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Current Status, Problems and Optimization Suggestions of Financing Mechanism for Urban and Rural Residents' Health Insurance in China

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Abstract

The financing mechanism for urban and rural residents' health insurance has continued to develop, with the financing method further refined on the basis of quota financing, the financing level raised year by year in line with individual contributions and financial subsidies, and the financing responsibility shared by the government and gradually strengthened in terms of individual responsibility. However, the current financing mechanism for urban and rural residents' health insurance is faced with the dilemmas of irrational financing method, insufficient financing level, and unbalanced financing responsibility. In light of this situation, it is recommended that the fixed-ratio financing reform be promoted step by step, that a sound mechanism be established for scientifically determining the financing level, that the sense of individual responsibility be strengthened and the financing responsibility be gradually equalized.

Keywords

Financing mechanism, health insurance, urban and rural residents.

1. Introduction

The basic medical insurance system for urban and rural residents is an important measure taken by the Chinese government to actively promote the protection of people's livelihoods, with the aim of safeguarding the basic medical needs of urban and rural residents. The financing mechanism is the fundamental guarantee for the sustainable operation of the basic medical insurance system for urban and rural residents. The financing mechanism of the residents' medical insurance in China follows the original financing mechanism of the new rural cooperative medical care. As time goes by, the financing mechanism is facing increasingly severe challenges and is difficult to adapt to changes in the level of socio-economic development as well as in the structure of the population and the spectrum of diseases. This paper studies the financing mechanism of the residents' medical insurance around three basic elements: financing method, financing level and financing responsibility, combs through the current status of the financing mechanism, analyzes its problems, and puts forward practical optimization suggestions, with a view to providing reference for the healthy and sustainable development of the residents' medical insurance in China.

2. Current Status of Financing Mechanism

2.1. Financing Method is Further Refined on the Basis of Quota Financing

China's medical insurance for urban and rural residents takes the form of quota financing, with the National Healthcare Security Administration announcing a fixed amount of financing standards each year, and urban and rural residents enrolling as required. According to the financing policies of different regions in China, quota financing can be subdivided into three

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types: equal quota financing, grouped quota financing, sub-grade quota financing[1]. Equal quota financing means that all urban and rural residents in a health insurance co-ordination area adopt a uniform financing standard, which is usually the minimum standard stipulated by the state. This financing method is simple to operate and has been adopted by most cities, such as Wuhan, Changsha and Hefei. Grouped quota financing refers to the classification of insured residents into different groups according to their status or age, such as ordinary adult residents, elderly residents, students and children, etc. Different financing standards are set for different groups of people, but the medical insurance treatment is unified for all types of people. This financing method takes into account the differences in the contribution ability of different groups of people and has been adopted by some cities, such as Beijing, Shanghai and Nanjing. Sub-grade quota financing divides the individual contribution standard into different grades, with residents independently choosing their own contribution grades and enjoying the corresponding treatment according to the different grades, and is used in some cities, such as Tianjin, Chongqing and Hangzhou. In addition, some other regions have explored the use of financing linked to regional income, whereby a uniform contribution rate is determined, and then a uniform financing standard is calculated using the average salary of employees or the per capita disposable income of residents in the coordinating region of the historical year as the basis for contributions, as in Dongguan, Foshan and Shenzhen.

2.2. Financing Level Increases with Individual Contributions and Financial Subsidies

In order to meet residents' growing demand for medical protection, the financing level for the residents' health insurance has been raised year by year, with the financing standard increasing at an annual rate of 60~80 yuan (see Table 1). The financial subsidies have increased by 30~40 yuan per year, from 420 yuan per person in 2017 to 640 yuan per person in 2024; individual contributions have increased by the same 30~40 yuan per year, from 150 yuan per person in 2017 to 380 yuan per person in 2024.

