

# Challenges and Solutions of China's Medical Service Pricing

Lingran Su\*

Department of Public Administration, Renmin University of China, Beijing, China

## Research Article

**Received:** 18-Mar-2022,  
Manuscript No. JOB-22-57806 ;  
**Editor assigned:** 20-Mar-2022,  
PreQC No. JOB-22-57806 (PQ);  
**Reviewed:** 01-April-2022, QC No.  
JOB-22-57806; **Revised:** 03-April-  
2022, Manuscript No. JOB-22-  
57806 (R); **Published:** 10-April-  
2022, DOI: 10.4172/2322-  
0066.10.4.002.

**\*For Correspondence:**

Lingran Su, Department of Public  
Administration, Renmin University of  
China, Beijing, China

E-mail: lingran02@163.com

**Keywords:** Medical system reform;  
Medical service; Pricing mechanism;  
Stakeholders

## ABSTRACT

**Objective:** China's new round of medical system reform has been carried out for 12 years. The goal of this reform is to solve the problems of "difficult to see a doctor" and "expensive to see a doctor". Medical service pricing plays a guiding role in the allocation of medical service resources. The focus of this study is to analyze the existing problems of China's medical service pricing mechanism, and explore the reform direction of China's medical service pricing mechanism in the future.

**Methods:** This study analyzes the advantages and disadvantages of three common medical service pricing methods in China at the present stage, and analyzes the realization of core demands of subjects such as medical insurance bureau, public medical institutions, medical staff, patients and so on under the framework of stakeholder theory.

**Findings:** China's current medical service pricing mechanism makes pricing and service value deviate significantly, patients' demands are lack of expression channels, the scale expansion of public hospitals still exists, and the use efficiency of medical insurance funds still has room to improve.

## INTRODUCTION

The right to health is the basic right of every citizen. Basic medical services are related to the health of the public and the treatment of diseases, and are an important guarantee for the right to health. There are certain costs in the supply of medical services, and these costs are partially compensated by charging users based on service pricing. The key issue discussed in this article: the price of medical services refers to the charging standards of medical

service items provided by medical institutions to patients, including outpatient, hospitalization, various examinations, treatments, inspections, and surgical items. Medical service providers in China mainly include public medical institutions and private medical institutions.

## MATERIALS AND METHODS

### Importance of medical service price reform in China

Medical services can be divided into basic medical services and special medical services according to the level of demand for medical services. This research pays more attention to the pricing of basic medical services with inclusive nature, and focuses on the pricing of medical services of public medical institutions, that is, when public medical institutions provide patients with outpatient services, hospitalization, various examinations, treatments, inspections, and surgical items. Basic medical services are non-exclusive and non-administrative. Basic medical services are the product of the joint investment of certain human resources, medical equipment, medical consumables and other resources. Different types of medical services contain different proportions of various resources, which can be roughly divided into two types, human resource-led and medical equipment-led. Outpatient, hospitalization, treatment, inspection, surgery and other services are human resource-led medical services because they mainly rely on the professional knowledge and experience of medical workers. Although various inspections also require a certain amount of human, the degree of dependence is relatively high, and it belongs to medical equipment-led medical services.

In the early days of the founding of the People's Republic of China, basic medical services were fully supported by the public finances, and all people enjoyed free medical care. However, free medical care for all people has brought a huge burden to the national finance and cannot be sustained. In the 1980s, China began medical market reforms. The government allowed public hospitals to charge 15% of the purchase price of medicines to make up for the lack of operating costs. Basic public medical care began to gradually deviate from its public welfare nature. After realizing the unsuccessful reform of the market-based medical system, China started a new round of medical system reform in 2009, aiming to reverse the distortion of medical pricing caused by the previous marketization, and to fundamentally solve the problem of "difficult medical care" and The problem of "expensive medical treatment"<sup>[1]</sup>.

Price is the adjustment method of resource allocation. Although medical service pricing is different from complete market-based pricing, it also plays the role of guiding resource rationing. The so-called "difficult to see a doctor" reflects the status quo that patients cannot meet their medical needs. Objectively speaking, there is not much difference between the total supply and total demand of public medical services in China. However, there are obvious differences in medical equipment, doctors' quality, and diagnosis ability in different levels of public hospitals in China, and this difference has not been fully reflected through pricing. Therefore, patients are more willing to choose high-level public hospitals for treatment. The high-quality medical services have been in short supply for a long time, which has gradually evolved into the widely criticized "difficult to see a doctor" problem. At the same time, as the hard-to-find scene of the top hospitals in big cities, it is the monosity and brain drain of the local-level public medical institutions <sup>[1]</sup>. The current medical service resources cannot fully meet the needs of the people, and resource runs and waste of resources coexist, which poses a challenge for further deepening the reform of the medical system.

