Research on the Reform of China's Medical Insurance Payment Methods under the Background of Big Data

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Abstract. Medicare payment is an important part of health care reform and management, and it is also a way to improve the behavior of medical services and the allocation of medical resources. This paper mainly analyzes the current situation and existing problems of Chinese medical insurance payment methods, and proposes the reform of China's medical insurance mode in the case of applying big data.

1. Introduction

Medical insurance payment is an important part of medical insurance reform and management, and it is also an important means to regulate medical service behavior. On June 28, 2017, the General Office of the State Council issued guidance on further deepening the reform of basic medical insurance payment methods.

The opinions require that the budget management of the medical insurance fund be strengthened, and the multi-component medical insurance payment method based on Diseases Related to Groups should be fully implemented; each country should select a certain number of diseases to implement Diseases Related to Groups, and the country selects some regions to carry out disease-related diagnosis. The payment pilot will encourage all localities to improve various payment methods such as head-to-head and bed-to-bed. By 2020, the reform of medical insurance payment methods covers all medical institutions and medical services. The concept of intelligent medical insurance development under the train of thought of "Internet medical insurance" is deeply rooted in the hearts of the people. In 2018, the General Office of the State Council issued "*opinions on promoting the Development of Internet Medical Health"* (State Office (2018) 26). The government and society attach importance to raising the understanding of medical insurance big data to a new height.

2. Current situation and problems of payment method of medical insurance in China

2.1 Present situation of Medical Insurance payment Mode in China

In 2017, the General Office of the State Council issued a comprehensive multi-component medical insurance payment method based on Diseases Related to Groups in the guidance on further deepening the reform of basic medical insurance payment methods. Therefore, this paper mainly analyzes three major medical insurance payment methods in China, such as Diseases Related to Groups, Scale Payment and Fee for Service.

2.1.1Diseases Related to Groups

There are two main forms of Diseases Related to Groups, namely single-fee payment and DRGs (disease diagnosis related groups). Among them, the single-type payment refers to the diagnosis of clear, uncomplicated and comorbid, single treatment of the disease, according to the disease to determine the payment standard, the way to pay for medical institutions, belongs to the primary form of Diseases Related to Groups. The DRGs payment method refers to the main disease diagnosis group and treatment method, combined with the age, sex, complications and comorbidities of the insured patients, the disease is divided into several groups, and each group Determining a payment standard

and paying for a medical institution is a relatively complete and scientific form of Diseases Related to Groups.

In recent years, local medical insurance departments have actively explored in adopting reasonable and effective payment methods. Some cities and regions have tried to implement a payment system combining multiple payment methods, and initial results have been achieved. In 2011, Beijing took the lead in reforming the payment method, and selected six hospitals to pilot 108 DRGs groups, which eventually formed the "National Collection of Diseases by Fees (Pay) Fees, including 104 diseases. In China, unlike other countries, the payment model is different. In other countries, doctors pay mainly for the project. The hospitals mainly use DRGs. However, there is no distinction in China. The hospitalization payment mainly uses the total budget and DRGs. The clinic mainly uses Fee for Service and Capitation. Driven by factors such as medical insurance control fees and deepening reforms, DRGs payment methods have gradually been recognized and promoted. In 2017, the fourth edition of BJ-DRGs was revised. It is planned to implement DRGs in all tertiary general hospitals in the city in 2018. (Approximately 400 DRGs, covering 80% of discharged patients). At present, some areas in China, such as Shenyang, Tianjin, Wuhan, Kunming, etc., have introduced BJ-DRGs and adjusted and tried them according to local conditions. In addition, the National Health and Family Planning Center for Health Development began to study DRGs (named C-DRGs) in 2007; in 2017, three cities including Fujian Sanming, Xinjiang Karamay and Guangdong Shenzhen and three other hospitals were piloted; plans for 2018 Pilot assessments were carried out and expanded to 50 cities in 2019, and expanded to 100 cities in 2020.

2.1.2Scale Payment

Scale Payment is based on the number of participants in a certain area, the average number of annual consultations, the average number of consultation fees, etc., to determine the total budget for a certain period and to prepay regularly, and not to make up or collect the excess or balance at the time of annual settlement. In order to impose mandatory control on the expenses, the Scale Payment system is used as a means to establish a constrained reward mechanism for "fixed management, over-spending, and balance awards" to increase the initiative of hospitals to control fees and control the excessive growth of medical expenses. Ensure that the health care fund breaks even.

Drawing on the experience of Germany, Shanghai is a relatively successful pre-payment city in China, and it has also established a matching mechanism, including a binding incentive mechanism, a dual master control mechanism and a three-round negotiation mechanism. Therefore, the Shanghai model is analyzed on this paper Scale Payment. There are several important nodes in the reform of the medical insurance payment system in Shanghai. In 2002, Shanghai began to implement the total budget and achieved initial results. In 2005, a variety of other payment methods were implemented on the basis of Scale Payment, and various forms were gradually formed. The hybrid payment method completes the transition from post-payment to pre-payment. In 2008, the medical insurance determined that the budget allocation indicator was changed to the hospital's independent determination of the budget indicator, and the hospital has certain autonomy. By 2010, Shanghai had introduced a comprehensive dual-control management model, which regulates the expenditure on medical expenses and the increase in drug costs. In 2013, it launched a reform of public hospitals aimed at eliminating the need to "medicate medicines". The purpose of reforming the medical insurance payment method in Shanghai is to rationally divert patients, and to guide patients to sink to primary medical institutions by implementing different payment methods for different levels of medical institutions, while regulating medical expenses and drug costs, and curbing drugs. The rising cost has reduced the pressure on patients for drug costs.

