

Research on the Impact of Canceling Medicinemarkups on the Price Change of Medical Services

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Abstract

A new round of medical system reform in China since 2009 aims to solve the problems of "difficult to see doctors" and "expensive medical treatment". In the past few years, the cancellation of drug markups has been promoted to the whole country by local pilot projects as an important measure of medical reform. In this context, the price of medical services, as an important part of medical charges, will become the focus and difficulty of the future reform, which deserves the attention of the academic circles and practitioners. In this study, based on the policy feedback theory, this paper analyzes the interaction and mechanism between the two major medical reform policies: the cancellation of drug markups and the price adjustment of medical services, and puts forward suggestions for further reform and policy coordination in the future from the two dimensions of resource effect and interpretation effect.

Key Words: Medical System Reform in China; Cancellation of Drug Markups; Medical Service Price; Policy Feedback.

1 Background

The right to health is the basic right of human beings, and medical service is an important guarantee to maintain the health of citizens. At the beginning of the founding of new China, the state finance was responsible for all medical service expenditures. However, with the increase of the population, the medical financial expenditure has become heavier and heavier. Under such background, in 1950s, China began to implement the drug markups system, allowing hospitals to add 15% of the drug price during selling. The original purpose of this policy is to make up for the financial gap, maintain the normal development of public medical services and maintain the health of the people. After the implementation of the drug markups policy, the financial tightening has been relieved rapidly. However, in the process of implementing the policy of drug markups, some medical institutions or doctors deliberately recommend high price drugs to patients for more bonus benefits, which causes the strange phenomenon of bad currency expelling good currency. Because the patients do not have professional knowledge, they are in a weak position in drug selection. In most cases, the prescription right decides the patient's choice. In the past, the credibility of medical institutions has been impacted, the medical expenses of patients are too heavy, and the conflicts between doctors and patients are increasingly prominent and lead to many tragedies. The tension between doctors and patients has become a serious social problem which has attracted the attention of the central

government.

Since 2009, China has started a new round of medical system reform. The coordination of medical treatment, medical insurance and medical reform has taken many measures to solve the chronic diseases of "difficult to see a doctor" and "expensive to see a doctor". In many health care reform policies, the cancellation of drug markups and the price adjustment of medical services are concerned because they are directly related to medical expenses. Today, a new round of health care system reform has gone through 11 years. What is the effect of health care reform? Has the cancellation of drug markups and medical service price adjustment effectively reduced the medical expenses of patients? What is the impact and mechanism between the two policies? All of them are worth thinking deeply. It is also the focus of this paper.

This article has three contributions. First, it expands the use of policy feedback and tries to examine the applicability of the theory in the Chinese field. Second, it tries to examine the two main mechanisms of policy feedback through case studies. Finally, it stands on the medical system from the macro perspective, and analyzes the policy effects of canceling the drug markups policy and adjusting the price of medical services, and proposes improvement suggestions for deepening the reform of the medical system.

The following contents are arranged as follows: the first chapter will introduce the core research question of this study. The second chapter will review and comment on the existing research related to the research issues. The third chapter will put forward the research hypotheses of this study on the basis of introducing the theoretical framework. The fourth chapter will introduce the selected cases in detail to test the research hypotheses. The fifth chapter will summarize the research conclusions. The sixth chapter will put forward policy suggestions for deepening the reform of the medical system according to the research conclusion. The seventh chapter will expand the discussion and point out the limitations of this study.