Expensive medical treatment is a long-standing social problem in China. Around the world, some welfare countries implement a universal free medical care system. However, while enjoying free medical services, patients have to bear the cost of waiting for a long time and being unable to obtain timely diagnosis and surgical treatment. Objectively speaking, the pricing of medical services in China is not higher than the world average. In other words, the problem of "expensive medical care" is a social problem extended by the subjective feelings of patients and families under the background of the times such as the social environment and the level of economic development. In reality, there are indeed some major diseases that require higher treatment costs, leading to poverty in some families due to illness in China; at the same time, the pricing level of medical services in the planned economy affects the public's acceptance and expectations of medical service charges. When there is a big difference between reality and psychological expectations, there will be subjective judgments that the medical service charges are too high and the medical economic pressure is too great. Therefore, it is not difficult to conclude that the key to solving the problem of "expensive medical care" in China lies in reducing the people's psychological burden on medical services. At this stage, China has implemented a differential pricing system for different levels of medical institutions in the pricing of medical care services, but the differences in the pricing of medical services of different levels of hospitals are not clear enough. Faced with their own or family members' illnesses, the vast majority of residents still choose to go to high-level hospitals for high-quality and timely treatment. It can be said that part of the problem of "expensive medical care" is caused by the unreasonable allocation of medical service resources. In addition, since the vast majority of residents enjoy medical insurance for urban employees, urban residents or rural residents, they only need to pay for the part borne by them after receiving medical services. The most direct impact on their experience of seeing a doctor is the level of self-pay part of the fee. Therefore, the problem of "expensive medical care" is also related to the proportion of medical insurance payment. Increasing the proportion of medical insurance reimbursement will help reduce the financial burden of patients. All in all, lowering the price of medical services or increasing the proportion of medical insurance payments will reduce the pressure on patients to pay for themselves and alleviate the problem of "expensive medical care".

Since the new round of medical reform in 2009, China has successively implemented measures such as the cancellation of drug mark-up pilots, the national promotion of zero mark up for medicines, centralized procurement of consumables, and zero mark up sales of consumables<sup>[2]</sup>. Through a series of reforms, the prices of medicines and some consumables have been significantly reduced. Take heart stents, a common medical consumable, as an example. Because the procurement method has changed from independent hospital procurement to centralized procurement across the country, the final transaction price dropped from the previous 10,000 yuan (1,500 US dollars) to 700 (106 US dollars) yuan, which has aroused widespread concern in the society.

In China, the main income of public medical institutions before the new round of medical reform is mainly composed of three parts: drug sales income, medical service income and financial subsidies. After the elimination of drug markups and zero mark up sales of consumables, public hospitals can only rely on financial subsidies and medical service income to maintain their daily operations<sup>[3]</sup>. According to policy regulations, financial subsidies only make up for 80% of the income loss caused by the cancellation of bonuses, and the remaining 20% will be internally solved by adjusting the price of medical services and improving the level of hospital management. For a long time, China's medical service organizations have performed poorly in terms of refined and scientific management. Public hospitals are unable to accurately control operations, and problems such as waste of resources and materials and insufficient information technology are more prominent; most public hospitals cannot

effectively reduce costs and make up for losses by improving internal management in the short term. Although public medical institutions are of a public welfare nature, their operating costs are also a large expenditure that cannot be ignored. If they cannot make ends meet for a long time, the supply of medical services is bound to be greatly affected, which will harm citizens' rights and interests.

The cancellation of drug additions has been promoted nationwide in China and has effectively reduced the price of drugs, which has received a relatively positive response. As a pioneer in the reform of the medical system, the reform of drug prices has laid a good foundation for a new round of reform of the medical system. Compared with medicines, medical consumables have a wide range of varieties and complex parameters, and reforms are difficult to achieve in one step. However, the tone of centralized procurement has been established and medical consumables with more mature technology and obvious therapeutic effects will gradually be included in the national centralized procurement catalog [4]. In the brand-new procurement model, the Medical Security Bureau, on behalf of the majority of patients, negotiates with medical consumables suppliers through its super-large procurement volume advantages, and obtains substantial reductions in consumables prices through favorable conditions such as timely payment. Under the attractiveness of China's huge market, many domestic and foreign manufacturers have lowered their stance, greatly reduced prices, and showed sincerity in negotiation and cooperation, and finally reached a win-win situation under the premise of ensuring supply capacity and product quality. In the transformation of the procurement model, both medical institutions and patients have benefited. Medical institutions will receive advance payment of medical insurance and reduce economic pressure. In addition, due to the price reduction of consumables, the doctor-patient relationship is more harmonious and the treatment effect is improved. As far as patients are concerned, they can receive interventional treatments with definite curative effects within the scope of economic affordability, the economic burden brought by medicines and consumables has been significantly reduced, and the availability of basic medical services has been significantly improved. Based on the clear direction of the reform of medicines and consumables, the reform of medical service pricing will surely become the focus and difficulty of the future medical reform, which is related to the allocation of resources of public medical institutions, the mobilization of medical staff, and the medical care needed by patients, the adequacy and accessibility of services and the pressure of medical insurance payment.