2.1.3Fee for Service

The fee for service refers to the price set for each service item in the medical service process. When the patient consigns the medical service, the fee is calculated according to the service item price, and then the medical insurance institution pays the patient or the medical service provider. The fees paid by the health care institution depend on the number of services the patient receives and the price of each service. Fee for Service is the most traditional and widely used payment method for medical insurance. It belongs to the post-payment system. The specific method is that the insurance institution

reimburses the patient according to the cost of the patient reported by the medical institution or the doctor. The amount of reimbursement depends on the price of each service item. And the actual number.

2.2 The Existing Problems in the Payment of Medical Insurance in China

2.2.1 Problems in paying by disease type

The basic management of the hospital is weak; the first diagnosis of discharge is not consistent with the actual treatment; there are more than two cases in the same hospital that accord with a single disease, but only a higher amount of disease can be selected to carry out the disease, and so on. Therefore, in the actual implementation process of each hospital, the medical and nursing staff take the initiative to carry out less, deviate from the normal single, standardized pay by disease type of disease will be enforced under the strict performance appraisal system of the hospital, far from the original intention of the system design, resulting in the hospital medical insurance management system, clinical treatment needs and the contradiction between patients occur frequently.

2.2.2Problems in the mode of total advance payment

The reasonable determination of the total amount is the key link for the smooth implementation of the total medical insurance prepaid system. The basic medical service price in public hospitals in our country is guided and priced by the government macroscopically, and the health department plays a leading role. Hospitals and other institutions can only carry out medical activities under the guidance of the health department. However, because the government health department does not fully understand the attributes of the medical market, as well as the lack of corresponding professional skills and information, it is unable to exercise its pricing rights well. The total amount of medical insurance is affected by service population, disease structure, price, high-tech application and other factors. These uncontrollable factors lead to the actual funding of health care for a particular medical institution. It is difficult to measure carefully.

2.2.3 Problems with paying by project

There are many drawbacks in the way you pay by project. First, there is no incentive effect, reduce the enthusiasm of doctors, but also increase the medical costs of patients. Second, in the medical service, doctors take on more responsibilities that do not belong to themselves, which aggravates the disharmony between doctors and patients. Third, many patients tend to be famous doctors in large hospitals, while few patients are admitted in community hospitals, urban hospitals and other grass-roots hospitals. Fourth, hospitals blindly introduce high-end large-scale treatment inspection equipment, increase income. For negative profits from medical services, hospitals, in order to turn losses into profits, or profit from drugs, or The purchase of large equipment to increase inspection income.

3. Reform proposal

3.1 Establish a diversified and scientific and rational hybrid payment system

The level of payment directly affects the utilization of health services among the insured people. if the payment level is low, the medical service providers will avoid seeing patients with low payment rates. Because of the low payment level of these patients, health care providers will not benefit too much from it or even be in a state of loss, or cause the quality of services enjoyed by this group of patients to be low. If the payment level is high, it may lead to the prolongation of hospitalization time and the increase of medical expenses, so no matter what kind of payment method is adopted, it is necessary to scientifically determine the payment level and adjust it at any time.

Actively promote modern payment Development In order to improve patient satisfaction and improve patients' medical experience, hospitals can carry out "Internet" as the background, combined with diversified payment trend, carry out WeChat in door and emergency, Alipay "sweep code payment", meet the online diversified payment needs of patients, carry out more convenient and efficient mobile payment, effectively improve patients' medical experience, alleviate the queuing of payment window and so on. Through continuous exploration, innovation of intelligent settlement

mode, promotion of the application of Internet technology in the field of medical treatment, expansion of payment channels, simplification of patient payment links, with the support and cooperation of information center, construction bank and other departments, the "diagnosis" has been launched. Between the code to pay "payment method." This payment mode provides a safer and convenient payment channel for patients, and greatly shortens the payment time of patients. "scan code payment" is a kind of platform and technology of "intelligent medical treatment" and "Internet", which promotes the further realization of "clinic settlement". Its purpose is to improve the efficiency and quality of medical service and make patients enjoy better medical service.

3.2 perfecting the assessment mechanism of paying by disease type

Using big data, with information as the support, further improve the assessment mechanism of paying by disease type. Through the network data of each hospital, according to the unified diagnosis and treatment method, basic condition, age and other key factors affecting the treatment, the implementation effect and intensity of payment by disease type were evaluated. It no longer only depends on a simple implementation rate to assess the implementation of payment by type of disease, and truly promotes the reform measures of the linkage of medical insurance, medical care and medicine to develop in depth.

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