2 Research Question

For the medical institutions, the main income comes from three channels: financial allocation, drug sales income and medical service charge. In 2009, the Central Government of China put forward the policy of gradual reform or cancellation of drug markups policy. In the past few years, drug markups has been cancelled in different provinces and regions in China. By 2017, the drug markups was cancelled in national public hospitals. The cancellation of drug markups makes the income source of medical institutions change from three pillars to two channels, namely, medical service charges and financial allocation. According to the policy, the loss of medical institutions' income caused by the cancellation of drug markups is eliminated by three ways: financial subsidies, adjusting medical service prices and optimizing management self digestion. Therefore, this reform has brought more common operating pressure for the majority of public medical institutions. Because financial allocation cannot fully compensate for the economic losses caused by the cancellation of drug markups, the understanding of the policy of canceling drug markups and the redistribution of benefits brought by the medical institutions will inevitably have a profound impact on the follow-up measures. After understanding and interpreting the policy of eliminating drug markups, medical institutions will try different solutions to meet the practical operational challenges. Adjusting the price policy of medical service is another important measure in recent years' medical system reform, and it has some operation space for medical institutions in the process. Therefore, it is a expedient measure for the majority of medical institutions to deal with economic pressure and temporarily seek balance of income and expenditure. The process of the interaction between such two policies can be regarded as policy feedback. The cancellation of drug markups policy can affect the implementation process of the policy of medical service price adjustment through the change of cognition and behavior of medical institutions, which will verify the classic mechanism of policy feedback. This study aims to expand the application of policy feedback theory in China, put forward research hypotheses on the basis of policy feedback theory, and through the in-depth interview of case study, we find the applicability and limitations of the theory in China policy field.

3 Literature review

3.1 Research on policy feedback

Most of the research on policy feedback focuses on the western field. Some scholars are concerned about whether the policy will produce unexpected consequences. For example, Fernandez

and Jaime Castillo describe how the policy produces unforeseen consequences, which will lead to less support for such policies [1]. Some studies have conducted case studies or empirical studies on the impact of public policy on public participation and citizens' political attitude, and verified the resource allocation effect and explanatory effect of policy feedback. In some welfare countries, some social policies redistribute the interests of workers through welfare, which affects their attitude towards the government or politicians and improves the public participation in political activities. Some scholars put forward opposite views. For example, Campbell analyzed how policy experience weakens rather than enhances political participation [2]. In addition, some scholars focus on the relationship between two different public policies. For example, Nagayoshi and Hjerm have studied the impact of labor market policies on anti immigration attitudes [3].

3.2 Study on the policy of abolishing drug markups

Since the new round of medical system reform in 2009 has begun, the attention of Chinese scholars to the cancellation of drug markups has gradually increased. The research interest has reached a peak after the implementation of the national policy of canceling drug markups in public hospitals in 2017. The existing research focuses on three aspects: first, the effect of the cancellation of drug markups policy on the reform of medical system. This kind of research focuses on whether the cancellation of drug markups will reduce the total expenditure of patients' drug and medical expenses. Second, some research discussed the economic situation of public medical institutions after the cancellation of drug markups policy. Third, the changes of drug income and medical service charge of public medical institutions after the implementation of the policy of canceling drug markups are discussed. Scholars have carried out some normative and few empirical studies around the above three main topics, such as Hu analyzed the advantages and disadvantages of canceling drugs and pairing them to public medical institutions. He believes that the policy will help solve the chronic disease of "expensive medical treatment", and safeguard the fundamental interests of patients [4]. However, the cancellation of drug markups will cause obvious income gap and increase the burden of operation for medical institutions, and may also hurt the enthusiasm of medical staff, and even can not fundamentally solve some of the unhealthy tendencies in the field of medicine for a long time. Zhou & Zou found that there are some challenges in the compensation subject, compensation mode and compensation amount of public medical institutions after the cancellation of drug markups. In the future, it is necessary to ensure the multiple compensation subjects, reasonable compensation methods and scientific compensation amount [5]. Peng et al. analyzed the practice and implementation effect of the adjustment of medical service price after canceling the drug markups in Beijing, Shenzhen and Zhejiang Province, and put forward some policy suggestions. [6] Xie et al. studied the corresponding reform of compensation mechanism of urban public hospitals after the implementation of the policy of abolishing drug markups. It is believed that the reform is not in place at present, and there are still many problems to be solved. The more prominent is that the compensation of medical staff in different departments is affected by different degrees and there are some inequalities [7]. Yang et al. conduct-