### **The main pricing model of medical services in China**

In addition to general commodity characteristics, medical service has its particularities. Generally speaking, medical service pricing methods can be divided into three types: cost-oriented pricing, demand-oriented pricing and competition-oriented pricing. Among them, the cost-based pricing method is more traditional, mostly used in non-profit hospitals, and basic medical service items are directly priced at cost. In the era when the public finance undertakes all basic medical services, the pricing of China's medical services is only symbolic, focusing on the national financial affordability and the public welfare nature of medical services, and has no direct relationship with the technical and professional value of medical services. Although two rounds of medical system reforms have been carried out since then, the basic principles of China's medical service pricing have not changed. With the development of the times and the reference of advanced international experience, different regions of China have tried in terms of specific pricing methods. So far, there is no unified pricing method in China. Generally speaking, the mainstream medical service pricing models in practice include cost pricing, value pricing and reference pricing.

**Cost pricing method:** Cost pricing refers to pricing based on the results of medical service cost estimation. In the specific operation, professionals divide the hospital medical service cost estimation into three levels: hospital cost

estimation, department cost estimation and service item cost estimation. After the total cost of the hospital is calculated, the total cost is allocated to each medical department. Medical departments are divided into direct cost departments and indirect cost departments. Direct cost departments are departments that directly produce medical service items, while indirect cost departments do not directly produce medical service items. Direct cost departments include clinical and medical technology departments, and indirect cost departments are medical auxiliary departments.

The cost pricing method is relatively scientific, and the cost of medical services is used as the main factor in price evaluation, and the price of medical services can reflect the value of medical services to a certain extent. However, this pricing method is more complicated to operate, and more energy is focused on tangible capital such as personnel wages and depreciation of housing equipment in the operation link. It lacks the measurement of the technical cost of medical staff, which is precisely the core of medical services. From this perspective, the cost method does not fully reflect the value of medical services. The price of medical services obtained through this method deviates from the value of the service, which is not conducive to stimulating the enthusiasm and motivation of medical staff to improve their professional capabilities and improve.

**Value pricing method:** The value pricing method is based on the value elements contained in the medical service items. These elements include human resources, technology, material consumption and medical risks. This pricing method takes into account the special nature of medical services, and takes human resources, medical technology and risks as important factors to conduct a comprehensive investigation. Compared with the cost pricing method, it is a huge conceptual advancement. At the specific level of implementation, different regions have different operating methods. Some regions refer to the United States' practices and invite experts to score the three types of non-material consumption costs of human resources, medical technology, and medical risks, and set their overall proportions to 100%. In some regions, local parameters are brought into the price evaluation based on the pricing model, and the doctor's standard labor costs (including labor time, technical difficulty, and risk level, etc.) and standard auxiliary costs of the project (including sanitary materials, depreciation, etc.) are included in the calculation.

The value pricing method is closer to the true value of medical services. The technical factors and risk factors that affect the quality of medical services are included in the comprehensive consideration of pricing to give special attention, which reflects the characteristics of medical service pricing that are different from other public service pricing. However, since it is difficult to directly obtain information such as the technical level of medical staff, it is replaced by the explicit standard of professional title during operation, which loses the fairness and authenticity of the evaluation. In addition, the basis for the assessment of medical risks comes from historical statistical data, which has a clear empiricism orientation and cannot make specific analysis of specific medical services. It can be seen that, although the value evaluation method is more scientific than the cost evaluation method, it still cannot fully and truly reflect the true value of the medical service, and the medical service price deviates to a certain extent from its value.

**Reference pricing method:** The reference pricing method is developed from the reference method of drug pricing. Its core idea is to compose a group of drugs with similar therapeutic effects into a reference drug group, and select one or a group of drugs to form the drug reference price of the reference drug group. In the pricing of medical services, the reference pricing method is to compare a certain medical service with the medical services of the

reference group. If it can be connected, the original price will continue to be used, and if it cannot be connected, the price will be re-priced.

The reference pricing method is easy to operate, but not rigorous enough. Although it can ensure the steady adjustment of medical service prices and improve patient acceptance, its rigor and scientificity face more prominent challenges. If there is a big deviation between the reference service price and the medical service value, the medical service price based on this will inevitably not reflect the value.