Table 1: Financing standards for residents' health insurance

Year	Financing standard (yuan per person)	Financial subsidy (yuan per person)	Individual contribution (yuan per person)
2017	570	420	150
2018	630	450	180
2019	710	490	220
2020	770	520	250
2021	830	550	280
2022	900	580	320
2023	960	610	350
2024	1020	640	380

2.3. Financing Responsibility is Primarily Shared by the Government with a Gradual Increase in Individual Responsibility

The main financing bodies of the residents' health insurance in China are the government and individuals. Among the two main financing bodies, the government has always assumed more responsibility for financing. This way of sharing financing responsibility is more welfare-oriented, which can attract more residents to participate in medical insurance and is conducive to the realization of universal coverage of the health insurance system. But it weakens the sense of responsibility of the individual. In recent years, with the adjustment of the financing scheme, the financing responsibility for the individual has begun to strengthen. As shown in Figure 1, for the period from 2017 to 2024, the proportion of individual responsibility for financing has

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increased from 26% to 37%, while the proportion of government responsibility for financing has decreased from 74% to 63%.

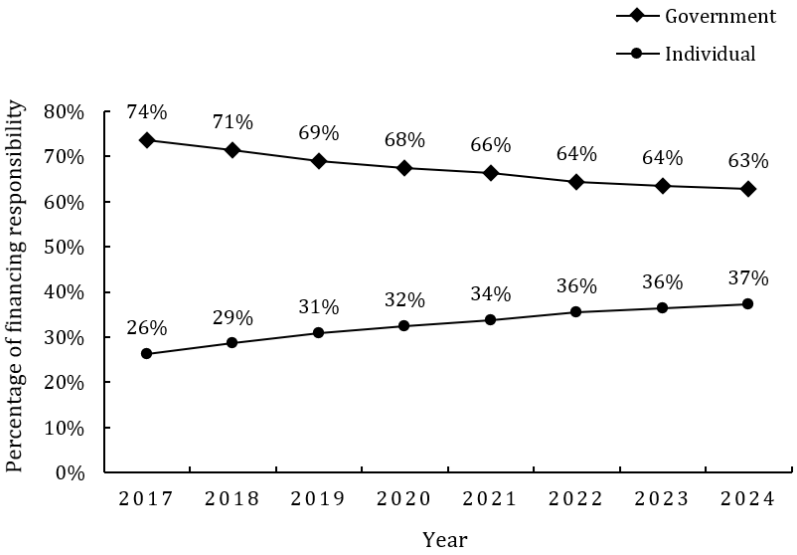

Figure 1: Share of financing responsibility for residents' health insurance

3. Problems of Financing Mechanism

3.1. Irrational Financing Method

3.1.1. Unequal Financing Burden Due to Quota Financing

Equitable financing burden refers to the matching of residents' ability to pay contributions with their financing responsibilities, in accordance with the principle of "affordability". The financing burden is measured by the proportion of individual financing to the per capita disposable income of the residents. As shown in Table 2, the financing burden of Chinese residents increases year by year, with the lower the income level, the heavier the financing burden. The financing burden of residents in the low-income group in recent years has been more than 3%, which is even higher than that of the financing burden of employees. While the financing burden of the residents in the high-income group is only about 0.3%, with the financing burden of residents in the low-income group being 10 times that of residents in the high-income group. Theoretically speaking, the basic medical insurance system for urban and rural residents can realize the transfer of medical insurance resources between people with different income statuses and people with different health statuses in the process of financing and treatment payment, and play the function of regulating the distribution of national income. However, under the quota financing method, absolute equality in financing standards leads to inequitable financing burdens instead. In addition, high-income groups have a greater ability to participate in insurance. And out of concern for their own health, they have a greater willingness to participate in insurance. Ultimately, their accessibility and utilization of medical services are usually higher. So high-income groups tend to benefit more from the basic residents' medical insurance system. The practice of quota financing for residents' health insurance brings about the result of "the poor subsidizing the rich", which is clearly contrary to the original intent of the health insurance system to promote social equity.