ed empirical research on the effect of zero markups policy of drugs. Through random sampling of 6 pilot county-level public hospitals from 27 pilot county-level public hospitals in Sichuan Province, they found that after the implementation of the policy, the drug markups rate of county-level public hospitals decreased significantly, and the outpatient prescription drug costs increased slightly; the drug use behavior of doctors was still profit-seeking [7]. Sun et al. studies the influence of the implementation of the policy of eliminating drug markups in Guangdong county hospitals through field investigation. It is found that the policy does not significantly reduce the medical burden of patients, and the income change of medical institutions is not obvious, and the reform goals are not fully reached [7]. Li et al. empirically analyzed the performance of a county-level public medical institution in the aspects of drug cost control, hospital income and expenditure, compensation after canceling drug markups. It was found that the proportion of drugs decreased, the total drug cost growth slowed down, and the drug cost per capita of outpatient and inpatients decreased [10]. Yang et al. investigated the change of the charge before and after the implementation of the policy of eliminating drug markups in a public hospital. They found that the proportion of inpatients' drugs decreased and the inspection fee increased. The conclusion was that the policy of eliminating drug markups was effective [11].

3.3 Research on the policy of adjusting medical service price

Academic research on medical service price mainly focuses on two aspects: the first is the discussion on medical service pricing mechanism; the second is the normative research on medical service price reform. In terms of pricing mechanism, based on the data of 34 national pilot cities, Lu & Wang analyzed the formation mechanism of medical service price from the perspective of policy. They believe that the price adjustment of medical service needs to be effectively linked with medical insurance payment [12]. Li introduced the practical experience of public hospital compensation in the United Kingdom, Germany and the United States. He believed that China's current financial investment in public medical institutions is insufficient, the price of medical services is unreasonable, the debt ratio of medical institutions is increasing and the investment structure is unreasonable. Jin etc systematically reviewed and sorted out the progress and characteristics of domestic medical service price reform since the new round of medical system reform, and put forward a new pricing method model considering various factors such as technical labor, consumables and technical difficulty [13]. Tan etc summarized the mainstream practice of medical service price adjustment in the process of China's medical system reform, and summarized it into four categories: changing the incentive mechanism, promoting the adjustment of payment methods, changing the government investment mechanism, and improving the public welfare nature of public institutions. They believed that the idea of coordination of medical care, medical insurance, and medical reform should be affirmed, and the rhythm of gradual progress should be gradually promoted. The future reform will face many challenges, such as the difficulty in quantifying financial input and the difficulty in adjusting the price of medical services [14]. Based on the analysis of the current situation and existing problems of medical prices in public medical institutions in China, it is considered that some public

medical institutions do not have a good understanding of the policy, and it is difficult to connect the medical insurance policy with the pricing policy. It is suggested to strengthen the supervision through the use of technical inspection means and improve the quality of personnel through training [15].

3.4 Research Review

Most of the research on policy feedback focuses on the field of western democracies, focusing on the impact of public policy on citizen participation and political attitude to verify the resource effect and interpretation effect of policy feedback. At the level of research methods, case study is the main research method, while quantitative research is relatively less. Policy feedback research based on China's field is blue ocean field, and only a few scholars have paid attention to this field. Based on the theory and mechanism of policy feedback, Guo et al. Conducted a series of studies on different policies in the field of social security in China, and introduced policy feedback into China. In a word, there is still a lack of research on policy feedback in China's public policy, because it has a strong explanation for the impact mechanism of public policy on politics and public policy, so it can be used for more public policy situations for further development.

The new round of medical system reform is a hot topic in Chinese society, which is not only concerned by the public, but also a hot issue in academic research. As one of the important measures of medical system reform, the cancellation of drug markups system has become the main research field of medical reform subject because of its sensitivity and direct influence on drug price. In the past, most scholars focused on the effect of abolishing drug markups policy on the drug expenditure cost of outpatient or inpatient patients to investigate the reform results. The results are basically consistent: the reform helps to reduce the proportion of drugs. However, the proportion of drugs is not the only factor determining the medical burden of patients. The economic pressure that patients need to bear is closely related to the overall medical expenses and the proportion of medical insurance reimbursement. Through systematic thinking, it is imperative to comprehensively examine the reform of eliminating drug markups and adjusting the price of medical service in the overall dimension of medical system reform.

