Research on the Collaborative Mechanism and the Practice Path of Commercial Insurance Participation in Health Management

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Keywords: Commercial Insurance; Health Management; Collaborative Mechanism; Practice Path; Synergy Theory; Risk Management; Healthy China Initiative; Policy Guidance; Interest Coordination; Information Sharing; Service Integration

Abstract: This study examines the collaborative mechanism between commercial insurance and health management within the context of the Healthy China Initiative. In addressing numerous pragmatic concerns, including the ageing process, the prevalence of chronic diseases, and the isolated development of conventional insurance and health management systems, this study proposes a theoretical framework for collaboration, underpinned by the principles of goal consistency and functional complementarity, drawing upon the tenets of synergy theory and risk management theory. This study proposes four mechanisms, including policy guidance, interest coordination, information sharing, and service integration. Additionally, it designs practice paths that incorporate policy support, interest coordination, information exchange, and service integration. In the future, collaboration will evolve with greater depth and precision, while technology, scenarios, and systems will continuously be optimized to support the Healthy China Initiative.

1. Introduction

1.1 Research Background

At present, the Healthy China 2030 Plan has been further promoted. The aging degree of China's population has continued to deepen (by 2023, the population aged 60 and above accounted for 19.8%), and the incidence of chronic diseases has increased year by year. Residents' health needs have shifted from disease treatment to full-cycle health management, while the medical security system is confronted with higher requirements for service efficiency enhancement and cost control. Traditional commercial insurance focuses on compensation after the event, and it is difficult to cover the front-end links, such as health prevention and intervention. Although health management institutions provide professional services, they are limited by the stability of customers and the scale of funds. Therefore, commercial insurance and health management institutions have developed in isolation, making it difficult to meet the diverse needs of residents [1].

In recent years, the policy level has continuously released collaborative guidance signals. For example, in the pilot work, such as tax-preferred health insurance and long-term care insurance, insurance institutions have been explicitly encouraged to cooperate with health management institutions. However, in the process of practice, there are still practical problems, such as poor policy convergence and data barriers. In this context, it is urgent to systematically sort out the underlying logic of the cooperation between them, which serves as the foundation for this study.

1.2 Research Significance

On the theoretical level, this study constructs an analytical framework of collaborative mechanisms by defining the core concepts and internal relations between commercial insurance and health management, and combining collaboration theory and risk management theory. It is conducive to addressing the issue of overemphasizing practice descriptions and neglecting theoretical support in existing research, enriches the application of health economics and insurance in cross-disciplinary collaboration, and provides a conceptual system and logical paradigm for subsequent related research.

  DOI: 10.25236/gemmsd.2025.080

On the practical level, the research findings provide a clear path for insurance institutions to integrate health management business, help them transform from risk takers to health service organizers, and reduce compensation costs. Moreover, it expands stable cooperation channels for health management institutions and solves the problems related to customers and funds. For consumers, the collaborative model provides an integrated solution that combines insurance protection with health services, thereby enhancing the accessibility of healthcare. For the government, this model is helpful to relieve the pressure of the basic medical insurance fund and promote the development of the medical security system with multi-level and high efficiency, which demonstrates important practical application value.

2. The Theoretical Basis of the Coordinated Development of Commercial Insurance and Health Management

2.1 Definition of Core Concepts

2.1.1 Commercial Insurance

Commercial insurance refers to a form of financial service in which commercial institutions, such as insurance companies, voluntarily conclude insurance contracts with the insured based on market-oriented operation. The insured individual or entity then pays the premium in accordance with the contract terms. In the event that the risk accident agreed in the contract occurs, the insurance company performs economic compensation or payment obligations to the insured or beneficiary [2].

In the healthcare industry, commercial health insurance represents one of its core applications, covering medical expense reimbursement, sickness allowance, long-term care, and other related services. Different from the compulsory and inclusive nature of basic medical insurance, commercial insurance pays more attention to designing differentiated products according to market demand, and can flexibly adjust the coverage and service content. Its core function is to provide economic protection against health risks for residents through the mechanism of risk collection and dispersion. At the same time, as the industry evolved, it began to incorporate post-economic compensation measures, pre-risk prevention strategies, and medical interventions, thereby becoming more comprehensive in nature. Hence, it lays a foundation for collaboration with health management.

2.1.2 Health Management

Health management refers to a systematic process in which professional institutions, medical institutions, or service teams rely on multidisciplinary knowledge, including medicine, nutrition, kinematics, etc., to provide life-cycle health services for individuals or groups [3]. The main goal is to reduce health risks through proactive intervention instead of only treating diseases after they arise. The services provided include collecting and evaluating health information, offering early warnings for health risks, creating personalized intervention plans (such as dietary advice, exercise programs, and psychological counseling), managing chronic diseases, and tracking rehabilitation progress.