Table 2: Financing burdens on groups at different income levels

Groups	2017	2018	2019	2020	2021	2022
low-income group	2.52%	2.79%	2.98%	3.18%	3.36%	3.72%
lower-middle-income group	1.08%	1.25%	1.39%	1.52%	1.52%	1.66%

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middle-income group	0.67%	0.78%	0.88%	0.95%	0.96%	1.05%
higher-middle-income group	0.43%	0.49%	0.56%	0.61%	0.62%	0.68%
high-income group	0.23%	0.25%	0.29%	0.31%	0.33%	0.36%
low-income group/high-income group	10.90	10.97	10.35	10.20	10.30	10.48

3.1.2. Inefficient Growth in Financing Due to Quota Financing

Under the quota financing method, groups with different income levels face different financing burdens. In order to take care of the financing burden of low-income residents, the annual increase in the individual contribution standard for the residents' medical insurance in China is relatively small, which restricts the upgrading of the individual contribution standard for middle- and high-income residents, resulting in an inefficient increase in financing. From the perspective of the growth of per capita financing level and per capita medical cost of the residents' health insurance in recent years (see Figure 2), the growth of per capita financing level of residents' health insurance is very slow, while the growth of per capita medical cost has been growing faster except for 2020, when it was affected by the epidemic. The growth of the per capita financing level of residents' health insurance has been much lower than the growth of per capita medical cost. China is in the stage of aging population and transformation of disease spectrum, the aging population and the population suffering from cardiovascular and cerebrovascular diseases, cancer, diabetes, chronic respiratory diseases and other chronic diseases are increasing day by day. In the future, the per capita medical cost will continue to rise rapidly, and the pressure of expenditure on the medical insurance fund will also be increasingly large. If the inefficient financing method of quota financing continues to be adopted, it will be difficult to achieve rapid growth in financing levels, the residents' medical insurance fund may not be able to sustain.

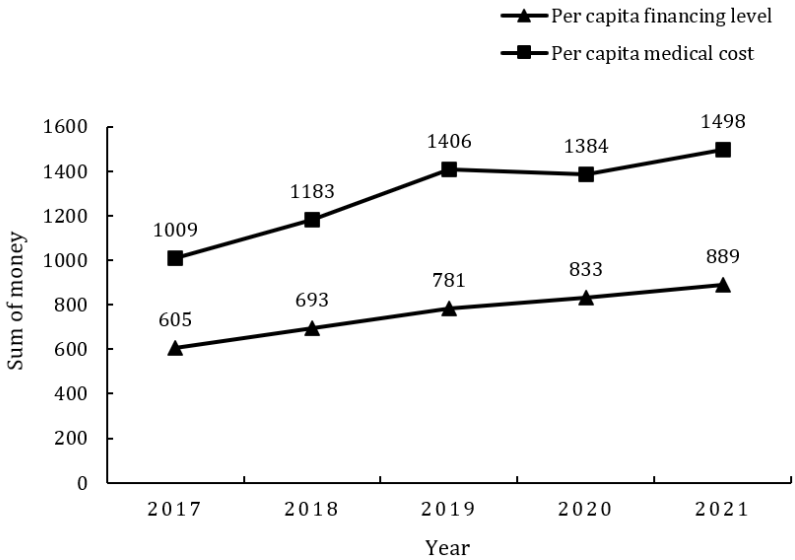

Figure 2: Per capita financing level and per capita medical cost for residents' health insurance

3.2. Insufficient Financing Level

3.2.1. Low Per Capita Financing Level and Individual Contributions

The Chinese Government sets minimum financing standard for residents' health insurance every year, and some provinces and cities adjust the financing standard according to their own situation. As shown in Table 3, the residents' health insurance per capita financing level from 2017 to 2021 were 605 yuan, 693 yuan, 781 yuan, 833 yuan and 889 yuan, which are all higher than the national financing standard. However, it still only accounted for about 2.5% of the

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national residents' per capita disposable income in that year, and a large part of the financing came from financial subsidies. And the proportion of the individual contributions to the national residents' per capita disposable income was even less than 0.9%. In contrast, Participants of China's basic medical insurance for urban workers must pay monthly premiums of 2% of their personal income, in addition to the premiums paid by the unit. It is clear that the financing level for China's residents' health insurance is not sufficient, the per capita financing level and individual contributions there is a large room for improvement. The residents' health insurance needs to undergo more scientific, systematic and standardized studies and calculations to determine the financing standard and its level of increase[2].