The price adjustment of medical services is an inevitable measure and an important public policy accompanied by the cancellation of the drug markups reform. It is not only conducive to optimizing the price structure of medical services in China, improving the influence weight of professional and technical ability in medical service pricing, guiding the medical industry to form a good atmosphere of respecting technology and paying attention to medicine, but also helps to ease the burden of public medical services caused by the cancellation of drug markups. Medical institutions have huge economic and operational difficulties to ensure the effective supply of basic medical services and safeguard people's basic right to life and health. It can be said that the price adjustment of medical services is the focus and difficulty of the next step of medical system reform in China. Most of the existing studies focus on the economic compensation mechanism of public hospitals and the pricing mechanism of medical services after the price adjustment, while some prac-

tioners have conducted quantitative analysis on the medical service prices and patients' burden before and after the price adjustment according to the first-hand data, which provides strong support for further reform. However, we can't separate the drug price from the medical service price as two independent issues to study separately. We should bring them into the system of medical system reform for comprehensive analysis. As two important policies that affect medical fees, how effective they are implemented and how they affect each other will affect the extent to which the goals of medical system reform are achieved. It is necessary to analyze the possible relationship between the two policies under the guidance of public policy theory, and test it through reliable first-hand data, so as to provide a reliable basis for further deepening the reform. This is the core problem to be solved in this research.

4 Theoretical framework

Policy feedback theory is a relatively young theory of public policy. Its core idea is that public policy redistributes resources through policy design and implementation, and interprets public policy in different ways, so as to shape people's cognition, behavior, influence politics, and then influence other public policies. This theory is closely related to the theory of citizen participation and social construction. It holds that the allocation of resources to citizens can help reduce the cost of public participation and improve the enthusiasm and participation degree of public participation. In addition, through different narratives and constructions of public policies, people's cognition and views can be shaped, and then their political identity and role can be affected. Pearson proposed two main mechanisms of policy feedback, namely resource effect and interpretation effect, which are the main theoretical basis of policy feedback research. Resource effect means that public policy will provide citizens with the necessary resources and related skills for political participation. Interpretation effect refers to that public policy, as a kind of information, influences people's cognition of the policy, self-identity and political attitude.

Policy feedback theory is applied to different policy fields by foreign scholars, and the main purpose is to explain the influence of policy on the behavior and attitude of actors. The deep mechanism of the influence is the resource effect and the interpretation effect. From the perspective of resource effect, a public policy will allocate important resources for the development of policy objects, thus reducing the cost of public participation and improving the enthusiasm of public participation. In the field of public policy reform of medical system, we can make a flexible understanding. The enforcement of drug markups policy is cancelled, and it is stipulated that all public medical institutions shall not make up for the business gap by accepting drug markups. This is a forced divestiture of the economic benefits and the weakening of resource distribution. For public medical institutions, whether to effectively reduce the operating costs through obtaining financial subsidies, strengthening internal management and improving the work efficiency of medical staff will affect their coping attitude and strategies. Although the price adjustment of medical services has guiding policy provisions, there is still a large operational space in the implementation level. Public medical institutions can design personalized pricing according to their own

business conditions and pricing logic within the scope not higher than the local regulations. For public medical institutions suffering from drug markups loss, how to adjust the price of medical services is an important choice to compensate for the loss of operation and ease the pressure of income and expenditure, and also reflects the implementation of the policy of medical service price adjustment. Because the public policy has made clear provisions on the proportion of financial subsidies to the economic compensation of public medical institutions, and the more fair rules are set up among different hospitals; therefore, the internal digestion ability of different medical institutions for income loss will have a more obvious impact on the implementation of the policy of medical service price adjustment. In general, more scientific management organizations often have more optimized organizational structure, more professional human resources and more reasonable performance appraisal scheme. Based on the mechanism of resource effect, we assume that the more modern medical institutions are managed, the more likely to digest the losses through internal channels such as strengthening management, so as to implement and adjust the price policy of medical services more thoroughly, control the price of medical services to a certain extent and maintain its public welfare as much as possible.