In general, the pricing model of China's basic medical services as a whole follows the idea of cost pricing, and the purpose is to price based on the measurement of service costs, combined with medical insurance reserves and patients' economic affordability. The cost pricing method can more effectively realize the cost compensation function of medical service pricing. However, the overall operating cost of public medical institutions has not been comprehensively reviewed and carefully identified. It is easy to cause problems such as high costs, difficult to optimize management scientifically, and continuous increase in patient burden. The value pricing law pays more attention to the core value of medical services for protecting the lives and health of patients, highlights the special nature of basic medical services different from other basic public services, and is more in line with the ideal model of basic medical service pricing. However, due to the limitations of evaluation methods, many deep-level service values, especially intangible values related to human resources, are difficult to measure and evaluate through relatively simple and efficient methods, which inevitably affect the accuracy of value pricing. The reference pricing method is widely used around the world. It is an optimized method for rapid and scientific pricing of new medical services. Its scope of use is clearly defined and requires the foundation of the cost pricing method. It cannot be used independently.

### **Analysis of medical service stakeholders' appeals**

**Stakeholder theory:** The stakeholder theory originally originated from the business management field in the 1960s, and developed rapidly after the 1980s, and has exerted extensive and far-reaching influence in other fields. Broadly speaking, stakeholders refer to individuals or groups that can influence the realization of a group of goals or can be affected by the process of achieving organizational goals. In a narrow sense, stakeholders refer to individuals or groups who have invested business capital, human capital, financial capital or other valuable capital within the enterprise and need to bear certain risks. At this stage, the broad concept of stakeholders is widely used, and it is used to analyze the cooperative actions and strategic choices of some diverse subjects. For the provision of basic medical services, which is a public service activity, it involves many stakeholders, including the government, medical institutions, medical staff, and patients. The introduction of policies in the reform process requires a comprehensive weighing of the demands and risk tolerance of different stakeholders. Therefore, this study systematically analyzes the current situation and existing problems of China's medical service pricing mechanism under the framework of stakeholders.

**The core interest demands of different stakeholders:** China's new round of medical system reform is a systematic project led by the central government. The purpose of the reform is to solve the long-standing problems of imbalance in the supply and demand of basic medical services and high costs. The core demand of the government is to improve the inadequate and unbalanced supply of basic medical services, and reduce the financial burden of patients through advanced reform. The newly established Medical Security Bureau in the reform of the administrative structure has played an important role in this round of medical reform, coordinating resources from various sources, promoting communication and cooperation among different departments, and striving to make

use of the medical security fund's size advantage to play a game with medical service providers. Although public medical service institutions have an obvious charity nature, the interests of their property owners and managers are not completely consistent. For property owners, they are more concerned about whether the public welfare nature of public hospitals can be fully implemented, and whether they can provide sufficient and high-quality basic medical services to improve the health of local patients. The managers of public medical institutions are more economically rational. They manage and operate public hospitals as profitable commercial organizations, hoping to maintain a good social reputation, attract more talented people, receive more patients, expand their business scale, and improve infrastructure construction and provide employees with better remuneration. As the terminal provider of medical services, medical staffs are more concerned about the recognition of their social status and work value, hoping to exchange professional skills for more generous economic returns and maintain a decent standard of living. As recipients of medical care services, patients hope to get accurate diagnosis and timely treatment in time under the situation of serious asymmetry between medical and pharmaceutical information [5-7]. At the same time, they do not want the whole family to fall into financial distress due to personal illness.

**Analysis of the demands of various stakeholders in different pricing models:** When the cost pricing method is adopted to price basic medical services, the Medical Security Bureau's demand for cost reduction is difficult to achieve. Subject to cost pricing's neglect of the overall operating costs of public medical institutions, medical insurance payments can only passively receive the results of the cost pricing method. Under this less restrictive pricing model, public medical institutions can have greater freedom in optimizing internal management, and their operating costs will not be compressed, and they will easily fall into increasing scale and focus on infrastructure. For medical staff, this pricing method cannot clearly distinguish between the different levels of technology and experience accumulated between individuals, and it is easy to cause a passive state of being content with the status quo and not being enterprising. For patients, due to their aphasia in the pricing of medical services, they can only passively accept the pricing results, their vital interests will inevitably be harmed, or at least they cannot be maximized.