Table 3: Per capita financing and individual contributions as a share of per capita disposable income for residents' health insurance

Year	Per capita financing level (yuan)	Individual contribution (yuan)	National residents' per capita disposable income (yuan)	Per capita financing as a share of per capita disposable income (%)	Individual contribution as a share of per capita disposable income (%)
2017	605	150	25973.8	2.33	0.58
2018	693	180	28228	2.46	0.64
2019	781	220	30732.8	2.54	0.72
2020	833	250	32188.8	2.59	0.78
2021	889	280	35128.1	2.53	0.80
2022	\	320	36883.3	\	0.87
2023	\	350	39218	\	0.89

3.2.2. Limited Fulfillment of the Residents' Basic Medical Needs

Although the financing level of the residents' health insurance has increased year by year, the actual reimbursement ratio is not high from the point of view of the actual treatment payment level of residents' health insurance. There are many limitations such as the starting line and ceiling line for urban and rural residents to enjoy the basic health insurance treatment in some areas, which leads to insufficient protection for residents' major diseases and high medical expenses. In 2022, there were 118.29 million people in China who received medical assistance for outpatient and hospitalization costs[3]. Social health insurance realizes the sharing of the economic risks of residents' illnesses through the "law of large numbers," and the higher the level of financing, the more risk-resistant the system is, and the less out-of-pocket payments residents have to make for their own medical expenses. However, according to the statistics of the World Health Organization (see Table 4), among eight countries that have also implemented the social health insurance model, including China, Germany, Japan, France, Russia, South Korea, Netherlands and Switzerland, China's health expenditure accounts for the lowest proportion of the GDP, only 5.38%, while the proportion of individual out-of-pocket expenses in the health expenditure is as high as 34.39%, which is ranked first among the eight countries. The OECD study and the experiment of RAND Corporation show that residents' personal out-of-pocket expenses are an important negative factor affecting health output, and when the proportion of residents' personal out-of-pocket medical expenses is high, some of their reasonable health needs will not be released[4, 5, 6]. Therefore, from the perspective of health insurance treatment, the current financing level of residents' health insurance inhibits the reasonable medical needs of some groups, and does not satisfy the basic medical needs of residents well.

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Table 4: Health expenditures in social health insurance model countries in 2021

Countries	Health expenditure as a share of GDP(%)	Out-of-pocket expenses as a share of health expenditure(%)
China	5.38	34.39
Germany	12.93	12.16
Japan	10.82	12.03
France	12.31	8.92
Russia	7.39	27.22
South Korea	9.33	29.10
Netherlands	11.29	9.38
Switzerland	11.80	22.71

3.3. Unbalanced Financing Responsibility

3.3.1. Tendency to " Pan-welfarization" Due to Heavy Government Financing Responsibility

Despite the gradual increase in individual responsibility for financing, the residents' health insurance still suffers from an imbalance in the sharing of financing responsibilities between the government and individuals, with the government taking on more responsibility for financing and the individual residents sharing less responsibility. The 2007 Guiding Opinions of the State Council on Launching Urban Residents' Basic Medical Insurance Pilot Program clearly stipulated that "urban residents' basic medical insurance should be based on family contributions, and the government should provide appropriate subsidies," indicating that the design of urban residents' medical insurance adheres to the principle that individual responsibility for financing is greater than government responsibility for financing. But the integrated residents' medical insurance fails to carry out this principle, and there is an obvious imbalance in the responsibility for financing between individuals and the government. The residents' basic medical insurance system has tended to become " Pan-welfarization". The high level of financial subsidies has resulted in an excessive burden on the government. The yearly increase in financial subsidies has also made it easy for urban and rural residents to become path-dependent, resulting in the annual increase in financial subsidies becoming a "rigid welfare benefit" and an obligation that must be fulfilled by the government. And in the event of a downturn in the country's economy and a decrease in fiscal revenues, it may be difficult to maintain high levels of financial subsidies, which will lead to increased public dissatisfaction and an impact on the government's authority and credibility[7].