From the perspective of interpretation effect, the understanding and cognition of a maker and then take different political actions, and even affect the implementation of another public policy. As far as the public policy of abolishing the drug markups is concerned, the discourse system constructed by the government has always been limited to promoting the reform of the medical system and solving the problems of "difficult to see a doctor" and "expensive to see a doctor". Such social construction has not changed the tone, but the scope of policy promotion has gradually expanded until 2017. If medical institutions correctly understand the original intention of this reform and have a firm belief in the nature of their own public welfare, they will take the initiative to reduce expenditures, improve management science, conduct staff training, and improve resource efficiency. However, only through government subsidies and optimizing internal management still cannot solve the income gap problem of public hospitals. This part of the income shortage has been passed on to the limited rise in the price of medical services. Such policy implementation will help achieve the overall goal of medical system reform. On the contrary, if public medical institutions only understand the abolition of drug markups policy from an economic point of view, they will still strictly implement the abolition of drug markups policy under the pressure of the system, but it is also possible to increase the use of high priced drugs, shield medical staff for self-interest, greatly increase the price of medical services, guide patients to over check and other relatively simple ways to maintain the self-interest. Obviously, the medical institutions that make such a choice have seriously deviated from their public welfare and seriously ignored the interests of patients; however, this phenomenon does exist. Based on this, we make the following hypothesis: compared with the public medical institutions that do not have a correct understanding of the policy objectives and have a clear understanding of their own public welfare, the public medical institutions that have a correct understanding of the policy are more likely to resolve the eco-

conomic pressure through self efforts, and implement the medical service price adjustment policy in place as far as possible to protect the interests of patients. Next, this study will test the above two hypotheses through the first-hand data obtained from the in-depth interviews with the responsible personnel and financial officers of a public hospital in Beijing.

5 Case analysis

5.1 Case selection criteria

In April 2012, the general office of the State Council issued the notice of deepening the reform of the medical and health system in 2012, which stated that the reform of public hospitals would abolish the drug markups, and then gradually promoted in the pilot areas. As of August 2015, 3077 county-level public hospitals and 446 urban public hospitals in China have cancelled all drug markups. Seven provinces, including Jiangsu, Zhejiang, Fujian, Anhui, Sichuan, Shaanxi and Ningxia, have cancelled all drug markups in county-level public hospitals. From April 8, 2017, all public medical institutions in Beijing will cancel the registration fee, diagnosis and treatment fee, cancel the drug bonus, and set up the medical service fee. Meanwhile, the prices of 435 medical services will be regulated. Although it was not until 2017 that Beijing began to implement the policy of abolishing drug markups, as early as 2012, individual public medical institutions began to pilot. The case of this study is one of the pilot hospitals. Due to the mature practical experience in the implementation of the policy of canceling drug markups, and the exploration of a suitable compensation method for our institution, we can comprehensively investigate the mechanism of policy feedback by selecting this hospital as a case. The hospital is a third class a comprehensive hospital integrating medical treatment, teaching, scientific research and prevention. It serves patients all over the country, and its public welfare has an impact on the public in a large range. Choosing it as a case study can also help to investigate the implementation of the policy of eliminating drug markups and adjusting the price of medical services in large public hospitals, and the exploration is more helpful. The reform path to achieve the goal of medical system reform.

5.2 case introduction

X hospital was established in the 1950s, with 46 professional departments including heart center, respiratory department, endocrinology department, nephrology department, hematology department, rheumatology and Immunology Department, neurology department and gastroenterology department. It has 1900 beds, equipped with 1.5T and 3.0T magnetic resonance imaging system, PET-CT, super high-end dual source CT, all digital linear accelerator and other world-class medical equipment. There are about 3500 employees in the hospital, with an annual outpatient and emergency volume of about 1.5 million, an annual inpatient volume of about 35000, and an annual operation volume of about 15000. In 2012, the medical institution was included in the first batch of pilot bases for the reform of separation of medicine and medicine in Beijing. The specific reform contents include the cancellation of drug markups, the cancellation of registration fees and treatment fees, and the addition of medical service fees. This means that the income source of medical institutions has changed from three pillars of government investment, drug sales revenue and medical service charges to two channels of govern-

ment investment and medical service charges. In this study, we conducted an independent interview with the person in charge and the financial supervisor of the medical institution on the actual losses, changes in financial revenue and expenditure and the attitude of the leadership after the cancellation of the drug markups policy. The interview time was 1.5 hours and the interview records were 30000 words.