When the value pricing method is adapted to price basic medical services, the Medical Security Bureau's burden of medical expenses is closely related to the value of medical services enjoyed by patients, and it is easier to optimize the allocation of funds. As far as public medical institutions are concerned, they no longer blindly pursue hardware upgrades, but focus their development on talent introduction and training, and internal management optimization, so as to fundamentally improve the quality of basic medical services and form a virtuous circle. For medical staff, their professional value is respected and financial compensation is obtained, which is conducive to stimulating their internal driving force for self-improvement. For patients, the pursuit of service quality by public medical institutions and the improvement of the professional level of medical staff will provide practical guarantees for the improvement of their health conditions, which is conducive to the realization of their core demands.

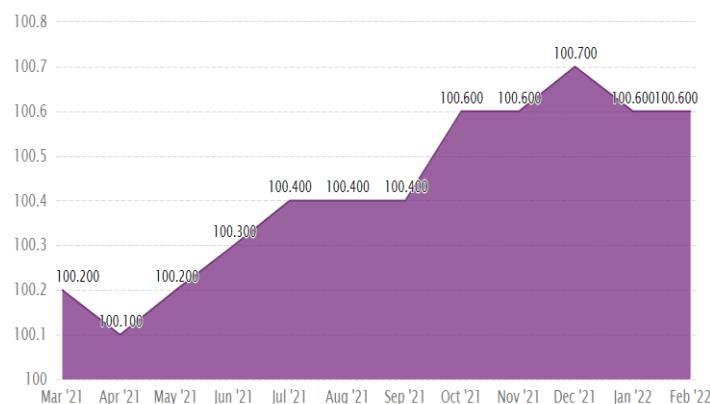
When adopting the reference pricing method to price some new medical services, because the prerequisite is the cost pricing method for existing medical services, there is no obvious difference from the cost pricing method in terms of impact on various stakeholders. The general idea of the reference pricing method is to sacrifice a certain degree of accuracy in exchange for the convenience and speed of pricing. This is not good for the refined management of new medical service providers, and it is not conducive to optimizing the core interests of the Medical Security Bureau, medical workers and patients.

## RESULTS AND DISCUSSION

### Problems with pricing of medical services in China

From the perspective of stakeholders, no matter which pricing mechanism is adopted, China's current medical service pricing mechanism cannot accurately reflect its value. Due to the prevalence of underestimation of medical service prices and small differences in the pricing of different levels of medical institutions, it is difficult for the government to guide the effective allocation of basic medical service resources through the pricing mechanism [8,9]. Medical institutions and patients are more likely to collude and cause a waste of medical insurance funds. As for public medical institutions, the value of medical services is underestimated, which gives them good reasons to make additional income through unethical means such as prescribing large prescriptions and repeated examinations to make up for economic losses, provide doctors with a relatively generous return[10]. For medical workers, the current pricing mechanism for medical services seriously underestimates the value of their professional knowledge and services, and cannot form an incentive effect; in an environment where hospital management is relatively loose, doctors have the motivation to collude with the hospital and use information asymmetry to induce patients receive over-diagnosis and treatment in order to obtain income returns that match their service value and social status. Patients are in an absolute disadvantaged position in front of medical institutions and medical staff, and lack professional knowledge and choice in the face of diseases. In most cases, they follow the doctor's recommendation for examination and treatment. It is inevitable that minor diseases will be cured and unnecessary medical expenses will be burdened. It can be seen that under the existing medical pricing mechanism, the interests of all stakeholders have been harmed to varying degrees. In the absence of effective communication channels, the interests of all parties are difficult to reconcile. In the context of the cancellation of drug markups and the centralized procurement of consumables, the gap between revenue and expenditure of public medical service institutions has increased significantly. Medical service fees, as the main channel to make up for the operating costs of public medical institutions, shoulder major responsibilities. The general keynote of China's medical service pricing has long adhered to public welfare, taking into account the affordability of the people, and there is a clear departure from the value of medical services. Under the requirements of controlling the overall level of medical service prices and adjusting the price structure at this stage, the adjustment space for medical service prices is still relatively limited. The reform at this stage can only be called a transitional stage, which cannot fundamentally solve the problem of the medical service pricing mechanism (Figure 1).

**Figure 1.** Consumer Price index-Health care and medical services in China. \*Note:   Consumer price index



**Failure to reflect the value of medical services:** The cost evaluation method and the reference pricing method ignore the important factors of medical services, such as human resources, technology and service risk. Although the value evaluation method considers the human and technical factors related to the quality of medical services, this evaluation method is relatively simple and rough, which cannot reflect the impact of each medical staff's actual technical level on the medical effect, and is easy to cause problems and negative incentive. Based on the cost evaluation method, the reference value method simply compares the new medical services with the existing medical services according to the comparative thinking, and determines the price through fine-tuning coefficient. In essence, the evaluation thinking has not changed. In essence, the evaluation thinking has not changed. Medical service is an experiential professional work, medical staff's knowledge base, judgment ability; diagnosis experience and emergency response determine the treatment effect to a large extent. These intangible factors are difficult to be quantified by explicit indicators. Therefore, the existing medical service pricing mechanism is difficult to accurately reflect the real value of this special labor.