Health management aims at maintaining and promoting health, and assists users to improve their health and reduce the incidence of diseases through continuous monitoring and dynamic adjustment of services. In addition, it can form standardized health data and service records, which not only meet residents' health needs but also provide key support for commercial insurance to control claims risks and optimize product design.

2.2 The Internal Relationship Between Commercial Insurance and Health Management

2.2.1 Goal Consistency

Commercial insurance and health management align closely with the primary goals, both focused on preserving residents' health and minimizing health-related risks and expenses. For residents, commercial insurance offers coverage to help manage disease-related risks through financial compensation and assists in alleviating their expenses for medical care. In health management, staff implement preventive measures and chronic disease management to support residents in reducing the likelihood of disease development and promoting health. The combination of these two factors is

sufficient to address the fundamental needs of residents for health and safety [4].

For society, commercial insurance alleviates the pressure of medical expenses through the risk diversification mechanism, and health management reduces the consumption of social medical resources by reducing the incidence of diseases. Their coordinated development will promote the transformation of the medical security system from passive response to active prevention and control, and achieve the overall objectives of "reducing disease occurrence and improving national health" in the Healthy China Initiative. Ultimately, it contributes to a win-win situation between personal health maintenance and social medical cost management.

2.2.2 Functional Complementarity

Commercial insurance and health management are obviously complementary in their service functions, forming a comprehensive coverage of risk prevention and economic security. The core advantages of commercial insurance are risk identification, fund pooling, and economic compensation, which provide financial support for residents to recover from illness. However, it is challenging to mitigate the occurrence of risks at their source due to the lack of front-end prevention and dynamic intervention on health risks.

The core advantages of health management are health assessment, risk early warning, and personalized intervention, which can reduce the incidence of diseases through full-cycle service. However, it is limited by the scale of funds and the stability of customers, making it challenging to achieve large-scale coverage of services. The combination of health management and commercial insurance can significantly reduce compensation expenses. By integrating these two areas, the resources and funding provided by commercial insurance can enhance health management services. This collaboration allows for complementary functions that address the weaknesses of a single-service model and expand the scope of services offered.

2.3 The Theoretical Support of Coordinated Development

2.3.1 Synergy Theory

Synergy theory was put forward by German physicist Haken. The theoretical basis is that each subsystem or element in the system breaks through the functional limitations in isolation through cooperation and coordination, and produces a synergistic effect that the whole is greater than the sum of its parts. This theory provides the core logic for the coordinated development of commercial insurance and health management: as two subsystems within the health security system, both have shortcomings when operating independently. The former lacks the front-end health intervention capability, while the latter suffers from insufficient funding and customer support.

According to synergy theory, cooperation can be facilitated through a policy guidance mechanism, health data can be integrated via an information-sharing mechanism, and overall service can be connected through a service integration mechanism. This approach enables different components to form a cohesive unit by utilizing complementary resources and establishing functional linkages. Ultimately, this synergy enhances risk prevention and management efficiency, reduces service costs, and strengthens health protection for residents, aligning with the core goal of system optimization.

2.3.2 Risk Management Theory

The core processes of risk management theory involve identification, evaluation, control, and transfer, aiming to reduce the probability of risk and loss through scientific means [5]. The essence of commercial insurance is a risk transfer tool, which focuses on compensating for economic losses after the risk occurs. Still, it is difficult to intervene in preventing the risk from occurring. Health management focuses on risk identification and control, identifying potential risks through health assessments, and reducing the incidence probability through intervention measures. However, it cannot cover the economic costs once the risk has materialized.

The coordinated development of the two covers the whole process of risk management: health management is responsible for risk identification and control, and reduces disease risk from the source. Commercial insurance plays a crucial role in risk management by facilitating risk transfer and

offering financial protection against uncontrollable risks. It creates a closed loop that encompasses both prevention and compensation, shifting risk management approaches from a passive response to active prevention and control. This proactive stance significantly enhances the integrity and effectiveness of health risk management and control.

3. Collaborative Mechanism of Commercial Insurance Participating in Health Management

3.1 Policy Guidance Mechanism

The policy guidance mechanism serves as the external core driving force in coordinated development, as multi-layered policy design breaks down cooperation barriers and clarifies the development direction. In the top-level design, we take the Healthy China Initiative as the guide, and the special policy documents include health management services in the scope of commercial health insurance, and clarify the requirements for the proportion of health management services in tax-preferred health insurance and long-term care insurance, so as to guide coordinated development.