The medical institution has a good reputation in the industry, attracting patients from all over the country. The drug markups system, which has been implemented for 60 years, has great inertia and influence. It has created some groups of fixed stakeholders. The interest entanglement among pharmaceutical companies, medical institutions and medical workers is complex. Due to the influence of China's long-term low-cost medical service policy, medical staff in the past work can not reflect the value of their professional training, medical skills, consultation experience, etc. through medical service charges, they have been in a situation where the work value is difficult to be recognized for a long time. In order to make up for the loss of income caused by the low price of medical services, it is common to recommend patients to use high price drugs, increase the dosage of drugs, recommend imported drugs as far as possible, and over check. In the interview, we learned that medical workers generally have negative emotions such as conscience condemnation before they take such actions. However, due to the pressure of real life and the influence of the surrounding environment, it is difficult to be independent.

At the beginning of the medical institution's implementation of the policy of abolishing drug markups, many medical workers still recommended high priced drugs, imported drugs and increased drug dosage due to the concern about the impact of personal income. The interest relationship between the pharmaceutical company and medical workers was not completely cut off. Most of the pharmaceutical companies organized academic seminars or other secret forms to convey the interests of medical workers. Doctors and pharmaceutical companies were in a state of collusion, and patients' interests are obviously damaged. The top leaders of the hospital were well aware of the core demands of front-line medical workers, and strove to form a smooth transition after the cancellation of drug markups, so as to maintain the comprehensive treatment level of doctors as far as possible. In the investigation, we learned that the hospital leaders held dozens of special discussion meetings on the response plan after the cancellation of drug markups, and finally reached a consensus: the income level of medical staff should be maintained at the original level, and there should be no significant decline, otherwise it may cause serious brain drain, and bring irreversible losses to the reputation and normal operation of medical institutions. One month before the policy pilot, the leaders of the hospital asked the financial personnel to calculate the possible losses caused by the cancellation of drug markups, and calculate the possible operating cost savings after improving the scientific management, strengthening the training and improving the efficiency, and report the gap. At the same time, the public hospital combined with the technical difficulty of medical services, human resource investment, clinical effect and so on to adjust the price of all medical services, and finally formed a tight bal-

ance between revenue and expenditure. After the hospital level plan was determined, each department was immediately called to hold a meeting to preach the policy and response plan for several rounds. The special personnel collected the opinions of the Department and answered the questions of the Department, which fully achieved the information communication and removed the obstacles to the promotion of the reform plan. Through the interview with the leaders of medical institutions, we learned that after the medical staff confirmed that the future income would not be significantly reduced due to the cancellation of drug markups, the situation of excessive medical treatment decreased, and greatly improved in three months. As the adjusted medical service price takes into account the technical difficulty and medical staff's experience in diagnosis and treatment, the value of its work can be better reflected, and doctors generally feel respected. The vast majority of medical workers no longer excessively recommend high priced drugs, imported drugs and large prescriptions, and the medical environment and atmosphere are becoming more and more prosperous.

According to the statistics of the financial department, after the cancellation of the drug markups, the proportion of outpatient and inpatients decreased, and the proportion of outpatient decreased more. The medical expenses borne by patients are not only affected by the proportion of drugs, but also related to the overall medical expenses and the reimbursement proportion of medical insurance. According to the financial director, in the second year after the cancellation of the drug markups, the per capita medical expenses of outpatients decreased by 7%, the per capita medical service expenses increased by 18%, and the per capita self paid part of patients decreased by 3%; the per capita medical expenses of inpatients increased by 3%, the per capita medical service expenses increased by 23%, and the per capita self paid part of patients increased by 5%.