**It is difficult to make up for the operating costs of public medical institutions:** For a long time, China's public medical institutions are public welfare, not for profit. Under such a guiding principle, the price of medical services has obvious administrative orientation, and has made substantial concessions to adapt to the residents' ability to pay, which is far lower than the cost and value of medical services. In the era of national financial full subsidy, the underpricing of medical services has not caused negative impact and social concern. With the increasing pressure of public finance, the economic pressure brought by the low pricing of medical services on public hospitals has become increasingly prominent; in the era of policy relaxation, it is very common to supplement medicine, consumables and inspection, which affects the credibility and public image of public medical institutions, increases the burden of patients, and causes the tension between doctors and patients. Although in the era of allowing the sales of drugs and medical markups, the price of medical services is still seriously lower than its cost and value. It is difficult for doctors' professional ability to be recognized through service pricing. Doctors can only make self-compensation through excessive medical means such as issuing large prescriptions and increasing examination items to maintain work motivation. This is undoubtedly a strategic choice with bad social influence. Since the new round of medical system reform, medical service price as an important chip to make up for the loss caused by the cancellation of drug and consumables mark-up has aroused great concern of the whole society. Even in the policy environment of allowing upward adjustment, the upward floating space of medical service price is still limited. Limited by the income range reduced by medical institutions, even if the price of some medical services is increased, the price of some medical services is still seriously lower than its cost and value. In reality, the price increase of medical services is limited, which can only be increased by 5%-15% on the basis of the original price. Many medical institutions also need to optimize internal management, strengthen consumables management and personnel training to save costs in order to maintain the basic operation. It is difficult to make up for the income loss of public medical institutions only by adjusting the price of medical services. The financial pressure and the pressure of hospitals should not be underestimated.

**Lack of positive incentives for medical staff:** Medical service is a highly professional and technical work, which has high requirements for the training background, internship years, clinical experience, psychological quality and other comprehensive quality of the employees. Medical staff is social elites in many countries in the world, and have a high social status. At present, the pricing of medical services in China is mostly based on the quantifiable indicators such as title, length of service, education and so on. The evaluation rule simplifies the medical skill level, and it is

very unfair to young medical workers. In the actual operation process, young doctors cannot be encouraged to use their spare time to continue learning and improve their professional ability, which is not conducive to the formation of a positive industry atmosphere. With the continuous progress of science and technology, the gradual deepening of human cognition of diseases, and the evolution of disease spectrum due to the changes of people's living habits, these changes have put forward high requirements for doctors' self-improvement motivation and ability. The medical service industry also needs an incentive mechanism for the continuous improvement of doctors, and the pricing of medical services should become a powerful means.

**It is not conducive to the optimal use of medical insurance funds:** China's medical security funds come from employers and workers, which is a strong guarantee for residents' basic medical service needs, and is related to social stability and the national economy and people's livelihood. Due to the limited fund of medical insurance, it is very important to improve the level of fund management and use. Under the current pricing mode of medical services, the operating costs of public medical institutions are difficult to be effectively controlled, which is easy to cause a vicious circle of scale expansion. Although the relevant government departments will restrict the service pricing of public medical institutions in the form of medical service pricing catalogue, it is difficult to grasp the actual cost of basic medical services in the short term due to the widespread existence of information asymmetry and the difficulty of cost research. Medical insurance funds are more passive to accept the pricing of medical services, lack of game space, and cannot form a forced pressure on public medical institutions. If we take a default attitude towards the waste of resources of medical institutions in the pricing process, the waste of medical insurance funds will be inevitable, and the overall interests of the public will be damaged.

**Difficult to meet the core demands of patients:** Patients generally lack medical expertise and have no channels to express their opinions, so they are in a completely passive position in the process of receiving basic medical services and can only choose to listen to doctors' recommendations for treatment. Under the existing medical service pricing mechanism, the interests of patients are not the focus of consideration, and the price of medical services has an obvious cost compensation orientation. Although the affordability of patients will be considered, it cannot reverse the pricing mechanism's consideration of the operating costs of public medical institutions. Medical service is a rigid demand. Patient benefits, a variable that should be a core consideration, cannot be respected in practice, and their right to health cannot be fully guaranteed.