For the pilot promotion, it is recommended to choose representative areas where insurance institutions can collaborate with community health service centers and professional health management organizations. Financial subsidies should be provided to the pilot subjects, and the qualification process should be simplified. This approach will help accumulate practical experiences that can be replicated in the future. For regulatory norms, it is necessary to clarify the compliance boundary of cooperation between the two parties, formulate access standards for health management service institutions, and standardize the terms of cooperation agreements. At the same time, it is necessary to establish an inter-departmental coordination mechanism for medical insurance, health insurance and banking insurance supervision to solve many problems, such as mutual recognition of qualifications and inconsistent service standards, to ensure that the process is legal and compliant, and to lay an institutional foundation for long-term cooperation.

3.2 Interest Coordination Mechanism

The interest coordination mechanism balances the demands of commercial insurance institutions, health management institutions, consumers, and the government to ensure their coordinated and stable operation. For insurance institutions, it is recommended to establish a rule that connects services with income and ties the service fees of health management institutions to the incidence of diseases within the insured population and the insurance payout ratio. Suppose the health management service reduces the payout ratio of a specific population. In that case, the health management institution shall be given an additional income share according to the agreed proportion to encourage it to improve the service quality [6].

For health management institutions, it is necessary to sign a long-term cooperation agreement to clarify the source of income. Insurance institutions pay the basic service fee in advance according to the number of insured persons and pay the performance fee based on the coverage rate of physical examinations and the compliance rate of health interventions, thereby addressing the issues of unstable customer bases and difficulties in withdrawing funds. For consumers, the mode of guarantee and service is adopted to reduce the expense. When they buy insurance products with health management services, they can enjoy a service fee discount or a premium reduction. For the government, it is recommended that collaborative projects prioritize the elderly and patients with chronic diseases. While reducing social medical expenditure, we will achieve public health goals and form a win-win situation for all parties.

3.3 Information Sharing Mechanism

The information sharing mechanism is the technical support to break the data barrier and achieve precise coordination. Its core is to build a closed loop of data circulation, analysis, application, and security under the premise of compliance [7]. At the level of data circulation, it defines the scope of shared content, including the basic information and payment records of the insured population of insurance institutions, as well as the residents' health files, physical examination reports, and

intervention service records of health management institutions. Furthermore, it standardizes the data format and interface, addressing the data island problem. For analysis and application, it leverages big data and artificial intelligence to create a collaborative data platform. Insurance institutions can optimize product design based on health data, such as launching lower premium products for people with low health risks. According to the compensation data, the health management institution identifies high-risk groups, such as creating special intervention plans for chronic patients who have made multiple claims, and providing data feedback services.

In terms of security, the Personal Information Protection Law and Data Security Law are strictly adhered to, with measures such as data desensitization, authority classification, and technical encryption employed to safeguard user privacy and data security, thereby establishing a foundation for reliable information sharing.

3.4 Service Integration Mechanism

The service integration mechanism is designed to integrate the guarantee function of commercial insurance with the service function of health management. It emphasizes the comprehensive connection of the entire process, encompassing the pre-, during, and post-event phases. This approach aims to provide users with full-cycle health services. In advance prevention, insurance institutions embed health management services into product design. Users have the right to receive an annual physical examination, health assessment, and vaccination guidance at no additional cost after purchasing insurance. Health management institutions will create health files for users based on the results of their physical examinations and provide personalized suggestions to help reduce health risks from the source.

In the course of intervention, for users with health issues, health management agencies recommend cooperative hospitals and arrange expert consultations, and insurance institutions simultaneously open a green channel for claims. For patients with chronic diseases, health management institutions provide regular follow-up and medication guidance, and insurance institutions link patients' intervention compliance with follow-up protection rights and interests. For example, users with high compliance can increase their insurance coverage.

In the post-event rehabilitation, the health management institution makes a rehabilitation plan for discharged patients, and the insurance institution includes the rehabilitation service fees in the scope of claims. Simultaneously, it tracks the effectiveness of rehabilitation through health management data, creating a closed-loop service that ensures seamless integration of prevention, treatment, and rehabilitation, thereby enhancing the user experience.

4. The Practice Path of Commercial Insurance Participating in Health Management

4.1 Policy Support

The implementation of policy support must be approached from three distinct perspectives: the refinement of standards, the expansion of the pilot scope, and the strengthening of coordination. On the one hand, it is necessary to refine the specific standards for the combination of health management services and insurance. Such refinement should include defining the list of health management items that can be included in insurance protection (such as chronic disease management and rehabilitation guidance), unifying service quality evaluation indicators, and avoiding the ambiguity of standards in cooperation [8].

On the other hand, there is a necessity to expand the scope of collaborative pilot projects, extending them to third- and fourth-tier cities and counties based on existing pilot cities, and launching special pilot products for key groups such as older people and individuals with chronic diseases. In addition, it is necessary to give tax relief and premium subsidies to the pilot institutions. Moreover, it is very important to establish an inter-departmental information docking platform for medical insurance, health care, and banking insurance supervision, share policy implementation data in real time, resolve issues related to mutual recognition of qualifications and expense settlement in the pilot program, and advance the policy from framework guidance to practical guarantees.