The human resources department of the public hospital recruited three performance appraisal staff with rich working experience, designed a performance appraisal scheme matching the reform objectives, added fresh strength to the existing team, and ensured that the human resources department had the most cutting-edge management concepts and more scientific management methods. According to the specific situation of each department, the human resources department has formulated a relatively perfect and fair performance management method, and started to promote it in the form of quarterly assessment, linking the results of performance assessment with personal income, guiding medical staff to stimulate internal motivation, improve business level, form a benign competitive environment, and promote the rapid improvement of the comprehensive quality of human resources. According to the financial staff, in the first year after the performance reform, due to process optimization and efficiency improvement, the operating cost of medical institutions decreased by 5%, and in the second year by 7%. The increase of government subsidies is very limited after the implementation of the policy of abolishing drug markups, which is only 2%. Most of the operating gaps are mainly solved by adjusting the price of medical services and improving internal management.

Generally speaking, after strictly implementing the policy of

abolishing drug markups, the operating revenue of the large public medical institution has been greatly impacted due to its large scale and wide range of services. From the perspective of resource allocation effect, the decrease of drug revenue deprives the hospital of some of its acquired economic benefits. In order to maintain the normal supply of medical services, the hospital makes up for the income gap by fighting for government financial subsidies, adjusting medical service charges, and strengthening internal management. Finally, the medical service charges are increased. From the perspective of interpretation effect, the abolition of the drug markups policy enables medical institutions to have a deeper understanding of the purpose of the national medical system reform in the process of implementation, and then give full play to its public welfare nature, control operating costs by strengthening internal management and promoting new performance as far as possible, and control the increase of medical service charges within a certain range. Due to the leadership's deep understanding of the abolition of drug markups policy and accurate understanding of the core competitiveness of the medical institution, the medical institution focused on strengthening scientific management and performance appraisal, striving to create a good atmosphere of technological competition, digesting the funding gap as much as possible through internal process optimization, and did not put forward too many requirements for financial subsidies. After canceling the implementation of the drug markups policy, the hospital was affected by both the resource allocation effect and the interpretation effect, which shaped its attitude and scheme choice to further deepen the reform and implement the medical service price adjustment policy. From the perspective of the actual medical expenses paid by patients, although the drug expenditure generally decreased, the medical service expenditure increased significantly, the overall medical burden did not reduce, especially the medical expenditure of hospitalized patients even increased, which was inconsistent with the reform goal. This deviation of policy implementation effect is mainly the result of the superposition of resource allocation effect and interpretation effect. The two effects have opposite directions, and the final adjustment direction should be determined according to the relative strength of the two effects.

To sum up, through the analysis of the case of X hospital, we can find that the cancellation of drug markups policy reduces the drug sales revenue of medical institutions and changes the existing profit distribution pattern. Due to the large scale of the public medical institution and its service to the whole country, this reform has caused serious losses to its economic interests. If there are problems in the compensation mechanism and it is difficult to balance revenue and expenditure, the resource effect will weaken the implementation of the policy of medical service price adjustment. However, due to the correct understanding and positive response of the leadership of the medical institution to the goal of canceling the drug markups policy, the interpretive effect of canceling the drug markups policy urges it to implement performance appraisal, strengthen personnel skills training, optimize the business process, improve the scientization and rationality of internal management, actively absorb fund losses through internal channels, and control as much as possible the rate of increase of medical service charge. The case of X hospital

verified the research hypothesis, and showed that the resource allocation effect and interpretation effect of canceling the drug markups policy existed and overlapped at the same time, which provided enlightenment for deepening the medical system reform in the future.