### The direction of future reforms

In the future, China's medical service pricing reform should respect the core demands of different stakeholders, and provide them with platforms and channels to express opinions, communicate and coordinate through mechanism construction, so as to reduce the utility loss caused by information asymmetry and strive to achieve win-win cooperation. The reform of medical system is a systematic project involving multiple stakeholders, which needs to consider the interests of all parties and resource allocation, and balance the overall public value. Nowadays, the price reform of medicine and consumables has made clear the direction and steadily promoted. The reform of medical service price should strike a balance between "stability" and "reform".

**Highlight the difference in service pricing of different levels of public medical institutions:** Basic medical service is an important defense line for people's health. Equalization of basic public service requires residents in different regions to enjoy roughly the same medical service, which requires that public medical resources can be evenly distributed across the country. At present, most of the high-quality medical resources are concentrated in provincial capitals or municipalities directly under the central government, so it is not realistic to allocate the resources

equally in the short term. The severity and treatment difficulty of different diseases are different. The concept of hierarchical diagnosis and treatment helps to allocate medical resources reasonably and avoid the run on high-quality medical resources. However, at present, there is no obvious difference between the medical service pricing of primary medical institutions and that of high-level medical institutions in China. Patients still prefer to go to high-level medical institutions in the face of health threats brought by diseases. Price is an important signal of resource allocation, and the implementation of hierarchical diagnosis and treatment needs to continue to explore the service pricing of different levels of medical institutions. For patients with diseases with obvious symptoms, simple diagnosis and mature treatment technology, they should be guided to primary medical institutions through lower diagnosis and treatment price. In this way, we can not only make full use of the hardware resources of primary medical institutions, avoid the waste of vacant resources, but also improve the accessibility of basic medical services, ensure that patients get timely treatment. For diseases with complex conditions and difficult diagnosis and treatment, we should highlight the unique advantages of high-quality medical resources, and fully consider the difficulty and risk of disease treatment, medical skill level, medical care experience and comprehensive judgment ability in medical service pricing, so as to fully reflect the value of medical service and give full respect to medical staff's professional technology and experience. Under the screening of price signals, patients can rationally judge their own conditions and choose whether to accept the medical services of high-level medical institutions, so as to avoid the situation that minor diseases occupy high-quality and scarce medical resources and guide the rational allocation of resources. For the treatment of difficult and complicated diseases, it is more necessary to reflect the unique value of doctors' service, make separate pricing, and encourage medical staff to study business, improve technical level and enrich case accumulation.

**Grasping the timing of reforms to prioritize:** Under the goal of medical system reform to solve the problem of "difficult to see a doctor" and "expensive to see a doctor", the reform of medical service price should maintain a relatively conservative rhythm and control the adjustment range in the short term. The problem of "expensive medical service" has been widely criticized. Today, the reform of the medical system has entered the deep water area, which is more noticeable. All reform measures must be very careful. Today, with the cancellation of the markups reform of drugs and consumables, it is a mature opportunity to adjust the price of medical services appropriately, which is easy to be accepted by patients. Within the scope of income loss of medical institutions, appropriately increasing the price of medical services to make up for the economic loss is not only the most effective solution to increase financial subsidies, but also an important guarantee to maintain the existing supply capacity of medical services. In the near future, we should adhere to the guidance of moderately adjusting the price of medical services in public medical institutions, give priority to the adjustment of medical services with a higher degree of deviation between pricing and value, and give financial compensation and recognition to medical workers as much as possible. In the process of adjustment, factors such as medical skill level, judgment ability, risk prediction and emergency response ability of medical staff should be taken into consideration, and pricing scheme should be refined to reduce the deviation between pricing and service value as much as possible.

**Let medical service pricing gradually return to service value:** In the long run, the direction of medical service pricing mechanism reform in China should be as close to the service value as possible. There are obvious differences between medical service, medicine and consumables pricing. Many intangible factors related to the quality of medical service are difficult to be quantified by appropriate indicators and reflected as pricing. The ultimate goal of medical services is to raise the health level of residents, reduce the incidence rate of diseases and improve the

cure rate. The value of medical services should be measured by the improvement of the health status of residents in a certain area, not only the number of hospitalized patients, the number of hospitalized patients and the cure rate. The highest level of medical treatment is "preventive treatment", that is, health education and disease prevention. The existing pricing mechanism of medical services makes high-level medical institutions strive to attract excellent talents from primary medical institutions through high salaries and continuously upgrade infrastructure and hardware through commercial loans in order to maintain the image of industry pioneer. This kind of development idea objectively widens the gap with primary medical institutions; a form siphon effect in a certain region, and intensifies the situation of medical service resource run. In the future, we should fundamentally change our thinking, give different medical institutions different coefficients according to the health status and disease occurrence of residents in different regions, and encourage medical institutions and medical workers who have made outstanding contributions in disease prevention and health education. More and more medical workers should be attracted to participate in the work of disease prevention, to improve the awareness level of ordinary residents from the aspects of cognitive concept and basic medical knowledge, to improve their physical fitness by improving their living habits and choosing appropriate exercise methods, to reduce the incidence of diseases, and to fundamentally save medical resources. In the future, on the basis of considering the pricing of medical services by different medical service values and doctors' medical skills, different levels of financial incentives should be given to different medical institutions for their contributions to disease prevention [11].

