insurance performance indicators is still based on a combination of "manual+data" methods for the sample.

4.4. Application of Results

The application of local medical insurance performance results in the sample follows the principle of "combining constraints and incentives" and strives to make the performance results as effective through institutional settings as possible. After sorting, the application of medical insurance performance results can be divided into four categories. The relevant statistics are shown in Figure 2.

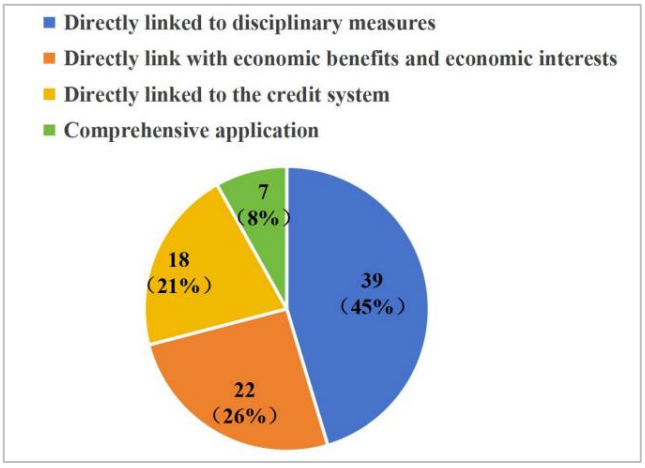

Figure 2. *Statistics of the types of applications of medical insurance performance results (Unit: item).*

4.4.1. Directly Linked to Disciplinary Measures

Such as giving the corresponding deadline rectification based on medical insurance performance results, issuing criticism, canceling total payment eligibility, canceling dual qualification, etc.

4.4.2. Directly Link with Economic Benefits and Economic Interests

Directly linking medical insurance performance results with service quality assessment fee settlement, fund reserve ratio, etc.

4.4.3. Directly Linked to the Credit System

Integrate medical insurance performance with the local credit system and publish it within a specific scope.

4.4.4. Comprehensive Application

Medical insurance performance results serve as an important basis and reference for supervising medical insurance funds. However, they are also combined with government performance evaluation as one of the important indicators for the annual assessment and evaluation of party committees, governments, and relevant departments at all levels.

5. Discussion

5.1. China Has Established an Overall Framework for Medical Insurance Performance Indicators

Based on the current central policies and national regulations in China, it can be concluded that there are no other specialized, complete, or systematic top-level designs for constructing performance indicators for medical insurance. The performance indicators of medical insurance are based on the summary of practical experience in various places. On the one hand, although the performance indicators of medical insurance cover all participating institutions, management institutions, their staff, and related entities in the entire process of using medical insurance funds, the management objects of performance indicators have gradually developed from broad management objects to specialized management objects. On the other hand, the design of the specific content of indicators follows the idea of "indicator object indicator content assessment method result application" of performance, which is also involved in the samples. Especially in the design of performance indicators for medical insurance, it firmly grasps the core of "standardized use of medical insurance funds" and "maintaining the order of medical insurance fund operation," providing basic institutional norms for current local medical insurance performance management and medical insurance fund supervision in China.

5.2. China's Medical Insurance Performance Indicators Need Further Optimization and Improvement

However, it should also be noted that the design of performance indicators for China's medical insurance is still in the exploratory and initial stage, and many aspects need further optimization and improvement.

5.2.1. Insufficient Regional Differentiation and Prominent "One Size Fits all" Phenomenon

One reason is that the distribution differences of medical resources have not been considered, such as the weak service capacity of grassroots medical institutions in the Western region. However, the indicator assessment is still biased towards a wide range of management objects, lacking the necessary specificity and targeting.

Secondly, the differences in fund balances in many regions have not been reflected. For example, developed regions in the east have sufficient fund balances, while some cities and counties in the central and western regions face deficit pressure. However, using a unified threshold for assessment indicators has forced underdeveloped regions to compress reasonable expenditures and lower the level of protection.