6 Conclusion

The reform of medical system is a comprehensive and systematic project related to multi stakeholders, with many initiatives and numerous policies. After the implementation of different policies, not only the implementation effect will be produced, but also the resource allocation effect and interpretation effect of other related policies will be affected. Through the above research, the following conclusions are obtained

1. In the process of China's medical system reform, as one of the main bodies of policy implementation, the implementation of different public policies conforms to the logic of policy feedback. One public policy can affect the cognition and behavior choice of medical institutions through resource effect and explanation effect, and then affect the implementation of another public policy.
2. From the macro perspective of medical system reform, drug price reform, medical price reform and medical insurance payment reform can not be carried out independently. We must pay attention to the coordination between policies in order to achieve policy coordination and ensure the realization of the overall goal. If different reform policies are separated from each other, it will only increase the cost of reform and damage the interests of patients.
3. The theory of policy feedback can provide useful inspiration for policy design and implementation in China's future medical system reform. It is particularly important to build policy objectives and help policy executors have a correct understanding of the policy. A deep understanding of the overall goal of the medical system reform will help policy executors overcome the difficulties of short-term interests, ensure the implementation of the policy in place, and promote the early realization of the reform goal.

7 Policy implications

Through the case study, we found that there are still many challenges in China's medical system reform. In the future, we need to pay attention to the impact of the first policy on the follow-up policy in the process of policy formulation and implementation, so as to improve the degree of coordination between policies as much as possible. Specific suggestions are as follow

7.1 Completely reform the compensation mechanism

Taking the abolition of drug markups policy as an example, the economic losses caused by the implementation of the policy are difficult to be effectively covered by the whole subsidy. The key to solving the problems of "expensive and difficult to see a doctor" is to rely on the consciousness of medical institutions in reality, which is obviously not in line with the principle of modern basic public service science and efficiency. The reform of medical system is a systematic project. The implementation of any policy needs the guarantee of supporting measures. Only when the interests of all parties are considered, can it be carried out smoothly. In the future, the Chinese government should

strengthen publicity in optimizing the internal management of medical institutions, encourage medical institutions to reduce costs and reduce the burden of reform by optimizing the process and performance appraisal. At the same time, financial subsidies should be increased to ease the worries of medical institutions and ensure the effective and sustainable supply of basic medical services.

7.2 Strengthen policy propaganda

Because of the deep understanding of the overall goal of the medical system reform and the policy of abolishing the drug markups, X hospital actively adheres to its public welfare, digests the economic losses by relying on its own reform, and the reform has achieved remarkable results and fully interprets its social responsibility. This is a microcosm of the successful experience of medical system reform, but in reality, not all policy executors can have a correct and profound understanding of the policy intention and goal. According to the mechanism of policy feedback theory, different understanding of public policy will lead to different implementation behavior, and then affect the implementation of another public policy. Therefore, it is very important to strengthen the propaganda of policies and ensure that the spirit of policies is understood in place. Only when they are unified with policy makers at the ideological level, can they produce ideal.

7.3 Introduce citizen participation

The reform of medical system is closely related to the public interest, and it is a gradual process. Some of these links are difficult to be in place in one step, which will cause temporary damage to the interests of patients. If the public can be fully introduced into the formulation and implementation supervision of reform policies, it will be easier to listen to their opinions, strengthen communication, enhance understanding, reduce the resistance of policy implementation, and improve the credibility of the government.

8 Discussion and limitation

In this study, we selected a tertiary hospital as the analysis object, which is the background of successful reform, to verify the research hypothesis. If combined with the policy feedback mechanism, we can think about this problem from the opposite angle: for the public medical institutions with relatively backward self-management, if the financial subsidies are not enough, is it possible to make up for the economic losses caused by the cancellation of the drug markups policy through the flexible implementation of the medical service price adjustment policy? If a public medical institution can't understand the intention of canceling the drug markups policy correctly, and only limits itself to the damage of its own economic interests and ignores the public welfare nature of its institution, will it maintain its normal operation through the loose implementation of the medical service price adjustment policy, that is, substantially increasing the medical service price? These research hypotheses need to be further verified by empirical research.

In this study, a top three hospital in Beijing is selected as the case study object. Its performance in the process of medical system reform can well represent the situation of a group of pub-

lic medical institutions with strong comprehensive strength, but the representativeness of some grassroots medical institutions is questionable. In the future, we can select different levels of public medical institutions as the object of case study, conduct case comparative study, and analyze whether there are differences in the mechanism of policy feedback theory between different policy executors, which is also the research direction that may continue to explore in the future.

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