3.3.2. Weak Sense of Responsibility Due to Light Individual Financing Responsibility

The basic medical insurance system for urban and rural residents is not a welfare system. It is designed to reduce the burden of medical expenses on urban and rural residents through mutual assistance and to provide basic protection for their health. Urban and rural residents are the first to take responsibility for their own health, and national health can promote socio-economic development and indirectly benefit the government. Therefore, in the protection of residents' health, individual residents should bear direct responsibility, and the government bears indirect responsibility. However, the current sharing of responsibility for financing residents' health insurance partially deviates from the principle that rights and obligations should be corresponding to each other, weakening residents' sense of responsibility and sense of co-construction. Part of the healthy residents may voluntarily withdraw from the insurance policy, which triggers the problem of adverse selection. Adverse selection is a common phenomenon in the insurance market. Due to prior information asymmetry, the proportion of high-risk people participating in insurance is significantly higher than that of low-risk people[8].

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In China's social health insurance system, the government has not yet been able to eliminate adverse selection. Scholars' research on the characteristics of the residents' health insurance participation has found that the probability of the residents' health insurance participation is lower for low-risk young adults and higher for high-risk middle-aged and old-aged adults, which to a certain extent reflects that residents' sense of responsibility and sense of co-participation is weak[9, 10].

4. Optimization Suggestions of Financing Mechanism

4.1. Step-by-step Approach to Fixed-ratio Financing Reform

Although China's health insurance financing mechanism for urban and rural residents has certain problems in terms of the financing method, the financing level and the financing responsibility. To a large extent, the problems with the financing responsibility and the financing level are the result of the irrational transmission of the financing method. On the one hand, the low-income people under the quota financing method faces a heavier burden of contributions, and their ability to make contributions restricts the substantial increase in the individual financing standard, thus leading to an insufficient level of financing. On the other hand, because the quota financing method restricts the growth of individual financing standards, the residents' health insurance can only rely on continuous financial subsidies to maintain an appropriate financing level, which leads to an excessive dependence on the subsidies for the residents' health insurance and an imbalance in the financing responsibilities of individuals and the government. Therefore, the defects of the quota financing method is the key problem facing the financing mechanism of the residents' medical insurance, and changing the quota financing method and replacing it with the fixed-ratio financing which is linked with the residents' income is the inevitable way to reform the residents' medical insurance[11]. Fixed-ratio financing is in line with the principle of financing based on the ability to pay. When the contribution rate is unified, it can form a positive redistribution pattern in which "high-income earners pay more and low-income earners pay less," which can improve the unfairness of the financing burden. Considering that China's income identification system is still immature, it is not yet feasible to implement fixed-ratio financing using residents' personal or household disposable income as the contribution base. It is recommended that the contribution base be continuously refined on the basis of a uniform contribution rate, so as to gradually realize fixed-ratio financing. As a first step, the contribution base should be approved according to the per capita disposable income of the residents of each health insurance coordination area. And those areas with the conditions are encouraged to further refine the contribution base, using the per capita disposable income of the residents of counties, districts, and even townships and streets as the basis for contributions. At the same time, it is necessary to provide categorized financial assistance through the medical assistance policy for residents who have genuine difficulties in participating in insurance and making contributions. The second step is to wait until China's income identification system has been perfected and the mechanism for verifying household income is relatively sound, so that the contribution base will be approved on the basis of the disposable income of the household, and the household will participate in the insurance scheme as a unit, thus realizing fixed-ratio financing in the true sense of the word.

4.2. Establishment of a Sound Mechanism to Scientifically Determine Financing Level

4.2.1. Establishment of an Actuarial Mechanism for Health Insurance to Scientifically Determine Contribution Rate

The key to the implementation of fixed-ratio financing for the residents' medical insurance lies in the determination of the contribution rate and the contribution base, of which the

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contribution rate can be determined scientifically by means of insurance actuarial methods. However, China's insurance actuaries started relatively late, and the development of actuarial methods for medical insurance suited to the country's national conditions has been slow. So that it is a challenge to determine the contribution rate scientifically and to adjust the level of financing dynamically. It is recommended that an actuarial mechanism for medical insurance be established, on the basis of which the future trend of the the residents' medical insurance fund can be reasonably predicted and the financing level can be dynamically adjusted by taking into account factors such as population aging, changes in residents' medical needs, the risk of sudden illnesses, and the level of socio-economic development. On the one hand, a medical insurance actuarial information database should be established through multi-sectoral information sharing. It is suggested that the National Healthcare Security Administration should take the lead, and the National Health Commission, Ministry of Human Resources and Social Security, State Administration of Taxation, National Bureau of Statistics, Ministry of Finance, National Development and Reform Commission and other departments should share the information required for the actuarial calculation of health insurance such as reimbursement of health insurance, medical expenses, prices of medical services, financial subsidies, employment, population size, age structure, income and other information, so as to build a database of actuarial information for the health insurance. On the other hand, an actuarial talent team should be formed to absorb experts from insurance actuarial science, statistics, computer science, economics, clinical medicine, social security and other disciplines to form a diversified and specialized medical insurance actuarial team, so as to provide all-around support and guarantee for China's urban and rural residents' actuarial work of medical insurance.