4.2 Coordination of Interests

To address the coordination of interests, it is necessary to devise a feasible interest distribution scheme that encompasses the primary body of the four parties involved. It is suggested that insurance institutions and health management institutions should implement performance sharing of basic expenses, and insurance institutions should pay basic service fees according to the number of participants. Following the conclusion of the designated service period, if the payout ratio of the insured population is lower than that of the prior year, the performance share will be allocated to the health management institution, with the allocation amount corresponding to 10% to 20% of the decline in the payout ratio. In addition, a service premium deduction mechanism is introduced for consumers, who can deduct 10% to 15% of the premium for the next year based on service records after completing health management projects (such as annual physical examination and chronic disease intervention). Additionally, we will set up a special subsidy for the government. For projects serving rural areas and low-income individuals, we will provide each person with a subsidy of 50 to 100 yuan per year, based on the number of people served, so as to balance the costs and benefits of all parties and ensure sustainable cooperation.

4.3 Information Intercommunication

For information exchange, it is necessary to establish a practical data circulation system that ensures compliance. First of all, it is necessary to unify the data format standards, adopt the national medical and health data interconnection standards, and standardize the field formats of insurance participation information, payment records, health management files, and physical examination data to ensure that the data can be directly docked.

Secondly, the establishment of a regional data sharing platform under the leadership of local governments is imperative. This platform will serve to integrate the data resources of insurance and health management institutions. It is essential to note that the platform will be designed to exclusively grant authorized access for inquiry and analysis, with the primary objective being to prevent any occurrence of data abuse.

Finally, data security measures will be implemented, including the desensitization of uploaded personal data (i.e., the removal of identification information such as ID numbers and mobile phone numbers), the establishment of an operation log traceability system, and the regular conduction of data security audits. These measures are designed to break down data barriers and protect user privacy.

4.4 Service Convergence

Service convergence needs to focus on full-cycle scenarios and design integrated service processes. In the pre-prevention stage, insurance institutions embed health management services into the insurance process. Consequently, consumers have the option of selecting medical examination or health assessment services at no cost when applying for insurance. Health management institutions then generate customized health reports based on the outcomes and transmit them to insurance institutions as a reference for underwriting decisions.

In the intervention stage, the health management institution provides medical appointments and medication reminders for insured users. Concurrently, the insurance institution establishes a direct channel for medical claims. Consequently, after users visit a cooperative hospital for treatment, the amount of claims can be directly deducted from their medical expenses. In the rehabilitation stage, the health management institution develops a rehabilitation plan for discharged patients, while the insurance institution covers the rehabilitation service fees within its claims framework. The payments are made in stages based on the patient's rehabilitation progress, creating an integrated chain of insurance, services, and claims.

5. Conclusion and Prospect

5.1 Research Conclusion

This study is based on the collaborative issues concerning commercial insurance and its

participation in health management, and it draws three primary conclusions. First, the theoretical basis of commercial insurance and health management suggests the potential for coordinated development, with a shared objective of prioritizing resident health and risk management. These disciplines also possess complementary functions: insurance addresses the limitations of health management funding and customer bases, while health management enhances the scope of insurance's preventive measures. Moreover, synergy theory and risk management theory provide logical support for cooperation.

Second, this study constructs four collaborative mechanisms, which can break down the barriers to cooperation. The policy guidance mechanism clarifies the direction, the interest coordination mechanism balances the demands of the four parties, the information sharing mechanism breaks down data silos, and the service integration mechanism connects the whole cycle scenarios, which together constitute the core framework of coordinated operation.

Third, the practice path needs to be closely linked to the mechanism. The policy support section must refine the standards and expand the pilot, and the interest coordination section must design dynamic sharing. Additionally, the information exchange section must build a data system in compliance. Finally, the service integration section must be seamlessly embedded into the entire process. The research findings provide a practical reference framework for industry collaboration.

5.2 Future Prospects

In the future, commercial insurance and health management will develop in a deeper and more precise direction. Technically, AI and big data will further empower synergy, such as analyzing health data through AI, generating personalized intervention plans, relying on big data to achieve accurate matching of insurance pricing and health risks, and improving service efficiency.

For the scene, the scope of collaboration will extend from cities to counties and rural areas, and exclusive products will be designed for special groups such as older people in rural areas and left-behind children to provide protection measures for grassroots health.

Institutionally, the policy will further refine the convergence rules of health management service payment standards and insurance claims. It will also promote the interconnection of cross-regional data sharing platforms. Concurrently, the industry will progressively establish a unified service quality evaluation system. In the future, a three-way linkage model of medical insurance, commercial insurance, and health management may emerge, further expanding collaborative coverage and facilitating the implementation of the Healthy China Initiative.

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