**Improve the voice of medical insurance institutions in the pricing of medical services:** The reform of administrative institutions accompanying the deepening reform of the medical system has played an important role in promoting at the organizational level, and the establishment of the Medical Security Bureau has provided a strong guarantee for strengthening the management of medical insurance funds. In the process of the reform of drug prices and medical consumables pricing, the Medical Security Bureau formed a bargaining chip through its representatives of the ability to pay for the majority of patients and its huge amount of funds, and safeguarded the interests of the majority of the people through procurement negotiations and optimizing payment methods [12]. In the future, in deepening the reform of medical service pricing, it is still necessary to give full play to the unique advantages of medical insurance institutions, design a diversified combination of payment methods, and force the pricing mechanism to pursue the core value of medical services, maintain the core demands of patients, and change the current situation where the right to speak is lacking.

**Constructing a smooth channel for patients' interest appeals:** Patients are both the payer of medical insurance funds and the recipient of basic medical services. Their dual status determines their pursuit of cost-effective medical services. In today's construction of a service-oriented government, the quality of basic medical services also needs to accept judgment and feedback from the majority of patients. In the future, in the process of pricing basic medical services, the opinions of patients should be extensively collected through standardized information platforms, so that their appeals can be expressed smoothly and valued and answered in a timely manner. The process of information exchange itself is a process of enriching patient knowledge [13]. It will inevitably improve the status quo of ordinary patients who lack basic medical knowledge and do not understand the pricing model over time, enhance doctor-patient understanding, and reduce social conflicts.

## CONCLUSION

The future reform of China's medical service pricing mechanism should strike a balance between reform and stability, pay attention to the coordination of different reform contents, improve the discourse power of the Medical Insurance Bureau, build a platform for patients' interest expression, and explore a pricing mechanism close to the value of medical services, so as to give full play to the positive guiding role of price in resource allocation and promote the achievement of the goal of medical system reform.

## REFERENCES

1. Song Z, et al. A Tale of Transition: Trends of Catastrophic Health Expenditure and Impoverishment in Urban China, 1986-2009. *Health Syst Reform*. 2020; 6:1836731.
2. Zang X, et al. Impact of public hospital pricing reform on medical expenditure structure in Jiangsu, China: a synthetic control analysis. *BMC Health Serv Res*. 2019a; 19:16.
3. Zhu D, et al. Impact of China's healthcare price reforms on traditional Chinese medicine public hospitals in Beijing: an interrupted time-series study. *BMJ Open*. 2019; 9:29646.
4. Fu H, et al. Intended and unintended impacts of price changes for drugs and medical services: Evidence from China. *Soc Sci Med*. 2018a; 211:114.
5. Gong Y, et al. The effect of the latest health care reforms on the quality of community health services in China. *Int J Health Plann Manage*. 2018; 33:1225-1231.
6. Wang X, et al. What do patients care most about in China's public hospitals? Interviews with patients in Jiangsu Province. *BMC Health Serv Res*. 2018; 18:97.
7. Yun, et al. Why patients prefer high-level healthcare facilities: a qualitative study using focus groups in rural and urban China. *BMJ Glob Health*. 2018b; 3:87.
8. Ling L, et al. China's health care system reform: Progress and prospects. *Int J Health Plann Manage*. 2017; 32:240-253.
9. Tang W, et al. Effects of Chinese urban public hospitals reform on revenue and compensation after removing drug markups: case of Nanjing. *J Med Econ*. 2017; 21:326-339.
10. Wu D, et al. Challenges to healthcare reform in China: profit-oriented medical practices, patients' choice of care and guanxi culture in Zhejiang province. *Health Policy Plan*. 2017;32:1241-1247.
11. Fu H, et al. Intended and unintended impacts of price changes for drugs and medical services: Evidence from China. *Soc Sci Med*. 2018b; 211:114.
12. Yun, et al. Why patients prefer high-level healthcare facilities: a qualitative study using focus groups in rural and urban China. *BMJ Glob Health*. 2018a; 3:86.
13. Zang X, et al. Impact of public hospital pricing reform on medical expenditure structure in Jiangsu, China: a synthetic control analysis. *BMC Health Serv Res*. 2019b; 19:17.