4.2.2. Robust Household Income Verification Mechanism to Determine Contribution Base

A sound mechanism for verifying household income is the basic condition for consolidating the contribution base and establishing a fixed-ratio financing mechanism linked to household disposable income. But the complex composition of urban and rural residents' incomes makes verification relatively difficult. In developed countries, the income or asset information is generally determined through tax information and personal income declaration by the tax department. For instance, Japan has implemented a self-reporting system for personal income tax, under certain circumstances, Japanese residents need to declare their own taxes, and the national health insurance agency can calculate the health insurance premiums to be paid based on the income information of taxpayers that is held by the tax department[12]. It is recommended that channels for self-declaration of residents' incomes be explored under the premise of safeguarding individual privacy and information security, supplemented by big data verification and field sample surveys to ensure the authenticity of residents' income data. Firstly, local tax authorities should establish online and offline platforms for autonomous declaration of urban and rural residents' incomes, with reference to residents' comprehensive individual income annual remittance declarations, where participants fill in basic family information such as various family incomes, family members' illnesses, family members' education, and so on, and the per capita disposable income of residents' families is measured based on the information filled in by the residents. Secondly, led by the State Administration of Taxation, the National Bureau of Statistics, the Ministry of Finance, the Ministry of Education, the National Health Commission, the National Healthcare Security Administration, the Ministry of Human Resources and Social Security, and other relevant organizations participate in the construction of a database of information on residents' income and expenditures, and analyze the structure and proportion of residents' sources of disposable income by means of big data, so that the authenticity of the information declared by the residents is examined accordingly. Thirdly, professional investigators or staff are regularly dispatched to urban and rural areas to

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conduct visits and surveys, using face-to-face interviews, questionnaires and other means to collect data on urban and rural residents' household incomes, and to supplement and improve the results of the analysis of the big data in order to further ensure the truthfulness and reliability of the information declared by residents.

4.3. Enhanced Sense of Individual Responsibility and Gradual Equalization of Financing Responsibilities

The financing responsibility of the residents' health insurance in China has always been shared primarily by the government, which has led to both an excessive dependence on finance for residents' health insurance and a weak sense of responsibility on the part of residents. It is recommended that appropriate reference be made to the financing ratios of Germany, France and other countries that have a social health insurance model, so as to further equalize the financing responsibilities of individuals and the government, and to gradually shift from the government's main financial subsidy to the responsibility for equalizing the individual contribution and the financial subsidy. The current ratio of government and individual financing responsibilities is 63% and 37%, and it is recommended that the ratio be adjusted to 60% and 40% within two years, 55% and 45% within five years, and that a balanced burden of government and individual financing ratios be realized within ten years. At the same time, for some residents who lack sense of financing responsibilities and sense of co-construction, it is recommended that publicity and education on the residents' health insurance participation be strengthened to further enhance the sense of personal responsibility and promote active participation by residents. On the one hand, the publicity should emphasize the unity of rights and obligations, and promote the spirit of mutual assistance in social security. Urban and rural residents' health insurance is a systematic arrangement of the state to reduce the burden of people's medical care and improve their well-being, only the active participation of everyone in the system can be sustainable development. The residents can not just enjoy the health insurance treatment without fulfilling the obligation to participate in the insurance. On the other hand, a flexible approach should be taken to raising residents' sense of social insurance and health-care policies, helping them to strengthen their awareness of risk, and to establish the concept that it is better to be prepared for medical insurance than to be unprepared when it is used.

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