5.2.2. Insufficient Scientificity in Indicator Design and Deviation in Guidance

One is excessive emphasis on controlling medical insurance funds (cost control), neglecting the quality of medical care and patient health outcomes. For example, the weight of cost control indicators is too high, especially some indicators such as "average cost growth rate" and "proportion of out-of-catalog expenses" dominate the assessment system, which may cause medical institutions to shift the blame to critically ill patients, reduce necessary diagnosis and treat-

ment projects, or choose low-priced and inefficient drugs in order to meet the standards, thereby harming the rights and interests of patients. For example, there is a lack of quality evaluation indicators, especially some indicators that directly reflect the quality of medical care, such as "postoperative complication rate," "patient survival rate," "chronic disease control rate," etc. However, many regions have not been widely included in the assessment or only used as secondary indicators (with a weight of less than 5%), making it challenging to guide medical institutions to improve service quality.

The second issue is the logical contradiction of indicators, which leads to "substitutional risks." For example, to reduce the usage rate of high-value consumables, some hospitals may switch to lower-priced but less effective alternatives, which may appear to meet the indicators' requirements but harm patients' treatment effectiveness. For example, strictly controlling the "hospitalization rate" may lead to mild patients being overly outpatient, while severe patients may delay treatment due to increased hospitalization thresholds.

Thirdly, the needs of some special groups have not been included. For example, there is a lack of targeted indicators for regional and group needs, such as language services in ethnic minority areas, integration of mobile population insurance, and protection for rare disease patients, resulting in a discount on the effectiveness of policy implementation.

Fourthly, there are few tracking indicators for long-term medical insurance fund reform effectiveness. For example, the initial cost control effect of payment method reforms (such as DRG/DIP) is significant. However, there is a lack of assessment on optimizing long-term medical behavior (such as standardization of diagnosis and treatment pathways and application of new technologies), which may inhibit the progress of medical technology.

5.2.3. The Assessment Subject Is Single, and There Is a Lack of Diverse Participation

One is that the administration's design and assessment of performance indicators are too strong. The assessment indicators are mostly unilaterally formulated by the medical insurance department. In contrast, the participation of medical institutions, patient representatives, and third-party professional organizations in society is low, resulting in indicators detached from clinical practice (such as ignoring the complexity of diagnosis and treatment) or the real needs of patients. Secondly, the medical insurance regulatory authorities lack some motivation to carry out performance management and lack awareness of performance management, resulting in insufficient innovation in supervision and the inability to update performance indicators and assessment methods promptly [17].

Secondly, there is insufficient coverage of diversified monitoring. Some underdeveloped areas in the sample still rely on manual performance audits, facing massive settlement data, low regulatory efficiency, and high rates of missed violations. However, in some regions, even if intelligent systems have been deployed, the update of the rule base lags (such as new drugs and diagnostic technologies not being included promptly), making it challenging to identify new types of violations.

5.2.4. The Application of Results Is Rigid, and the Reward and Punishment Mechanism Is Imbalanced

The current indicators in the sample mostly adopt a "negative punishment" (such as deducting fund allocations), lacking positive incentives for improving service quality, technological innovation, and other behaviors, resulting in medical institutions and related medical insurance fund users viewing assessment as a "compliance burden" rather than an improvement motivation.

6. Conclusion

Currently, the basic framework of "indicator object indicator content assessment method result application" for medical insurance performance has been constructed in various regions of China. However, the medical insurance performance indicators are still relatively primitive, especially the core contradiction lies in the imbalance between "cost control targets" and "medical service laws" and "patient health needs." The design of relevant indicators has not fully reflected the professionalism of medical insurance services, regional development differences, and the ultimate goal of patient health. In the future, it is necessary to enhance the scientificity of indicators, introduce diverse participation, and strengthen technological empowerment to promote the transformation of assessment from "simple control" to "comprehensive governance."

Acknowledgments

This research received funding: 2022 National Social Science Foundation of China "Study on Difficult Issues in Legislation of Medical Security Law" (22BFX116).

Conflicts of Interest

The authors declare no conflicts of interest.

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1 China's Basic Medical Insurance Fund mentioned in this study mainly refers to the Urban Employee Medical Insurance Fund and the Urban and Rural Resident Medical Insurance Fund, excluding the Assistance Fund, Commercial Medical Insurance Fund, and other special types of medical insurance funds.

2 The samples include prefecture-level cities (states) and county-level cities (states).

3 Weight ranges is taken as the range between the minimum and maximum values in the sample.

4 A minority of pilot cities for medical insurance reform have added special indicators, such as the efficiency of long-term care fund use (10%-15%), the accuracy of disability assessment (5%-10%), and correspondingly compressed the weights of other categories (such as reducing the weight of medical service behavior norms by 5%-%), which are not included in the table.